

HARMER

DRAINAGE SYSTEMS

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October 2014

Harmer Floor & Shower Drainage

Outlets, Channels and Backflow Valves



Maintaining a Flow of Information

www.harmerdrainage.co.uk

The Harmer drainage website provides a wealth of information on all aspects of Harmer Drainage and compatible products. Also included are FAQs, file downloads for NBS specification clauses, COSHH information, a CAD library, and much more.



Technical Support

Harmer Drainage products are backed-up by comprehensive technical literature and by hands-on project support starting with technical and design advice, and extending through site installation to recommendation of appropriate maintenance regimes. Implementation is led by the Harmer Drainage Manager appointed to the project.

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Alumasc & Harmer - An Introduction

Alumasc Exterior Building Products is part of the Alumasc Group plc. The Group has over 800 employees, generating turnover of around £110 million. The aim is to focus on high quality, environmentally responsible building products within the construction arena in order to deliver first class customer service, long-term solutions and lasting relationships.



About Alumasc

Alumasc Exterior Building Products (Alumasc) is a leading supplier of premium products and systems for specification. The Company has been a major force in the UK construction industry for 70 years, during which time Alumasc products and systems have been used on some of Europe's most prestigious buildings.

Harmer is the leading name associated with drainage with over 40 years experience, maintaining a programme of continual development in the efficiency and performance of rainwater outlet design.

Alumasc ensures a high quality of product specification and installation, delivering risk-free, zero-defect solutions. The Company's commitment to making ongoing improvements is demonstrated through its accreditation to the ISO 14001: 2004 Environmental Management Standard.

By pursuing sustainable building products, systems and manufacturing processes, Alumasc aims to offer specifiers a wide choice of design alternatives, with long-term peace of mind. Recognised brands such as Harmer, Apex, Derbigum, Euroroof, Hydrotech, together with Alumasc's well-known rainwater range have been independently certified, and in some cases have a lifespan in excess of 60 years or for the life of the building.



Services and Support

Alumasc leads the way in the field of construction product and system manufacture and the delivery of proven solutions. This success is founded on three key areas:

Premium Products

A constantly evolving range of quality proven, world class products and systems, fully accredited to UK, European and North American Standards.

Technical Support

Comprehensive data for specification and use of all products and systems is available in published form, and on the company website. This is backed up by proactive support on a project basis, led by specialist area managers and using the latest CAD and calculation technology.

Approved Stockists

Delivery of Harmer Drainage products is controlled through a network of approved suppliers. This allows close control over all matters to ensure first class customer service.



Quality and Sustainability

In addition to complying with environmental legislation, Alumasc is committed to developing its own measures to limit the adverse effects of its activities on the environment. To this end, Alumasc operates an environmental policy that fully integrates all aspects of company activities.



Quality

ISO 9001: 2008

Alumasc operates a quality management system which is independently audited to ISO 9001: 2008. The ISO 9001 framework governs the management of many aspects of Alumasc support services, manufacturing and transport operations. Alumasc extends quality management to its network of approved installers for single source accountability and peace of mind.



Sustainability

Alumasc actively pursues sustainability in the full range of products it offers and, with its partners and its suppliers, is committed to putting consideration for the built and wider environment at the core of all aspects of current business and future development.

ISO 14001: 2004

Alumasc's manufacturing sites at St Helens, Merseyside and at Burton Latimer, Northamptonshire are audited to the ISO 14001:2004 Environmental Management Standard. Alumasc is committed to achieving improvements across all of its operating sites, not only as a good neighbour to the surroundings of manufacturing plants, but in the responsible sourcing of raw materials and monitoring of the impact on the environment as a whole.



BREEAM Standards

BREEAM points, as a framework for analysis and scoring, allow easy comparison of the relative merits of different construction types and also comparisons between different construction product groups. The BREEAM points system promotes the use of materials with a proven sustainable message and allows designers to differentiate between products with true ecological credentials and those not achieving the benchmark.

Indicative ratings for building materials given in the BRE Green Guide to Specification also allows designers to choose those products or construction methods that will be most beneficial in contributing to a high BREEAM points score.

Aluminium rainwater goods and fascia soffit systems are part of the range of high scoring Alumasc solutions. Promotion of these responsibly sourced materials brings clarity to the specification process thus achieving the desired effect of minimising the environmental impact of the construction process.

CIBSE and SoPHE

Alumasc Harmer are active members of the Chartered Institute of Building Services Engineers and the Society of Public Health Engineers. Understanding the day to day requirements of the drainage design community and the direction of future trends in building design is a key part of the Harmer Drainage Technical support service.

Testing and Certification

Applicable Standards

BS EN 877:1999+A1:2006
Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings. Requirements, test methods and quality assurance.



BS EN 12056-3
Gravity drainage systems inside buildings, Part 3 Roof drainage layout and calculation.

BS EN 1253-1:2003
Gullies for buildings. Requirements.

BS EN 1706:2010
Aluminium and aluminium alloys - Castings - Chemical composition and mechanical properties.

BS EN 1559
Founding - Technical conditions of delivery.

BS EN 12206-1:2004
Paints and varnishes - Coating of aluminium and aluminium alloys for architectural purposes.



Alumasc & Harmer Manufacturing and Support Services

Alumasc is one of the UK's leading manufacturers of aluminium, cast iron and stainless steel drainage products for the construction industry. Our expertise in aluminium casting, extrusion and fabrication, as well as iron castings, stems from a proven track record accumulated over 60 years, enabling the provision of unrivalled technical support for designers, specifiers and contractors.

Manufacturing

Alumasc's UK casting and fabrication facilities employ both traditional and cutting edge production methods. Alumasc floor and shower drain goods are manufactured and independently assessed at the company's Burton Latimer site under the ISO 14001:2004 Environmental Management Standard. This not only ensures that upstream production processes have been monitored for their environmental impact, but that due consideration is taken for all aspects of packaging, transport and disposal, in order to deliver as sustainable a drainage product as practicable.

Cast iron and steel floor drain goods are manufactured in dedicated partner facilities within Alumasc controlled supply chain.

Performance

Alumasc floor and shower drain solutions are designed to give optimum performance over their lifespan. In every aspect of material choice or detailing decision the aim is to produce premium, fit for purpose products and systems. This ethos has resulted in Alumasc being associated with innovative projects that have led the way in construction performance, stood the test of time and demonstrated good design.

Materials

Alumasc products are manufactured from a wide range of base materials sourced from global markets. All Aluminium products are cast from Marine grade LM6 ingots, giving them extremely high corrosion resistance and longevity.

Cast Iron products are produced from base iron supplies with final casting materials controlled through spectral analysis to ensure its high grade and consistency.

Stainless steel products are manufactured in Grade 304 (18% chromium, 8% nickel) stainless steel. Also known as "A2 stainless steel", in accordance with ISO 3506. Products are also able to be produced in Grade 316 for highly chlorinated atmospheres such as swimming pools or nuclear installations.

ABS and PVC drainage products are produced from virgin polymers through high pressure injection and rotational moulding processes.

All materials are fully end of life recyclable, with metal products routinely containing up to 70% material from recycled sources.

Support Services

Comprehensive information and advice for specification and use of our floor and shower drain products and systems is provided through our technical literature, website and the Alumasc Technical Services department. This is backed by proactive support on a project-by-project basis, led by specialist Area Managers.

Product Development

Alumasc routinely design, manufacture and patent new floor drain and shower drain products for the UK and world markets.

Ongoing research and development ensures that our offer comprises high quality, world class products and systems that are fully accredited to UK and European standards.

Development of existing sound products and practices is central to the success of Alumasc and key to the way in which we provide our proven solutions. Equally, the basis for any new and innovative development is grounded in the knowledge and experience Alumasc has of its core manufacturing materials.

Alumasc's commitment to ongoing development and the promotion of best practice is reflected in our CPD programme which keeps the industry abreast of new standards and product solutions.



Benefits of Cast Iron, Stainless Steel, Aluminium, and Plastics (ABS & PVC)

Aluminium is a metal with exceptional characteristics, both in respect of its functional performance and sustainable credentials. Cast iron, similarly is a highly durable and extensively used drainage material. Stainless steel is highly corrosion resistant and formable with an attractive surface finish. ABS and PVC are corrosion and abrasion resistant and allow incorporate anti-microbial surface finishes.



Cast Iron

High Strength

The crystalline structure of cast iron gives the material high strength and robustness. Once installed, cast iron components resist impact damage even in exposed areas, such as shopping centres, carparks and schools.

Durability

Inherent corrosion resistance coupled with a primed and a painted finish ensures that cast iron components will need minimal maintenance during the lifetime of the installation.

Recyclable

Made with almost 100% recycled scrap, cast iron can be recycled indefinitely, and therefore should not be disposed of in landfill.

The Benefits at a Glance

- Corrosion resistant when a protective coat is applied
- Durable and strong
- Impact resistant
- Non-combustible
- Non-toxic
- Fully recyclable



Stainless Steel

Durable and Strong

Steel is extremely durable with excellent tensile strength which gives the systems robustness throughout their life in the building.

Recyclable

Steel is 98% recyclable, with recycled steel only requiring 40% of the energy to produce steel from its virgin state.

The Benefits at a Glance

- Lightweight
- Durable and strong
- Fully recyclable
- Cost-effective solution
- Minimum environmental impact

For the corrosion resistance of stainless steel in relation to other materials, see the chemical resistance data on pages 72 and 73.



Aluminium

Durable and Strong

Aluminium has a light weight-to-strength ratio, which means it is strong yet economical, and provides benefits in transportation and application. Aluminium is corrosion resistant and does not rust. When alloyed with small amounts of other metals, aluminium can provide the strength of steel at only one third of the weight.

Recyclable

Most aluminium products are made from 100% recycled scrap. Recycled aluminium offers significant energy benefits as remelting used aluminium requires only 5% of the energy needed to produce primary metal, and can be recycled indefinitely.

Benefits at a Glance

- Corrosion resistant
- Lightweight
- Durable and strong
- Formable
- High strength/weight ratio
- Electrically conductive
- Non-combustible
- Non-magnetic
- Non-sparking
- Non-toxic
- Thermally conductive
- Fully recyclable



ABS and PVC

Lightweight and Corrosion Resistant

ABS and PVC allow products and components to be made as complex seamless forms with intricate detail. Their polymer structures can be designed to give molecularly smooth surface finishes that create an anti-microbial environment. Raw material costs allow production of cost effective drainage solutions.

Recyclability

Easily and regularly recycled at end of life for general reuse in global reprocessing.

The Benefits at a Glance

- Lightweight
- Corrosion Resistant
- Anti-microbial
- Cost effective
- Highly formable
- Non-magnetic

Harmer Floor Drainage - Overview

Alumasc Harmer are one of the UK's foremost producers of Floor Drainage products and solutions. Over 40 years of manufacturing experience and innovation ensures there is always a Harmer Drainage product to suit all styles and building uses.



Introduction

The design requirements for modern buildings in respect of floor drainage are many and varied Alumasc Harmer range of Floor Drains with its choice of materials, styles and capacities is the most comprehensive on the market.

Harmer have for many years been pioneers in floor drain design solutions. The ability to design and manufacture solutions in house has allowed the creation of an extensive range of standard products as well as provide 'bespoke' solutions to assist the most creative designers.

The full range stretches across three principal material types. Cast Iron, Aluminium and Stainless Steel. The Cast iron and Aluminium bodies can be supplied with a choice of grates and bezel styles and material types to suit the area of use and budget. These include Stainless Steel, Nickel bronze and ductile Iron with a range styles.

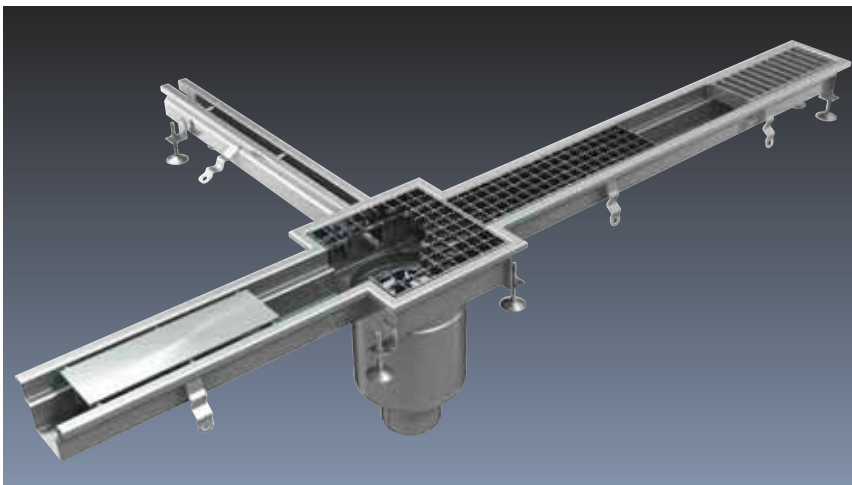
The stainless steel offer comprises of a suite of Standard and Compact units and a range of Standard and Custom Channels, supplied with either slots or grates.

The Grate options for the stainless steel channels come in a range of load class ratings with top finishes to suit all floor types and building uses.

All floor drains can be configured and designed to match the floor construction to which they are being installed and the floor finish they are adjoining.

Flow characteristics can be established to give optimum layouts for drainage to minimise cost.

Assistance can be given by the Harmer team for all options and calculations at any stage of the design, including specifications, site surveys, product drawings, pricing and installation.



Harmer Floor Drainage - Overview

Harmer Floor drains can be incorporated into any design to provide optimum drainage solutions. The wide range ensures that there is always a drain and material type to suit, whatever the building type or use.

Industrial Use

Floor drainage in large area industrial units is very dependent on the processes and position of the equipment involved. Detailed design layouts can be provided to cover all aspects of these type of schemes.

Pharmaceutical Use

The need for efficient, hygienic water disposal is paramount in the manufacture of pharmaceutical products. Harmer floor drains are able to be specified to meet the most stringent of performance criteria.

Food Production Use

The management of large quantities of hot and cold water runoff from processing operations is key to the success of any food production water management system. Harmer products can be specifically designed and specified to meet these harsh conditions.

Food Preparation Use

Simple and compact water management solutions are often the prime concern in a busy hotel or restaurant kitchen. Harmer floor drains can provide the perfect solution for the smallest of food preparation area.

Leisure Use

Clean stylish lines and ease of cleaning figure highly in the design of leisure changing and activity areas. Harmer floor drains give a wide range of options to satisfy this need.

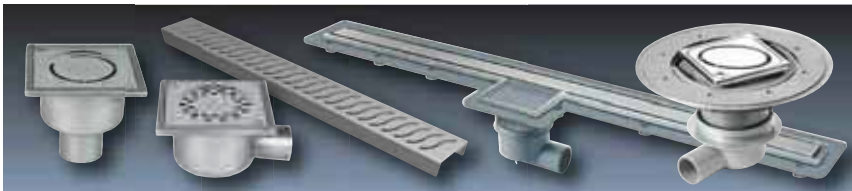
Healthcare Use

Infection control and foot safety are primary considerations in the specification of hospital floor drain. Harmer have a long and extensive track record in providing safe, manageable drainage products for health care facilities.



Harmer Shower Drainage - Overview

Alumasc has been providing leading edge drainage solutions for over 40 years, combining quality materials and finishes with meticulous attention to detail. The Harmer Shower range offers an uncompromising blend of imaginative design, high performance materials and innovative engineering.



Introduction

Today's contemporary shower and wet rooms have set new standards for quality, versatility and performance across the whole spectrum of building sectors.

Alumasc has met this ever-critical demand with the introduction of the new Harmer range of aluminium and ABS antimicrobial trapped shower drains.

Specifiers, installers and users can be confident that the Harmer range, combining elegance with advanced engineering, will successfully manage the high flow output of modern showers.

Enhanced design features also bring many other benefits, including corrosion resistance, durability, and attractive finishes that are tough and hygienic.

The wide choice of caps and grates available in stainless steel, nickel bronze, and polyester powder coated aluminium, will complement and enhance any shower or wet room design.

With caps and grates located fully flush with adjacent tiled or flexible sheet floor finishes, thereby removing the need for conventional shower trays, the Harmer range of shower drains is ideal for achieving a sleek, contemporary style as well as maximising access for people with impaired mobility.

All Harmer shower drains are easily incorporated into modules for use in offsite 'pod' manufacture. The stainless steel fabricated ranges are able to be adapted to suit specific pod designs. These can then be easily called off for use in the assembly process for onward delivery as part of an overall bathroom module.

If minimising inherent complexity is the hallmark of sophisticated design, then the process of assembling and installing Harmer Shower Drains is simplicity itself.

Harmer Shower Drainage - Overview

Harmer Shower Drains offer great flexibility of choice. The standard range of combinations is extremely versatile and is ideal for many different applications.

Domestic Use

Harmer Shower Drains deliver fast and efficient drainage capable of managing high output flow rates within suspended concrete and timber floor construction. The extensive range of high quality gulley tops complements and enhances the interior finishes of any contemporary shower or wet room, be it a tiled or modern sheet vinyl floor.

Commercial Use

Durability and ease of maintenance are key considerations when specifying high-use drainage in buildings such as hotels, MoD establishments, school and leisure facilities. The Harmer Shower range offers accessibility and ease of maintenance, along with highly engineered aluminium, stainless steel and nickel bronze caps and grates that provide attractive finishes and long life for the most demanding applications.

Healthcare Use

Cleanliness and hygiene are paramount in the NHS, nursing and residential care sectors. The choice of Harmer Shower Drains incorporating the use of antimicrobials caters for these needs, following extensive research into the cleaning and maintenance regimes of such environments. The unobtrusive water ways and unique cap design allow maximum flow, with minimal risk of dirt build-up. Drain blockages are easily dealt with due to a removable trap. In addition, the Harmer Shower Drain range, with its wide choice of materials and finishes, can be tailored to the cost parameters of the build.

Local Authority and Housing Association Use

Level access showers provide a safe and attractive solution for people of all ages and mobilities. The Lifetime Homes Standard sets out key design criteria for the provision of level access wet rooms. The Harmer Shower ABS range incorporating antimicrobial compounds is the ideal choice for practical, cost effective and attractive solutions for these installations.

Secure Accommodation Use

For those situations that require high security, such as prisons and other secure units, Harmer Shower Drains are available with a security fixing option to prevent tampering and the unauthorised removal of caps, grates and traps.

Offsite 'Pod' Manufacture Use

All Harmer shower drains are suitable for use in in offsite bathroom pod manufacture to meet the requirements of modular building systems.



Harmer Floor & Shower Drainage - Design Considerations







The appropriate selection of a suitable Harmer Floor or Shower gully can be determined by a number of factors as outlined below.

Building Regulations and Standards

Harmer Floor and Shower gullies have been developed in accordance with current Building Regulations and British Standards to ensure that the gully is fit for purpose in its desired application. BS EN 1253 gives guidance on the appropriate general design, flow performance and load testing.

Load Rating

It is essential that the Harmer Floor or Shower gully can withstand the expected load. In accordance with BS EN 1253, load classifications are based on the following:

Application	BS EN 1433 (Drainage Channels) BS EN 124 (Manhole & Gully Tops)	BS EN 1253 (Gullies for Buildings)
	A15	K3
	–	L15
	B125	M125
	C250	–
	D400	–
	E600	–

Flow Rate

The flow rate is the maximum drainage capacity of the Floor gully, which is stated in litres per second (l/s). The flow rates are typically influenced by a number of gully components which include grating type and size, waste basket, trap configuration*, sump depth and outlet spigot size.

Expected flow rates can be determined by contacting the manufacturer of the appropriate discharging equipment. This can include shower heads, industrial kitchen equipment such as tilting kettles and other means of water discharge.

*The flow rates shown in this brochure are based on maximum capacity of the grating.

Flooring and Floor Construction

There are a variety of floor finishes available, such as ceramic tile, sheet such as Vinyl, resin and cementitious floor. These will influence the type of grating or cover to be specified. Harmer Floor and Shower Gullies are available with a variety of tops and gratings for all different floor finishes.

The floor construction, including depth of the structural slab and available floor build-up will influence the gully selection. Gullies are available with DPM clamping rings, extension pieces for deep floor construction and adjustable bezels for varying floor heights.

Pipework

The type, size and position of the waste pipework is all required to correctly select the correct Harmer Floor or Shower gully. Harmer gullies are suitable to connect to all pipework which include direct socketed pipe or connection via a coupling.

Appearance

The Harmer Floor and Shower Gully ranges are available with a wide range of gratings to suit a variety of applications. Stainless Steel or Nickel Bronze finish gratings can be considered for applications where a high aesthetic appeal is required. Cast Iron gratings are available where a low aesthetic appeal is required, such as in plant rooms or unfinished floor areas.

Accessories

The Harmer Floor and Shower Gully ranges are available with a large number of accessories to accommodate specific drainage requirements such as side inlets, large filtration of silt and backflow prevention. Custom made products are available for non-standard applications.

Material and Finishes

The correct material selection of the Harmer Floor and Shower Gully is an important consideration to ensure that the selected Gully is suitable in terms of corrosion resistance, hygienic design, strength, durability and appearance.

Harmer Floor & Shower Drainage - Design Considerations

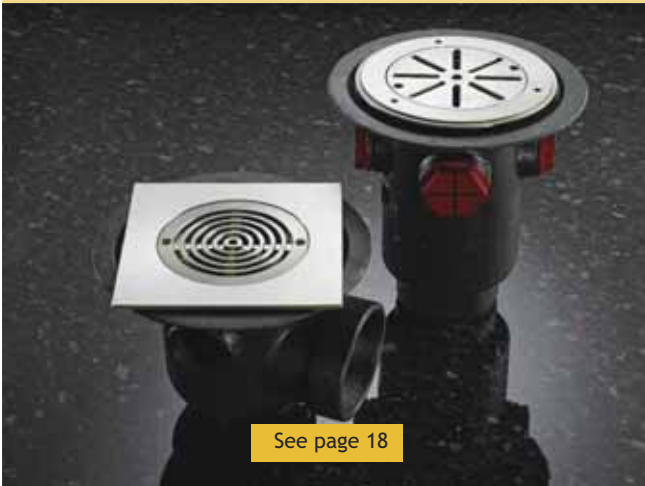


Harmer Floor Drainage Product Selector

Floor Outlets and Channels (including Backflow Valves)

Cast Iron Floor Outlets

Harmer Cast Iron Floor Drains offer an all new range of drain bodies, from shallow sump to deep sump. Complimented by a wide range of grate & bezel designs available in three connection types to suit all applications.



Stainless Steel Floor Outlets

Harmer Stainless Steel Floor Drains offer a wider range of standard and compact complete drains available either as a one part or two part drain body, vertical or horizontal outlets with a wide choice of grate finishes to suit any application type.



Stainless Steel Floor Channels

Harmer Stainless Steel Floor Channels feature high performance standard and slot channel options in a range of widths and with a choice of grate finishes to suit all applications.



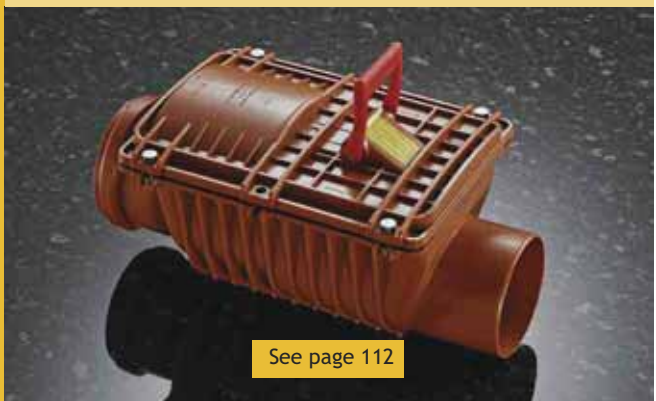
Aluminium Floor Outlets

Harmer Aluminium Floor Drains are designed for use in interior drainage applications and in all types of flooring. This versatile, fully engineered range is available trapped or untrapped, with a new extensive choice grate designs.



Backflow Valves

Harmer Backflow drains offer a comprehensive range of single and double flap non-return valves that prevent the backflow of rainwater or waste drainage.



Harmer Shower Drainage Product Selector

Shower Outlets and Channels

Aluminium Shower Outlets

Harmer Shower Aluminium is a high performance range of aluminum drain bodies, available with a choice of attractive caps and grates.



ABS Shower Outlets

Harmer Shower ABS is a high performance range of ABS drain bodies with excellent impact resistance, available with a choice of attractive caps and grates.



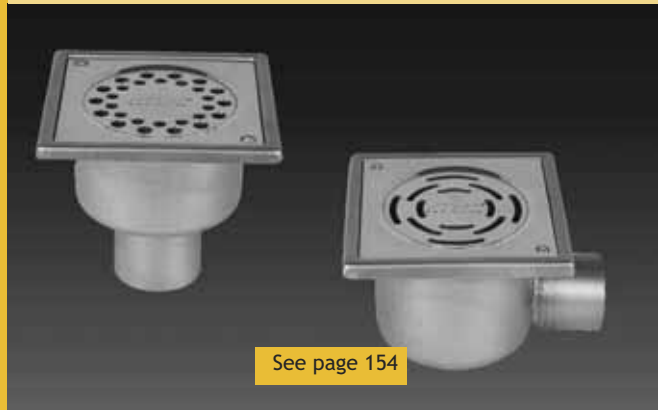
Stainless Steel Shower Channels

The new high performance range of stainless steel wet room channels drains. Available is a range of widths and lengths along with a choice of stylish grate options.



Stainless Steel Shower Outlets

A range of shallow depth Stainless Steel trapped shower drains available either with vertical or horizontal outlets. Available in four stylish grate designs.



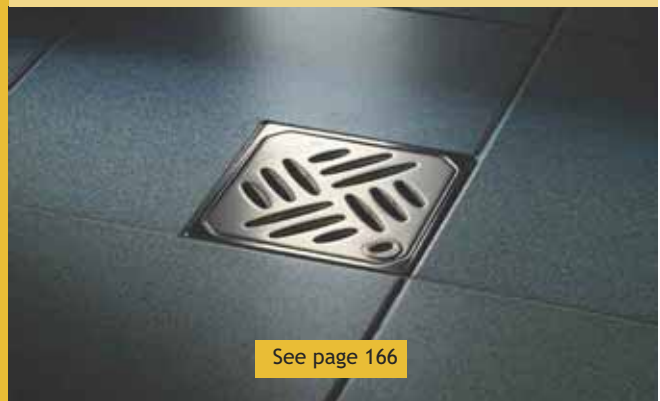
Linearis Shower Floor Channels

Harmer Linearis Shower Channels offers a mix of sophisticated elegance and advanced engineering to meet all the practical, aesthetic and functional demands of today's contemporary shower and wet rooms.



Linearis Shower Floor Outlets

Harmer Linearis Shower Outlets cope exceptionally well with the high flow demands of modern showers, delivering fast and efficient drainage. Available in three stylish grate designs.



Harmer Drainage Project Gallery

The Harmer Floor and Shower drainage range offers an unrivalled choice of floor outlets and channels which combine innovative engineering and high performance materials for use with all types of building, including commercial, residential, health, transport, industrial and sports projects.



Harmer Drainage Project Gallery

Stansted Airport

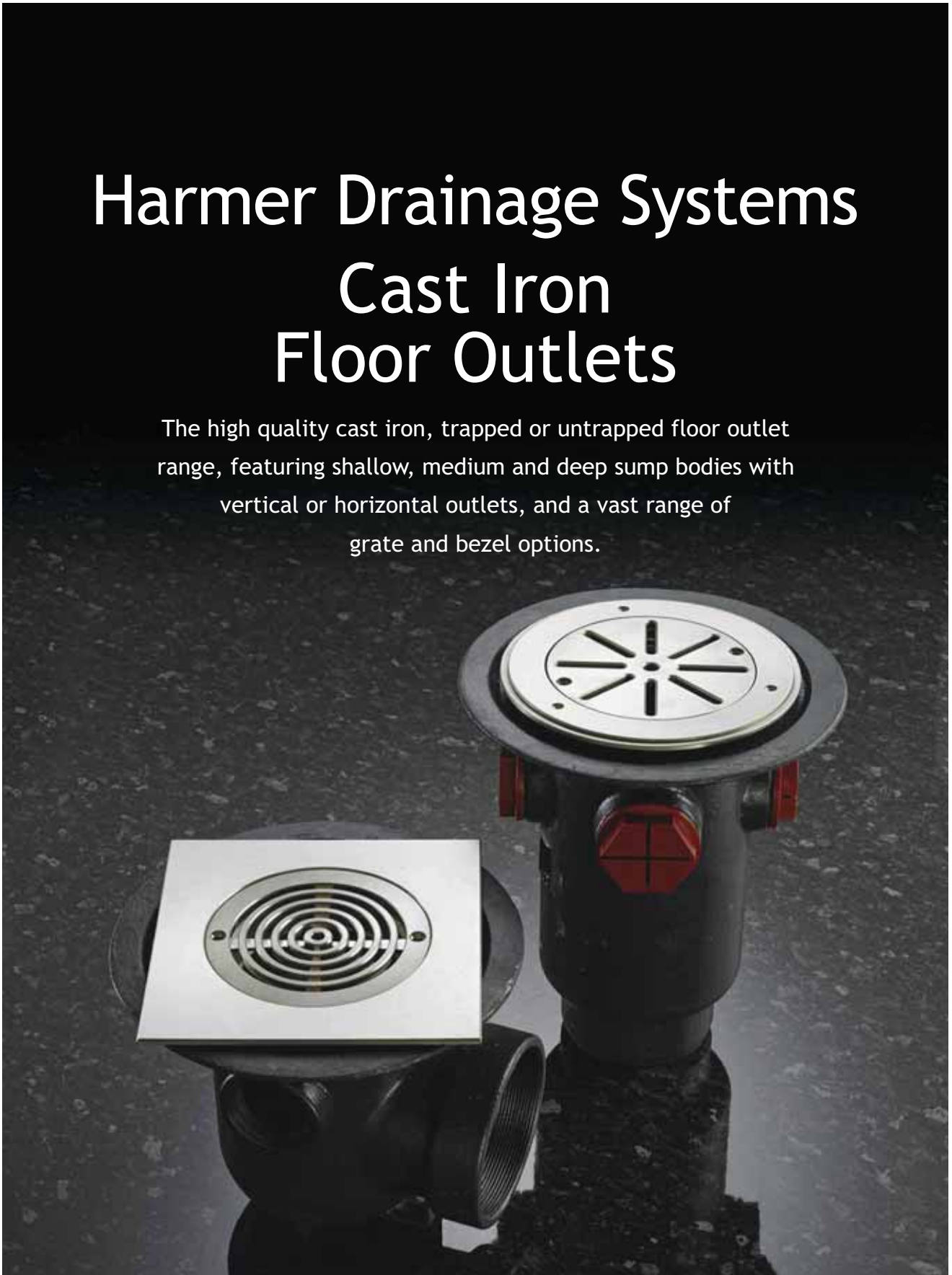


Walsgrave Hospital



Harmer Drainage Systems Cast Iron Floor Outlets

The high quality cast iron, trapped or untrapped floor outlet range, featuring shallow, medium and deep sump bodies with vertical or horizontal outlets, and a vast range of grate and bezel options.



Cast Iron Floor Outlets - Benefits

Harmer Cast Iron Floor Drains offer an all new range of drain bodies from shallow sump to deep sump with a wide selection of grate & bezel designs with three connection types, available in Satin Stainless finish or Nickel Bronze. Also complemented with a range of cast Iron floor drain assemblies which are ideally suited for composite or asphaltic floor applications.

Compliances

- Grate options available for load classes ratings to BS EN 1253 - K3 (3 kN), L15 (15 kN) and M125 (125 kN)
- Harmer Cast Iron gullies are coated internally and externally with a dark grey 2-part epoxy coating. This is in compliance to Class 1 fire classification BS 476: Part 7:1997, Surface spread of flame. Smoke and Toxicity test to Part 2, Annex 1 & Annex 2 of fire test procedure code, IMO Resolution MSC61(67)

Flow Performance

- High flow performance
- High sump volume

Robust and Secure

- Excellent corrosion resistance and durability
- High quality cast iron

A Choice of Body and Grates

- Drain bodies available: shallow sump, medium sump, deep sump, P-trapped, S-trapped and a clean-out drain body
- A range of floor drain assemblies, especially suited for plant rooms with a composite or asphaltic floor finish
- Outlet size available from 50mm up to 150mm
- Grates available for tiled, vinyl, resin, composite & asphaltic floor applications
- The Floor drain bodies are available with a choice of 30 grate options in either a satin stainless or nickel bronze finish
- Three types of bezel connections - 4" NPSM thread, 110mm direct fix and 110 PVC throat

Low Maintenance

- Easy to clean and maintain with easy access to the trap

Easy and Quick to Install

- Innovatively designed

Value for Money

- Cast Iron is very durable and resistant in industrial applications so its life cycle cost is excellent

Sustainable

- Cast Iron is 100% recyclable



Cast Iron Floor Outlets - Product Range Summary

Harmer Cast Iron Floor Drains offer an all new range of drain bodies from shallow sump to deep sump and Cast Iron floor assemblies, with a wide selection of grate & bezel designs with three connection types, available in Satin Stainless finish or Nickel Bronze.

Available in a wide range of 29 drain bodies to suit any application. High performance trapped or untrapped solutions which are interchangeable with all of the 30 different grate options and bezel types.

Drain Bodies and Trap



Cast Iron Floor Outlets - Product Range Summary

Grates and Bezels



Pipe Adaptors



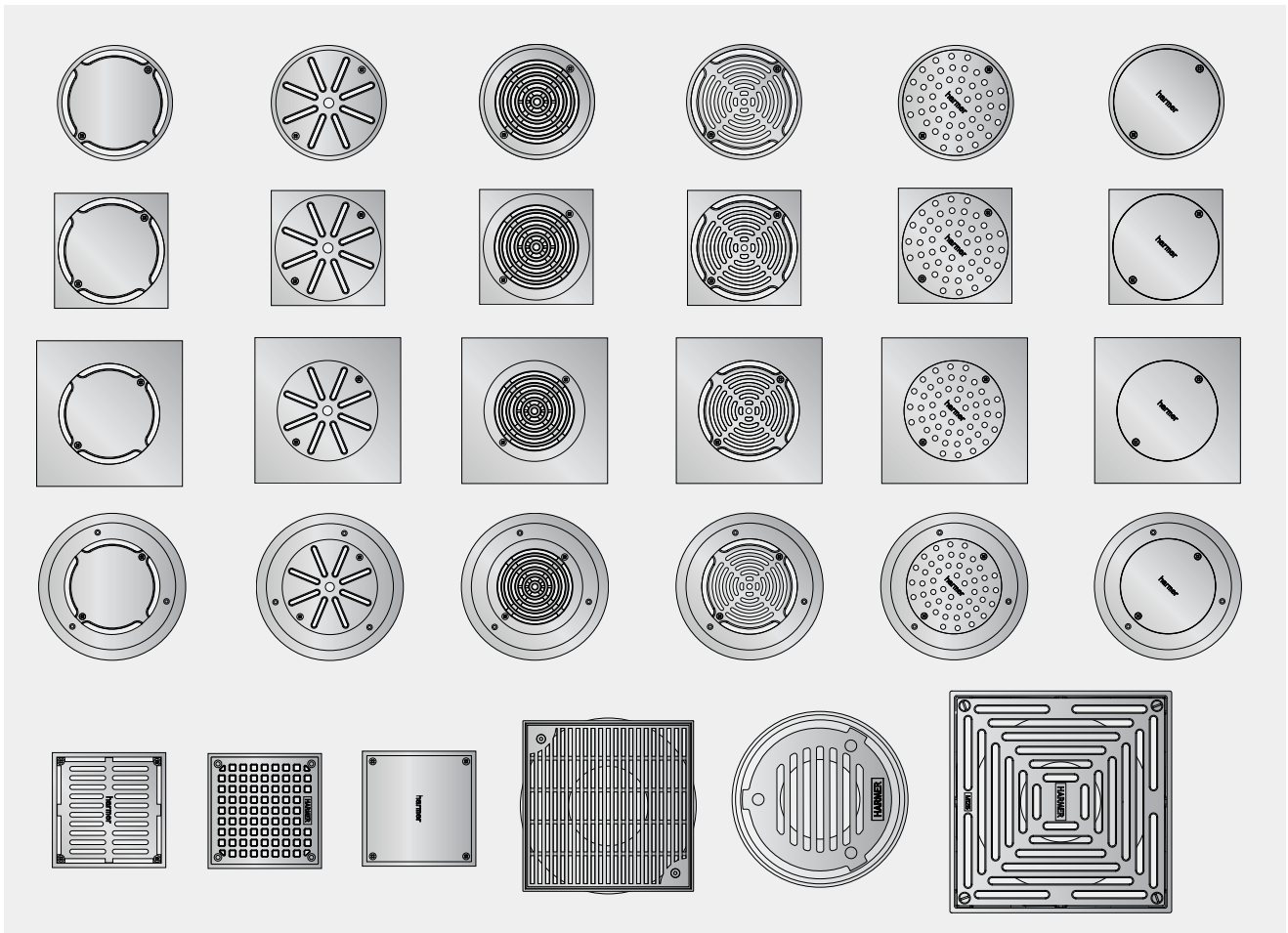
Cast Iron Assembly



HDPE Assembly



PVC Assembly



Cast Iron Floor Outlets - Drain Body Product Tables

Harmer Cast Iron Shallow Sump Floor Drain bodies are available with either a BSP threaded or spigot outlet for direct connection to pipework. The Medium sump drain bodies offer a wide range of body types including with side inlets. They are available in a BSP threaded or spigot outlet with either vertical or horizontal connection.

Shallow Sump Vertical Drain Bodies

Outlet Size (mm)	Connection	a (mm)	b (inches/mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)*	Product Code
50	BSP	95	2	256	220	51.3	36	12	7.0	2.9	CSVT50
75	BSP	95	3	256	220	51.3	36	12	6.2	2.9	CSVT75
100	BSP	79	4	256	220	51.3	36	12	4.9	2.9	CSVT100
75	Spigot	205	83	256	220	51.3	36	12	6.0	2.9	CSVS75
100	Spigot	93	110	256	220	51.3	36	12	4.7	2.9	CSVS100

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

Medium Sump Vertical Drain Bodies

Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)*	Product Code
50	BSP	161	2	256	220	117.4	36	12	10.0	2.9	CM1VT50
75	BSP	161	3	256	220	117.4	36	12	9.2	2.9	CM1VT75
100	BSP	145	4	256	220	117.4	36	12	7.9	2.9	CM1VT100
50 (+ side inlets)	BSP	161	2	256	220	117.4	36	12	10.0	2.9	CM1VT50/A
75 (+ side inlets)	BSP	161	3	256	220	117.4	36	12	9.2	2.9	CM1VT75/A
100 (+ side inlets)	BSP	145	4	256	220	117.4	36	12	7.9	2.9	CM1VT100/A

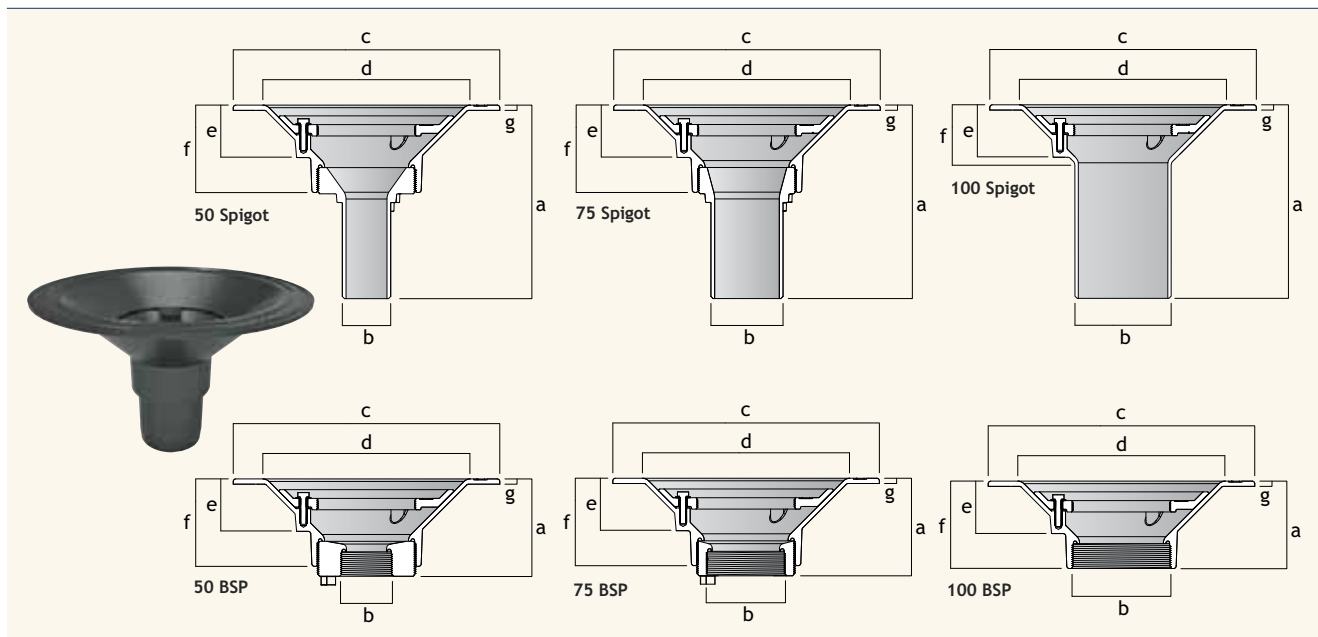
* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

Cast Iron Floor Outlets - Drain Body Product Tables

Harmer Cast Iron Shallow Sump and Medium Sump Floor Drain Bodies are compatible with all grate & bezel options.

Each drain body comes with a clamping collar and a gasket seal.

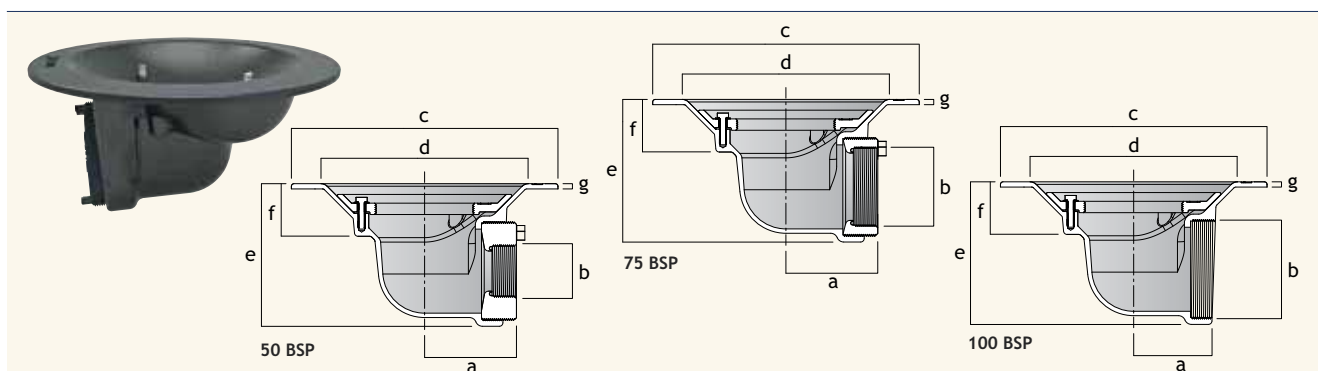
Medium Sump Vertical Drain Bodies



Outlet Size (mm)	Connection	a (mm)	b (mm/inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)*	Product Code
50	Spigot	220	60	305	235	60	100	6	7.2	1.7	CM2V50
75	Spigot	220	83	305	235	60	100	6	7.5	3.6	CM2V75
100	Spigot	190	110	305	235	60	70	6	6.7	3.6	CM2V100
50	BSP	112	2	305	235	60	100	6	7.0	1.7	CM2VT50
75	BSP	112	3	305	235	60	100	6	6.8	3.6	CM2VT75
100	BSP	100	4	305	235	60	100	6	5.5	3.6	CM2VT100

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

Medium Sump Horizontal Drain Bodies



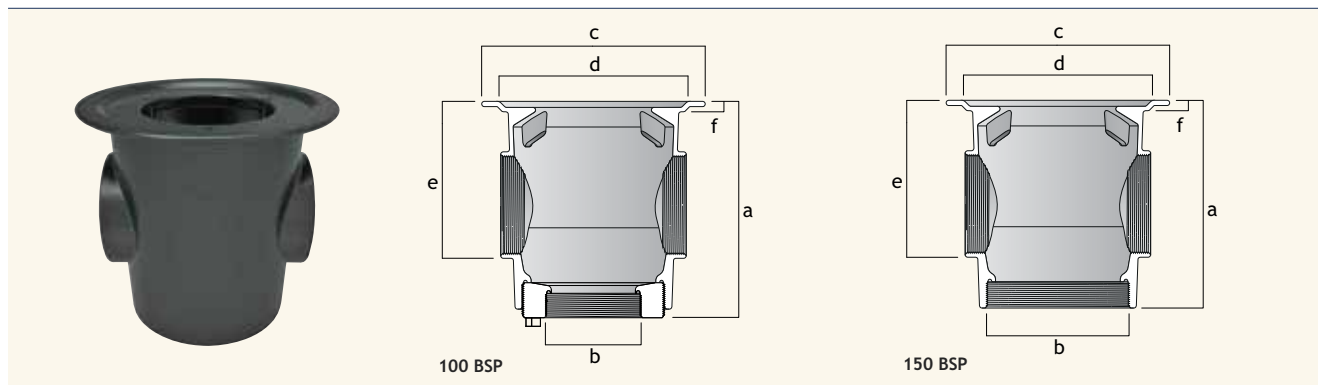
Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	BSP	105	2	305	235	165	60	6	9.0	1.7	CM2HT50
75	BSP	105	3	305	235	165	60	6	8.2	3.6	CM2HT75
100	BSP	90	4	305	235	165	60	6	7.0	3.6	CM2HT100

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

Cast Iron Floor Outlets - Drain Body Product Tables

Harmer Cast Iron Deep sump with either a 4" or 6" BSP vertical outlet. The P-Trapped horizontal & S-Trapped vertical outlets have an integral trap and have options of side inlets if required. The clean-out drain body is trapped and can be combined with any grate option for specific applications such as a rodding access.

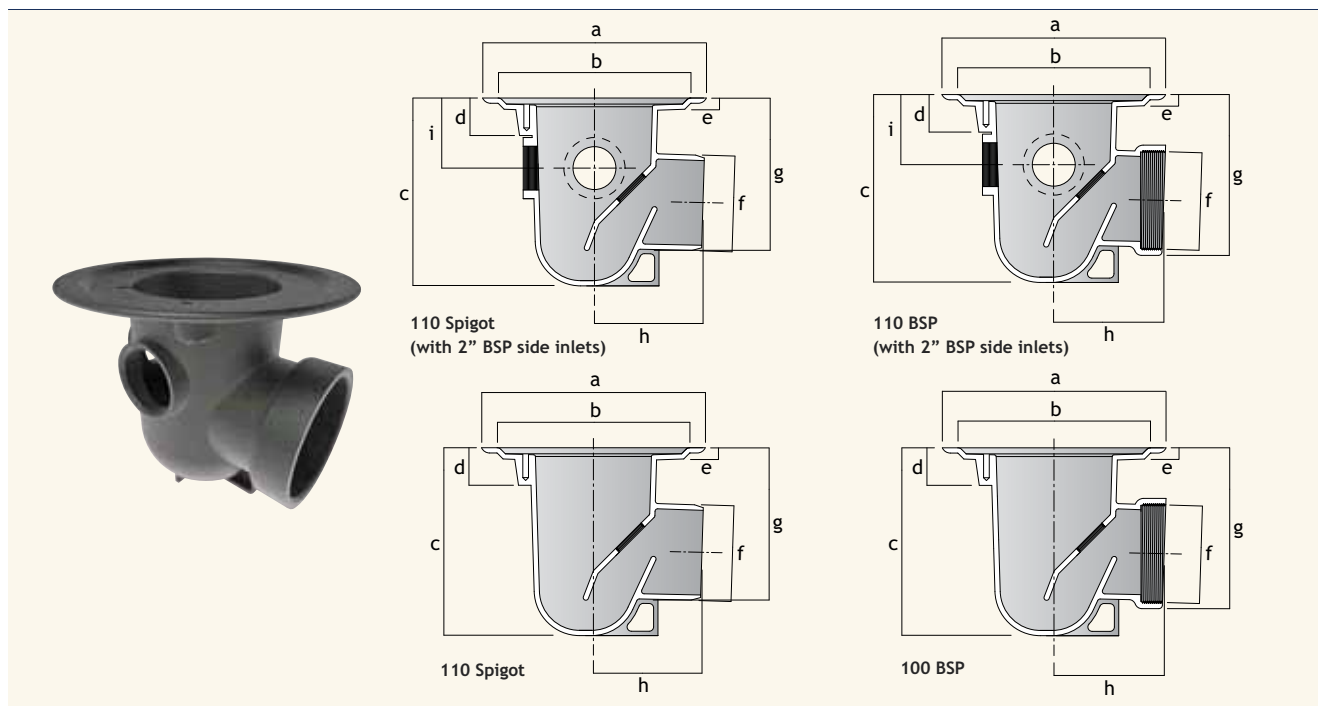
Deep Sump Vertical Drain Bodies



Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	Weight (kg)	Flow Rate (l/s)*	Product Code
100	BSP	247	4	256	220	185	12	14.35	2.9	CDVT100
150	BSP	238	6	256	220	185	12	11.05	2.9	CDVT150

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

P-Trapped Horizontal Drain Bodies

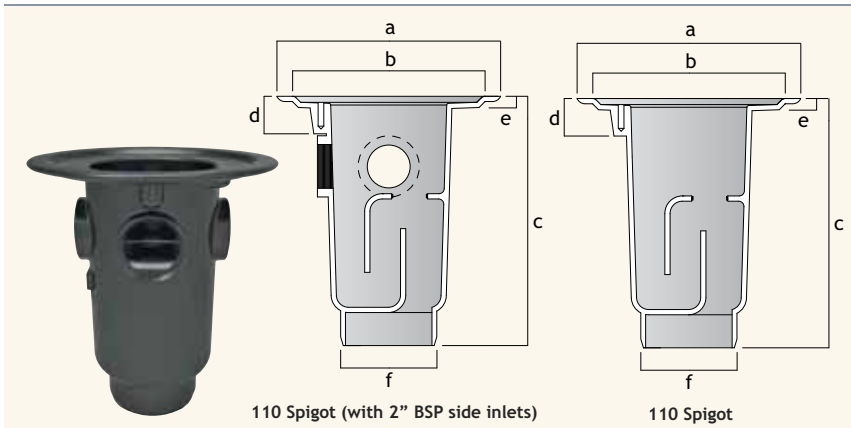


Outlet Size (mm)	Connection	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm/inches)	g (mm)	h (mm)	i (mm)	Weight (kg)	Flow Rate (l/s)*	Product Code
110 (+ side inlets)	Spigot	256	220	215	36	12	110	174	124	77	10.0	2.9	CTH100/A
110	Spigot	256	220	215	36	12	110	174	124	—	10.0	2.9	CTH100
100 (+ side inlets)	BSP	256	220	215	36	12	4	184	124	77	10.5	2.9	CTHT100/A
100	BSP	256	220	215	36	12	4	184	124	—	10.5	2.9	CTHT100

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

Cast Iron Floor Outlets - Drain Body Product Tables

S-Trapped Vertical Drain Bodies



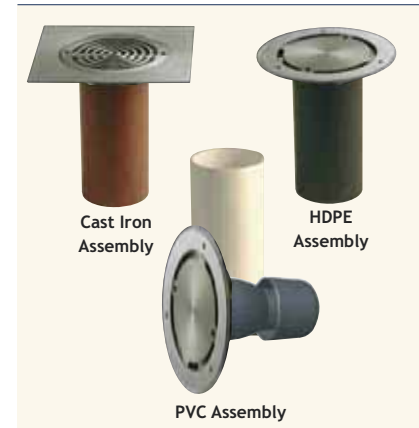
110 Spigot (with 2" BSP side inlets)

110 Spigot

Outlet Size (mm)	Connection	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Weight (kg)	Flow Rate (L/s)*	Product Code
110 (+ side inlets)	Spigot	256	220	290	36	12	110	11.1	2.82	CTV100/A
110	Spigot	256	220	290	36	12	110	11.1	2.82	CTV100

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

Pipe Adaptors



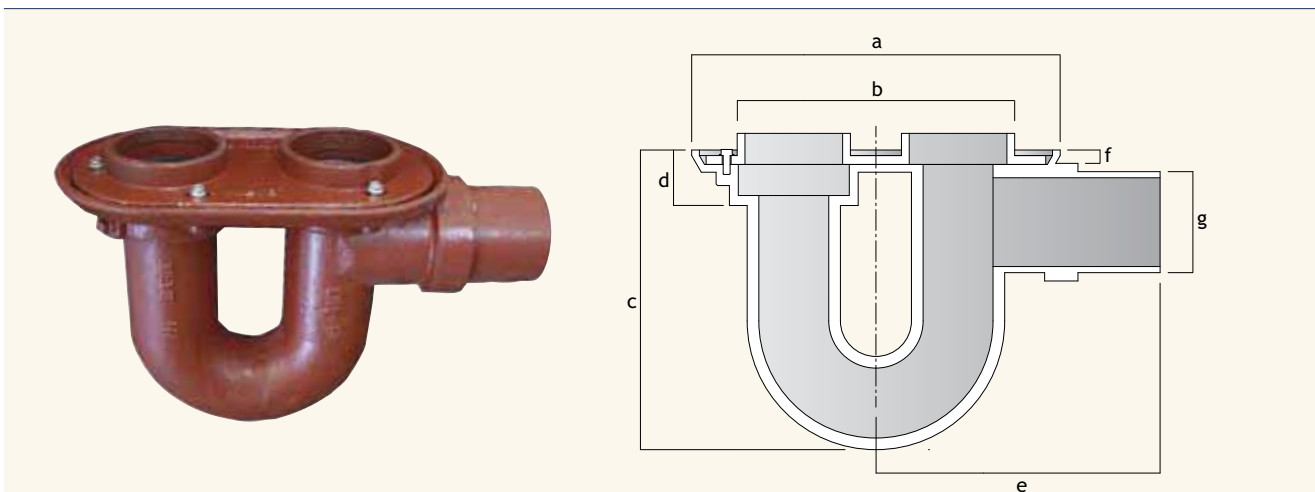
Cast Iron Assembly

HDPE Assembly

PVC Assembly

Description	Product Code
100mm Cast Iron	ADP100/SML
100mm HDPE	ADP100/HDPE
100mm PVC	ADP100/PVCU

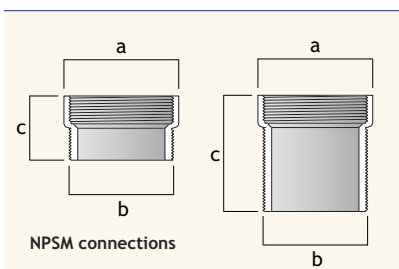
Clean-Out Drain Body



Outlet Size (mm)	Connection	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (L/s)*	Product Code
110	Spigot	422	318	341	63.5	325	15	110	20.0	2.9	CCO100

* The flow rates relate to maximum sump capacity with use of compulsory clamp plate and 20mm head of water

NPSM Extension Pieces

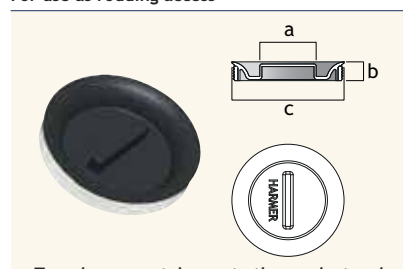


NPSM connections

a (mm)	b (inches)	c (mm)	Weight (kg)	Product Code
121	4	70	1.32	CEXT103
121	4	120	2.37	CEXT153

Access Plug

For use as rodding access



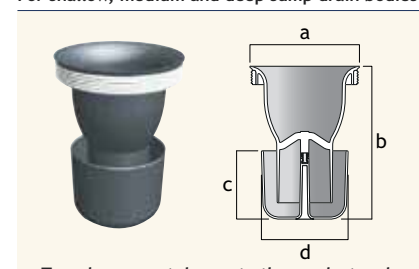
To order separately, quote the product code

a (mm)	b (mm)	c (mm)	Product Code
54	18	107.5	HF/AP

Included in assembly eg RA/SB15/SS/110

Trap

For shallow, medium and deep sump drain bodies



To order separately, quote the product code

a (mm)	b (mm)	c (mm)	d (mm)	Product Code
107.5	150	67	85	HF/FT

Flow rate 1.8l/s

Cast Iron Floor Outlets - Grate/Bezel Product Tables

Harmer Cast Iron Floor Drain grates and bezels range offers a wide selection of designs to suit flow rate and load class requirements from K3 to M125. Available in either a satin stainless steel or nickel bronze finish, both are durable and provide a stylish long lasting finish.

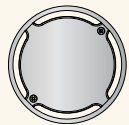
All the grates come with a choice of three bezel connections to suit any required pipework connection. Grates & bezel kits come trapped as standard, if a non-trapped version is required please remove the suffix /T.

150mm Circular Bezel

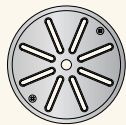
The 150mm circular grate & bezel kits come in a choice of 6 grate options to suit any application and environment such as vinyl, resin or screed floors.

Grate Options with 150mm Ø Circular Bezels

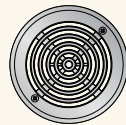
To Specify Untrapped Drains: Remove the suffix /T



Plain Cap Grate + Bezel

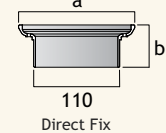
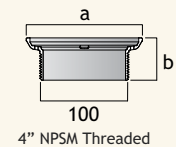
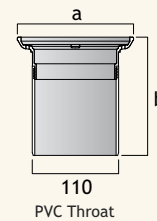


Star Grate + Bezel



Concentric Ring Grate + Bezel

Bezel Connection Options For Each Grate Type



Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	110mm PVC Throat	Satin Stainless Steel	110	148	151	L15	1.89	2.21	CP15/SS/B/T
		Nickel Bronze	110	148	151	L15	1.87	2.21	CP15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	148	54	L15	1.89	2.21	CP15/SS/4/T
		Nickel Bronze	100	148	54	L15	1.87	2.21	CP15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	148	54	L15	1.89	2.21	CP15/SS/110/T
		Nickel Bronze	110	148	54	L15	1.87	2.21	CP15/NB/110/T
Star	110mm PVC Throat	Satin Stainless Steel	110	148	151	L15	2.10	1.15	CS15/SS/B/T
		Nickel Bronze	110	148	151	L15	1.99	1.15	CS15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	148	54	L15	2.10	1.15	CS15/SS/4/T
		Nickel Bronze	100	148	54	L15	1.99	1.15	CS15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	148	54	L15	2.10	1.15	CS15/SS/110/T
		Nickel Bronze	110	148	54	L15	1.99	1.15	CS15/NB/110/T
Concentric Ring	110mm PVC Throat	Satin Stainless Steel	110	148	151	L15	1.92	2.42	CC15/SS/B/T
		Nickel Bronze	110	148	151	L15	1.89	2.42	CC15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	148	54	L15	1.92	2.42	CC15/SS/4/T
		Nickel Bronze	100	148	54	L15	1.89	2.42	CC15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	148	54	L15	1.92	2.42	CC15/SS/110/T
		Nickel Bronze	110	148	54	L15	1.89	2.42	CC15/NB/110/T

Cast Iron Floor Outlets - Grate/Bezel Product Tables



Grate Options with 150mm Ø Circular Bezels

To Specify Untrapped Drains: Remove the suffix /T



Compact Ring Grate + Bezel

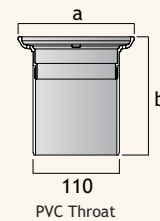


Anti-Ligature Grate + Bezel

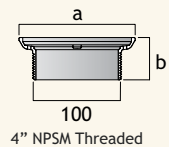


Solid Plate Grate + Bezel

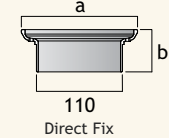
Bezel Connection Options For Each Grate Type



110
PVC Throat



100
4" NPSM Threaded



110
Direct Fix

Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Compact Ring	110mm PVC Throat	Satin Stainless Steel	110	148	151	L15	1.78	2.52	CR15/SS/B/T
		Nickel Bronze	110	148	151	L15	1.90	2.52	CR15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	148	54	L15	1.78	2.52	CR15/SS/4/T
		Nickel Bronze	100	148	54	L15	1.90	2.52	CR15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	148	54	L15	1.78	2.52	CR15/SS/110/T
		Nickel Bronze	110	148	54	L15	1.90	2.52	CR15/NB/110/T
Anti-Ligature	110mm PVC Throat	Satin Stainless Steel	110	148	151	L15	1.88	1.80	CA15/SS/B/T
		Nickel Bronze	110	148	151	L15	2.20	1.80	CA15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	148	54	L15	1.88	1.80	CA15/SS/4/T
		Nickel Bronze	100	148	54	L15	2.20	1.80	CA15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	148	54	L15	1.88	1.80	CA15/SS/110/T
		Nickel Bronze	110	148	54	L15	2.20	1.80	CA15/NB/110/T
Solid Plate	110mm PVC Throat	Satin Stainless Steel	110	148	151	L15	2.03	—	CB15/SS/B/T
		Satin Stainless Steel (with Plug Seal*)	110	148	151	L15	2.03	—	RA/CB15/SS/B
		Nickel Bronze	110	148	151	L15	2.30	—	CB15/NB/B/T
		Nickel Bronze (with Plug Seal*)	110	148	151	L15	2.30	—	RA/CB15/NB/B
	4" NPSM Threaded	Satin Stainless Steel	100	148	54	L15	2.03	—	CB15/SS/4/T
		Satin Stainless Steel (with Plug Seal*)	100	148	54	L15	2.03	—	RA/CB15/SS/4
		Nickel Bronze	100	148	54	L15	2.30	—	CB15/NB/4/T
		Nickel Bronze (with Plug Seal*)	100	148	54	L15	2.30	—	RA/CB15/NB/4
	110mm Direct Fix	Satin Stainless Steel	110	148	54	L15	2.03	—	CB15/SS/110/T
		Satin Stainless Steel (with Plug Seal*)	110	148	54	L15	2.03	—	RA/CB15/SS/110
		Nickel Bronze	110	148	54	L15	2.30	—	CB15/NB/110/T
		Nickel Bronze (with Plug Seal*)	110	148	54	L15	2.30	—	RA/CB15/NB/110

* (no trap)

Cast Iron Floor Outlets - Grate/Bezel Product Tables

Harmer Cast Iron Floor Drain grates and bezels range offers a wide selection of designs to suit flow rate and load class requirements from K3 to M125. Available in either a satin stainless steel or nickel bronze finish, both are durable and provide a stylish long lasting finish.

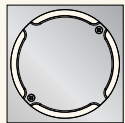
All the grates come with a choice of three bezel connections to suit any required pipework connection. Grates & bezel kits come trapped as standard, if a non-trapped version is required please remove the suffix /T.

150mm x 150mm Square Bezels

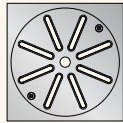
The 150mm x 150mm square grate & bezel kits come in a choice of 6 grate options to suit any application and environment including solid plate for rodding access. The square bezel is suited to a tile floor finish.

Grate Options with 150mm x 150mm Square Bezels

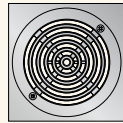
To Specify Untrapped Drains: Remove the suffix /T



Plain Cap Grate + Bezel

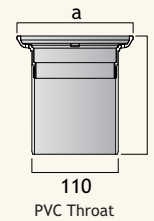


Star Grate + Bezel

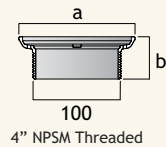


Concentric Ring Grate + Bezel

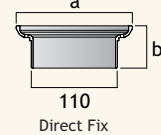
Bezel Connection Options For Each Grate Type



110
PVC Throat



100
4" NPSM Threaded



110
Direct Fix

Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	2.01	2.21	TP15/SS/B/T
		Nickel Bronze	110	150	151	L15	1.92	2.21	TP15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	2.01	2.21	TP15/SS/4/T
		Nickel Bronze	100	150	54	L15	1.92	2.21	TP15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	2.01	2.21	TP15/SS/110/T
		Nickel Bronze	110	150	54	L15	1.92	2.21	TP15/NB/110/T
Star	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	2.22	1.15	TS15/SS/B/T
		Nickel Bronze	110	150	151	L15	2.04	1.15	TS15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	2.02	1.15	TS15/SS/4/T
		Nickel Bronze	100	150	54	L15	2.04	1.15	TS15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	2.22	1.15	TS15/SS/110/T
		Nickel Bronze	110	150	54	L15	2.04	1.15	TS15/NB/110/T
Concentric Ring	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	2.04	2.42	TC15/SS/B/T
		Nickel Bronze	110	150	151	L15	1.94	2.42	TC15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	2.04	2.42	TC15/SS/4/T
		Nickel Bronze	100	150	54	L15	1.94	2.42	TC15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	2.04	2.42	TC15/SS/110/T
		Nickel Bronze	110	150	54	L15	1.94	2.42	TC15/NB/110/T

Cast Iron Floor Outlets - Grate/Bezel Product Tables

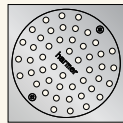


Grate Options with 150mm x 150mm Square Bezels

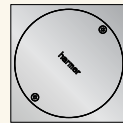
To Specify Untrapped Drains: Remove the suffix /T



Compact Ring Grate + Bezel

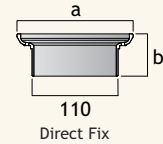
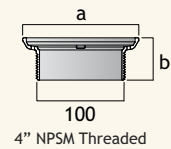
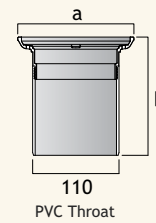


Anti-Ligature Grate + Bezel



Solid Plate Grate + Bezel

Bezel Connection Options For Each Grate Type



Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Compact Ring	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	1.88	2.52	TR15/SS/B/T
		Nickel Bronze	110	150	151	L15	1.93	2.52	TR15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	1.88	2.52	TR15/SS/4/T
		Nickel Bronze	100	150	54	L15	1.93	2.52	TR15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	1.88	2.52	TR15/SS/110/T
		Nickel Bronze	110	150	54	L15	1.93	2.52	TR15/NB/110/T
Anti-Ligature	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	1.90	1.80	TA15/SS/B/T
		Nickel Bronze	110	150	151	L15	2.25	1.80	TA15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	1.90	1.80	TA15/SS/4/T
		Nickel Bronze	100	150	54	L15	2.25	1.80	TA15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	1.90	1.80	TA15/SS/110/T
		Nickel Bronze	110	150	54	L15	2.25	1.80	TA15/NB/110/T
Solid Plate	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	2.15	—	TB15/SS/B/T
		Satin Stainless Steel (with Plug Seal*)	110	150	151	L15	2.15	—	RA/TB15/SS/B
		Nickel Bronze	110	150	151	L15	2.35	—	TB15/NB/B/T
	4" NPSM Threaded	Nickel Bronze (with Plug Seal*)	110	150	151	L15	2.35	—	RA/TB15/NB/B
		Satin Stainless Steel	100	150	54	L15	2.15	—	TA15/SS/4/T
		Satin Stainless Steel (with Plug Seal*)	100	150	54	L15	2.15	—	RA/TA15/SS/4
	110mm Direct Fix	Nickel Bronze	100	150	54	L15	2.35	—	TA15/NB/4/T
		Nickel Bronze (with Plug Seal*)	100	150	54	L15	2.35	—	RA/TA15/NB/4
		Satin Stainless Steel	110	150	54	L15	2.15	—	TA15/SS/110/T
		Satin Stainless Steel (with Plug Seal*)	110	150	54	L15	2.15	—	RA/TA15/SS/110
		Nickel Bronze	110	150	54	L15	2.35	—	TA15/NB/110/T
		Nickel Bronze (with Plug Seal*)	110	150	54	L15	2.35	—	RA/TA15/NB/110

* (no trap)

Cast Iron Floor Outlets - Grate/Bezel Product Tables

Harmer Cast Iron Floor Drain grates and bezels range offers a wide selection of designs to suit flow rate and load class requirements from K3 to M125. Available in either a satin stainless steel or nickel bronze finish, both are durable and provide a stylish long lasting finish.

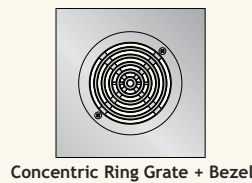
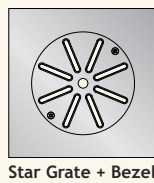
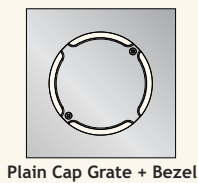
All the grates come with a choice of three bezel connections to suit any required pipework connection. Grates & bezel kits come trapped as standard, if a non-trapped version is required please remove the suffix /T.

200mm x 200mm Square Bezels

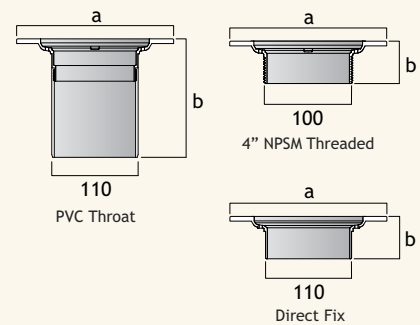
The 200mm x 200mm square grate & bezel kits come in a choice of 6 grate options to suit any application and environment including solid plate for rodding access. The square bezel is suited to a tile floor finish.

Grate Options with 200mm x 200mm Square Bezels

To Specify Untrapped Drains: Remove the suffix /T



Bezel Connection Options For Each Grate Type



Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.51	2.21	TP20/SS/B/T
		Nickel Bronze	110	200	151	L15	2.97	2.21	TP20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.51	2.21	TP20/SS/4/T
		Nickel Bronze	100	200	54	L15	2.97	2.21	TP20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.51	2.21	TP20/SS/110/T
		Nickel Bronze	110	200	54	L15	2.97	2.21	TP20/NB/110/T
Star	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.72	1.15	TS20/SS/B/T
		Nickel Bronze	110	200	151	L15	3.09	1.15	TS20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.72	1.15	TS20/SS/4/T
		Nickel Bronze	100	200	54	L15	3.09	1.15	TS20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.72	1.15	TS20/SS/110/T
		Nickel Bronze	110	200	54	L15	3.09	1.15	TS20/NB/110/T
Concentric Ring	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.54	2.42	TC20/SS/B/T
		Nickel Bronze	110	200	151	L15	2.99	2.42	TC20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.54	2.42	TC20/SS/4/T
		Nickel Bronze	100	200	54	L15	2.99	2.42	TC20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.54	2.42	TC20/SS/110/T
		Nickel Bronze	110	200	54	L15	2.99	2.42	TC20/NB/110/T

Cast Iron Floor Outlets - Grate/Bezel Product Tables

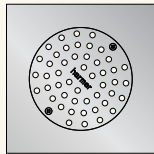


Grate Options with 200mm x 200mm Square Bezels

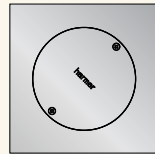
To Specify Untrapped Drains: Remove the suffix /T



Compact Ring Grate + Bezel

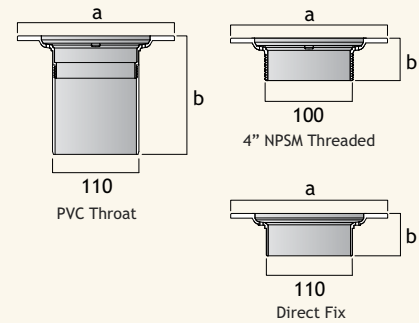


Anti-Ligature Grate + Bezel



Solid Plate Grate + Bezel

Bezel Connection Options For Each Grate Type



Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Compact Ring	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.40	2.52	TR20/SS/B/T
		Nickel Bronze	110	200	151	L15	3.00	2.52	TR20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.40	2.52	TR20/SS/4/T
		Nickel Bronze	100	200	54	L15	3.00	2.52	TR20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.40	2.52	TR20/SS/110/T
		Nickel Bronze	110	200	54	L15	3.00	2.52	TR20/NB/110/T
Anti-Ligature	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.50	1.80	TA20/SS/B/T
		Nickel Bronze	110	200	151	L15	3.30	1.80	TA20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.50	1.80	TA20/SS/4/T
		Nickel Bronze	100	200	54	L15	3.30	1.80	TA20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.50	1.80	TA20/SS/110/T
		Nickel Bronze	110	200	54	L15	3.30	1.80	TA20/NB/110/T
Solid Plate	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.65	—	TB20/SS/B/T
		Satin Stainless Steel (with Plug Seal*)	110	200	151	L15	2.65	—	RA/TB20/SS/B
		Nickel Bronze	110	200	151	L15	3.40	—	TB20/NB/B/T
	4" NPSM Threaded	Nickel Bronze (with Plug Seal*)	110	200	151	L15	3.40	—	RA/TB20/NB/B
		Satin Stainless Steel	100	200	54	L15	2.65	—	TB20/SS/4/T
		Satin Stainless Steel (with Plug Seal*)	100	200	54	L15	2.65	—	RA/TB20/SS/4
	110mm Direct Fix	Nickel Bronze	100	200	54	L15	3.40	—	TB20/NB/4/T
		Nickel Bronze (with Plug Seal*)	100	200	54	L15	3.40	—	RA/TB20/NB/4
		Satin Stainless Steel	110	200	54	L15	2.65	—	TB20/SS/110/T
		Satin Stainless Steel (with Plug Seal*)	110	200	54	L15	2.65	—	RA/TB20/SS/110
* (no trap)	110mm Direct Fix	Nickel Bronze	110	200	54	L15	3.40	—	TB20/NB/110/T
		Nickel Bronze (with Plug Seal*)	110	200	54	L15	3.40	—	RA/TB20/NB/110

Cast Iron Floor Outlets - Grate/Bezel Product Tables

Harmer Cast Iron Floor Drain grates and bezels range offers a wide selection of designs to suit flow rate and load class requirements from K3 to M125. Available in either a satin stainless steel or nickel bronze finish, both are durable and provide a stylish long lasting finish.

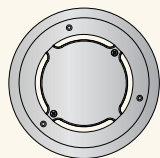
All the grates come with a choice of three bezel connections to suit any required pipework connection. Grates & bezel kits come trapped as standard, if a non-trapped version is required please remove the suffix /T.

200mm Circular Bezels

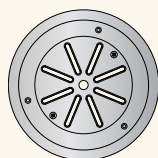
The 200mm circular grate & bezel kits come in a choice of 6 grate options including solid plate for rodding access. The 200mm vinyl is especially suited to vinyl floor application.

Grate Options with 200mm Ø Circular Bezels for Vinyl

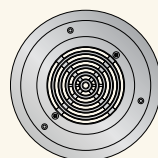
To Specify Untrapped Drains: Remove the suffix /T



Plain Cap Grate + Bezel

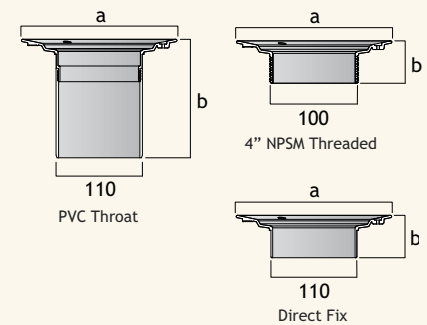


Star Grate + Bezel



Concentric Ring Grate + Bezel

Bezel Connection Options For Each Grate Type



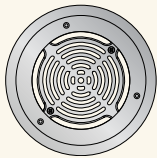
Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.10	2.21	VP20/SS/B/T
		Nickel Bronze	110	200	151	L15	2.32	2.21	VP20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.10	2.21	VP20/SS/4/T
		Nickel Bronze	100	200	54	L15	2.32	2.21	VP20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.10	2.21	VP20/SS/110/T
		Nickel Bronze	110	200	54	L15	2.32	2.21	VP20/NB/110/T
Star	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.31	1.15	VS20/SS/B/T
		Nickel Bronze	110	200	151	L15	2.44	1.15	VS20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.31	1.15	VS20/SS/4/T
		Nickel Bronze	100	200	54	L15	2.44	1.15	VS20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.31	1.15	VS20/SS/110/T
		Nickel Bronze	110	200	54	L15	2.44	1.15	VS20/NB/110/T
Concentric Ring	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.13	2.42	VC20/SS/B/T
		Nickel Bronze	110	200	151	L15	2.34	2.42	VC20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.13	2.42	VC20/SS/4/T
		Nickel Bronze	100	200	54	L15	2.34	2.42	VC20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.13	2.42	VC20/SS/110/T
		Nickel Bronze	110	200	54	L15	2.34	2.42	VC20/NB/110/T

Cast Iron Floor Outlets - Grate/Bezel Product Tables

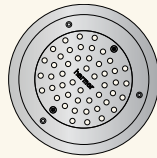


Grate Options with 200mm Ø Circular Bezels for Vinyl

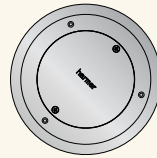
To Specify Untrapped Drains: Remove the suffix /T



Compact Ring Grate + Bezel

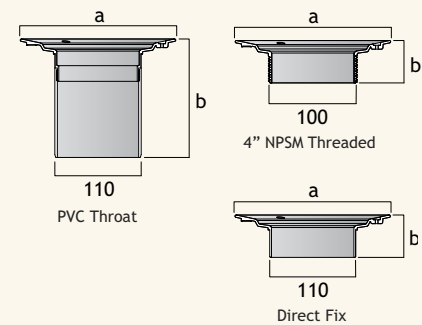


Anti-Ligature Grate + Bezel



Solid Plate Grate + Bezel

Bezel Connection Options For Each Grate Type



Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Compact Ring	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.49	2.52	VR20/SS/B/T
		Nickel Bronze	110	200	151	L15	3.15	2.52	VR20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.49	2.52	VR20/SS/4/T
		Nickel Bronze	100	200	54	L15	3.15	2.52	VR20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.49	2.52	VR20/SS/110/T
		Nickel Bronze	110	200	54	L15	3.15	2.52	VR20/NB/110/T
Anti-Ligature	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.59	1.80	VA20/SS/B/T
		Nickel Bronze	110	200	151	L15	3.45	1.80	VA20/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.59	1.80	VA20/SS/4/T
		Nickel Bronze	100	200	54	L15	3.45	1.80	VA20/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.59	1.80	VA20/SS/110/T
		Nickel Bronze	110	200	54	L15	3.45	1.80	VA20/NB/110/T
Solid Plate	110mm PVC Throat	Satin Stainless Steel	110	200	151	L15	2.74	–	VB20/SS/B/T
		Satin Stainless Steel (with Plug Seal*)	110	200	151	L15	2.74	–	RA/VB20/SS/B
		Nickel Bronze	110	200	151	L15	3.55	–	VB20/NB/B/T
		Nickel Bronze (with Plug Seal*)	110	200	151	L15	3.55	–	RA/VB20/NB/B
	4" NPSM Threaded	Satin Stainless Steel	100	200	54	L15	2.74	–	VB20/SS/4/T
		Satin Stainless Steel (with Plug Seal*)	100	200	54	L15	2.74	–	RA/VB20/SS/4
		Nickel Bronze	100	200	54	L15	3.55	–	VB20/NB/4/T
		Nickel Bronze (with Plug Seal*)	100	200	54	L15	3.55	–	RA/VB20/NB/4
	110mm Direct Fix	Satin Stainless Steel	110	200	54	L15	2.74	–	VB20/SS/110/T
		Satin Stainless Steel (with Plug Seal*)	110	200	54	L15	2.74	–	RA/VB20/SS/110
		Nickel Bronze	110	200	54	L15	3.55	–	VB20/NB/110/T
		Nickel Bronze (with Plug Seal*)	110	200	54	L15	3.55	–	RA/VB20/NB/110

* (no trap)

Cast Iron Floor Outlets - Grate/Bezel Product Tables

Harmer Cast Iron Floor Drain grates and bezels range offers a wide selection of designs to suit flow rate and load class requirements from K3 to M125. Available in either a satin stainless steel or nickel bronze finish, both are durable and provide a stylish long lasting finish. The square heavy duty grate bezel is made from sheradised ductile iron.

The miscellaneous grates offer a selection of 150mm x 150mm square grates and bezels including a slot grate and square solid plate grate for rodding access along with a stylish Quattro square perforated grating.

To complement the range three large grate options are available, including a satin stainless heal safe and cast iron circular and heavy duty grate and bezel. The heavy duty grate is provided with a special bezel adaptor to facilitate a M125 load class rating.

All the grates come with a choice of three bezel connections to suit any required pipework connection. Grates & bezel kits come trapped as standard, if a non-trapped version is required please remove the suffix /T.

Miscellaneous Grates and Bezels

To Specify Untrapped Drains: Remove the suffix /T



Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Square	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	1.95	2.82	SG15/SS/B/T
		Nickel Bronze	110	150	151	L15	2.20	2.82	SG15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	1.95	2.82	SG15/SS/4/T
		Nickel Bronze	100	150	54	L15	2.20	2.82	SG15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	1.95	2.82	SG15/SS/110/T
		Nickel Bronze	110	150	54	L15	2.20	2.82	SG15/NB/110/T
Quattro	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	2.11	2.19	SH15/SS/B/T
		Nickel Bronze	110	150	151	L15	2.30	2.19	SH15/NB/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	2.11	2.19	SH15/SS/4/T
		Nickel Bronze	100	150	54	L15	2.30	2.19	SH15/NB/4/T
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	2.11	2.19	SH15/SS/110/T
		Nickel Bronze	110	150	54	L15	2.30	2.19	SH15/NB/110/T
Solid Plate	110mm PVC Throat	Satin Stainless Steel	110	150	151	L15	2.28	–	SB15/SS/B/T
		Satin Stainless Steel (with Plug Seal*)	110	150	151	L15	2.28	–	RA/SB15/SS/B
		Nickel Bronze	110	150	151	L15	2.50	–	SB15/NB/B/T
		Nickel Bronze (with Plug Seal*)	110	150	151	L15	2.50	–	RA/SB15/NB/B
	4" NPSM Threaded	Satin Stainless Steel	100	150	54	L15	2.28	–	SB15/SS/4/T
		Satin Stainless Steel (with Plug Seal*)	100	150	54	L15	2.28	–	RA/SB15/SS/4
		Nickel Bronze	100	150	54	L15	2.50	–	SB15/NB/4/T
		Nickel Bronze (with Plug Seal*)	100	150	54	L15	2.50	–	RA/SB15/NB/4
	110mm Direct Fix	Satin Stainless Steel	110	150	54	L15	2.28	–	SB15/SS/110/T
		Satin Stainless Steel (with Plug Seal*)	110	150	54	L15	2.28	–	RA/SB15/SS/110
		Nickel Bronze	110	150	54	L15	2.50	–	SB15/NB/110/T
		Nickel Bronze (with Plug Seal*)	110	150	54	L15	2.50	–	RA/SB15/NB/110

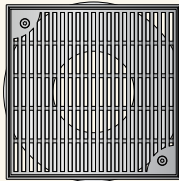
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Cast Iron Floor Outlets - Grate/Bezel Product Tables

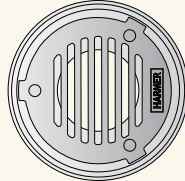
Miscellaneous Grates and Bezels

To Specify Untrapped Drains: Remove the suffix /T

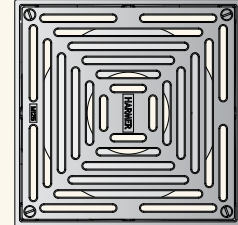
Heel Proof Grate
+
Bezel



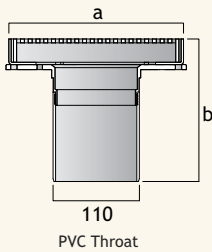
Circular Light Duty Grate
+
Bezel



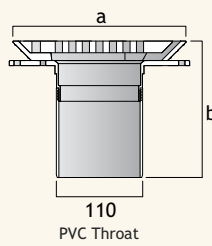
Square Heavy Duty Grate
+
Bezel



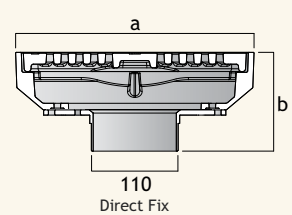
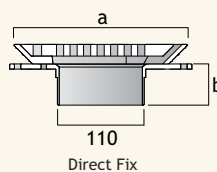
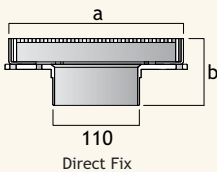
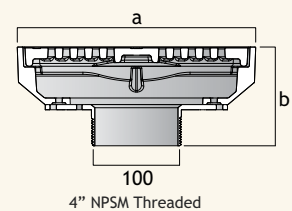
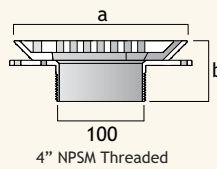
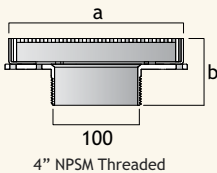
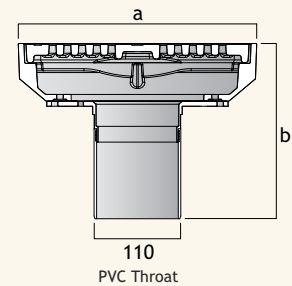
Bezel Connection Options
for
Heel Proof Grate



Bezel Connection Options
for
Circular Light Duty Grate



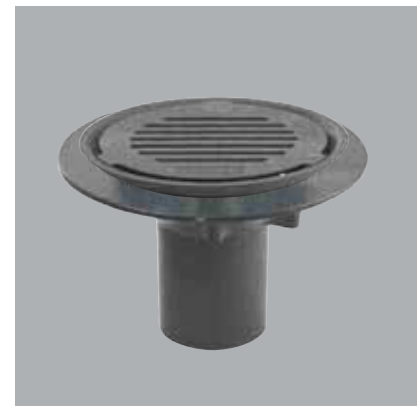
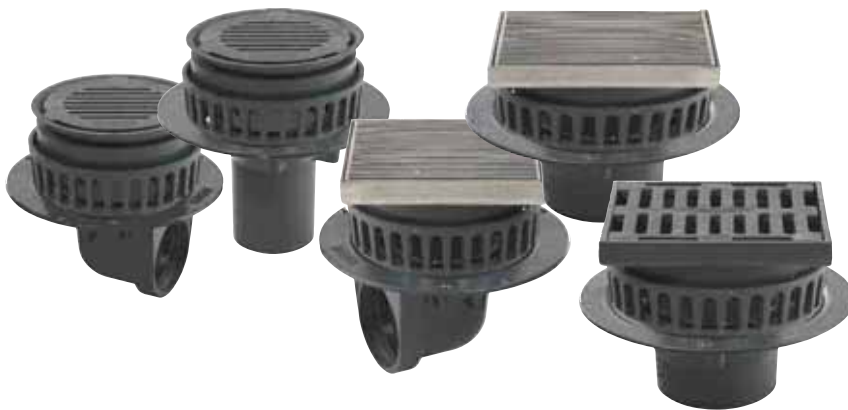
Bezel Connection Options
for
Square Heavy Duty Grate



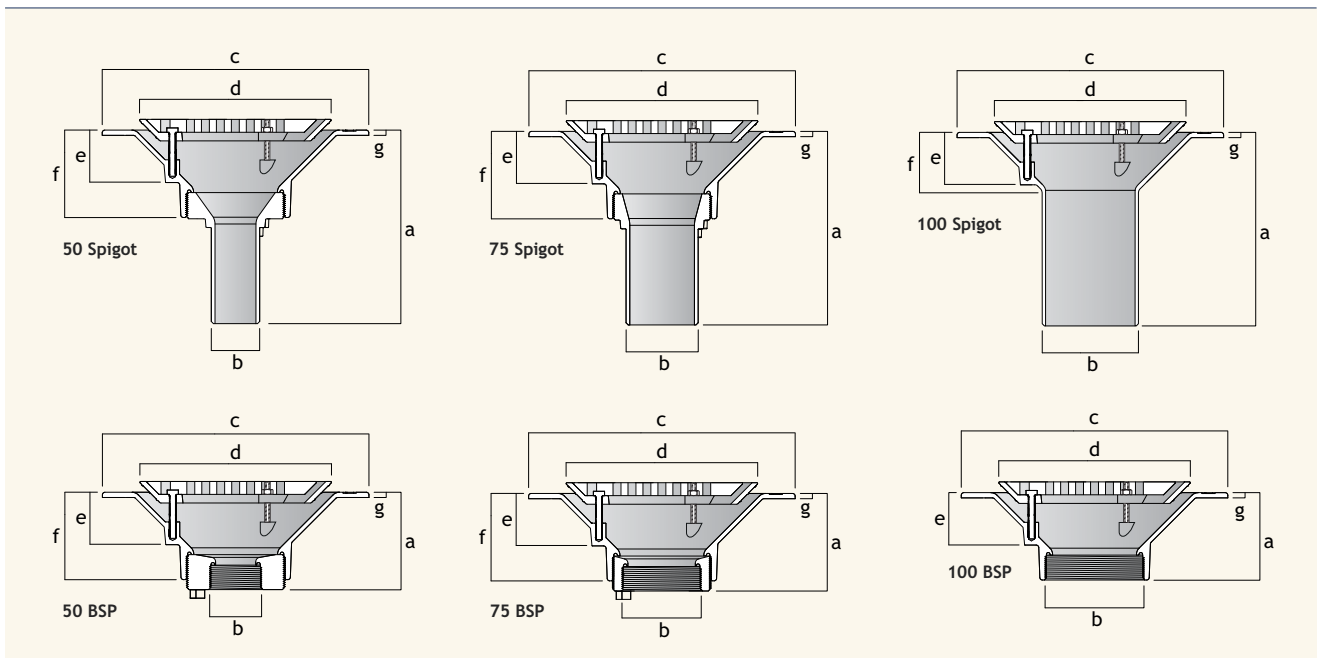
Grate Options	Bezel Connection Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Heel Proof	110mm PVC Throat	Satin Stainless Steel	110	225	182	M125	6.0	3.5	S225/SS/B/T
	4" NPSM Threaded	Satin Stainless Steel	100	225	84	M125	6.0	3.5	S225/SS/4/T
	110mm Direct Fix	Satin Stainless Steel	110	225	84	M125	6.0	3.5	S225/SS/110/T
Circular Light Duty	110mm PVC Throat	Sheradised Ductile Iron	110	220	174	L15	3.6	3.5	C220/DI/B/T
	4" NPSM Threaded	Sheradised Ductile Iron	100	220	77	L15	3.6	3.5	C220/DI/4/T
	110mm Direct Fix	Sheradised Ductile Iron	110	220	77	L15	3.6	3.5	C220/DI/110/T
Square Heavy Duty	110mm PVC Throat	Sheradised Ductile Iron	110	323	227	M125	12.8	6.9	S300/DI/B/T
	4" NPSM Threaded	Sheradised Ductile Iron	100	323	130	M125	12.8	6.9	S300/DI/4/T
	110mm Direct Fix	Sheradised Ductile Iron	110	323	130	M125	12.8	6.9	S300/DI/110/T

Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Harmer Cast Iron Floor Drain assemblies are designed for applications with a composite or asphalt floor finish such as plant rooms with a concrete or screed floor. The range includes medium and large sump drain bodies, with horizontal or vertical outlets. Available either as a fixed level drain body and grate which is designed for use in a finished floor, or as an adjustable height grate which utilises an extension piece. This allows fine adjustment of the grate height to suit unfinished floors such as bare concrete.



Medium Sump Vertical Outlet Bodies with Circular Ductile Iron Grate



Outlet Size (mm)	Connection	a (mm)	b (mm/inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	Spigot	220	60	305	220	60	100	6	8.5	1.7	CPV50/F
75	Spigot	220	83	305	220	60	100	6	9.1	3.6	CPV75F
100	Spigot	190	110	305	220	60	70	6	8.0	3.6	CPV100F
50	BSP	112	2	305	220	60	100	6	8.9	1.7	CPV50T/F
75	BSP	112	3	305	220	60	100	6	8.1	3.6	CPV75T/F
100	BSP	100	4	305	220	60	-	6	6.8	3.6	CPV100T/F

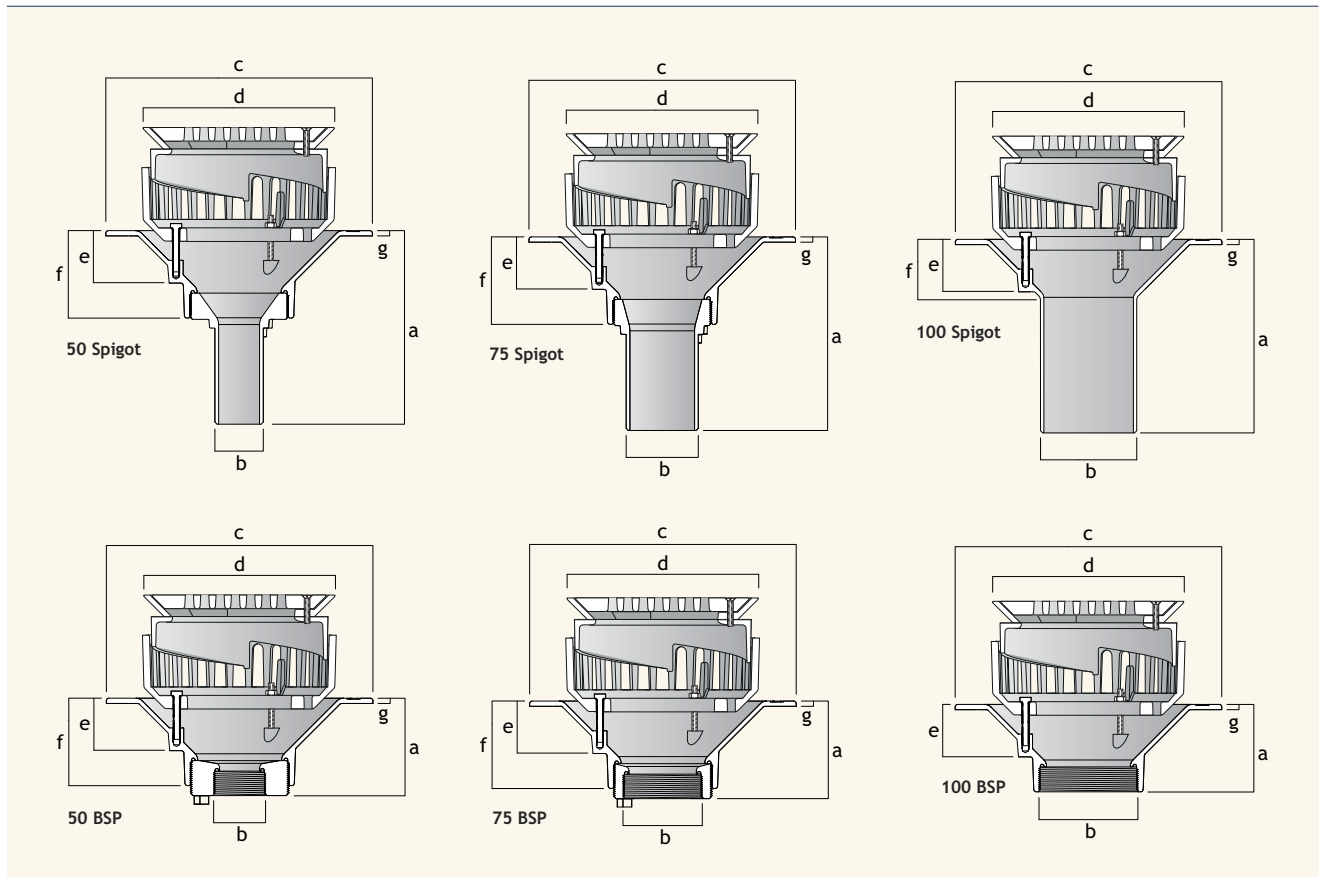
Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



Medium Sump Vertical Outlet Bodies with Extension Piece and Adjustable Height Circular Ductile Iron Grate

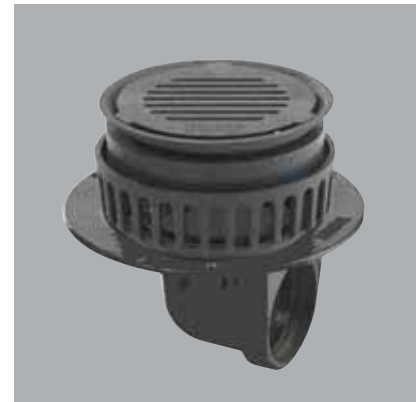
Height adjustment range of the grate above the drain body flange varies from 85-110mm



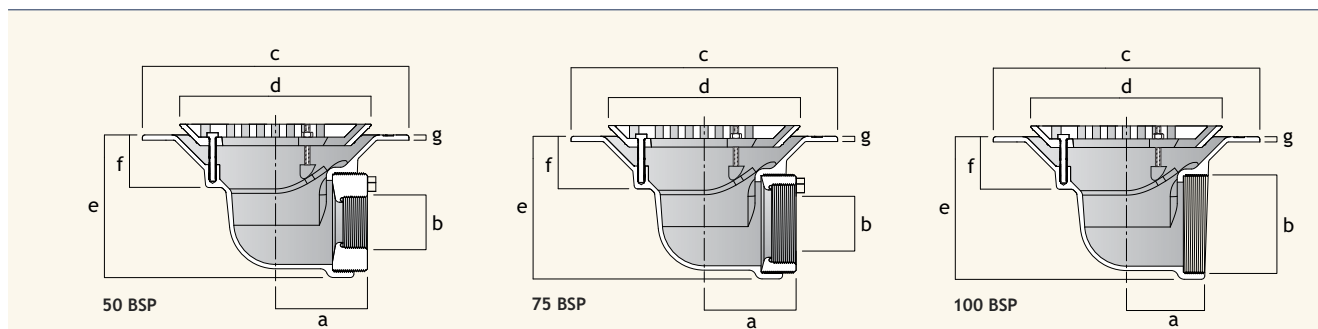
Outlet Size (mm)	Connection	a (mm)	b (mm/inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	Spigot	220	60	305	220	60	100	6	12.7	1.7	CPV50/ECD
75	Spigot	220	83	305	220	60	100	6	13.3	3.6	CPV75/ECD
100	Spigot	190	110	305	220	60	70	6	12.2	3.6	CPV100/ECD
50	BSP	112	2	305	220	60	100	6	13.1	1.7	CPV50T/ECD
75	BSP	112	3	305	220	60	100	6	12.3	3.6	CPV75T/ECD
100	BSP	100	4	305	220	60	—	6	11.0	3.6	CPV100T/ECD

Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



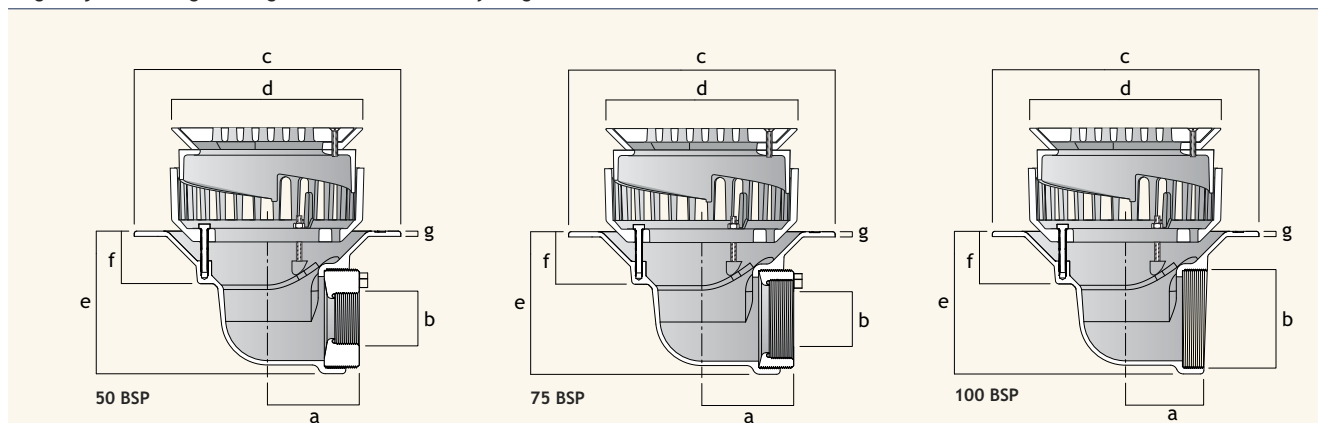
Medium Sump Horizontal Outlet Bodies with Circular Ductile Iron Grate



Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	BSP	105	2	305	220	165	60	6	10.3	1.7	CPH50T/F
75	BSP	105	3	305	220	165	60	6	9.5	3.6	CPH75T/F
100	BSP	90	4	305	220	165	60	6	8.3	3.6	CPH100T/F

Medium Sump Horizontal Outlet Bodies with Extension Piece and Adjustable Height Circular Ductile Iron Grate

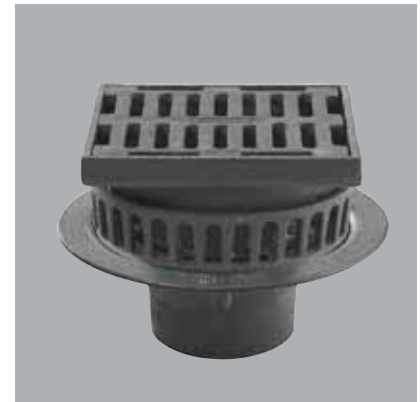
Height adjustment range of the grate above the drain body flange varies from 85-110mm



Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	BSP	105	2	305	220	165	60	6	14.5	1.7	CPH50T/ECD
75	BSP	105	3	305	220	165	60	6	13.7	3.6	CPH75T/ECD
100	BSP	90	4	305	220	165	60	6	12.5	3.6	CPH100T/ECD

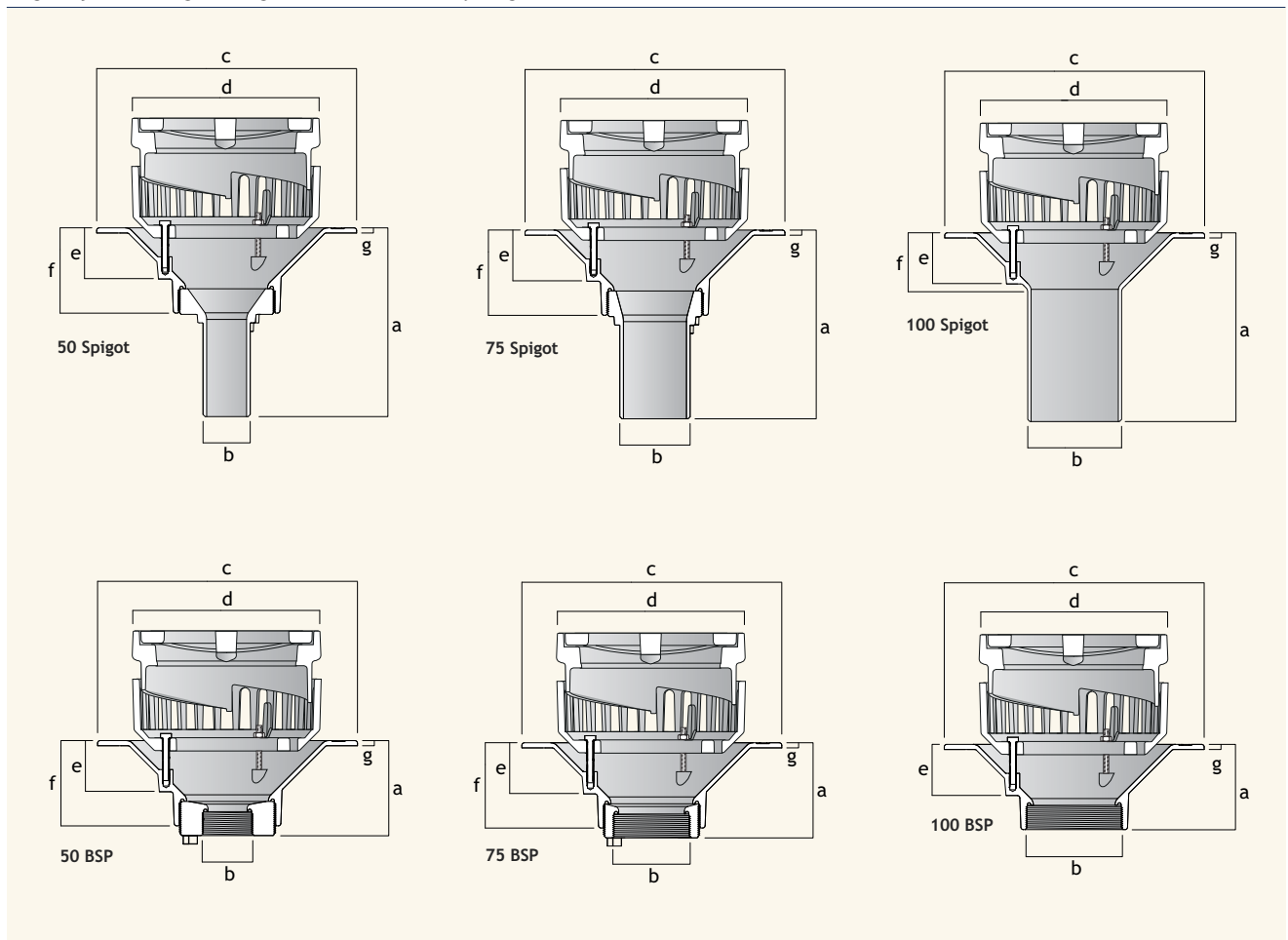
Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



Medium Sump Vertical Outlet Bodies with Extension Piece and Adjustable Height Square Ductile Iron Grate

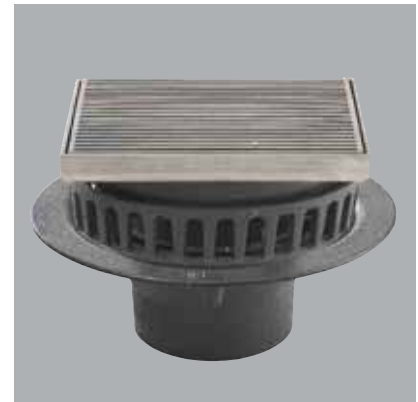
Height adjustment range of the grate above the drain body flange varies from 95-120mm



Outlet Size (mm)	Connection	a (mm)	b (mm/inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	Spigot	220	60	305	225	60	100	6	16.9	1.7	CPV50/ESD
75	Spigot	220	85	305	225	60	100	6	17.5	3.6	CPV75/ESD
100	Spigot	190	110	305	225	60	70	6	16.4	3.6	CPV100/ESD
50	BSP	112	2	305	225	60	100	6	17.3	1.7	CPV50T/ESD
75	BSP	112	3	305	225	60	100	6	16.5	3.6	CPV75T/ESD
100	BSP	100	4	305	225	60	-	6	15.2	3.6	CPV100T/ESD

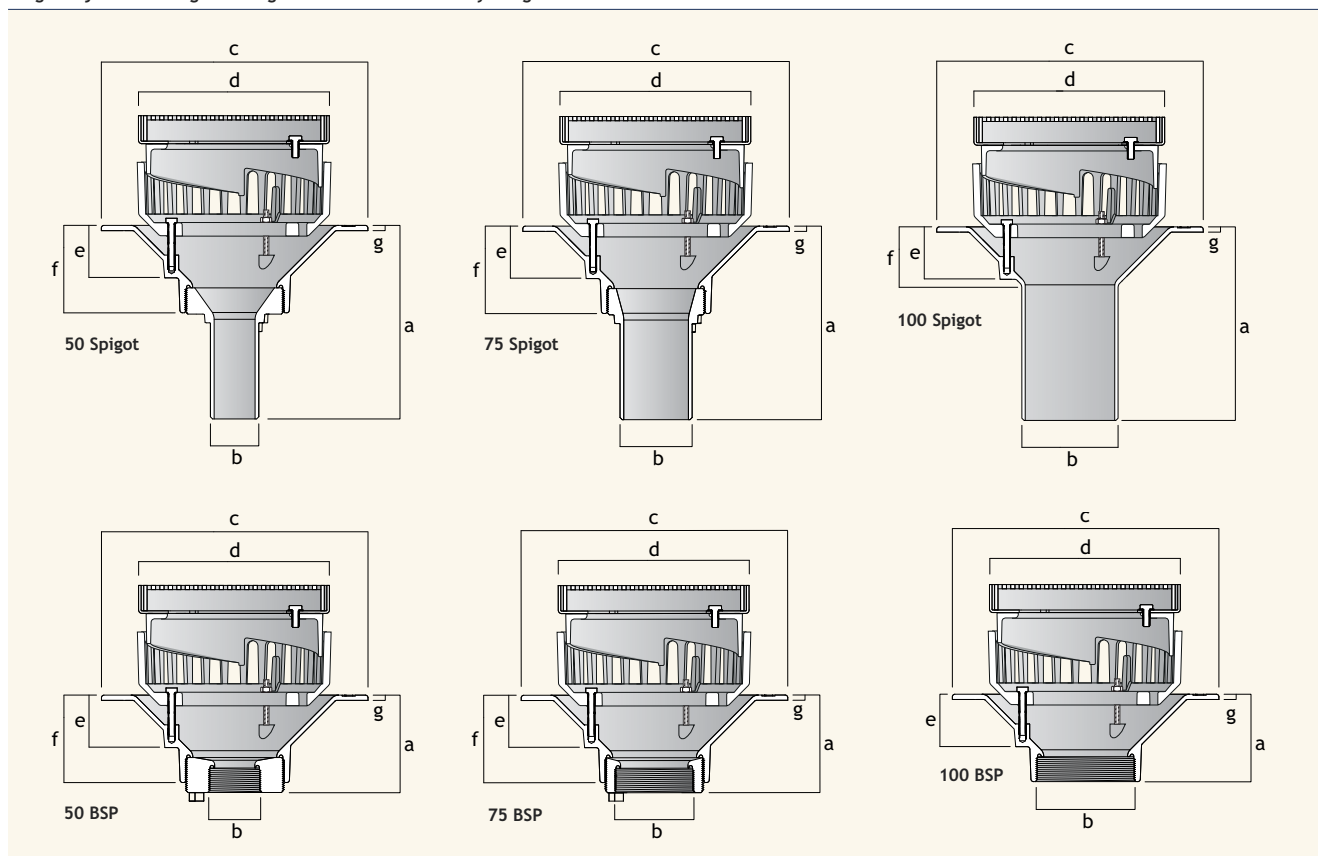
Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



Medium Sump Vertical Outlet Bodies with Extension Piece and Adjustable Height Square Stainless Steel Grate

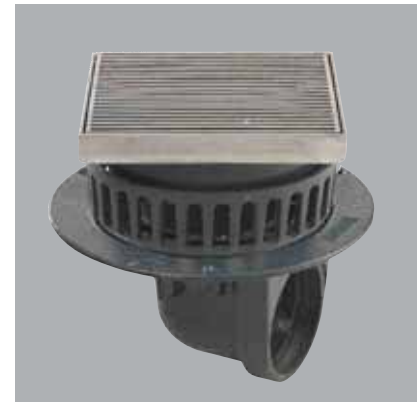
Height adjustment range of the grate above the drain body flange varies from 95-120mm



Outlet Size (mm)	Connection	a (mm)	b (mm/inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	Spigot	210	60	305	225	60	100	6	15.0	1.7	CPV50/ESS
75	Spigot	220	83	305	225	60	100	6	15.6	3.6	CPV75/ESS
100	Spigot	190	110	305	225	60	70	6	14.5	3.6	CPV100/ESS
50	BSP	112	2	305	225	60	100	6	15.4	1.7	CPV50T/ESS
75	BSP	112	3	305	225	60	100	6	14.6	3.6	CPV75T/ESS
100	BSP	100	4	305	225	60	-	6	13.3	3.6	CPV100T/ESS

Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



Medium Sump Horizontal Outlet Bodies with Extension Piece and Adjustable Height Square Ductile Iron Grate

Height adjustment range of the grate above the drain body flange varies from 95-120mm

Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	BSP	305	2	305	122	231	6	6	18.7	1.7	CPH50T/ESD
75	BSP	220	3	305	235	60	100	6	17.9	3.6	CPH75T/ESD
100	BSP	190	4	305	235	60	100	6	16.7	3.6	CPH100T/ESD

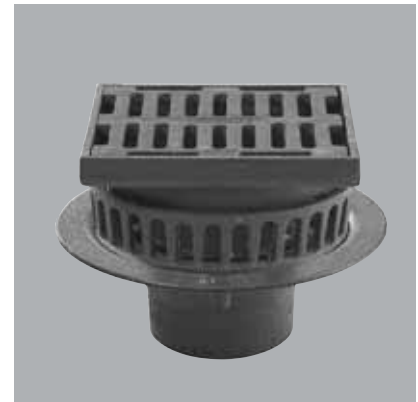
Medium Sump Horizontal Outlet Bodies with Extension Piece and Adjustable Height Square Stainless Steel Grate

Height adjustment range of the grate above the drain body flange varies from 95-120mm

Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
50	BSP	305	2	305	122	231	6	6	16.8	1.7	CPH50T/ESS
75	BSP	220	3	305	235	60	100	6	16.0	3.6	CPH75T/ESS
100	BSP	190	4	305	235	60	100	6	14.8	3.6	CPH100T/ESS

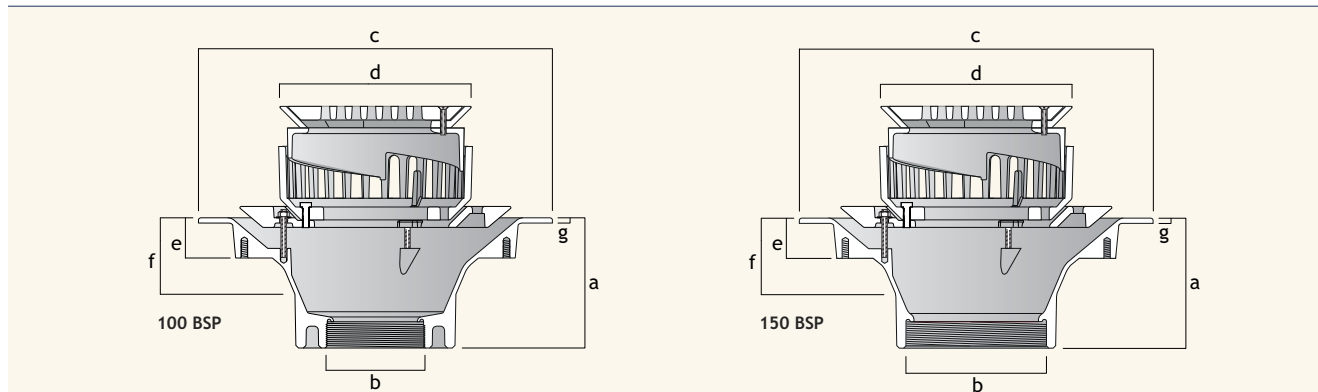
Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



Large Sump Vertical Outlet Bodies with Extension Piece and Adjustable Height Circular Ductile Iron Grate

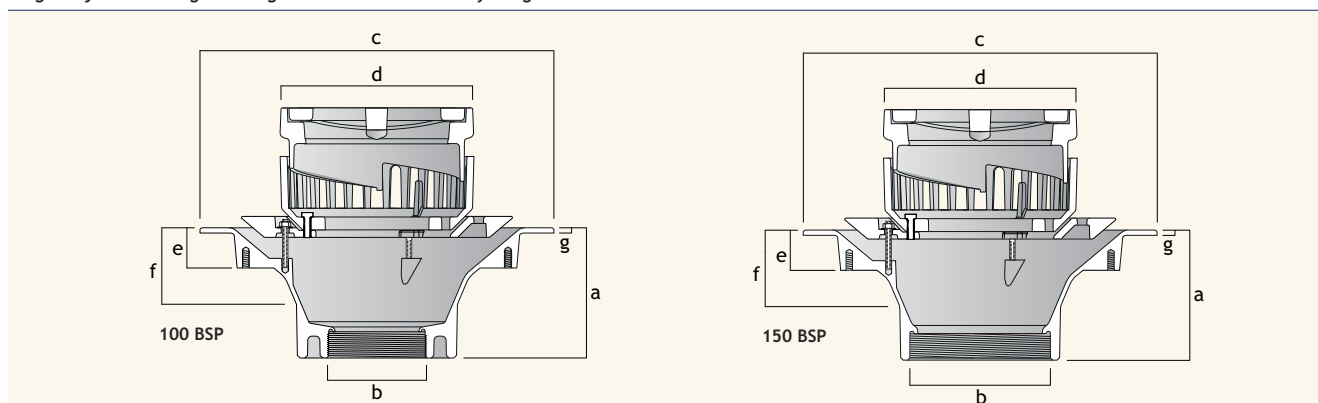
Height adjustment range of the grate above the drain body flange varies from 85-110mm



Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
100	BSP	154	4	405	220	48	90	6	20.9	3.8	CPV100LT/ECD
150	BSP	154	6	405	220	48	90	6	19.2	3.8	CPV150LT/ECD

Large Sump Vertical Outlet Bodies with Extension Piece and Adjustable Height Square Ductile Iron Grate

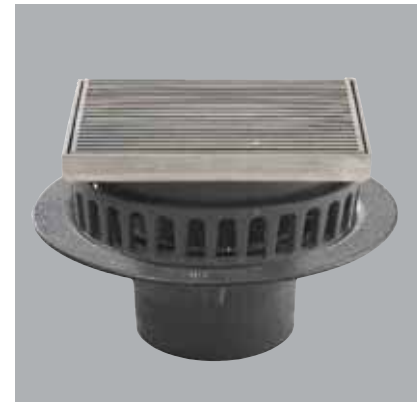
Height adjustment range of the grate above the drain body flange varies from 95-120mm



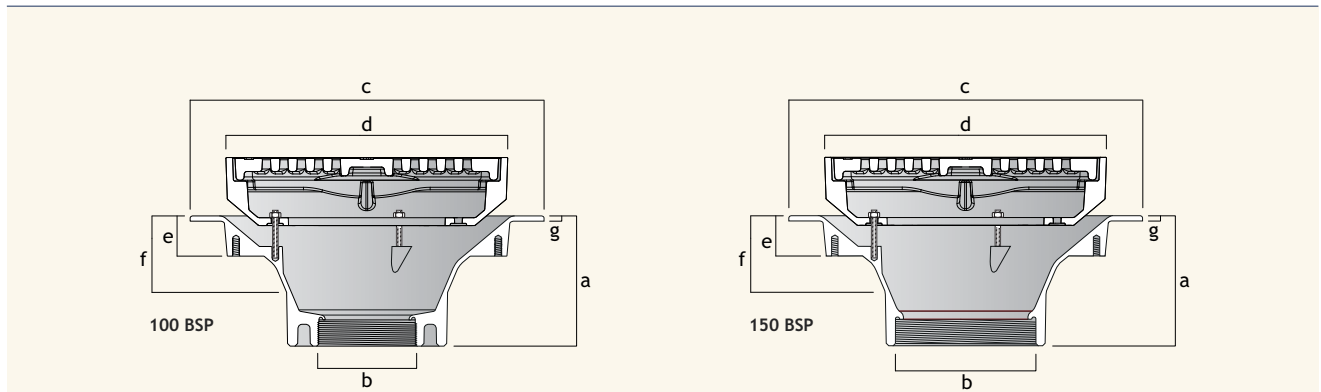
Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
100	BSP	154	4	405	225	48	90	6	24.0	3.8	CPV100LT/ESD
150	BSP	154	6	405	225	48	90	6	22.3	3.8	CPV150LT/ESD

Cast Iron Floor Outlets - Plant Room Drainage Assemblies Product Tables

The Cast Iron Floor Drains include a clamping collar for a DPM or membrane to ensure a watertight seal. Available with either a BSP thread for connection to a Harmer threaded spigot adaptor and a spigot connection which can be connected direct to Harmer SML pipework to BS EN 877.



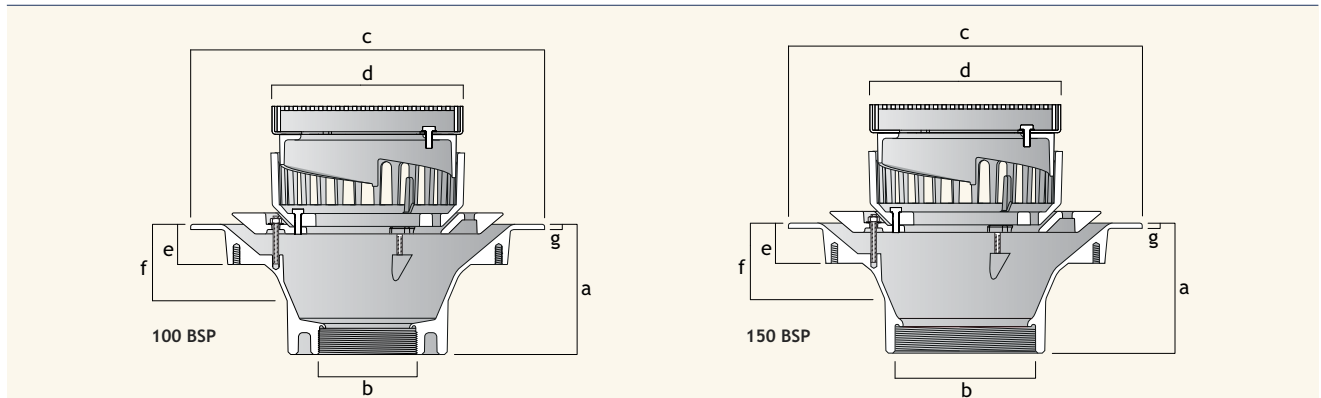
Large Sump Vertical Outlet with Large Heavy Duty Square Ductile Iron Grate



Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
100	BSP	154	4	405	323	48	90	6	24.8	6.9	CPV100LT/DS
150	BSP	154	6	405	323	48	90	6	23.1	6.9	CPV150LT/DS

Large Sump Vertical Outlet Bodies with Extension Piece and Adjustable Height Square Stainless Steel Grate

Height adjustment range of the grate above the drain body flange varies from 95-120mm



Outlet Size (mm)	Connection	a (mm)	b (inches)	c (mm)	d (mm)	e (mm)	f (mm)	g (mm)	Weight (kg)	Flow Rate (l/s)	Product Code
100	BSP	154	4	405	225	48	90	6	23.2	3.8	CPV100LT/ESS
150	BSP	154	6	405	225	48	90	6	21.5	3.8	CPV150LT/ESS

Cast Iron Floor Outlets - Accessories & Connections

Threaded Spigot Adaptors

The Threaded Spigot Adaptor has been designed to facilitate the connection of Harmer Floor Cast Iron floor gullies to PVC pipework. The adaptor is suitable for connection with all types of pipe systems and presents an economic alternative to using a short length of steel gas tube to BS 1387 in the case of cast iron socketed or socketless systems.

Materials

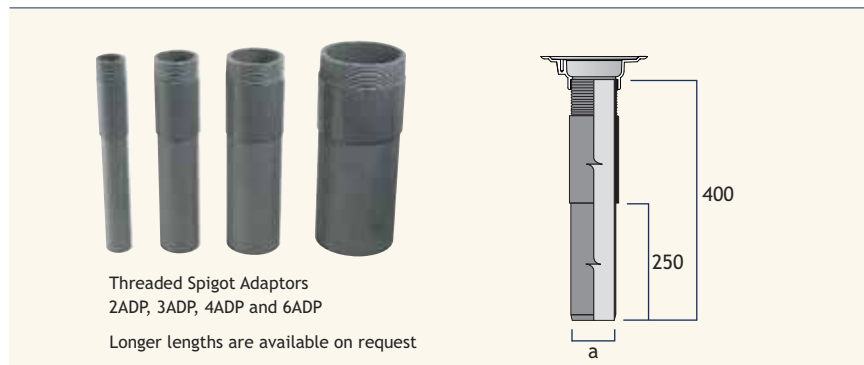
The Threaded Spigot Adaptor, made of ABS plastic, is supplied in 400mm lengths, taper-threaded externally at one end to BS EN 10226-1 and chamfered at the other end to BS 4514 spigot dimensions. Sizes are available to suit 50, 75, 100 and 150mm nominal bore pipework.

Connection to Pipework

The Threaded Spigot Adaptor is screwed into the base of the gully using silicone sealant to obtain a gas-tight seal. The spigot end of the adaptor can then be connected to the pipe socket. If necessary, the length of the spigot end of the adaptor can be reduced by cutting as required with a fine toothed saw.

The spigots of Harmer Floor Threaded Spigot Adaptors are suitable for direct connection to cast iron pipework to BS EN 877 and BS 416, HDPE pipework with appropriate Harmer couplings, PVC O-ring socketed pipe to BS 4514.

Refer to the pipe connections table below.



Nominal bore (mm)	a (mm)	Weight (kg)	Product Code
50	60	0.4	2ADP
75	83	0.6	3ADP
100	110	1.2	4ADP
150	160	2.0	6ADP

Couplings

For appropriate couplings selection refer to the pipe connections table below.

Coupling Type	Pipe Dia (mm)	Product Code
SML Ductile Iron	50	235849
SML Ductile Iron	100	235357
SML Ductile Iron	150	235358
SML Duo	50	3140/50
SML Duo	100	3140/100
SML Duo	150	3140/150
SML Adaptor	75	3151/070075

Pipe Connections

Outlet Type	Nominal Size (mm)	Outlet Dia (mm)	Pipe Material and Connection Type			
			Cast Iron EN877	Stainless Steel	HDPE	PVC
Spigot	50	60	SML Duo coupling	Post formed socket OR flexible coupling	Duo coupling	Post formed socket OR flexible coupling
	75	83	SML Adaptor coupling	"O" ring socket OR SML Duo coupling	SML Adaptor coupling	"O" ring socket OR SML Duo coupling
	100	110	SML Duo coupling	"O" ring socket OR SML Duo coupling	SML Duo coupling	"O" ring socket OR SML Duo coupling
Threaded	50	2"BSP	2ADP + SML Duo coupling	2ADP to Post formed socket OR flexible coupling	2ADP to Post formed socket OR flexible coupling	2ADP to Post formed socket OR flexible coupling
	75	3"BSP	3ADP + SML Adapter coupling	3ADP to "O" ring socket OR SML Duo coupling	3ADP + SML Adaptor coupling	3ADP to "O" ring socket OR SML Duo coupling
	100	4"BSP	4ADP + SML Duo coupling	4ADP to "O" ring socket OR SML Duo coupling	4ADP + SML Duo coupling	4ADP to "O" ring socket OR SML Duo coupling
	150	6"BSP	6ADP + SML Duo coupling	6ADP to P "O" ring socket OR SML Duo coupling	6ADP + SML Duo coupling	6ADP to "O" ring socket OR SML Duo coupling

Cast Iron Floor Outlets - Accessories & Connections

Fitting the Threaded Spigot Adaptor

Materials

- A cast aluminium body with female parallel threaded boss
- A 400mm long taper male threaded pipe sized for Standard BSP onward connection
- PTFE tape or silicone sealant

Preparation

- Wear protective (latex) gloves to avoid risk of injury or contamination during materials handling
- Process will require pipe chains for tightening the adaptor into the outlet
- Degreasing agent and fine bristle brush
- Paper towels (this last relates to Method 2)

Connecting Adapter - Method 1

Using PTFE tape:

1. Inspect all threads and ensure they are free of dirt, grease and foreign matter.
2. Apply sufficient PTFE tape to the taper male threaded end of the adapter. This requires care as too much tape will limit the amount of travel within the parallel thread of the outlet and too little may prevent an effective seal.
3. Securely tighten the adapter into the outlet, using chains or similar equipment.

Connecting Adapter - Method 2

Using silicone sealant (DOW CORNING 791 recommended):

1. Inspect all threads and ensure they are free of dirt and foreign matter.
2. Allow for ventilation and degrease the threads of the outlet using a degreasing agent and fine brush.
3. Using paper towels ensure that threads are dry.
4. Apply a liberal coating of silicone sealant to the threads of the outlet and adapter and immediately tighten using chains or similar equipment.
5. A surplus of sealant will squeeze out indicating that all the thread void areas have filled.
6. Clean up with paper towels and dispose of appropriately.
7. Follow guidance cure advice on silicone product before subjecting outlet to water test.

For method 1 and 2 it is recommended that a **Standing Water Test** is undertaken before installation.

Harmer Cast Iron Pipe Adaptors

Harmer Pipe Adaptors are the quick and efficient way to incorporate a grate and trapped pipe connection within a suspended floor.



Threaded Spigot Adaptor type 6ADP (See table opposite)

Threaded Spigot Adaptor type 2ADP (See table opposite)



Ductile Iron Coupling (See couplings table opposite)



Cast Iron Assembly



HDPE Assembly

Cast Iron Floor Outlets - NBS Specification & General Specification

A typical NBS Specification for Harmer Cast Iron Floor Outlets. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBSPlus

NBS Specification

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions.

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS**
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN**
- Complete the design of the above ground foul drainage system
 - Standard: To BS EN 12056-1:2000 and BS EN 12056-2:2000, and in accordance with BS EN 12056-2:2000, National Annexes NA-NG
 - Proposals: Submit drawings, technical information, calculations and manufacturer's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER**
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL**
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ± 38 mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

- 315 HARMER FLOOR DRAINAGE**
- Floor Finish: Sheet Vinyl/Tile/Resin/Concrete
 Manufacturer: Alumasc Exterior Building Products Ltd,
 White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
 Tel: 01744 648400, Fax: 01744 648401.
 Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Cast Iron Floor Drain
- Outlet Type: Vertical/Horizontal
 Spigot/BSP Thread
 Trapped/Un-trapped
 Shallow/Medium/Deep Sump
- Grate/Bezel Assembly: 150/200mm Dia
 150 x 150/200 x 200mm
 Trapped/Un-trapped
 Vinyl Clamp
 110mm PVC Throat/4" NPSM Threaded/100mm Direct Fix
- Grate Type: Plain Cap/Star/Concentric Ring/Compact Ring/Anti-Ligature/
 Solid Plate/Square/Quattro
- Grate Material: Machined Nickel Bronze/Satin Stainless Steel/Sherardized Cast Iron
- Product Code: Refer to tables
- Accessories: NPSM Extension Piece



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

General Specification Notes

PRODUCTS

315 HARMER FLOOR DRAINAGE

Floor Finish: Tile

Manufacturer:
 Alumasc Exterior Building Products Ltd,
 White House Works, Bold Road, Sutton,
 St Helens, Merseyside WA9 4JG

Tel: 01744 648400, Fax: 01744 648401

Email: harmer@alumasc-exteriors.co.uk

Reference: Harmer Cast Iron Floor Drain

Outlet Type: Vertical BSP

Trapped

Medium Sump

Grate Bezel Assembly: 150mmx150mm

110mm Dia PVC Throat

Grate Type: Compact Ring

Grate Material: Machined Nickel Bronze

Product Code: CM1VT100 + TR15/NB/B/T

Accessories: NPSM Extension Piece

Cast Iron Floor Outlets - Materials Care, Maintenance, Installation & Specifying/Ordering

Materials

All Harmer cast iron floor gullies are cast to material grade EN-GJL-200 to BS EN 1561, painted internally and externally with a dark grey 2-part epoxy coating as in compliance to Class 1 fire classification BS 476:Part 7: 1997, Surface spread of flame. Smoke and Toxicity test to Part 2, Annex 1 & Annex 2 of fire test procedure code, IMO Resolution MSC61(67).

Ductile iron components are cast to material grade EN-GJS-450-10 to BS EN 1536 with zinc anti-corrosion coating applied by sherardizing.

Stainless Steel grates and bezels are cast to material Grade 304 as standard with satin finish which is suitable for most applications. Material Grade 316 for more harsh environments eg: swimming pools is available on request.

Nickel bronze grates and bezels are cast to copper alloy material Grade C99700. These are provided to machined finish for a polished effect.

Maintenance

The high quality grates and bezels are maintenance free but should be inspected periodically and cleaned of any trapped matter.

If drains are not used for a period of time the trap water may evaporate or become fetid. To remedy this, there is no need to remove the grate, simply reprime the Trap by pouring clean water through the drain. NEVER USE BLEACH OR CAUSTIC CLEANING AGENTS.

To clean Stainless Steel grates, use only soapy water and wipe dry. Under no circumstances use metal scouring pads, metal scrapers or wire wool since this will contaminate surfaces leaving rust spots.

Due to the nature of Nickel Bronze, periodic cleaning is required to prevent tarnishing. Use soapy water and wipe dry.

Periodic Use

If drains are not used for long periods of time or only intermittently, it is recommended that a solid plate cover be installed instead of standard grate.

Security

Generally, grates are secured with Phillips Pozidrive screws but special security fixing options are available.

Inverted Trap

Should it be necessary to access the drain for maintenance or rodding purposes, the trap must first be removed.

Equipment required:

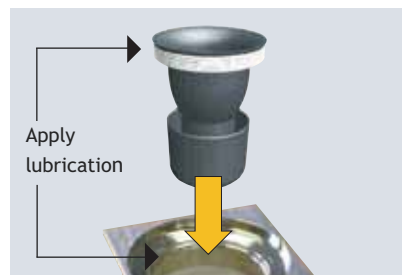
- Pozidrive screwdriver
- Latex rubber gloves
- Bucket of clean water
- Sponge
- Household disinfectant

Procedure:

- Put on protective latex gloves
- Remove grate screws
- Dry all surfaces
- Remove black funnel trap using handle inside unit

Refitting trap:

- Apply silicone lubricant to seal rim of funnel
- Push fit the trap into the bezel throat
- Position grate and secure with screws
- Reprime the trap with clean water
- Dispose of dirty water



Installation Procedure

1. Offer drain body to the required position.
2. Align waste pipe and secure, whilst maintaining the rim of the floor drain is set to the required finished slab level.
3. Lay concrete ground slab.
4. Lay DPM. Cut hole in membrane and clamp firmly to the floor drain with bolts as provided.
5. Lay insulation if required.
6. Rotate threaded bezel into threaded clamp to the required FFL height.
7. Install funnel trap inside bezel if required and cover with grating.
8. Lay screed to falls.
9. Lay floor tiles or vinyl depending on floor finished required.

Specifying/Ordering

There are 3 bezel connections available as follows:

/4

4" NPSM
(Cast Iron Drainage)

/110

110mm dia direct fix
(No gully applications)

/B

110mm dia pvc throat
(For O-ring clamp option)



The standard default for cast iron body is "/4".

Example 1:

Floor Drains in Showers

Item: Harmer Floor Drains.

Floor Construction: Sheet vinyl over insulated solid ground floor slab.

Manufacturer: Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body type/material: Untrapped Medium Sump with side inlets manufactured from Cast Iron ref: CM1VT100/A.

Grate finish/material: Satin Stainless compact ring complete with trap assembly ref: VR20/SS/4/T.

Example 2:

Floor Drains in Changing Rooms

Item: Harmer Floor Drains.

Floor Construction: 150mm ceramic tiles over insulated solid ground floor slab.

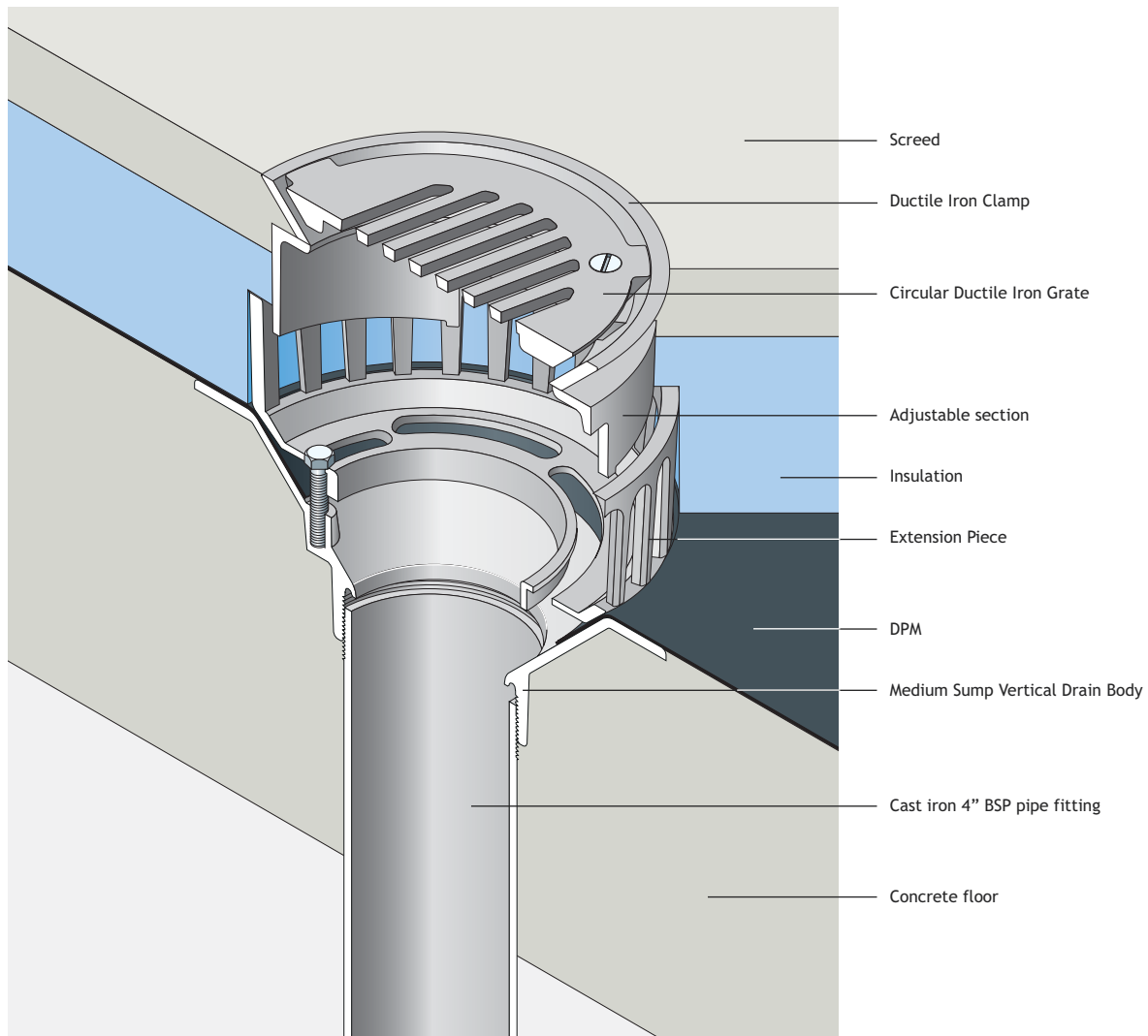
Manufacturer: Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body type/material: P-trapped Horizontal thread without inlets manufactured from Cast Iron ref: CTH100.

Grate finish/material: Machined Nickel Bronze Quattro grate and bezel assembly ref: SH15/NB/4.

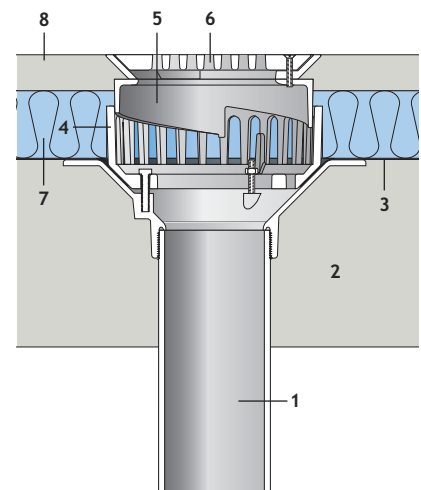
Cast Iron Floor Outlets - Application Details

Medium Sump Vertical Drain Body with Extension Piece and Adjustable Height Circular Ductile Iron Grate



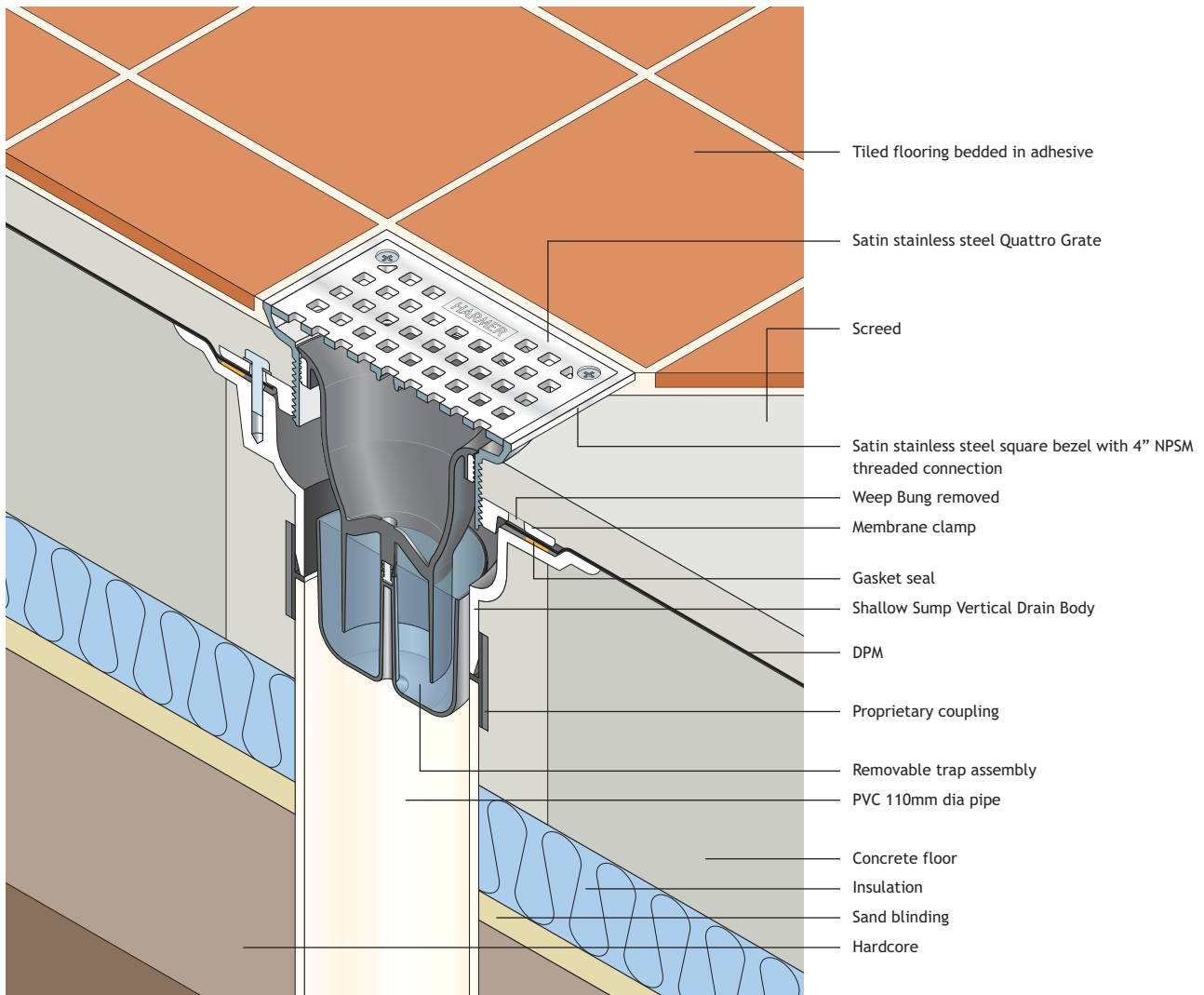
Sitework

1. Assemble BSP pipe/adaptor to drain body.
2. Temporarily support drain and cast into concrete slab at correct level.
3. Lay DPM and dress into drain.
4. Position extension piece and secure into place to adequately clamp down DPM.
5. Align adjustable section.
6. Fit clamp and grate.
7. Lay insulation.
8. Lay screed to falls.



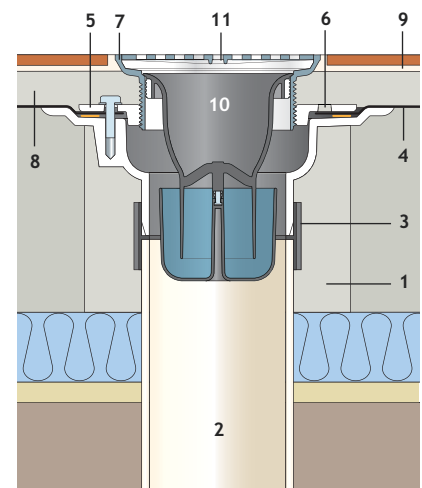
Cast Iron Floor Outlets - Application Details

Shallow Sump Vertical Drain Body with Quattro Grate and Bezel



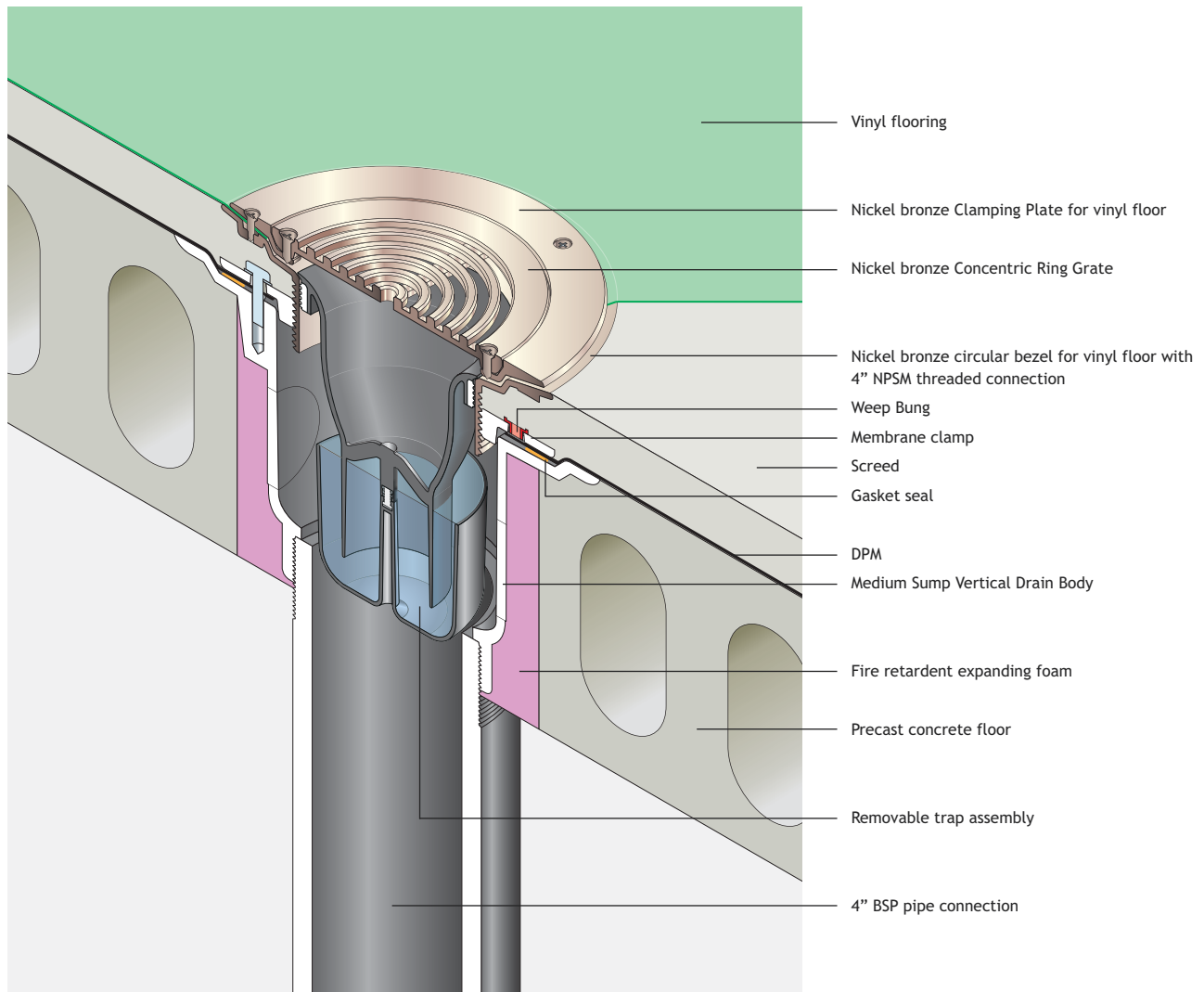
Sitework

1. Form hole in concrete floor to receive drain body.
2. Position drain pipe to align with drain body.
3. Join together with proprietary coupling.
4. Lay waterproof tanking system.
5. Fix clamp to secure tanking over gasket seal.
6. Remove weep bung.
7. Fit threaded bezel to required height of FFL.
8. Lay screed to falls.
9. Apply adhesive to lay tiles.
10. Connect funnel trap inside bezel.
11. Secure grate



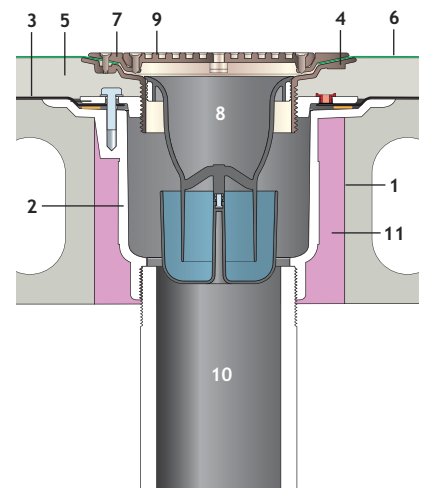
Cast Iron Floor Outlets - Application Details

Medium Sump Vertical Drain Body with Concentric Ring Grate and Bezel



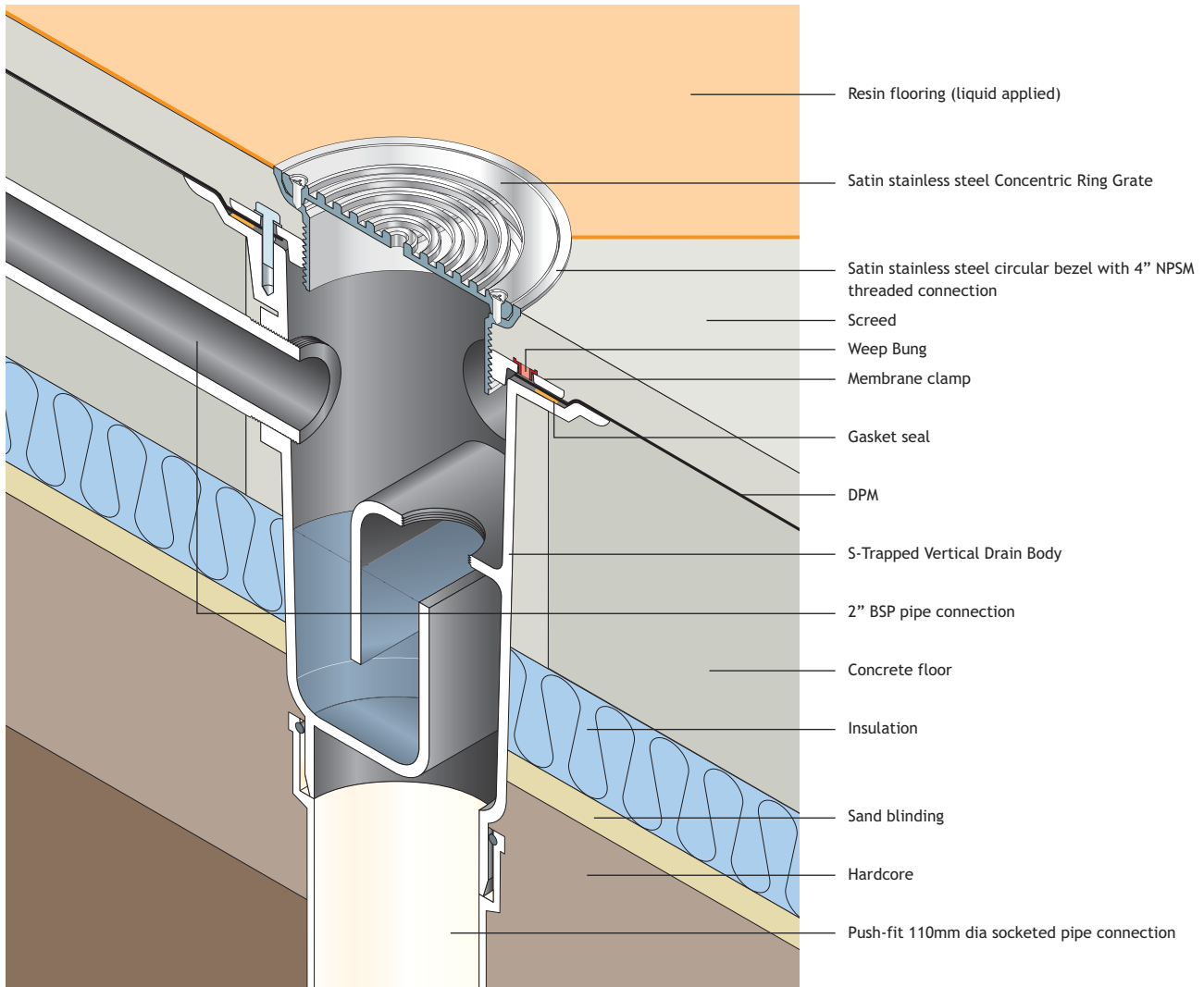
Sitework

1. Form hole in precast concrete floor to receive drain body.
2. Position drain body in floor.
3. Lay the DPM. Cut hole in the membrane and clamp firmly over the gasket seal on the drain body with bolts as provided.
4. Connect the threaded bezel to the clamp and adjust the height to the required FFL.
5. Lay screed to falls.
6. Apply vinyl sheet flooring and dress inside the bezel.
7. Secure vinyl to bezel using clamp plate.
8. Connect funnel trap inside bezel.
9. Secure grating.
10. Connect BSP pipe.
11. Apply fire retardant expanding foam to fill void in floor at drain position.



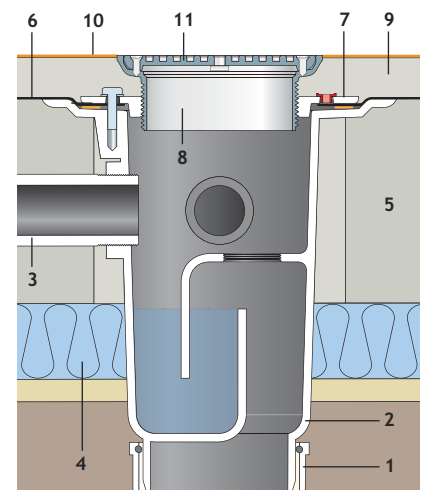
Cast Iron Floor Outlets - Application Details

S-Trapped Vertical Drain Body with Concentric Ring Grate and Bezel



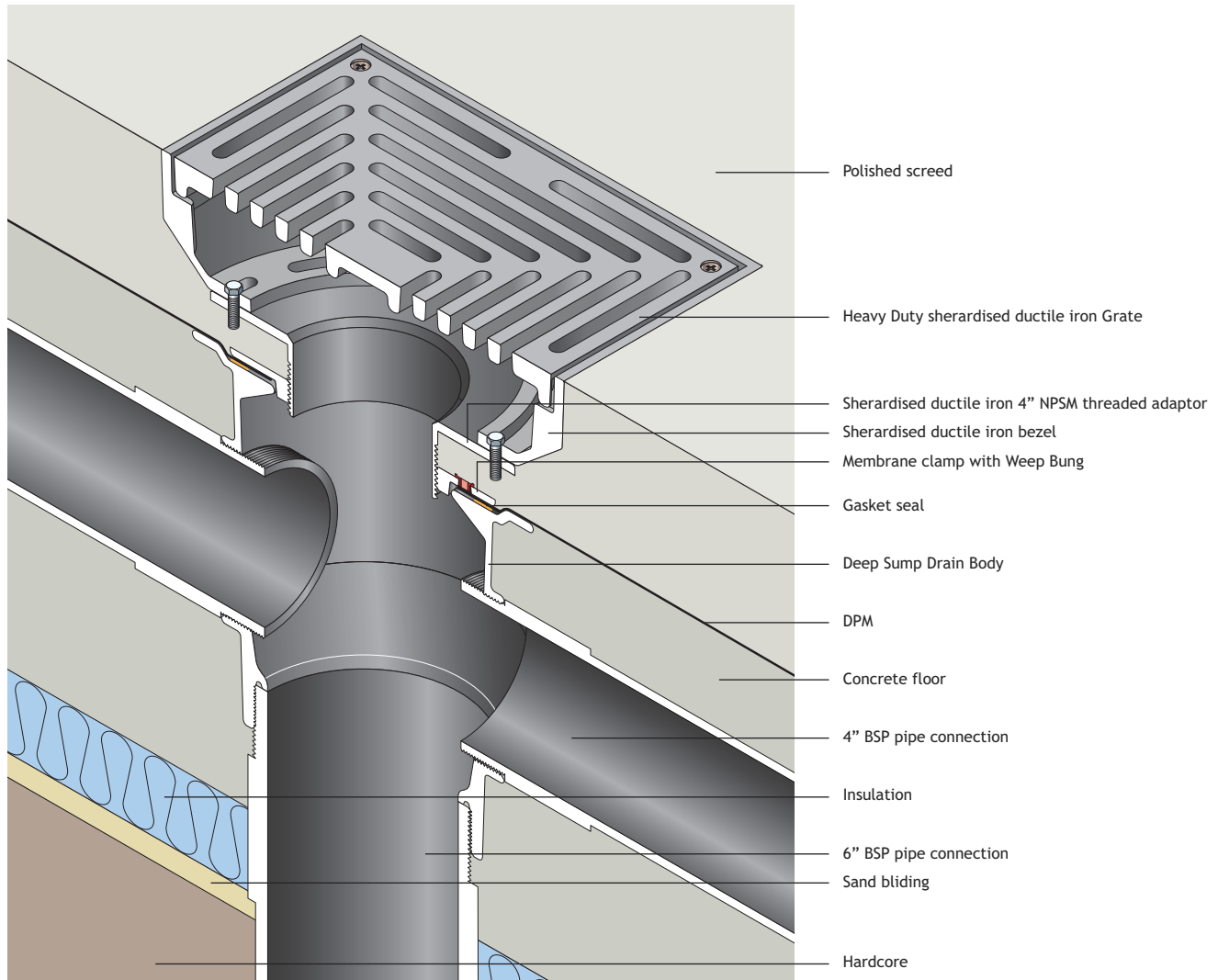
Sitework

1. Temporarily support socketed pipe at adequate level for fitting of drain.
2. Push-fit drain body into place.
3. Add additional waste pipe connections using the 2" BSP inlets on drain body.
4. Lay sand blinding and insulation over hardcore.
5. Pour concrete to cast drain in position.
6. Lay DPM and dress into drain.
7. Secure gasket and clamp leaving weep bung in place.
8. Fit threaded bezel to required height of FFL.
9. Lay screed to falls.
10. Pour liquid applied resin on floor up to bezel frame edge.
11. Secure grate.



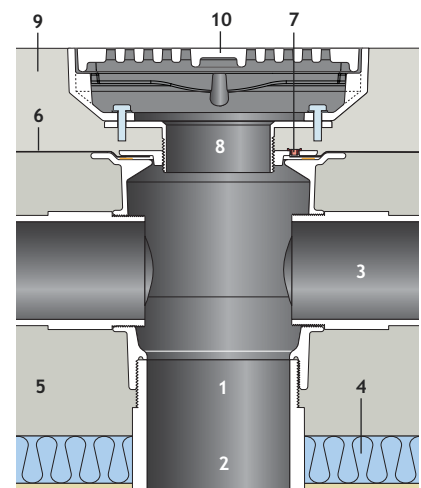
Cast Iron Floor Outlets - Application Details

Deep Sump Vertical Drain Body with Sherardised Ductile Iron Heavy Duty Grate and Bezel



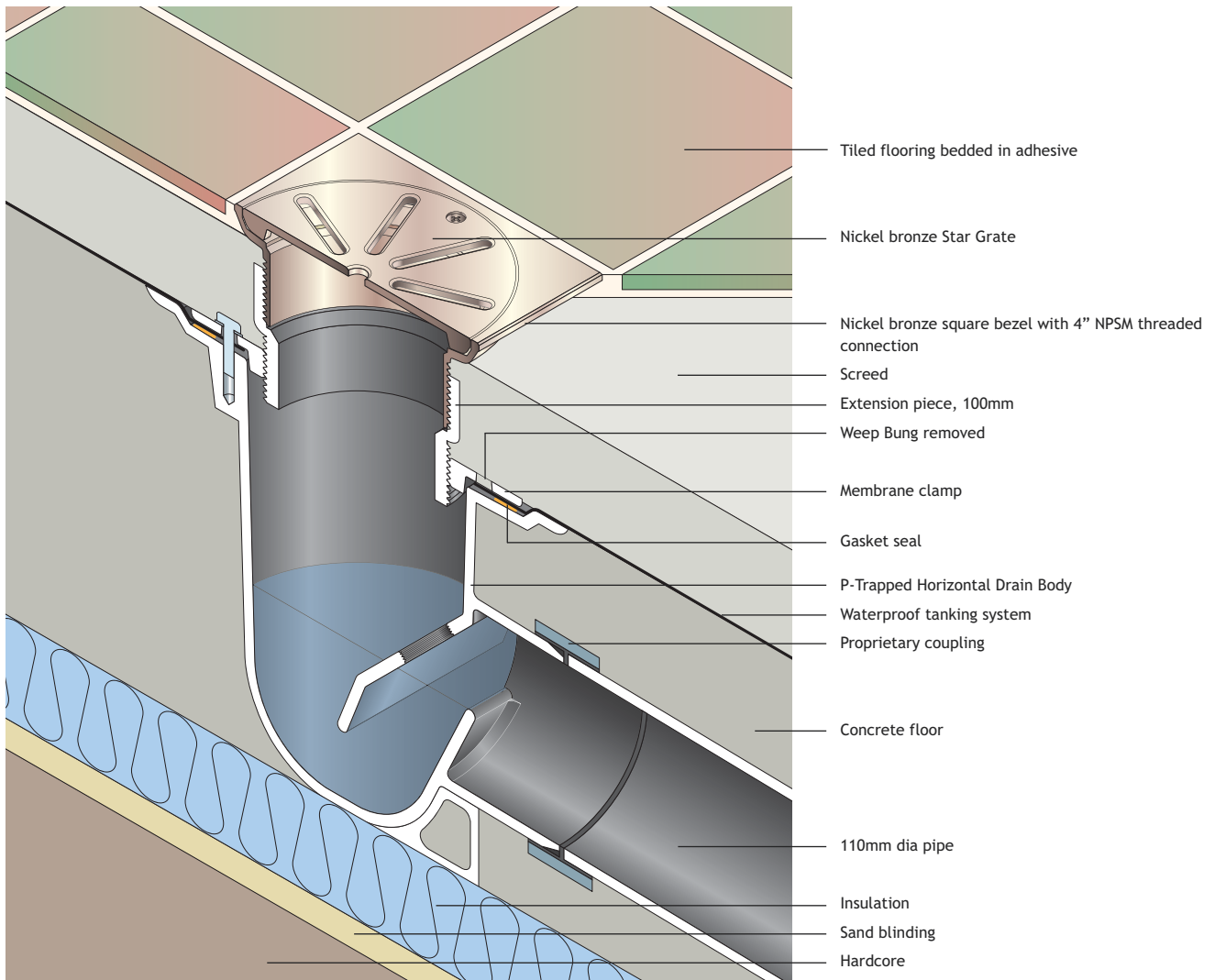
Sitework

1. Assemble BSP pipe/adaptor to drain body.
2. Temporarily support drain/pipe assembly to correct height.
3. Fit additional waste pipe connections using the 4" BSP inlets on drain body.
4. Lay sand blinding and insulation over hardcore.
5. Pour concrete to cast drain in position.
6. Lay DPM and dress into drain.
7. Secure gasket and clamp, leaving weep bung intact.
8. Fit ductile iron frame with threaded 4" adaptor to the clamp at the required height of FFL.
9. Lay polished screed to falls.
10. Place 323 x 323mm square ductile iron grate into frame.



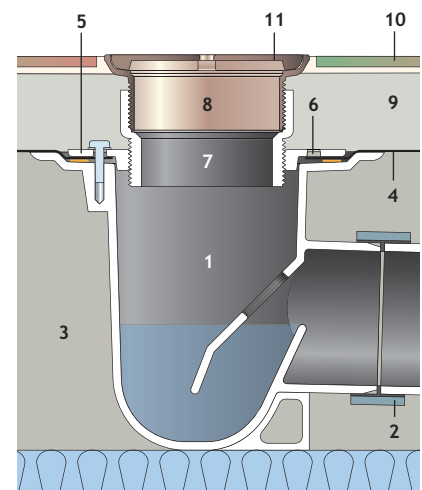
Cast Iron Floor Outlets - Application Details

P-Trapped Horizontal Drain Body with Star Grate and Bezel



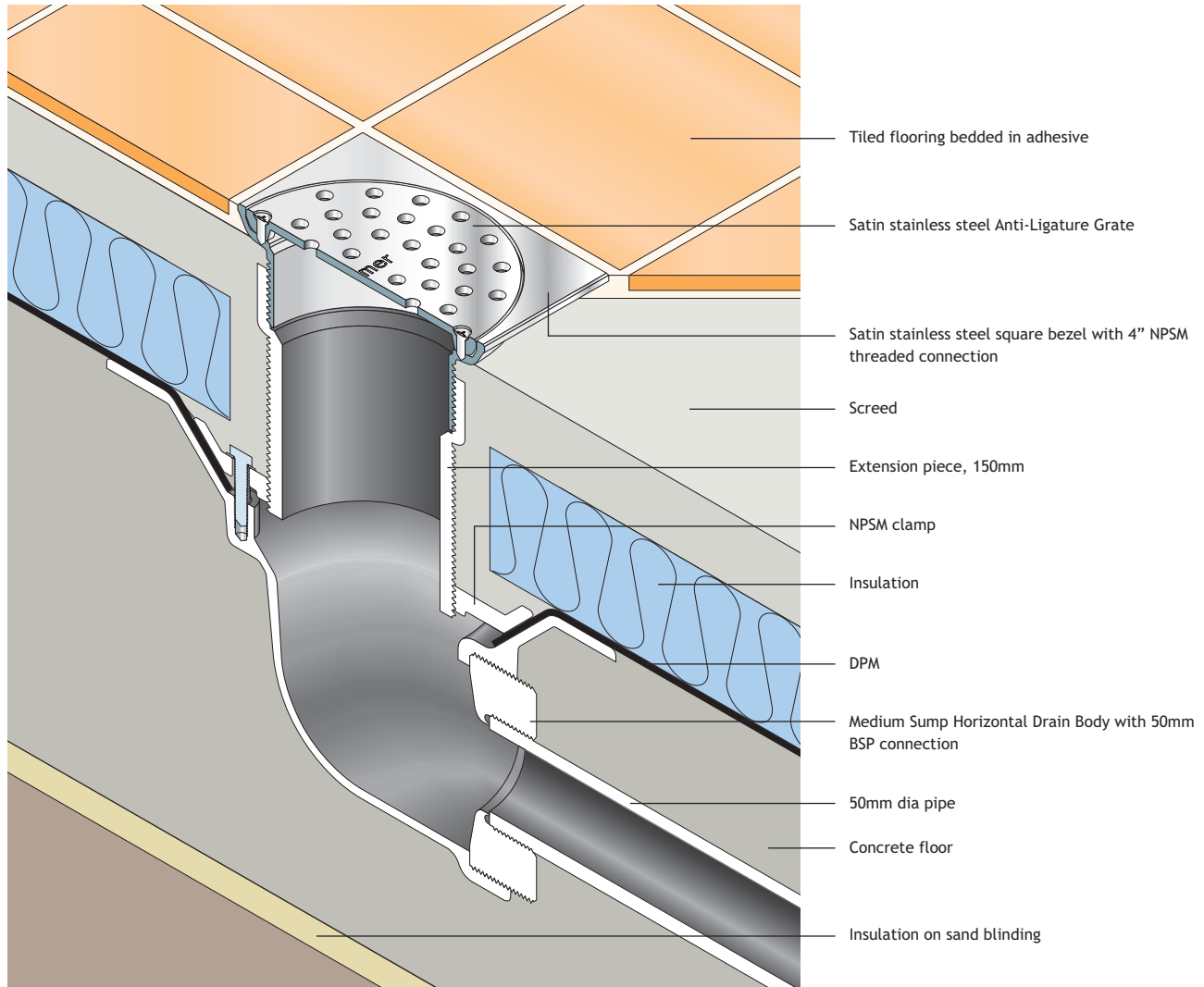
Sitework

1. Position drain body in appropriate location supported on insulation.
2. Connect 110mm diameter pipe with proprietary coupling.
3. Pour concrete mix to cast drain into floor.
4. Lay waterproof tanking system and dress into drain.
5. Fix clamp to secure tanking over gasket seal.
6. Remove weep bung.
7. Install cast iron extension piece and set to required level.
8. Fit threaded bezel to the required FFL.
9. Lay screed to falls.
10. Apply adhesive and fit tiles.
11. Secure grate.



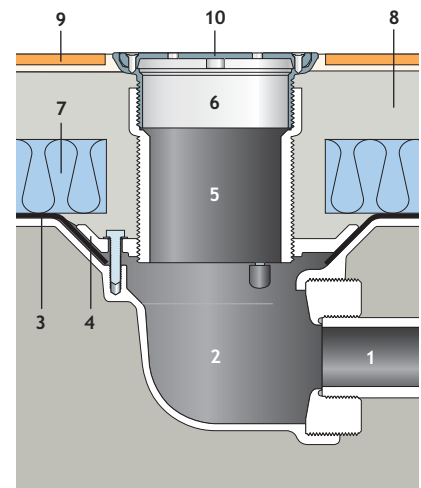
Cast Iron Floor Outlets - Application Details

Medium Sump Horizontal Drain Body with Anti-Ligature Grate and Bezel



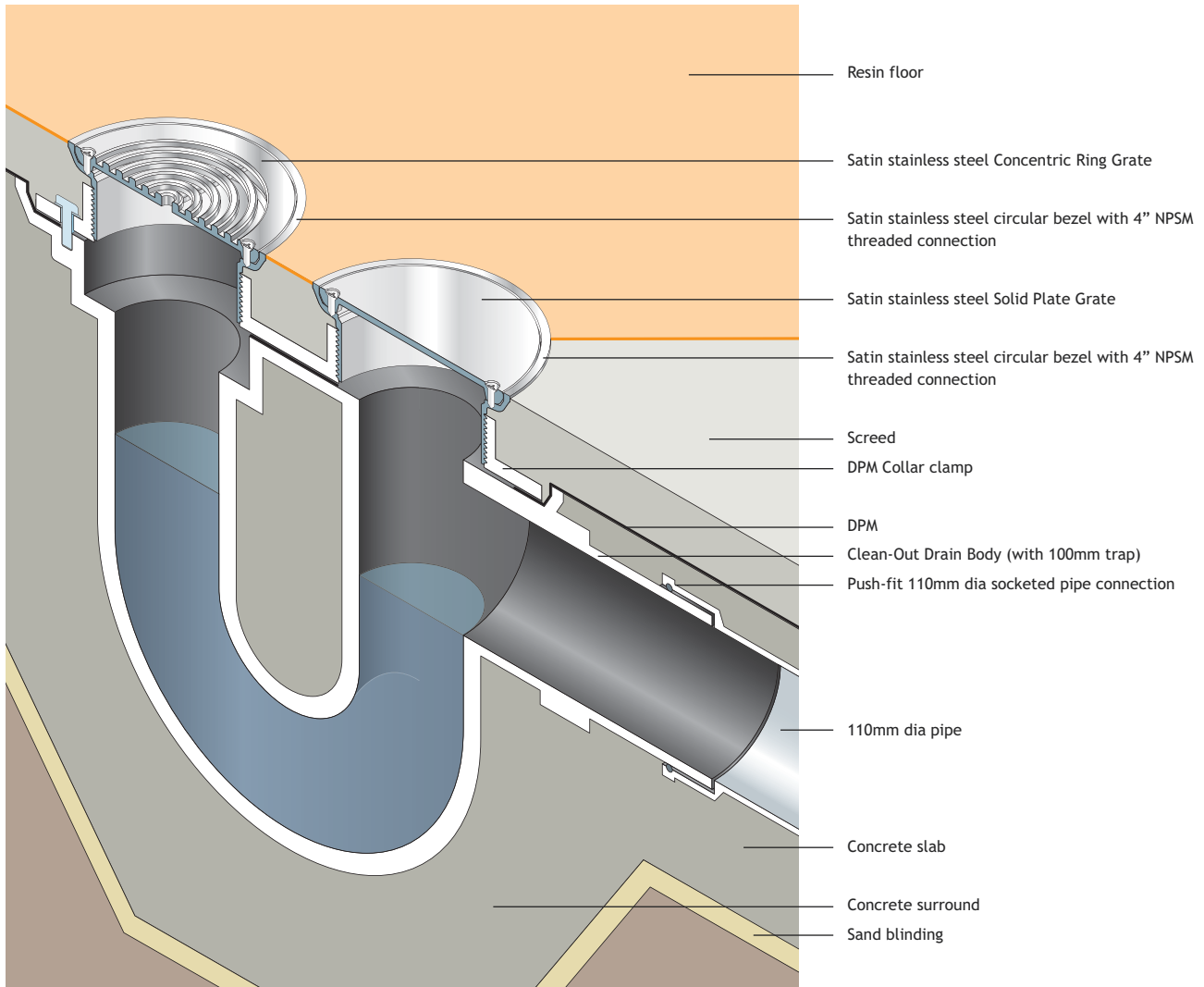
Sitework

1. Assemble BSP pipe/adaptor to drain body.
2. Temporarily support drain and cast into concrete slab at appropriate level.
3. Lay DPM and dress into drain.
4. Fix clamping plate.
5. Install cast iron extension piece for increased height flexibility.
6. Fix threaded bezel to required height of FFL.
7. Lay insulation over floor.
8. Lay screed to falls.
9. Apply adhesive and fit tiles.
10. Secure grate.



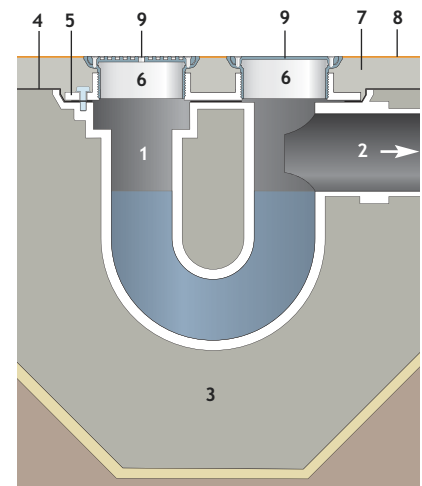
Cast Iron Floor Outlets - Application Details

Clean-Out Drain Body with Concentric Ring and Solid Plate Grates and Bezels



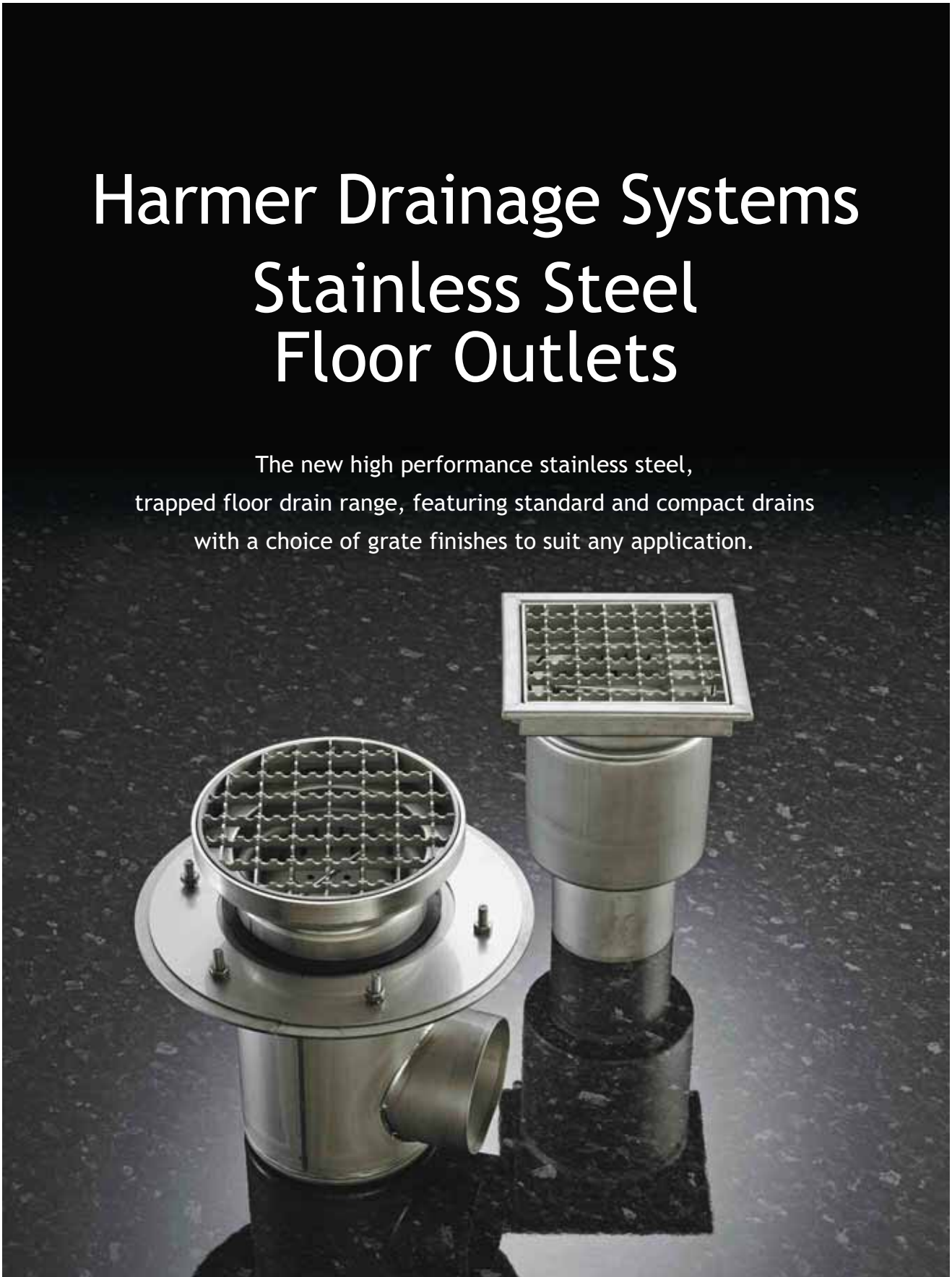
Sitework

1. Temporarily support drain body to the appropriate level.
2. Connect socketed pipework.
3. Cast drain into concrete slab/surround.
4. Lay DPM and dress over top of drain body.
5. Fix securing clamp.
6. Install two threaded bezels to the required FFL height.
7. Lay screed to falls.
8. Apply resin floor finish.
9. Secure draining grate and solid plate.



Harmer Drainage Systems Stainless Steel Floor Outlets

The new high performance stainless steel, trapped floor drain range, featuring standard and compact drains with a choice of grate finishes to suit any application.



Stainless Steel Floor Outlets - Benefits

Harmer Stainless Steel floor outlets offer a wide range of standard and compact drains available with fixed or two-part adjustable drain bodies, horizontal or vertical outlets, and a choice of square or circular grate finishes to suit the application and load class required.

Compliances

- Grate options available for load class ratings to BS EN 1253 (Indoor) - K3 (3kN), L15 (15 kN), M125 (125kN) and to BS EN 1433 (Outdoor) - A15 (15kN), B125 (125kN) and Channels up to C250 (250kN)
- The stainless steel is fully pickle passivated to ensure high quality corrosion-free joints

Flow Performance

- High flow performance
- High sump volume

Robust and Secure

- Available in Grade 304 or Grade 316 grade stainless steel
- Using 1.5mm - 2mm steel sheets. All components are welded in argon shield to ensure high quality joints
- Excellent corrosion resistance and durability

A Choice of Body and Grates

- Standard and compact drain body options, either fixed or two part adjustable bodies to suit different floor depth
- 4 grate finishes to suit design and load class requirements
- Available trapped or untrapped, with vertical or horizontal spigot connection

Low Maintenance

- Integral waste basket to be used when drained waste water has a high content for solids
- Easy to clean and maintain with easy access to the trap and waste basket

Easy and Quick to Install

- Easy to install, the drain body can be installed into the floor and the trap and basket with grate can follow when ready
- Suitable for tiled, sheet vinyl and resin floor installations

Value for Money

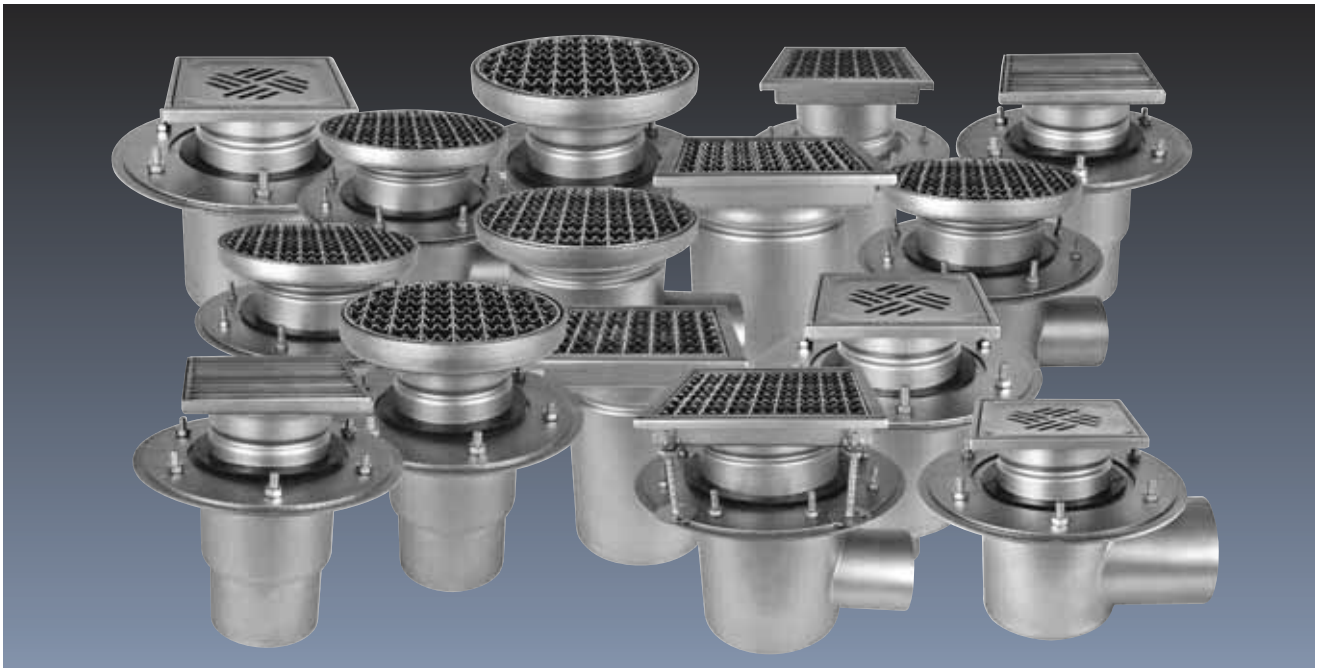
- Stainless steel is very durable and resistant in industrial applications so its life cycle cost is excellent

Sustainable

- Stainless Steel is 100% recyclable
- Around 60% recycled material is used in the production of stainless steel



Stainless Steel Floor Outlets - Product Range Summary

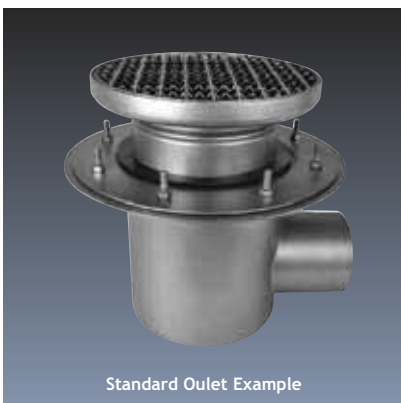


Standard Outlets

The standard outlets are suitable for industrial applications such as chemical, pharmaceutical and food & drink processing. They are available with a vertical or horizontal outlet in 110mm, 160mm or 200mm. The grate options in either square or circular offer weight load class from L15 to M125. See pages 60 to 63.

Compact Outlets

The compact outlets are suitable for connecting to the standard and slot channel drains as an outlet option and also to be used for the domestic applications. They are available with a vertical or horizontal outlet in 50mm or 110mm. Grates available to suit weight loadings up to M125. See pages 64 to 67.



Standard Outlet Example

One-Part/Two-Part Options

The Harmer Stainless Steel floor drains are available in a range of either fixed one-part drain body or as an adjustable two-part drain body which allows full rotation of the grate bezel.

When to Choose a One-Part or Two-Part Assembly

The one-part drain is suitable for a fixed floor finish where a DPM isn't required. The Two-part drain body is ideal for applications where a DPM is required and its especially suited for applications where the floor height is yet to be finalised.

Trapped/Untrapped Options

The standard and trapped drains come complete with an integral trap, if this is not required remove the suffix /T.



Compact Outlet Example

Applications

- Food & drink processing
- Chemical & pharmaceutical industries
- Commercial kitchens
- Hotels & restaurants
- Hospitals
- Health centres
- Supermarkets
- Airports
- Railways
- Utilities
- Sport and leisure
- Prisons
- Energy industry



Stainless Steel Floor Outlets - Product Range Summary

1 Grating

Available in various styles Mesh Anti-Slip, Ladder, Plate and Perforated sheet. Both circular and square options in a variety of sizes. The gratings are chosen according to load class requirements - See below

2 Waste Basket (Optional)

Recommended when the drained wastewater has a high content of solids

3 Trap (Optional)

Functional and easy to maintain, it ensures there is easy access to the sewer, offering quick cleaning

4 Gasket Seal

Ensures an airtight secure fit into the drain body

5 Drain Body (One-Part)

6 Upper Drain Body (Two-Part)

Adjustable vertically and can be rotated to suit the floor finish

7 Flange

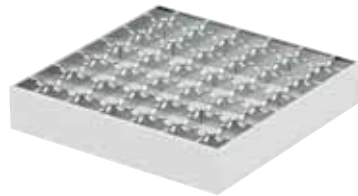
Used to secure the DPM or similar within the floor structure

8 Lower Drain Body (Two-Part)

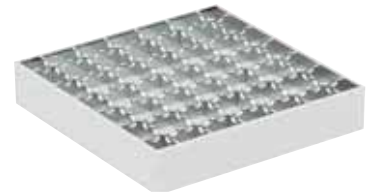
The round shape limits waste accumulation and enables easy waste removal.

Typical Stainless Steel Floor Drainage Assemblies (Standard Range Shown)

One-Part Outlet Components



Two-Part Outlet Components



Load Class of Gratings

Harmer load class gratings installed indoors, classified according to BS EN 1253-1: 2003.



K3 (3 kN)
Places for pedestrian use.



L15 (15 kN)
Areas where vehicular traffic intensity is low, excluding forklifts.



M125 (125 kN)
Areas with intensive vehicular traffic.



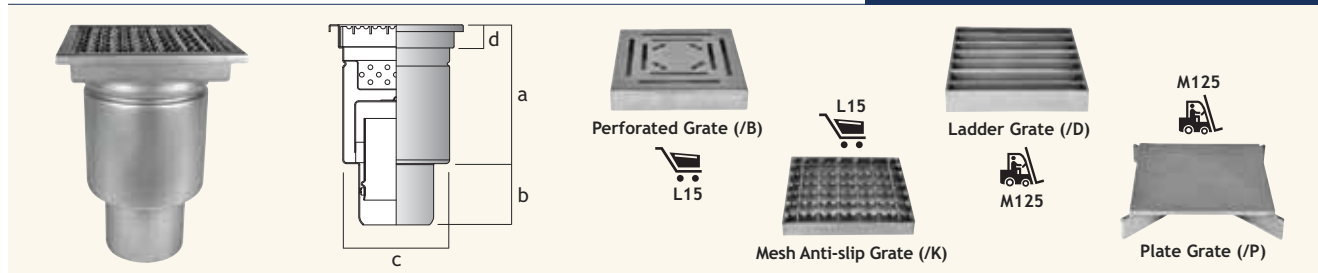
Stainless Steel Floor Outlets - Standard One-Part Range Product Tables

Harmer Stainless Steel standard floor outlets are a heavy duty range with a wide choice of outlet sizes. Available with either a vertical or horizontal outlet, and square or circular grates for tiled and resin floor applications. The one-part fixed drains are suitable for a fixed floor finish where a DPM isn't required.

Vertical One-Part Fixed Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



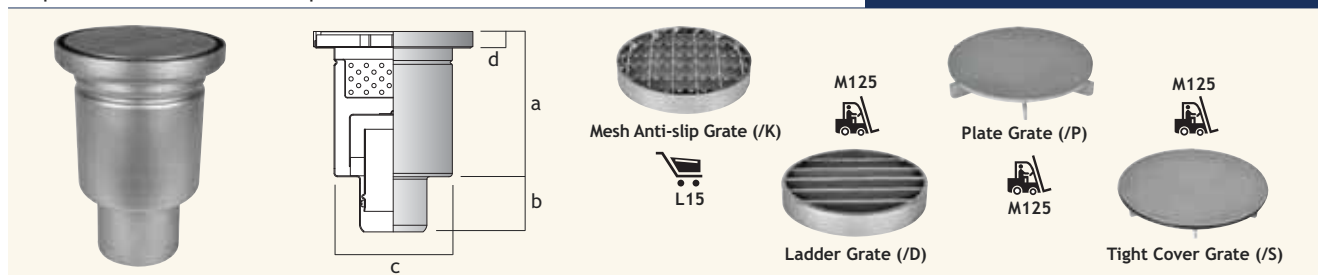
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	194	90	157	30	200 x 200	Perforated	L15	4.0	2.2	SV110/S20/B/T
110	194	90	157	30	200 x 200	Mesh Anti-slip	L15	4.0	2.2	SV110/S20/K/T
110	194	90	157	30	200 x 200	Ladder	M125	4.5	2.2	SV110/S20/D/T
110	194	90	157	30	200 x 200	Plate	M125	4.5	2.2	SV110/S20/P/T
110	234	90	193	30	250 x 250	Perforated	L15	5.5	3.0	SV110/S25/B/T
110	234	90	193	30	250 x 250	Mesh Anti-slip	L15	5.5	3.0	SV110/S25/K/T
110	234	90	193	30	250 x 250	Ladder	M125	6.0	3.0	SV110/S25/D/T
110	234	90	193	30	250 x 250	Plate	M125	6.0	3.0	SV110/S25/P/T
160	244	90	193	30	300 x 300	Perforated	L15	8.0	9.0	SV160/S30/B/T
160	244	90	193	30	300 x 300	Mesh Anti-slip	L15	8.0	9.0	SV160/S30/K/T
160	244	90	193	30	300 x 300	Ladder	M125	9.5	9.0	SV160/S30/D/T
160	244	90	193	30	300 x 300	Plate	M125	9.5	9.0	SV160/S30/P/T
200	354	90	348	30	400 x 400	Perforated	L15	20.0	12.0	SV200/S40/B/T
200	354	90	348	30	400 x 400	Mesh Anti-slip	L15	20.0	12.0	SV200/S40/K/T
200	354	90	348	30	400 x 400	Ladder	M125	22.0	12.0	SV200/S40/D/T
200	354	90	348	30	400 x 400	Plate	M125	23.0	12.0	SV200/S40/P/T

* The flow rate is based on maximum capacity of the trap

Vertical One-Part Fixed Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	187	90	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SV110/C20/K/T
110	187	90	157	25	200 Dia	Plate	M125	4.0	2.2	SV110/C20/P/T
110	187	90	157	25	200 Dia	Ladder	M125	4.5	2.2	SV110/C20/D/T
110	187	90	157	25	200 Dia	Tight Cover	M125	4.5	–	SV110/C20/S/T
110	227	90	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SV110/C25/K/T
110	227	90	193	25	255 Dia	Plate	M125	5.5	3.0	SV110/C25/P/T
110	227	90	193	25	255 Dia	Ladder	M125	6.0	3.0	SV110/C25/D/T
110	227	90	193	25	255 Dia	Tight Cover	M125	6.0	–	SV110/C25/S/T

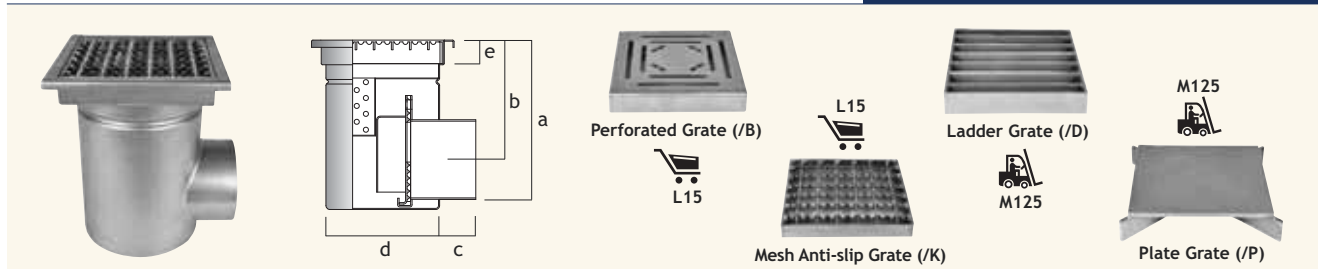
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Standard One-Part Range Product Tables

Horizontal One-Part Fixed Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



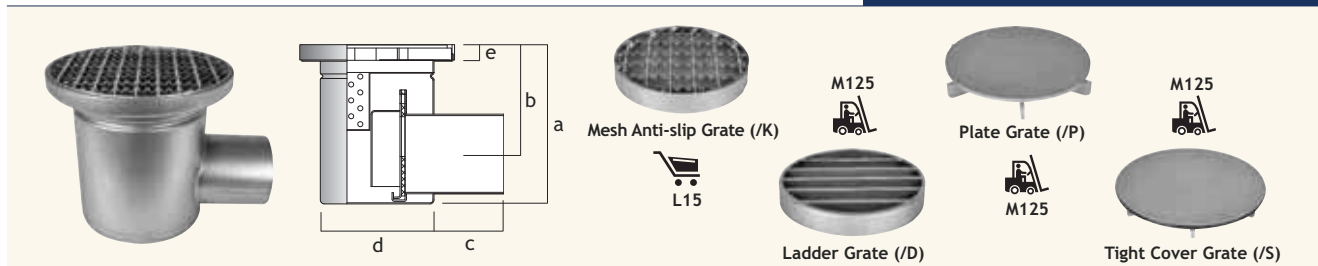
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	244	170	50	157	30	200 x 200	Perforated	L15	4.0	2.2	SH110/S20/B/T
110	244	170	50	157	30	200 x 200	Mesh Anti-slip	L15	4.0	2.2	SH110/S20/K/T
110	244	170	50	157	30	200 x 200	Ladder	M125	4.5	2.2	SH110/S20/D/T
110	244	170	50	157	30	200 x 200	Plate	M125	4.5	2.2	SH110/S20/P/T
110	244	170	100	193	30	250 x 250	Perforated	L15	5.5	3.0	SH110/S25/B/T
110	244	170	100	193	30	250 x 250	Mesh Anti-slip	L15	5.5	3.0	SH110/S25/K/T
110	244	170	100	193	30	250 x 250	Ladder	M125	6.0	3.0	SH110/S25/D/T
110	244	170	100	193	30	250 x 250	Plate	M125	6.0	3.0	SH110/S25/P/T
160	294	194	90	255	30	300 x 300	Perforated	L15	8.0	9.0	SH160/S30/B/T
160	294	194	90	255	30	300 x 300	Mesh Anti-slip	L15	8.0	9.0	SH160/S30/K/T
160	294	194	90	255	30	300 x 300	Ladder	M125	9.5	9.0	SH160/S30/D/T
160	294	194	90	255	30	300 x 300	Plate	M125	9.5	9.0	SH160/S30/P/T
200	354	232	90	348	30	400 x 400	Perforated	L15	20.0	12.0	SH200/S40/B/T
200	354	232	90	348	30	400 x 400	Mesh Anti-slip	L15	20.0	12.0	SH200/S40/K/T
200	354	232	90	348	30	400 x 400	Ladder	M125	22.0	12.0	SH200/S40/D/T
200	354	232	90	348	30	400 x 400	Plate	M125	23.0	12.0	SH200/S40/P/T

* The flow rate is based on maximum capacity of the trap

Horizontal One-Part Fixed Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	237	165	50	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SH110/C20/K/T
110	237	165	50	157	25	200 Dia	Plate	M125	4.0	2.2	SH110/C20/P/T
110	237	165	50	157	25	200 Dia	Ladder	M125	4.5	2.2	SH110/C20/D/T
110	237	165	50	157	25	200 Dia	Tight Cover	M125	4.5	—	SH110/C20/S/T
110	237	165	100	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SH110/C25/K/T
110	237	165	100	193	25	255 Dia	Plate	M12x5	5.5	3.0	SH110/C25/P/T
110	237	165	100	193	25	255 Dia	Ladder	M125	6.0	3.0	SH110/C25/D/T
110	237	165	100	193	25	255 Dia	Tight Cover	M125	6.0	—	SH110/C25/S/T

* The flow rate is based on maximum capacity of the trap

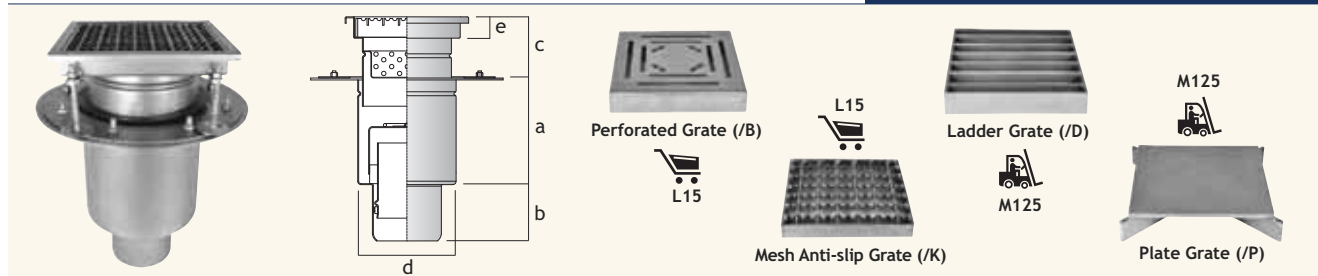
Stainless Steel Floor Outlets - Standard Two-Part Range Product Tables

Harmer Stainless Steel standard floor outlets are a heavy duty range with a wide choice of outlet sizes. Available with either a vertical or horizontal outlet, and square or circular grates with options for tiled and vinyl floor applications. The two-part adjustable drain is ideal for unfinished floor applications.

Vertical Two-Part Adjustable Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



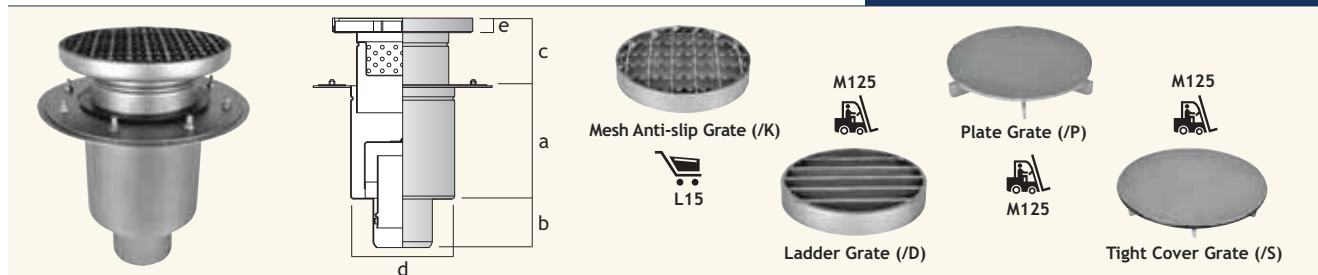
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	160	90	50-120	157	30	200 x 200	Perforated	L15	6.5	2.2	SVA110/S20/B/T
110	160	90	50-120	157	30	200 x 200	Mesh Anti-slip	L15	6.5	2.2	SVA110/S20/K/T
110	160	90	50-120	157	30	200 x 200	Ladder	M125	7.0	2.2	SVA110/S20/D/T
110	160	90	50-120	157	30	200 x 200	Plate	M125	7.0	2.2	SHA110/S20/P/T
110	200	90	50-160	193	30	250 x 250	Perforated	L15	8.5	3.0	SVA110/S25/B/T
110	200	90	50-160	193	30	250 x 250	Mesh Anti-slip	L15	8.5	3.0	SVA110/S25/K/T
110	200	90	50-160	193	30	250 x 250	Ladder	M125	9.0	3.0	SVA110/S25/D/T
110	200	90	50-160	193	30	250 x 250	Plate	M125	9.5	3.0	SVA110/S25/P/T
160	210	90	50-160	193	30	300 x 300	Perforated	L15	12.5	9.0	SVA160/S30/B/T
160	210	90	50-160	193	30	300 x 300	Mesh Anti-slip	L15	12.5	9.0	SVA160/S30/K/T
160	210	90	50-160	193	30	300 x 300	Ladder	M125	13.0	9.0	SVA160/S30/D/T
160	210	90	50-160	193	30	300 x 300	Plate	M125	13.5	9.0	SVA160/S30/P/T
200	320	90	50-160	348	30	400 x 400	Perforated	L15	23.0	12.0	SVA200/S40/B/T
200	320	90	50-160	348	30	400 x 400	Mesh Anti-slip	L15	23.0	12.0	SVA200/S40/K/T
200	320	90	50-160	348	30	400 x 400	Ladder	M125	26.0	12.0	SVA200/S40/D/T
200	320	90	50-160	348	30	400 x 400	Plate	M125	28.0	12.0	SVA200/S40/P/T

* The flow rate is based on maximum capacity of the trap

Vertical Two-Part Adjustable Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	160	90	45-110	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SVA110/C20/K/T
110	160	90	45-110	157	25	200 Dia	Plate	M125	4.0	2.2	SVA110/C20/P/T
110	160	90	45-110	157	25	200 Dia	Ladder	M125	4.5	2.2	SVA110/C20/D/T
110	160	90	45-110	157	25	200 Dia	Tight Cover	M125	4.5	—	SVA110/C20/S/T
110	200	90	45-160	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SVA110/C25/K/T
110	200	90	45-160	193	25	255 Dia	Plate	M125	5.5	3.0	SVA110/C25/P/T
110	200	90	45-160	193	25	255 Dia	Ladder	M125	6.0	3.0	SVA110/C25/D/T
110	200	90	45-160	193	25	255 Dia	Tight Cover	M125	6.0	—	SVA110/C25/S/T

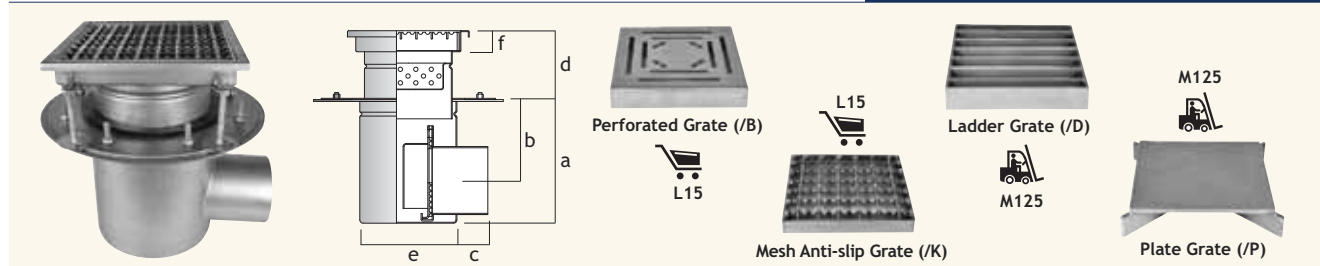
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Standard Two-Part Range Product Tables

Horizontal Two-Part Adjustable Outlets with Square Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



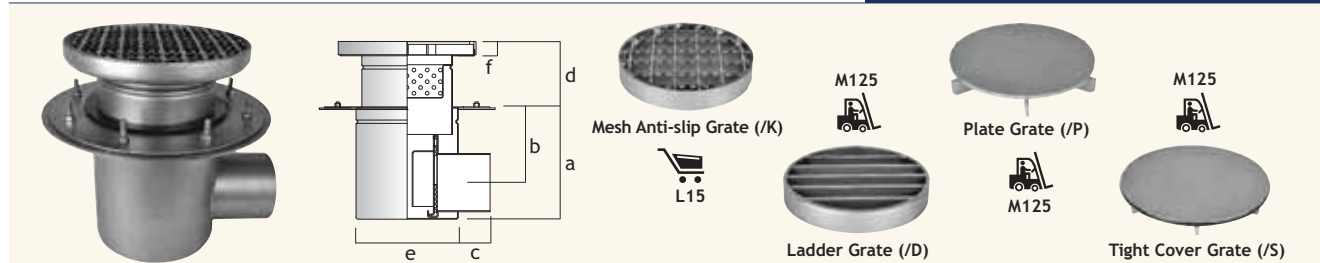
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	210	140	50	80-120	157	30	200 x 200	Perforated	L15	6.5	2.2	SHA110/S20/B/T
110	210	140	50	80-120	157	30	200 x 200	Mesh Anti-slip	L15	6.5	2.2	SHA110/S20/K/T
110	210	140	50	80-120	157	30	200 x 200	Ladder	M125	7.0	2.2	SHA110/S20/D/T
110	210	140	50	80-120	157	30	200 x 200	Plate	M125	7.0	2.2	SHA110/S20/P/T
110	210	140	100	50-160	193	30	250 x 250	Perforated	L15	8.5	3.0	SHA110/S25/B/T
110	210	140	100	50-160	193	30	250 x 250	Mesh Anti-slip	L15	8.5	3.0	SHA110/S25/K/T
110	210	140	100	50-160	193	30	250 x 250	Ladder	M125	9.0	3.0	SHA110/S25/D/T
110	210	140	100	50-160	193	30	250 x 250	Plate	M125	9.5	3.0	SHA110/S25/P/T
160	260	160	90	50-160	255	30	300 x 300	Perforated	L15	13.0	9.0	SHA160/S30/B/T
160	260	160	90	50-160	255	30	300 x 300	Mesh Anti-slip	L15	13.0	9.0	SHA160/S30/K/T
160	260	160	90	50-160	255	30	300 x 300	Ladder	M125	14.0	9.0	SHA160/S30/D/T
160	260	160	90	50-160	255	30	300 x 300	Plate	M125	14.0	9.0	SHA160/S30/P/T
200	320	200	90	50-160	348	30	400 x 400	Perforated	L15	23.0	12.0	SHA200/S40/B/T
200	320	200	90	50-160	348	30	400 x 400	Mesh Anti-slip	L15	23.0	12.0	SHA200/S40/K/T
200	320	200	90	50-160	348	30	400 x 400	Ladder	M125	26.0	12.0	SHA200/S40/D/T
200	320	200	90	50-160	348	30	400 x 400	Plate	M125	28.0	12.0	SHA200/S40/P/T

* The flow rate is based on maximum capacity of the trap

Horizontal Two-Part Adjustable Outlets with Circular Grates

Complete with removable foul air trap and waste basket

To Specify Untrapped Drains: Remove the suffix /T



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
110	190	120	50	45-120	157	25	200 Dia	Mesh Anti-slip	L15	4.0	2.2	SHA110/C20/K/T
110	190	120	50	45-120	157	25	200 Dia	Plate	M125	4.0	2.2	SHA110/C20/P/T
110	190	120	50	45-120	157	25	200 Dia	Ladder	M125	4.5	2.2	SHA110/C20/D/T
110	190	120	50	45-120	157	25	200 Dia	Tight Cover	M125	4.5	—	SHA110/C20/S/T
110	210	140	100	45-120	193	25	255 Dia	Mesh Anti-slip	L15	5.5	3.0	SHA110/C25/K/T
110	210	140	100	45-120	193	25	255 Dia	Plate	M125	5.5	3.0	SHA110/C25/P/T
110	210	140	100	45-120	193	25	255 Dia	Ladder	M125	6.0	3.0	SHA110/C25/D/T
110	210	140	100	45-120	193	25	255 Dia	Tight Cover	M125	6.0	—	SHA110/C25/S/T

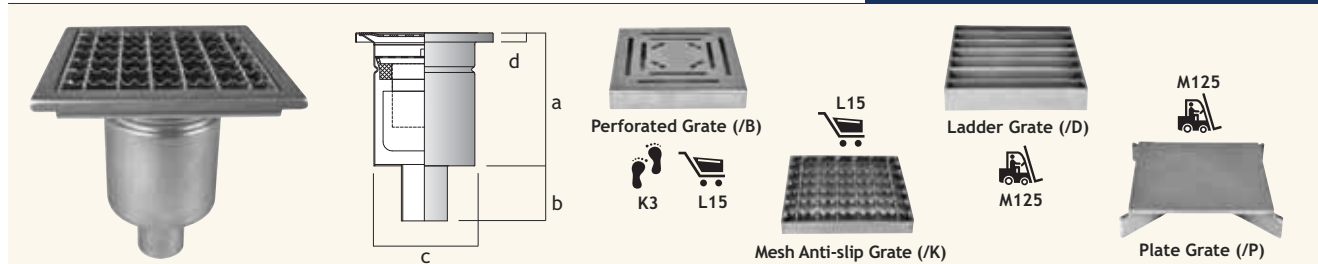
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact One-Part Range Product Tables

Harmer Stainless Steel compact floor outlets offer with a wide choice of outlet sizes and are ideally suited to connection to the standard or slot channel drains. Available either as a one-part or two-part adjustable drain with a vertical or horizontal outlet, and square or circular grates with options for tiled and vinyl floor applications.

Vertical One-Part Fixed Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix /T

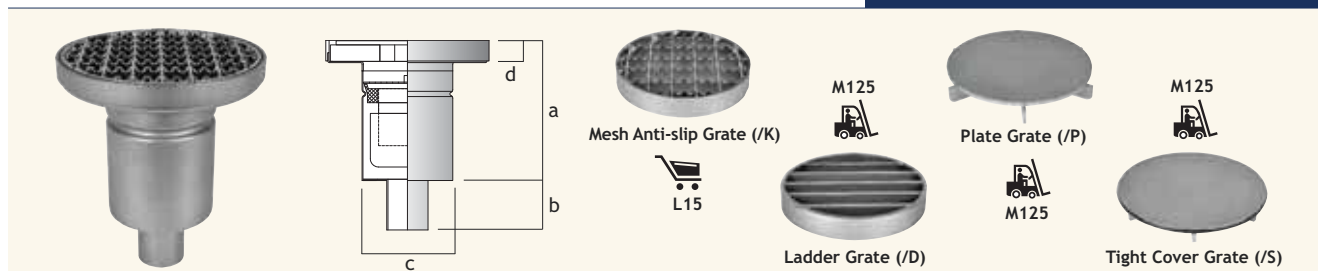


Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	150	60	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKV50/S15/B/T
50	150	60	110	10	150 x 150	Ladder	L15	4.0	0.5	SMV50/S15/D/T
50	154	60	110	20	200 x 200	Perforated	L15	4.0	0.5	SMV50/S20/B/T
50	154	60	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMV50/S20/K/T
50	154	60	110	20	200 x 200	Ladder	M125	4.5	0.5	SMV50/S20/D/T
50	154	60	110	20	200 x 200	Plate	M125	4.5	0.5	SMV50/S20/P/T
110	150	—	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKV110/S15/B/T
110	150	—	110	10	150 x 150	Ladder	L15	4.0	0.5	SMV110/S15/D/T
110	154	—	110	20	200 x 200	Perforated	L15	4.0	0.5	SMV110/S20/B/T
110	154	—	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMV110/S20/K/T
110	154	—	110	20	200 x 200	Ladder	M125	4.5	0.5	SMV110/S20/D/T
110	154	—	110	20	200 x 200	Plate	M125	4.5	0.5	SMV110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Vertical One-Part Fixed Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix /T



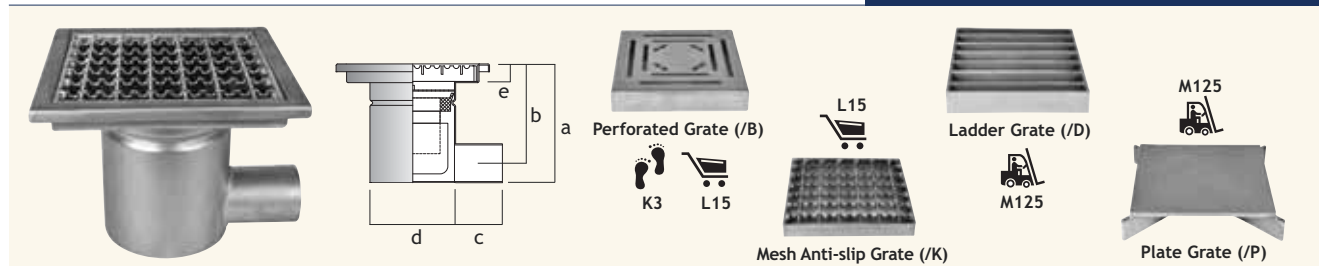
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	165	60	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV50/C16/K/T
50	165	60	110	25	160 Dia	Plate	M125	4.0	0.5	SMV50/C16/P/T
50	165	60	110	25	160 Dia	Ladder	M125	4.5	0.5	SMV50/C16/D/T
50	165	60	110	25	160 Dia	Tight Cover	M125	4.5	—	SMV50/C16/S/T
50	165	60	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV50/C20/K/T
50	165	60	110	25	200 Dia	Plate	M125	4.0	0.5	SMV50/C20/P/T
50	165	60	110	25	200 Dia	Ladder	M125	4.5	0.5	SMV50/C20/D/T
50	165	60	110	25	200 Dia	Tight cover	M125	4.5	—	SMV50/C20/S/T
110	165	—	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV110/C16/K/T
110	165	—	110	25	160 Dia	Plate	M125	4.0	0.5	SMV110/C16/P/T
110	165	—	110	25	160 Dia	Ladder	M125	4.5	0.5	SMV110/C16/D/T
110	165	—	110	25	160 Dia	Tight Cover	M125	4.5	—	SMV110/C16/S/T
110	165	—	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMV110/C20/K/T
110	165	—	110	25	200 Dia	Plate	M125	4.0	0.5	SMV110/C20/P/T
110	165	—	110	25	200 Dia	Ladder	M125	4.5	0.5	SMV110/C20/D/T
110	165	—	110	25	200 Dia	Tight Cover	M125	4.5	—	SMV110/C20/S/T

* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact One-Part Range Product Tables

Horizontal One-Part Fixed Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix /T

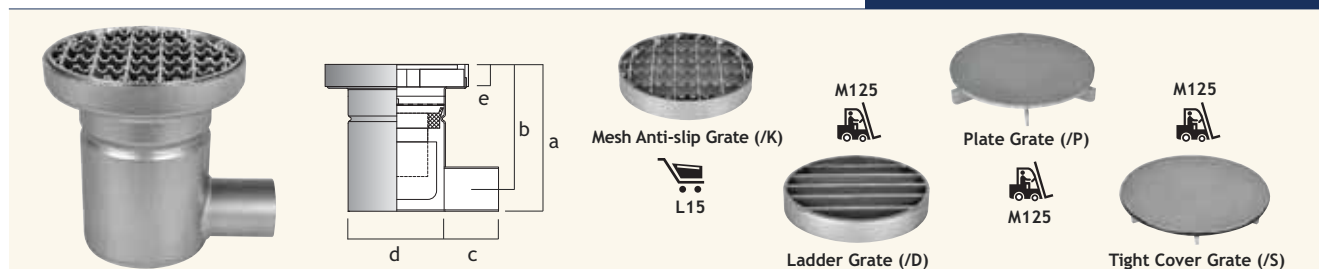


Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow rate (l/s)*	Product Code (Trapped)
50	150	120	60	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKH50/S15/B/T
50	150	120	60	110	10	150 x 150	Ladder	L15	4.0	0.5	SMH50/S15/D/T
50	154	127	60	110	20	200 x 200	Perforated	L15	4.0	0.5	SMH50/S20/B/T
50	154	127	60	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMH50/S20/K/T
50	154	127	60	110	20	200 x 200	Ladder	M125	4.5	0.5	SMH50/S20/D/T
50	154	127	60	110	20	200 x 200	Plate	M125	4.5	0.5	SMH50/S20/P/T
110	185	130	60	110	2	150 x 150	Perforated	K3	4.0	0.5	SMKH110/S15/B/T
110	190	135	60	110	10	150 x 150	Ladder	L15	4.0	0.5	SMH110/S15/D/T
110	194	140	90	110	20	200 x 200	Perforated	L15	4.0	0.5	SMH110/S20/B/T
110	194	140	90	110	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMH110/S20/K/T
110	194	140	90	110	20	200 x 200	Ladder	M125	4.5	0.5	SMH110/S20/D/T
110	194	140	90	110	20	200 x 200	Plate	M125	4.5	0.5	SMH110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Horizontal One-Part Fixed Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix /T



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	165	140	60	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH50/C16/K/T
50	165	140	60	110	25	160 Dia	Plate	M125	4.0	0.5	SMH50/C16/P/T
50	165	140	60	110	25	160 Dia	Ladder	M125	4.5	0.5	SMH50/C16/D/T
50	165	140	60	110	25	160 Dia	Tight Cover	M125	4.5	—	SMH50/C16/S/T
50	165	140	60	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH50/C20/K/T
50	165	140	60	110	25	200 Dia	Plate	M125	4.0	0.5	SMH50/C20/P/T
50	165	140	60	110	25	200 Dia	Ladder	M125	4.5	0.5	SMH50/C20/D/T
50	165	140	60	110	25	200 Dia	Tight Cover	M125	4.5	—	SMH50/C20/S/T
110	207	152	60	110	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH110/C16/K/T
110	207	152	60	110	25	160 Dia	Plate	M125	4.0	0.5	SMH110/C16/P/T
110	207	152	60	110	25	160 Dia	Ladder	M125	4.5	0.5	SMH110/C16/D/T
110	207	152	60	110	25	160 Dia	Tight Cover	M125	4.5	—	SMH110/C16/S/T
110	207	152	60	110	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMH110/C20/K/T
110	207	152	60	110	25	200 Dia	Plate	M125	4.0	0.5	SMH110/C20/P/T
110	207	152	60	110	25	200 Dia	Ladder	M125	4.5	0.5	SMH110/C20/D/T
110	207	152	60	110	25	200 Dia	Tight Cover	M125	4.5	—	SMH110/C20/S/T

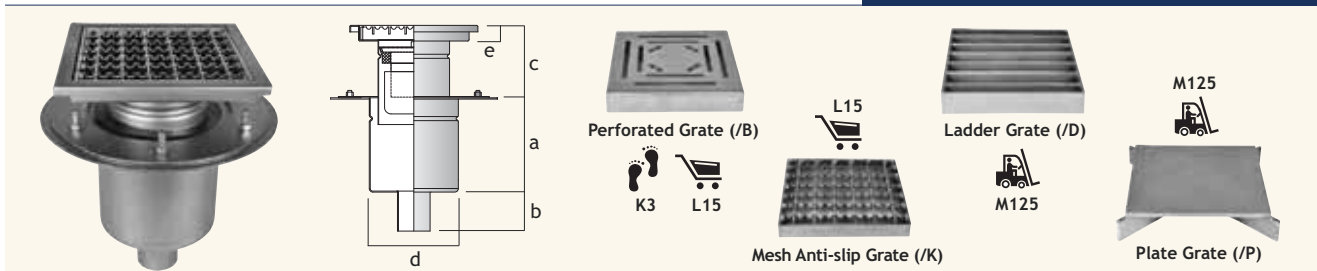
* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact Two-Part Range Product Tables

Harmer Stainless Steel compact floor outlets offer with a wide choice of outlet sizes and are ideally suited to connection to the standard or slot channel drains. Available either as a one-part or two-part adjustable drain with a vertical or horizontal outlet, and square or circular grates with options for tiled and vinyl floor applications.

Vertical Two-Part Adjustable Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix /T

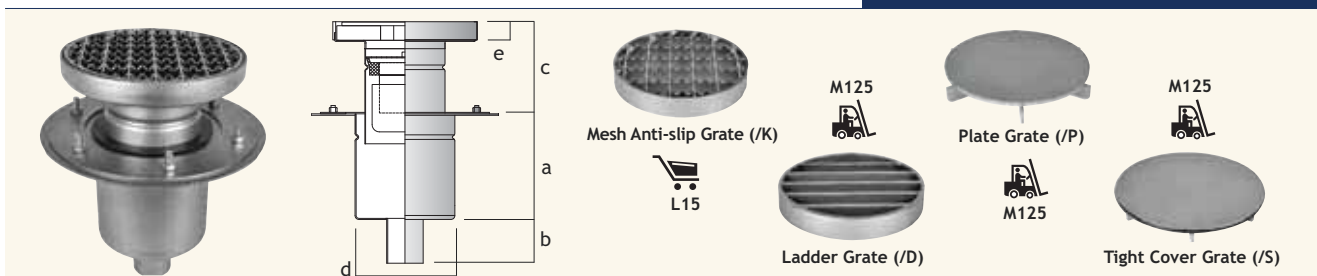


Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	140	60	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKVA50/S15/B/T
50	140	60	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMVA50/S15/D/T
50	140	60	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMVA50/S20/B/T
50	140	60	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMVA50/S20/K/T
50	140	60	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMVA50/S20/D/T
50	140	60	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMVA50/S20/P/T
110	140	80	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKVA110/S15/B/T
110	140	80	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMVA110/S15/D/T
110	140	80	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMVA110/S20/B/T
110	140	80	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMVA110/S20/K/T
110	140	80	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMVA110/S20/D/T
110	140	80	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMVA110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Vertical Two-Part Adjustable Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix /T



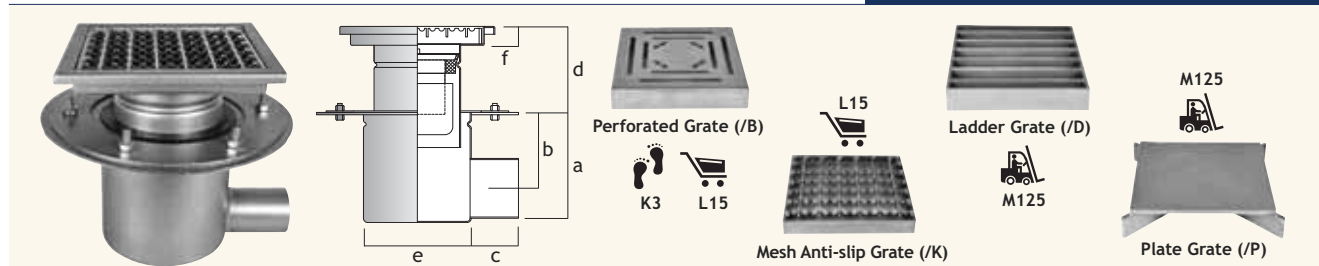
Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow rate (l/s)*	Product Code (Trapped)
50	140	60	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA50/C16/K/T
50	140	60	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMVA50/C16/P/T
50	140	60	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMVA50/C16/D/T
50	140	60	50-130	137	25	160 Dia	Tight Cover	M125	4.5	—	SMVA50/C16/S/T
50	140	60	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA50/C20/K/T
50	140	60	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMVA50/C20/P/T
50	140	60	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMVA50/C20/D/T
50	140	60	50-130	137	25	200 Dia	Tight Cover	M125	4.5	—	SMVA50/C20/S/T
110	140	90	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA110/C16/K/T
110	140	90	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMVA110/C16/P/T
110	140	90	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMVA110/C16/D/T
110	140	90	50-130	137	25	160 Dia	Tight Cover	M125	4.5	—	SMVA110/C16/S/T
110	140	90	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMVA110/C20/K/T
110	140	90	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMVA110/C20/P/T
110	140	90	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMVA110/C20/D/T
110	140	90	50-130	137	25	200 Dia	Tight Cover	M125	4.5	—	SMVA110/C20/S/T

* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - Compact Two-Part Range Product Tables

Horizontal Two-Part Adjustable Outlets with Square Grates

To Specify Untrapped Drains: Remove the suffix /T

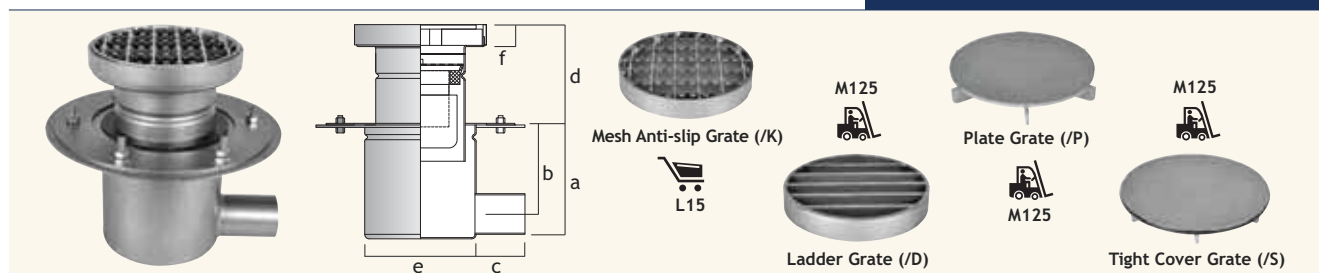


Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	140	103	60	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKHA50/S15/B/T
50	140	103	60	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMHA50/S15/D/T
50	140	103	60	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMHA50/S20/B/T
50	140	103	60	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMHA50/S20/K/T
50	140	103	60	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMHA50/S20/D/T
50	140	103	60	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMHA50/S20/P/T
110	140	80	90	50-130	137	2	150 x 150	Perforated	K3	4.0	0.5	SMKHA110/S15/B/T
110	140	80	90	50-130	137	10	150 x 150	Ladder	L15	4.0	0.5	SMHA110/S15/D/T
110	140	80	90	50-130	137	20	200 x 200	Perforated	L15	4.0	0.5	SMHA110/S20/B/T
110	140	80	90	50-130	137	20	200 x 200	Mesh Anti-slip	L15	4.0	0.5	SMHA110/S20/K/T
110	140	80	90	50-130	137	20	200 x 200	Ladder	M125	4.5	0.5	SMHA110/S20/D/T
110	140	80	90	50-130	137	20	200 x 200	Plate	M125	4.5	0.5	SMHA110/S20/P/T

* The flow rate is based on maximum capacity of the trap

Horizontal Two-Part Adjustable Outlets with Circular Grates

To Specify Untrapped Drains: Remove the suffix /T



Outlet Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Grate Size (mm)	Grate Type	Load Class	Weight (kg)	Flow Rate (l/s)*	Product Code (Trapped)
50	140	103	60	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA50/C16/K/T
50	140	103	60	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMHA50/C16/P/T
50	140	103	60	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMHA50/C16/D/T
50	140	103	60	50-130	137	25	160 Dia	Tight Cover	M125	4.5	—	SMHA50/C16/S/T
50	140	103	60	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA50/C20/K/T
50	140	103	60	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMHA50/C20/P/T
50	140	103	60	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMHA50/C20/D/T
50	140	103	60	50-130	137	25	200 Dia	Tight Cover	M125	4.5	—	SMHA50/C20/S/T
110	140	80	90	50-130	137	25	160 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA110/C16/K/T
110	140	80	90	50-130	137	25	160 Dia	Plate	M125	4.0	0.5	SMHA110/C16/P/T
110	140	80	90	50-130	137	25	160 Dia	Ladder	M125	4.5	0.5	SMHA110/C16/D/T
110	140	80	90	50-130	137	25	160 Dia	Tight Cover	M125	4.5	—	SMHA110/C16/S/T
110	140	80	90	50-130	137	25	200 Dia	Mesh Anti-slip	L15	4.0	0.5	SMHA110/C20/K/T
110	140	80	90	50-130	137	25	200 Dia	Plate	M125	4.0	0.5	SMHA110/C20/P/T
110	140	80	90	50-130	137	25	200 Dia	Ladder	M125	4.5	0.5	SMHA110/C20/D/T
110	140	80	90	50-130	137	25	200 Dia	Tight Cover	M125	4.5	—	SMHA110/C20/S/T

* The flow rate is based on maximum capacity of the trap

Stainless Steel Floor Outlets - NBS Specification & General Specification

A typical NBS Specification for Harmer Stainless Steel Floor Outlets. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBSPlus

NBS Specification

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions.

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN
- Complete the design of the above ground foul drainage system
 - Standard: To BS EN 12056-1:2000 and BS EN 12056-2:2000, and in accordance with BS EN 12056-2:2000, National Annexes NA-NG
 - Proposals: Submit drawings, technical information, calculations and manufacturer's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ± 38 mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

- 310 HARMER FLOOR DRAINAGE
- Floor Finish: Tiles/Vinyl
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Stainless Steel Floor Drain
- Outlet Type: One-Part/Two-Part Adjustable
Horizontal/Vertical
50/110/160/200mm Dia
- Grate Type: 160/200mm Dia
150 x 150/200 x 200mm
Perforated/Ladder/Mesh Anti-Slip/Plate
- Grate Material: Austenitic Grade 304 Stainless Steel. pickle passivated
- Product Code: Refer to tables
- Accessories: Foul Air Trap/Waste Basket/Tundish



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

General Specification Notes

PRODUCTS

315 HARMER FLOOR DRAINAGE

Floor Finish: Tile/Vinyl

Manufacturer:
Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton,
St Helens, Merseyside WA9 4JG

Tel: 01744 648400, Fax: 01744 648401.

Email: harmer@alumasc-exteriors.co.uk

Reference: Harmer Stainless Steel Floor Drain

Material: Austenitic Grade 304 Stainless Steel, pickle passivated

Outlet Type: Two-Part Adjustable

Vertical Outlet 110mm Dia

Grate Type: 200 x 200mm Square Ladder

Grate Material: Austenitic Grade 304 Stainless Steel, pickled passivated

Product Code: SMVA110/S20/D/T

Accessories: Foul Air Trap/Waste Basket/Tundish

Stainless Steel Floor Outlets - Connections

All Harmer stainless steel floor outlets come complete, with the exception of couplings since this is determined by the connecting drain pipe.

Couplings

For appropriate couplings selection see pipe connections table below



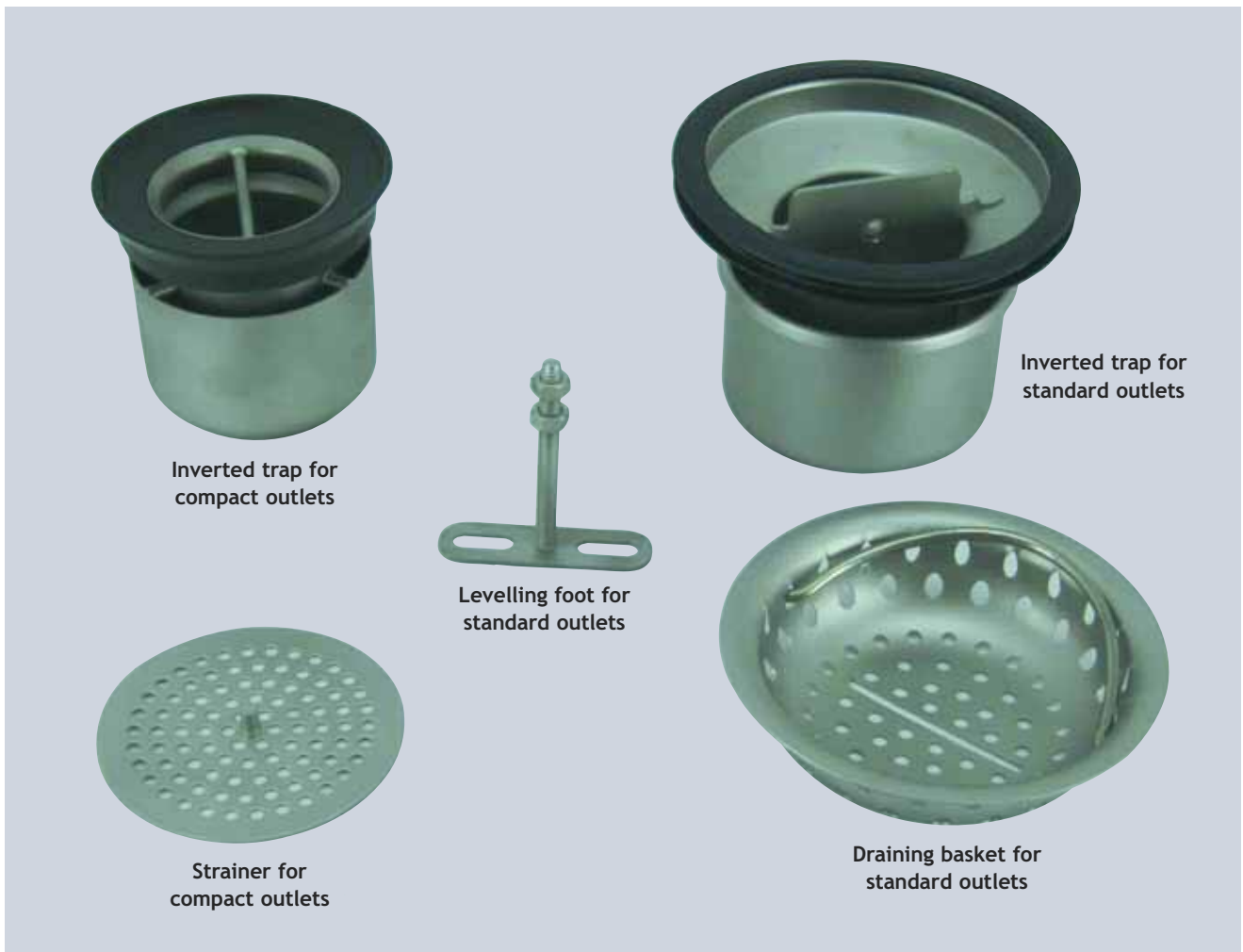
Coupling Type	Pipe Dia (mm)	Product Code
SML Duo	50	3140/50
SML Duo	100	3140/100
SML Duo	150	3140/150
SML Duo	200	3140/200
SML Adaptor	100	3102/100
SML Adaptor	150	3102/150

Pipe Connections

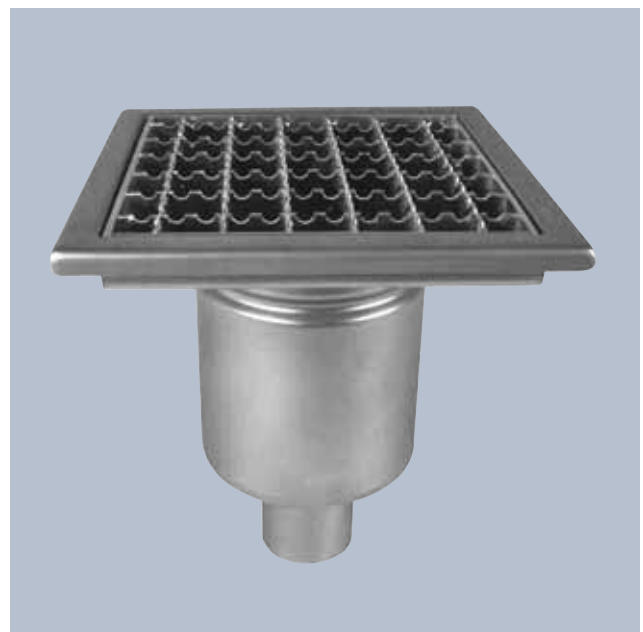
Outlet Size (mm)	Pipe Material and Connection Type			
	Cast Iron EN877	Stainless Steel	HDPE	PVC
50	SML Duo coupling	Post formed socket OR flexible coupling	Duo coupling	Post formed socket OR flexible coupling
110	SML Duo coupling	“O” ring socket OR SML Duo coupling	SML Duo coupling	“O” ring socket OR SML Duo coupling



Stainless Steel Floor Outlets - Accessories



All accessories available on request



Stainless Steel Floor Outlets - Materials Care, Maintenance, Installation & Specifying/Ordering

Materials

Harmer Stainless gullies are manufactured in 1.5 - 2mm thick sheets to material Grade 304. This is suitable for general use in and around buildings including most coastal locations. It is predominately considered for areas with food production, processing or preparation where corrosion resistance or minimum maintenance is required. For more aggressive atmospheres such as swimming pool applications, Grade 316 is available on request. Both grades are fully pickle passivated and all components are welded in argon shield to ensure high quality joints.

All drain bodies are cylindrical shape to limit waste accumulation, enables easy waste removal and is more hygienic.

Grating and baskets are available in various shapes, sizes and finishing versions. The grates are selected according to the loads and location of installation. We offer the following grate types:

- Mesh Anti-Slip
- Ladder
- Plate
- Perforated

Grates and bezels are manufactured to material Grade 304 as standard with satin finish which is suitable for most applications. Material Grade 316 is available on request.

Maintenance

The high quality grates and bodies are maintenance free but should be inspected periodically and cleaned of any trapped matter.

If drains are not used for a period of time the trap water may evaporate or become fetid. To remedy this, there is no need to remove the Grate, simply reprime the Trap by pouring clean water through the drain. NEVER USE BLEACH OR CAUSTIC CLEANING AGENTS.

To clean Stainless Steel, use only soapy water and wipe dry. Under no circumstances use metal scouring pads, metal scrapers or wire wool since this will contaminate surfaces leaving rust spots.

Frequency of cleaning depends upon application. Generally, clean the metal when it is dirty in order to restore its original appearance. This may be once a day for a drain in hygienic or aggressive situations.

Inverted or Bell Trap

Should it be necessary to access the drain for maintenance or rodding purposes, the trap must first be removed.

Equipment required:

- Latex rubber gloves
- Bucket of clean water
- Sponge
- Household disinfectant

Procedure:

- Put on protective latex gloves
- Remove grate
- Dry all surfaces
- Remove basket
- Remove trap

Refitting trap:

- Apply silicone lubricant to seal rim of trap
- Push fit the trap into the drain body
- Replace basket
- Refit grate
- Reprime the trap with clean water
- Dispose of dirty water

Installation of Single-Part Floor Drains

1. Make sure the drain pipe is at the correct height.
2. During concrete pouring, the upper part should be 1-1,5 [mm] below the floor level.
3. Next floor layers can be made when the upper part is stabilized.
4. During concrete pouring make sure, that the upper part clearance is not narrowed.
5. Make sure concrete gets to all places, even difficult of access ones.

Installation of Two-Part Floor Drains

1. First, put the lower part of the floor drain in the structural part of the floor. The lower part should be placed in the hollow of 15-20 [mm] to ensure adequate draining of the condensate from the damp-proof course.
2. Lay the damp-proof course and secure it with the clamping ring of the lower part.
3. Next, position the upper part on the required level. The upper part edge should be placed about 1-1.5mm below the floor level.
4. Next floor layers can be made when the upper part is stabilized.
5. During concrete pouring make sure that the upper part clearance is not narrowed.
6. Make sure concrete gets to all places, even difficult of access ones.



Specifying/Ordering

Example 1: Floor Drains in Kitchens

Item: Harmer Stainless.

Floor Construction: 150mm ceramic tiles over insulated solid ground floor slab.

Manufacturer: Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body type/material: Standard fixed height trapped vertical sump with mesh anti-slip grating manufactured from Stainless Steel ref: SV110/S20/K/T.

Example 2: Floor Drains in Changing Rooms

Item: Harmer Stainless.

Floor Construction: 150mm ceramic tiles over suspended concrete floor.

Manufacturer: Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body/grate type & material: Compact two part adjustable height trapped horizontal sump with perforated grating manufactured from Stainless Steel ref: SMKHA50/S15/B/T.

Chemical Resistance Data for Stainless Steel

The ability of stainless steel to resist corrosion depends on a number of factors including the type of steel used, the chemicals encountered and the ambient temperature.

The table indicates the extent and type of corrosion to be expected in any one year.

Chemical (with % concentration)	Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
acetic acid (1%)	boiling point	<0.1	<0.1
acetic acid (10%)	boiling point	0.1 - 1.0	<0.1
acetic acid (20%)	boiling point	>1.0	<0.1
acetic acid (20%)	20	<0.1	<0.1
acetic acid (80%)	20	>1.0	<0.1
acetic acid (100%)	boiling point	>1.0	<0.1
acetone	20	<0.1	<0.1
alcohol (methanol or ethanol)	20	<0.1	<0.1
alcohol propyl	20	<0.1	<0.1
aluminium chloride	20	0.1 - 1.0	0.1 - 1.0
aluminium sulphate	20	<0.1	<0.1
ammonia	boiling point	<0.1	<0.1
ammonia gas (dry)	20	<0.1	<0.1
ammonium hydroxide	20	<0.1	<0.1
ammonium nitrate	20	<0.1	<0.1
ammonium phosphate	20	0.1 - 1.0	>1.0
ammonium sulphate	20	0.1 - 1.0	<0.1
ammonium sulphide	20	<0.1	<0.1
ammonium chloride	20	0.1 - 1.0	0.1 - 1.0
ammonium chloride (20%)	boiling point	0.1 - 1.0 SP	<0.1 SP
ammonium chloride (43%)	boiling point	<0.1 SP	<0.1 SP
amyl chloride	20	<0.1	<0.1
aniline	20	<0.1	<0.1
barium chloride	20	<0.1	<0.1
barium hydroxide (10%)	20	x	x
barium sulphate	20	<0.1	<0.1
barium sulphide	20	x	x
beer	20	<0.1	<0.1
benzene	20	<0.1	<0.1
benzoic acid	20	<0.1	<0.1
bichloride of potassium	20	<0.1	<0.1
bleach (with 12.5% chlorine)	20	x	x
boric acid	20	<0.1	<0.1
bromic acid	20	0.1 - 1.0	0.1 - 1.0
bromine water	20	>1.0	>1.0
butane	20	<0.1	<0.1
calcium carbonate	20	<0.1	<0.1
calcium chloride	20	>1.0	0.1 - 1.0
calcium chloride (20%)	20	<0.1 P	<0.1 P
calcium chloride (20%)	boiling point	0.1 - 1.0 SP	<0.1 P
calcium hydroxide	20	0.1 - 1.0	<0.1
calcium hypochlorite	20	>1.0	0.1 - 1.0
calcium sulphate	20	<0.1	<0.1
carbon dioxide	20	<0.1	<0.1
carbon disulphide	20	<0.1	<0.1
carbon monoxide	20	<0.1	<0.1
carbon tetrachloride	20	<0.1	<0.1
carbonic acid	20	<0.1	<0.1
caustic potash	20	<0.1	<0.1
caustic soda (20%)	20	<0.1	<0.1

Chemical (with % concentration)	Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
caustic soda (50%)	20	<0.1	<0.1
caustic soda (80%)	20	>1.0	<0.1
chlorinated water	20	>1.0	0.1 - 1.0 P
chlorinated water (1g/l)	20	0.1 - 1.0 P	0.1 - 1.0 P
chlorinated water (1mg/l)	20	<0.1	<0.1
chlorine (dry)	70	<0.1	<0.1
chlorine (wet)	20	>1.0	>0.1
chloroacetic acid	20	0.1 - 1.0	0.1 - 1.0
chlorobenzene	20	<0.1	<0.1
chloroform	20	0.1 - 1.0	0.1 - 1.0
chromic acid (50%)	20	>1.0	>1.0
chromic acid (10%)	20	<0.1	<0.1
citric acid (25%)	boiling point	>1.0	<0.1
citric acid (50%)	20	<0.1	<0.1
copper nitrate	20	<0.1	<0.1
copper sulphate	20	<0.1	<0.1
cottonseed oil	20	<0.1	<0.1
cresol	20	<0.1	<0.1
cupric chloride	20	>1.0	>1.0
cupric cyanide	20	<0.1	<0.1
cyclohexane	20	<0.1	<0.1
cyclohexanone	20	<0.1	<0.1
diethylamine	20	<0.1	<0.1
dimethylaniline	20	<0.1	<0.1
disodium phosphate	20	x	x
distilled water	20	<0.1	<0.1
electroplating solutions	20	<0.1	<0.1
ethyl acetate	20	<0.1	<0.1
ethyl chloride (chloroethane)	20	<0.1	<0.1
ethylene glycol	20	<0.1	<0.1
fatty acids	20	<0.1	<0.1
ferrous sulphate	20	<0.1	<0.1
fluorine gas (wet)	20	>1.0	>1.0
formaldehyde (37%)	20	<0.1	<0.1
formic acid (5-10%)	20	<0.1	<0.1
formic acid (10%)	80	>1.0	<0.1
formic acid (50%)	24-40	<0.1 - 1.0	<0.1
formic acid (50%)	boiling point	>1.0	0.1 - 1.0
formic acid (50%)	20	>1.0	<0.1
freon 12	20	<0.1	<0.1
fruit juices and pulp	20	0.1 - 1.0	<0.1
furfural	20	<0.1	<0.1
glucose	20	<0.1	<0.1
glycerine	20	<0.1	<0.1
hydrobromic acid (20%)	20	>1.0	>1.0
hydrochloric acid (0.5%)	20	0.1 - 1.0 P	<0.1 P
hydrochloric acid (0.5%)	boiling point	>1.0	>1.0
hydrochloric acid (1%)	20	0.1 - 1.0 P	<0.1 P
hydrochloric acid (40%)	20	>1.0	>1.0
hydrogen peroxide (90%)	20	<0.1	<0.1

Chemical Resistance Data for Stainless Steel

Table Key

Annual Corrosion (mm) Type of Resistance
 <0.1 — Complete
 0.1 - 1.0 — Partial
 >1.0 — Non-resistant
 x — Lack of data

Specific Corrosion Risks

P = Pitting corrosion S = Stress corrosion

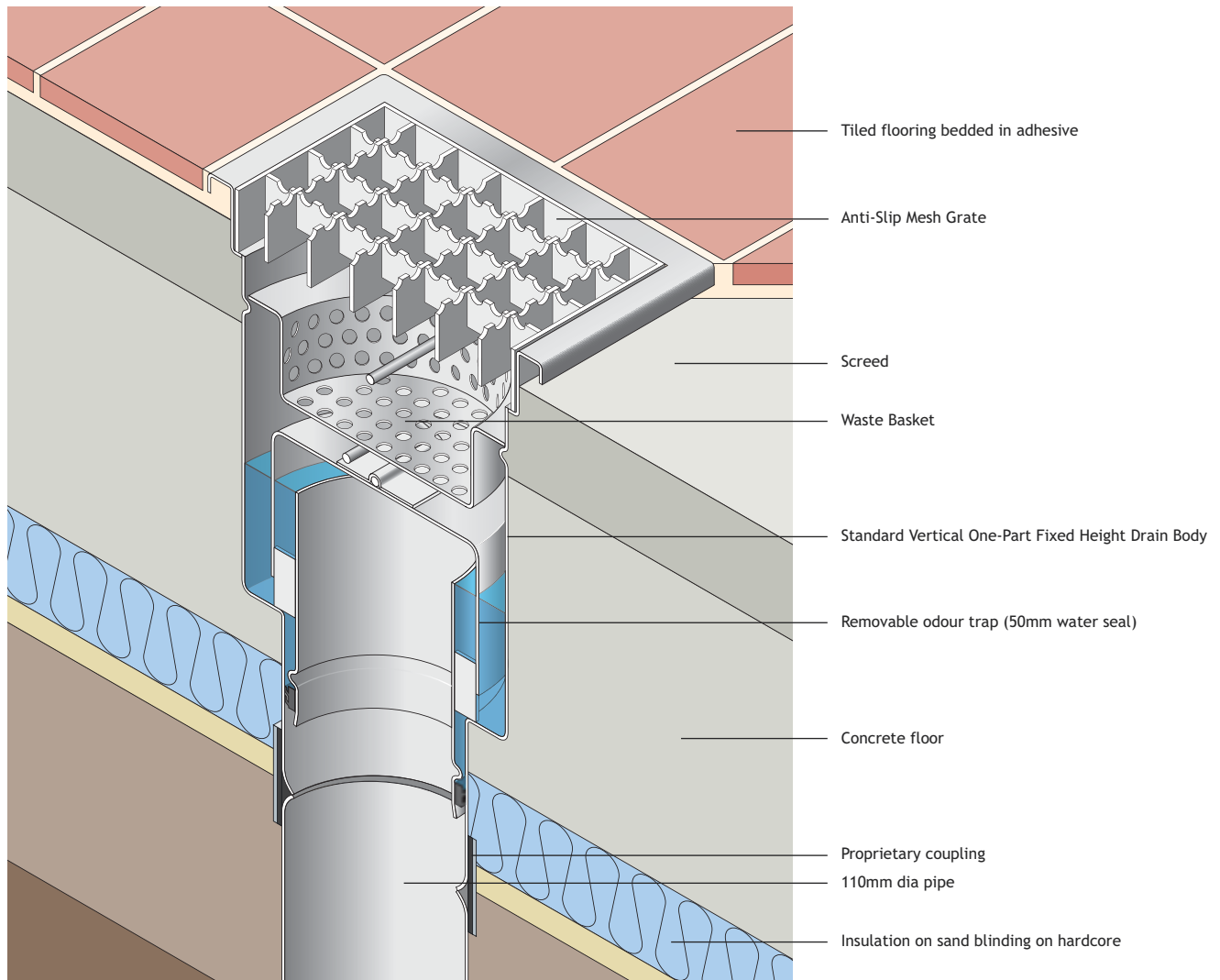
Chemical (with % concentration)	Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
hydroquinone	20	<0.1	<0.1
hypochlorous acid (chlorine water)	20	>1.0	>1.0
iodine	20	>1.0	>1.0
lactic acid (10%)	10-100	0.1 - 1.0	<0.1
lactic acid (25%)	20	<0.1	<0.1
lactic acid (50%)	20-80	0.1 - 1.0	<0.1
lactic acid (50%)	boiling point	>1.0	0.1 - 1.0
linseed oil	20	<0.1	<0.1
magnesium chloride	20	>1.0	>1.0
magnesium sulphate	20	<0.1	<0.1
maleic acid	20	<0.1	<0.1
methyl chloride	20	<0.1	<0.1
methyl ethyl ketone	20	<0.1	<0.1
milk	20	<0.1	<0.1
mineral oils	20	x	x
nickel chloride	20	>1.0	>1.0
nickel sulphate	20	<0.1	<0.1
nitric acid (30%)	boiling point	<0.1	<0.1
nitric acid (50%)	boiling point	0.1 - 1.0	0.1 - 1.0
nitric acid (65%)	80	<0.1	<0.1
nitric acid (65%)	boiling point	0.1 - 1.0	0.1 - 1.0
oil	20	<0.1	<0.1
oils and fats	20	<0.1	<0.1
oleic acid	20	<0.1	<0.1
oleum	20	<0.1	<0.1
oxalic acid	20	<0.1	<0.1
palmitic acid (10%)	20	<0.1	<0.1
perchloric acid (10%)	20	>1.0	>1.0
perchloric acid (70%)	20	>1.0	>1.0
petrol (refined)	20	<0.1	<0.1
petroleum oils	20	<0.1	<0.1
phenol (5%)	20	<0.1	<0.1
phosphoric acid (20%)	boiling point	<0.1	<0.1
phosphoric acid (40%)	boiling point	<0.1	0.1 - 1.0
phosphoric acid (85%)	95	>1.0	<0.1
phosphorous trichloride	20	<0.1	<0.1
photographic solutions	20	>1.0	>1.0
picric acid	20	<0.1	<0.1
potassium carbonate	20	<0.1	<0.1
potassium chloride	20	<0.1	<0.1
potassium cyanide	20	<0.1	<0.1
potassium hydroxide	20	<0.1	<0.1
potassium permanganate	20	<0.1	<0.1
propane gas	20	<0.1	<0.1
prussic acid	20	<0.1	<0.1
sea water (natural)	20	0.1 - 1.0 P	<0.1 P
silver nitrate	20	<0.1	<0.1
silver sulphate	20	<0.1	<0.1
sodium bicarbonate	20	<0.1	<0.1
sodium carbonate	20	<0.1	<0.1

Chemical (with % concentration)	Temp (°C)	Steel Type 1.4301304	Steel Type 1.4404316L
sodium chloride (3%)	20-60	0.1 - 1.0 P	<0.1 P
sodium cyanide	20	<0.1	<0.1
sodium disulphide	20	<0.1	<0.1
sodium ferrocyanide	20	<0.1	<0.1
sodium hydroxide	20	0.1 - 1.0	<0.1
sodium hypochlorite	20	0.1 - 1.0	<0.1
sodium principal (20%)	50	<0.1	<0.1
sodium principal (20%)	100	<0.1	<0.1
sodium principal (40%)	100	0.1 - 1.0	<0.1
sodium sulphate	20	<0.1	<0.1
sodium sulphide	20	0.1 - 1.0	>1.0
sodium sulphite	20	0.1 - 1.0	<0.1
sodium thiosulphate	20	<0.1	<0.1
stannic (tin) chloride	20	>1.0	<0.1
stearic acid	20	<0.1	<0.1
sugar beet syrup	20	<0.1	<0.1
sugarcane sap	20	x	x
sulphur	20	0.1 - 1.0	<0.1
sulphur dioxide (dry)	20	>1.0	<0.1
sulphur dioxide (wet)	20	x	<0.1
sulphuric acid (1%)	100	>1.0	0.1 - 1.0
sulphuric acid (5%)	20	0.1 - 1.0	<0.1
sulphuric acid (5%)	boiling point	>1.0	>1.0
sulphuric acid (10%)	20	>1.0	<0.1
sulphuric acid (10%)	boiling point	>1.0	>1.0
sulphuric acid (50%)	20	>1.0	>1.0
sulphuric acid (70%)	20	>1.0	>1.0
sulphuric acid (20-90%)	20-100	>1.0	>1.0
sulphuric acid (93%)	20	>1.0	>1.0
sulphurous acid (10%)	20	0.1 - 1.0	<0.1
tan liquor	20	<0.1	<0.1
tannin (tannic acid)	20	<0.1	<0.1
tartanic acid	20	>1.0	0.1 - 1.0
toluene	20	<0.1	<0.1
trichlorethylene	20	<0.1	<0.1
triethylamine	20	<0.1	<0.1
trisodium phosphate	20	<0.1	<0.1
turpentine	20	<0.1	<0.1
urea (carbamide)	20	<0.1	<0.1
urine	20	<0.1	<0.1
vinegar	20	<0.1	<0.1
water ('acid mine')	20	<0.1	<0.1
water (fresh)	20	<0.1	<0.1
water (salt)	20	<0.1	<0.1
whisky	20	<0.1	<0.1
wine	20	<0.1	<0.1
xylene	20	<0.1	<0.1
zinc chloride	20	0.1 - 1.0	0.1 - 1.0
zinc sulphate	20	<0.1	<0.1

Note: Although Alumasc has carefully prepared this data, it is nevertheless recommended that laboratory tests are undertaken for specific site conditions.

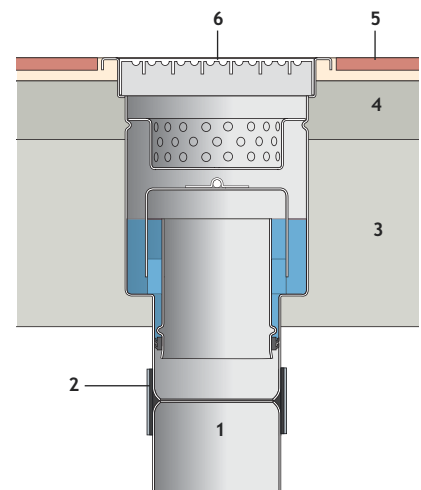
Stainless Steel Floor Outlets - Application Details

Standard Vertical One-Part Fixed Height Drain Body with Square Anti-Slip Mesh Grate



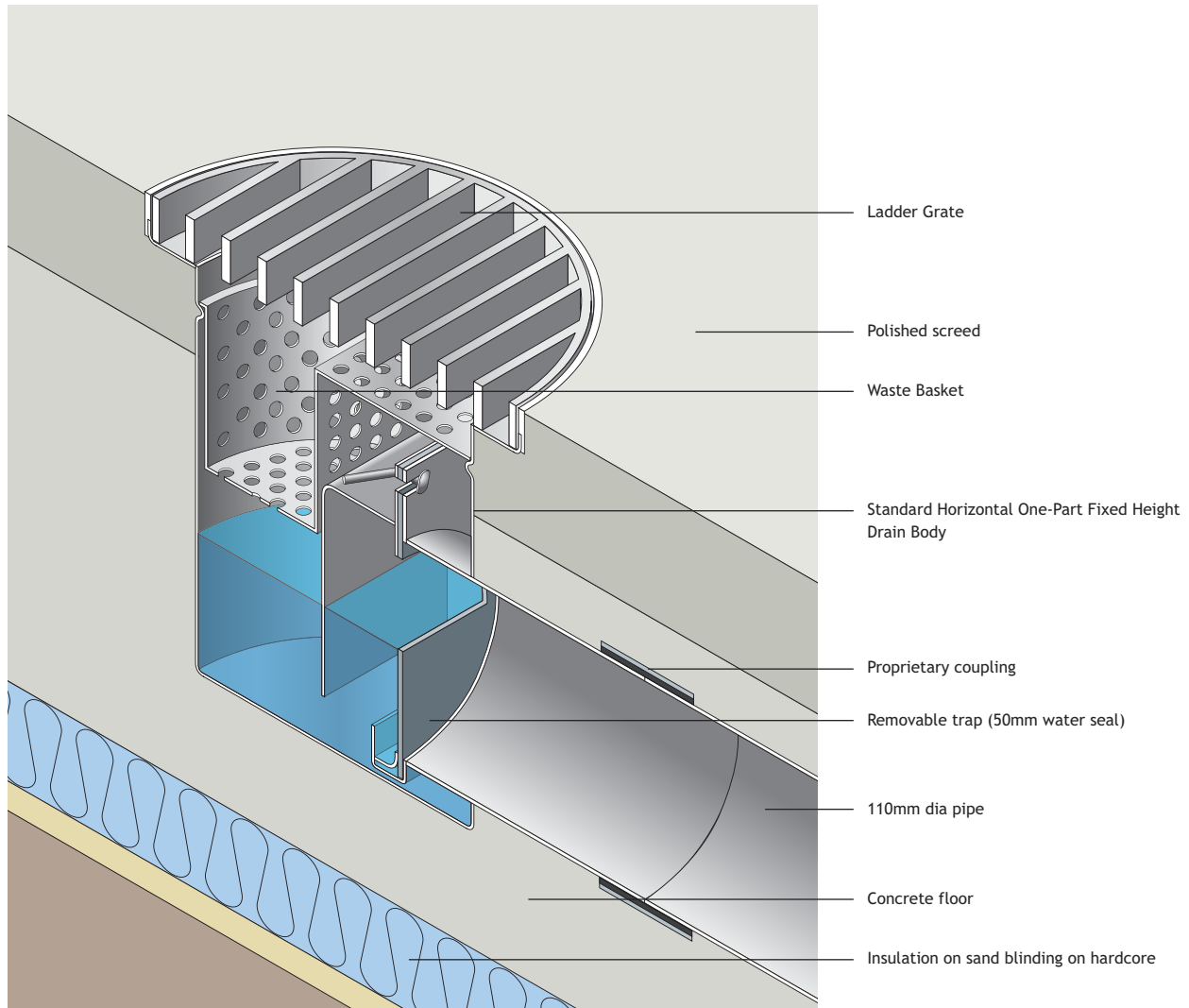
Sitework

1. Position drain pipe to align with drain body. Ensure drain body is set to required FFL height.
2. Join with proprietary coupling.
3. Once hardcore, sand blinding and insulation are installed, pour concrete mix.
4. Lay screed to falls.
5. Apply adhesive and fit tiles.
6. Fit Anti-Slip Mesh Grate



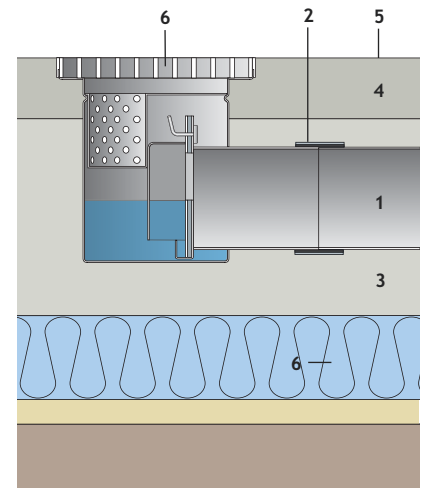
Stainless Steel Floor Outlets - Application Details

Standard Horizontal One-Part Fixed Height Drain Body with Circular Ladder Grate



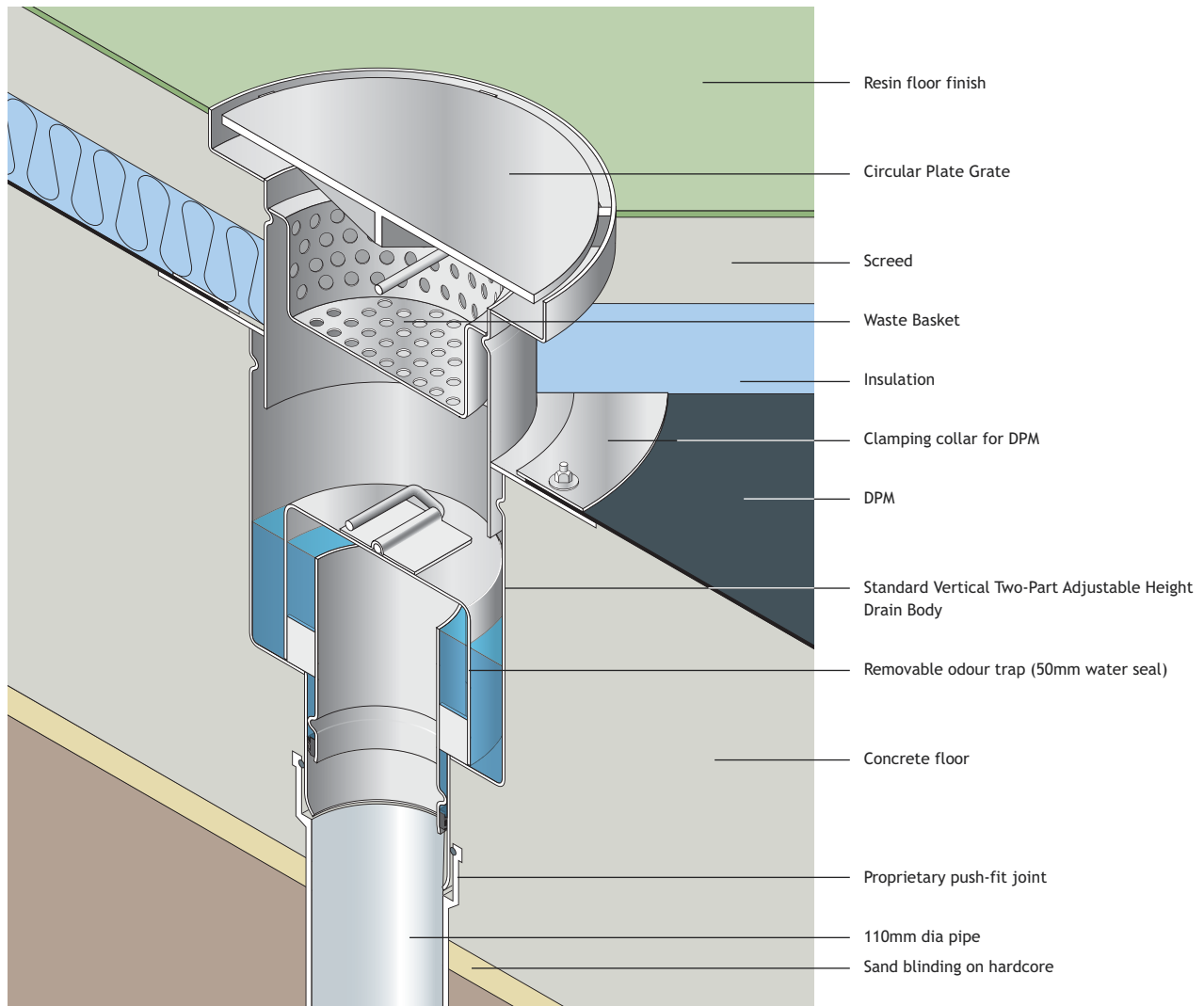
Sitework

1. Position drain pipe to align with drain body. Ensure drain body is set to required FFL height.
2. Join with proprietary coupling.
3. Once hardcore, sand blinding and insulation are installed, pour concrete mix.
4. Lay screed to falls.
5. Apply polished screed finish.
6. Fit Ladder Grate



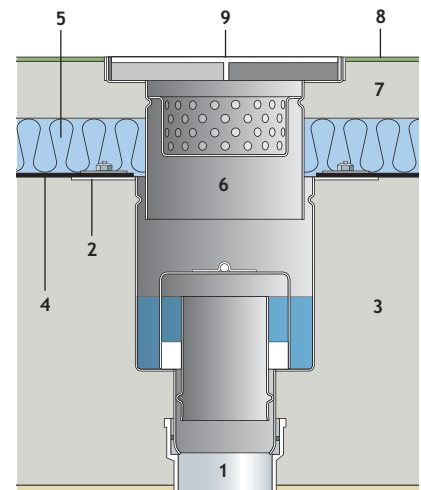
Stainless Steel Floor Outlets - Application Details

Standard Vertical Two-Part Adjustable Height Drain Body with Circular Plate Grate



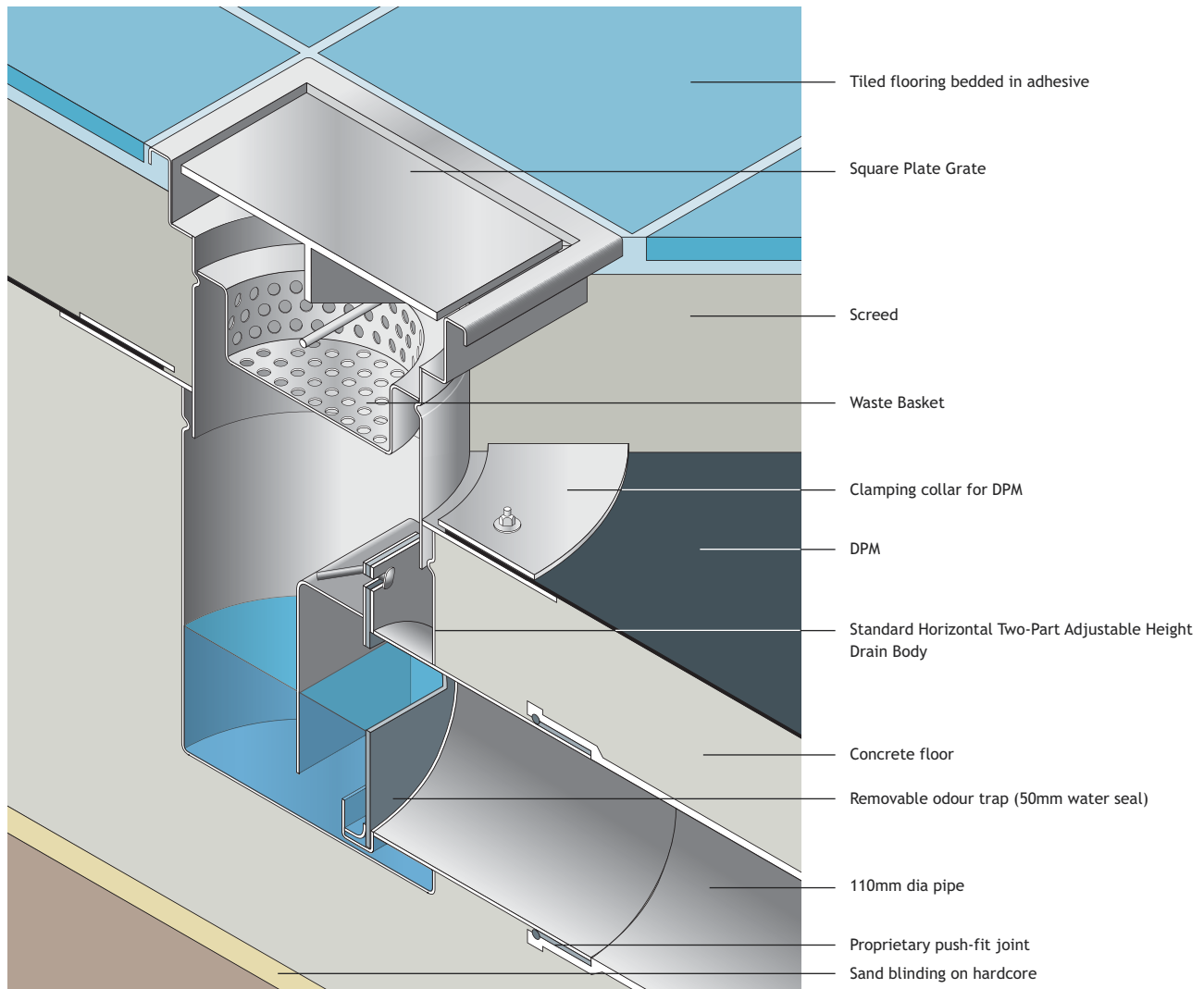
Sitework

1. Connect socketed pipe to drain body.
2. Set pipework so that the clamping flange of the lower section drain body is level with the top of finished slab.
3. Lay concrete slab.
4. Lay DPM. Cut a hole in the membrane and clamp firmly to the floor drain
5. Lay insulation.
6. Push fit the sliding upper section drain body into the clamping flange ensuring that the height is set to the required FFL.
7. Lay screed to falls.
8. Apply resin floor finish.
9. Fit Circular Plate Grate.



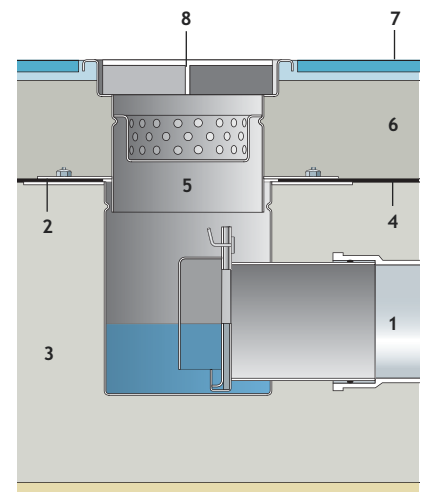
Stainless Steel Floor Outlets - Application Details

Standard Horizontal Two-Part Adjustable Height Drain Body with Square Plate Grate



Sitework

1. Connect socketed pipe to drain body.
2. Set pipework so that the clamping flange of the lower section drain body is level with the top of finished slab.
3. Lay concrete slab.
4. Lay DPM. Cut a hole in the membrane and clamp firmly to the floor drain.
5. Push fit the sliding upper section drain body into the clamping flange ensuring that the height is set to the required FFL.
6. Lay screed to falls.
7. Apply adhesive and lay floor tiles.
8. Fit Square Plate Grate.



Harmer Drainage Systems Stainless Steel Floor Channels

The new high performance stainless steel linear floor drainage range, featuring standard and slot channel options with a choice of grate finishes to suit all applications.



Stainless Steel Floor Channels - Benefits

Harmer Stainless Steel floor channels offer a range of bespoke linear floor drains, either as a standard or slot channel design with a choice of gratings to meet all applications and load requirements. Both systems are custom manufactured in a wide range of sizes and shapes to suit any project design.

Compliances

- Grate options available for load class ratings to BS EN 1433: 2002 load class A15 (15kN) to C250 (250kN)
- The stainless steel is fully pickle passivated to ensure high quality corrosion-free joints

Flow Performance

- Standard Channels are used to drain high volumes of water and waste
- Slot Channels are used to drain water and limited amounts of waste

Robust and Secure

- Available in Grade 304 or Grade 316 stainless steel
- Using 1.5mm - 2mm steel sheets. All components are welded in argon shield to ensure high quality joints
- Excellent corrosion resistance and durability

A Choice of Channels and Grates

- Channel sections up to 4m; longer channels will be connected with flanges suitable for all types of floor including vinyl floor finishes
- 5 grate options for the Standard Channel ranging from A15 to C250 load class
- The Standard Channel is available with either a v shaped or flat bottom profile
- The Slot Channel is available in four styles: Standard Mini Channel, Slot Channel, Mini Slot Channel and Maxi Slot Channel

Low Maintenance

- Easy to clean and maintain with easy access channel and drain body

Easy and Quick to Install

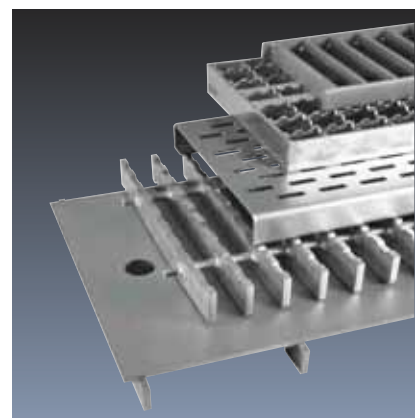
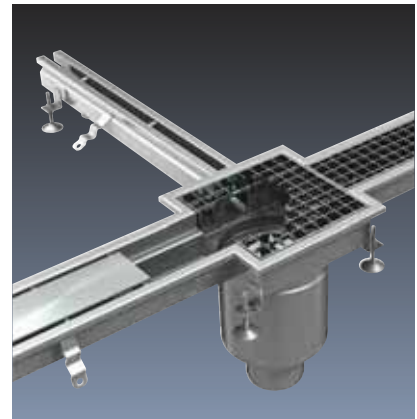
- The channel incorporates an integral fall which can be designed to the project requirements
- Integral feet and supports to help secure positioning

Value for Money

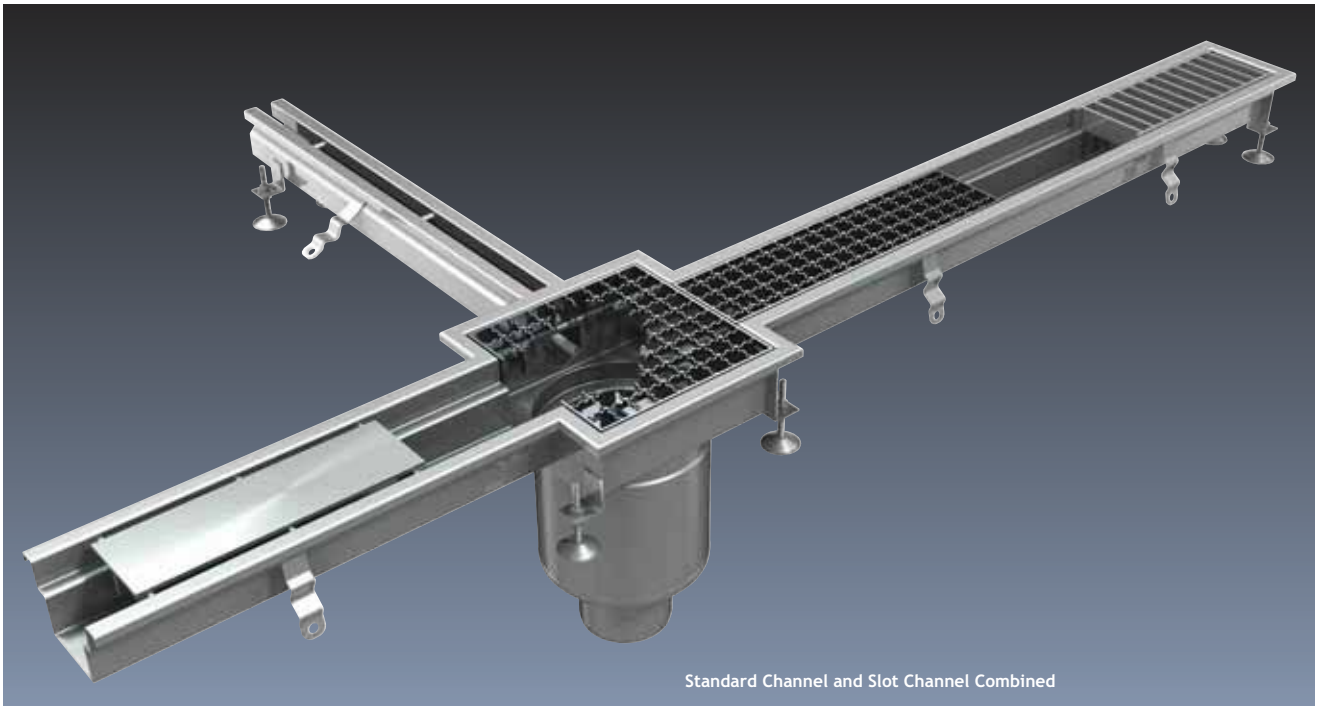
- Stainless steel is very durable and chemically resistant, ideal for industrial applications, offering excellent life-cycle costings

Sustainable

- Stainless steel is 100% recyclable
- Around 60% recycled material is used in the production of stainless steel



Stainless Steel Floor Channels - Product Range Summary



Standard Floor Channels

Standard channels are designed for applications where waste water is drained directly into the sewer system, making them ideal for applications such as food processing plants, breweries, and pharmaceutical/chemical plants.

The channels are made from 2mm Grade 304 or Grade 316 Sheets and have an in-built incline.

The channels are also fitted with levelling bolts and anchoring ties to allow correct height adjustment and placement into the floor substrate. The channels are also easily configurable.

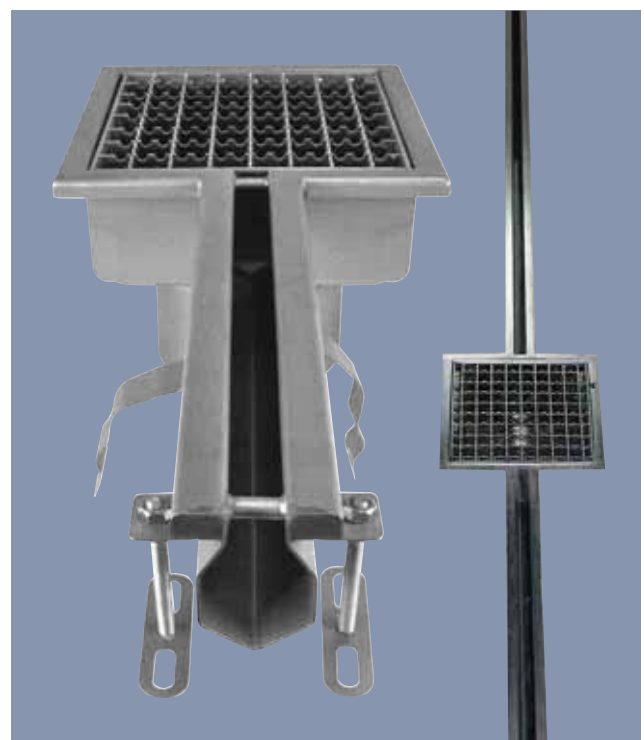
They are available with either a v-shaped or flat bottom base and gratings to suit loading class A15 to C250. See page 82.



Slot Floor Channels

The slot channel is an economic range of linear floor channel drainage where a high flow of waste water isn't required. Ideal for applications such as swimming pools, dairies and areas where there is condensation run-off from machinery.

The slot channel is available in four profiles to suit any project requirement, all with v-shaped bases. See page 83.



Stainless Steel Floor Channels - Product Range Summary

Standard Floor Channel Gratings

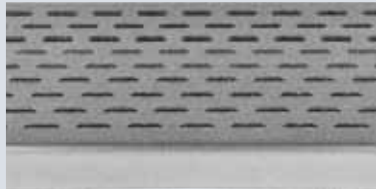
The standard channels and gratings are easily configurable and can be connected with the floor drain bodies and the slot channel system.

A range of gratings is available to suit load classes to BS EN 1433: 2002- Drainage Channels for Vehicular and Pedestrian Areas. See table below.

Grate Options and Use

The most typical grating cover for the standard channel is the anti-slip mesh grating with 23 x 23mm mesh size and the load bearing angle 25 x 2mm or 30 x 2mm. There are four other grating types available in all sizes to suite the channel specification.

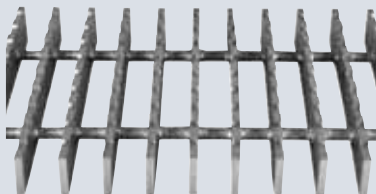
The grating type is chosen according to the channel location, load and function required. In areas where forklift truck traffic is intense the plate grate is recommended, whereas the anti-slip mesh is ideal if the required amount of drained water is high.



Perforated Sheet



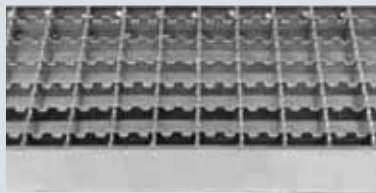
Load Class A15 (15 kN)
Pedestrian and cyclists areas.



Ladder Hygienic



Load Class A15 (15 kN)
Pedestrian and cyclists areas.



Anti-Slip Mesh



Load Class A15 (15 kN)
Pedestrian and cyclists areas.



Ladder



Load Class B125 (125 kN)
Footways, lateral drainage systems for car parks.



Plate

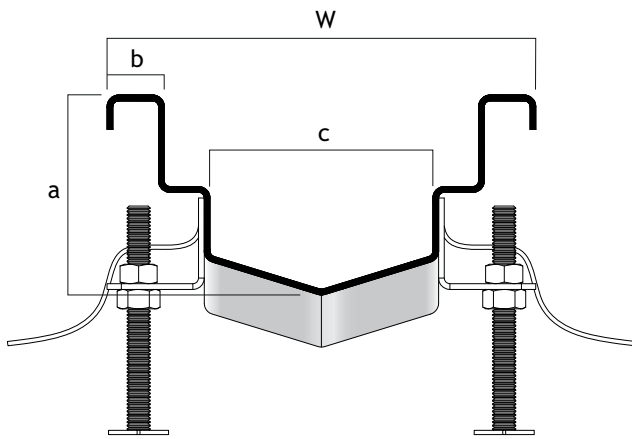


Load Class C250 (250 kN)
Light commercial vehicles.



Stainless Steel Floor Channels - Standard Channel Product Tables

Harmer Stainless Steel standard floor channels are used to drain waste water from the floor and discharge it directly in to the sewage system. The high quality channels are made from 2mm 304 or 316 stainless steel and are bespoke manufactured in a wide range of shapes and sizes to suit any project requirement. Available with a choice of grating styles to suit load class requirements to BS EN 1433: 2002.

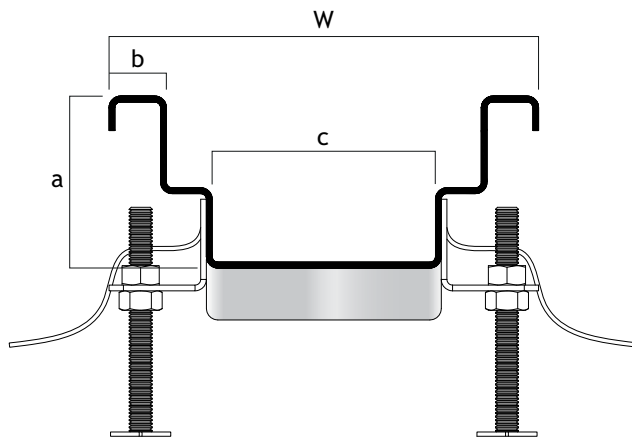


V-Shaped Channel

a (mm)	b (mm)	c (mm)	W (mm)
*	20	**	**

* Initial height, channel's bottom slope depends on the projects needs and installation requirements.

** Channel width and hydraulic width is dependant on the project requirement.

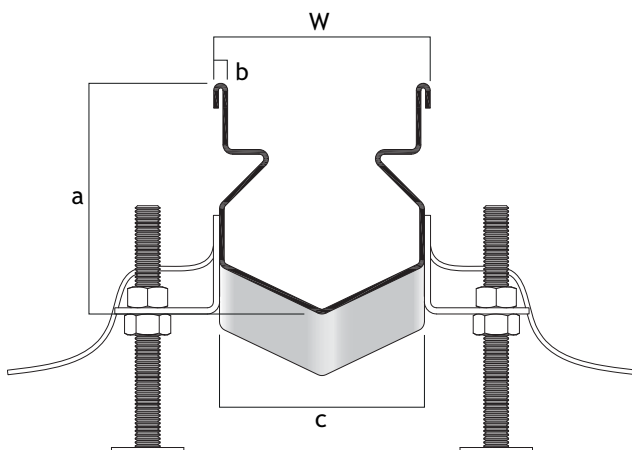


Flat Bottom Channel

a (mm)	b (mm)	c (mm)	W (mm)
*	20	**	**

* Initial height, channel's bottom slope depends on the projects needs and installation requirements.

** Channel width and hydraulic width is dependant on the project requirement.



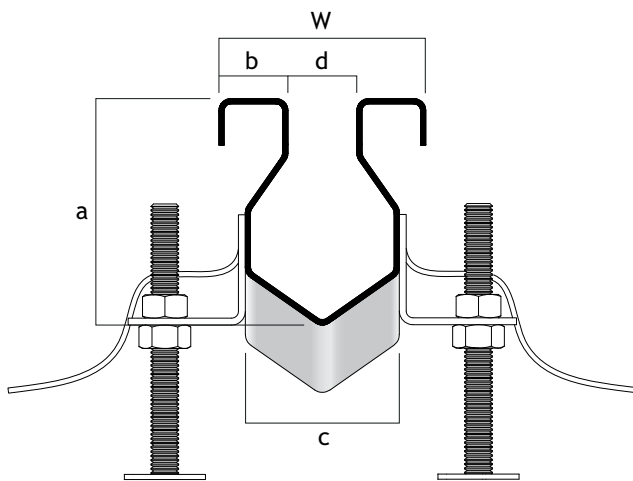
Standard Mini Channel

a (mm)	b (mm)	c (mm)	W (mm)
75	3.5	68	75

The Standard Mini Channel combines the advantages of the standard and slot channels. It has small dimensions and features gratings. These channel types are used wherever the amount of water to be drained is small, but the rodding eye is necessary. As standard such channels are made of 1.5 or 2mm sheets.

Stainless Steel Floor Channels - Slot Channel Product Tables

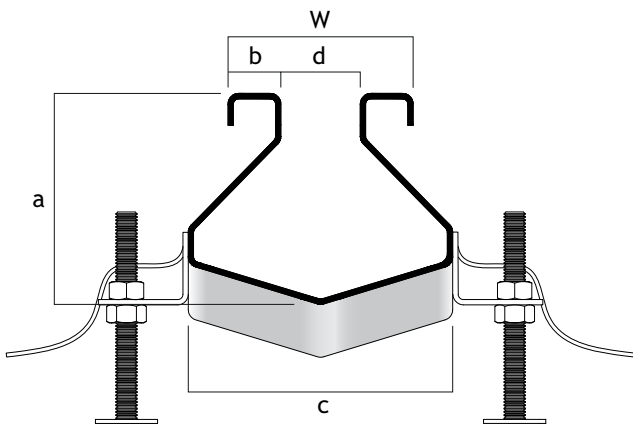
The Harmer Slot drainage channels are made from 1.5 or 2mm sheets and feature integral falls that can be adapted to suit the floor thickness. Drainage from the slot channel can be via a connected pipe system or using a trapped standard or compact trapped floor drain. The standard length of the channel with a single outlet should not exceed 10m. Channel sections over 4m in length can be connected together using a simple flange with gasket connection.



Slot Channel

a (mm)	b (mm)	c (mm)	d (mm)	W (mm)
65	20	40	20	60

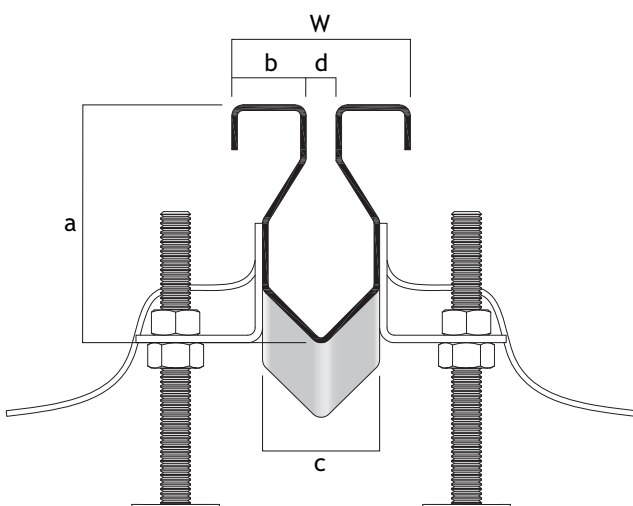
The slot channel is an economic range of linear floor drainage for draining where high flow is not required. Ideal for applications such as swimming pools, dairies and any areas where there is potential condensation run-off from machinery.



Maxi Slot Channel

a (mm)	b (mm)	c (mm)	d (mm)	W (mm)
80	20	100	30	70

The Maxi Slot channels are made of the 2mm sheet. The channel does not require grating and features high flow capacity than standard channels. One of its characteristic features is larger inlet opening and clearance. Used wherever the amount of waste water to be drained is substantial and the standard channel does not need to be used i.e.. in the absence of large solids.



Mini Slot Channel

a (mm)	b (mm)	c (mm)	d (mm)	W (mm)
65	20	31.5	8	48

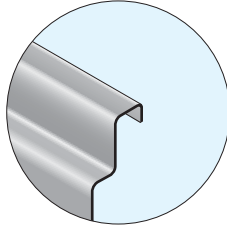
The Mini Slot Channels are made from a 2mm sheet, the channel is not covered with a grating as it has a smaller inlet opening and clearance. Its used for applications where only a small amount of water needs to be drained.

Stainless Steel Floor Channels - Channel Edgings

Channel Edge Types and Treatments

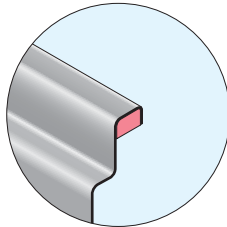
Standard Channel Edge Only

Without edge infillings and other treatments.



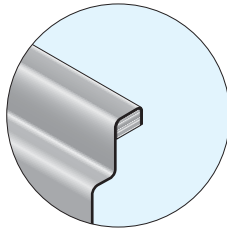
Standard Channel Edge with Synthetic Material Infill

The infill prevents the formation of a void between the concrete and channel edge during installation, thus protecting the channel perimeter from deformation if heavily loaded.



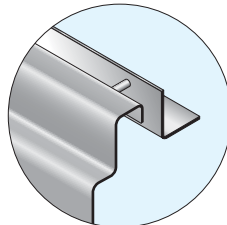
Standard Channel Edge with Stainless Steel Infill

This edge, infilled with stainless steel, should be used in areas with intensive traffic and high loads.



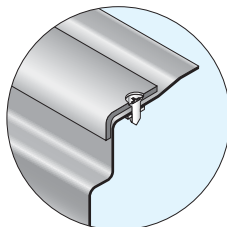
Standard Channel Edge with Angle Attachment

This edge is suitable where an expansion joint is required, for example, when drained wastewater is hot. The angle is connected to the channel by means of a steel spacer bar.



Channel Edge for Vinyl Floor

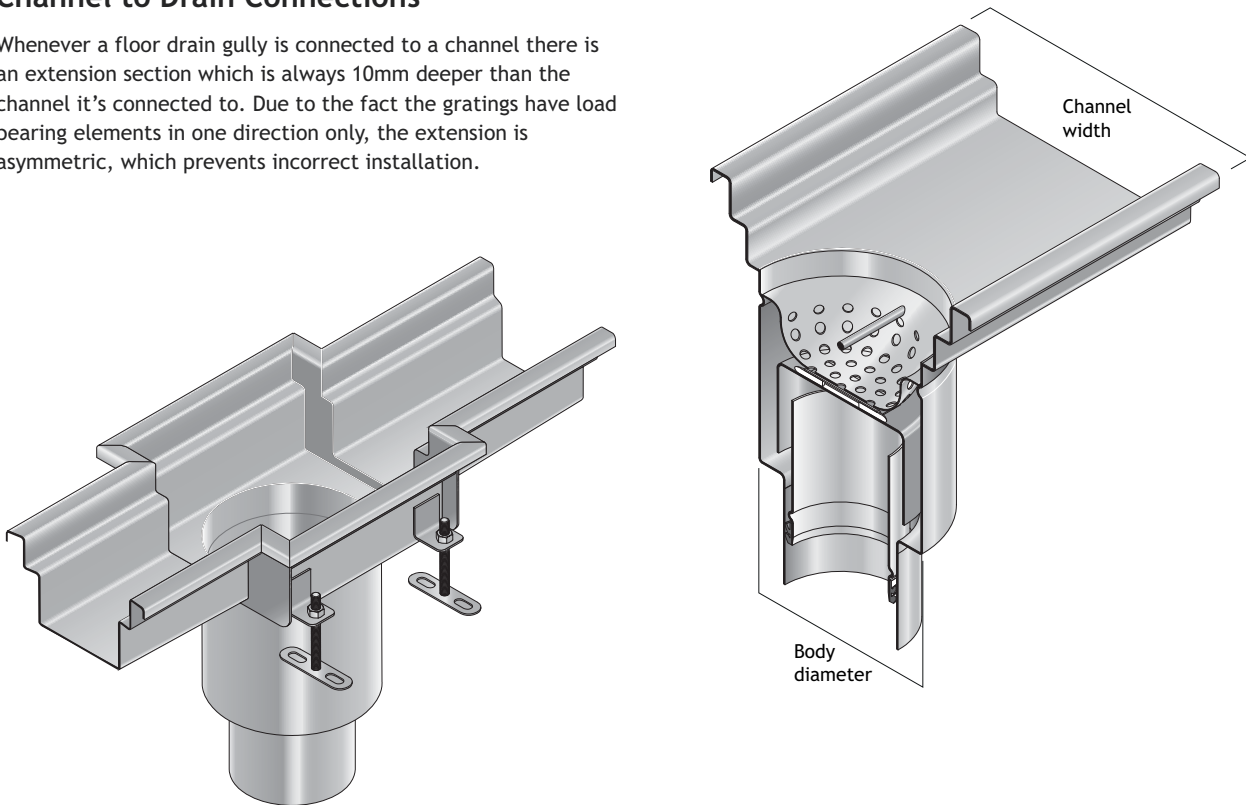
A steel clamping angle is supplied to ensure a watertight joint is achieved between the channel edge and the vinyl flooring.



Stainless Steel Floor Channels - Connections

Channel to Drain Connections

Whenever a floor drain gully is connected to a channel there is an extension section which is always 10mm deeper than the channel it's connected to. Due to the fact the gratings have load bearing elements in one direction only, the extension is asymmetric, which prevents incorrect installation.



Channel Outlet Connections

Harmer Outlet Type	Outlet Diameter (mm)	Body Diameter (mm)	Extension Size (length x width in mm)	Channel Without Extension		Flow Rate (l/s)
				Min. Channel Width (mm)	Min. Hydraulic Width (mm)	
SMV50/S15, SMV50/S20	110	110	250 x 200	S190	120	0.5
SV110/S20	110	157	245 x 240	S240	170	2.2
SVA110/S20	110	142	245 x 240	S220	150	2.2
SV110/S25	110	193	275 x 270	S270	200	3.0
SV110/S25	110	172	275 x 270	S250	180	3.0
SV160/S30	160	255	340 x 335	S330	260	9.0
SVA160/S30	160	234	340 x 335	S310	240	9.0
SV200/S40	200	348	435 x 430	S430	350	12.0
SVA200/S40	200	308	435 x 430	S390	320	12.0

Stainless Steel Floor Channels - Connections

All Harmer stainless steel floor channels come complete, with the exception of couplings since this is determined by the connecting drain pipe.

Couplings

For appropriate couplings selection see pipe connections table below

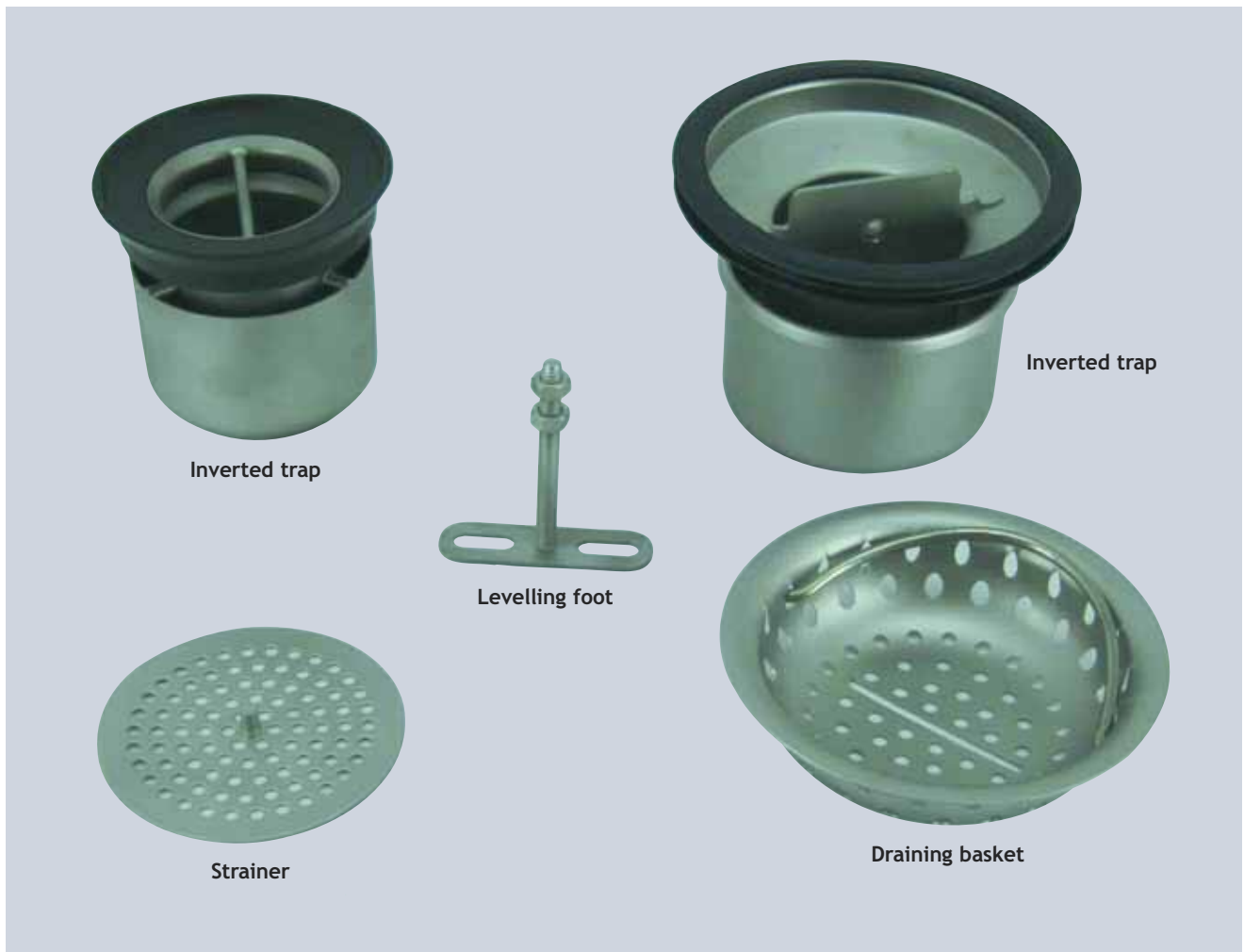


Coupling Type	Pipe Dia (mm)	Product Code
SML Duo	50	3140/50
SML Duo	100	3140/100
SML Duo	150	3140/150
SML Duo	200	3140/200
SML Adaptor	100	3102/100
SML Adaptor	150	3102/150

Pipe Connections

Outlet Size (mm)	Pipe Material and Connection Type			
	Cast Iron EN877	Stainless Steel	HDPE	PVC
50	SML Duo coupling	Post formed socket OR flexible coupling	Duo coupling	Post formed socket OR flexible coupling
110	SML Duo coupling	"O" ring socket OR SML Duo coupling	SML Duo coupling	"O" ring socket OR SML Duo coupling

Stainless Steel Floor Channels - Accessories



All accessories available on request

Stainless Steel Floor Channels - NBS Specification & General Specification

A typical NBS Specification for Harmer Stainless Steel Floor Channels. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBSPlus

NBS Specification

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN
- Complete the design of the above ground foul drainage system
 - Standard: To BS EN 1433 and EN 1253
 - Proposals: Submit drawings, technical information, calculations and manufacture's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ± 38 mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

- 310 HARMER FLOOR DRAINAGE
- Floor Construction: In-situ concrete with screed, to ceramic tile finish
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk

- Reference: Harmer Stainless Steel Channel Drainage System
- Material: Austenitic Grade 304 Stainless Steel, pickle passivated
- Sizes: 50mm depth minimum; width - as required
- Outlet Type: Horizontal/Vertical
- Grate Type: Perforated/Ladder/Mesh Anti-Slip/Plate
- Load Class: A15/B125/C250/D400/E600
- Accessories: Foul Air Trap/Sediment Basket/Tundish
- Jointing: Bolted flange joint with gasket



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

General Specification Notes

PRODUCTS

310 HARMER FLOOR DRAINAGE

Floor Construction: In-situ concrete with screed, to ceramic tile floor finish

Manufacturer:
Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton,
St Helens, Merseyside WA9 4JG

Tel: 01744 648400, Fax: 01744 648401.

Email: harmer@alumasc-exteriors.co.uk

Product: Harmer Stainless Steel Channel Drainage system

Material: Austenitic Grade 304 Stainless Steel, pickle passivated

Sizes: 50mm-80mm Sloping invert, 2500mm long

Width: 155mm

Outlet Option: Horizontal Gully

Grating: Ladder

Load Class: C250

Accessories: Foul Air Trap, Sediment Basket, Tundish.

Jointing: Bolted Flange Joint with gasket

Stainless Steel Floor Channels - Materials Care, Maintenance, Installation & Specifying/Ordering

Materials

Harmer Stainless Channels are manufactured in 1.5mm and 2mm thick sheets to material Grade 304. This is suitable for general use in and around buildings including most coastal locations. It is predominately considered for areas with food production, processing or preparation where corrosion resistance or minimum maintenance is required. For more aggressive atmospheres such as swimming pool applications, Grade 316 is available on request. Both grades are fully pickle passivated and all components are welded in argon shield to ensure high quality joints.

All channels come complete with standard or compact cylindrical shape gullies from the Harmer Stainless Floor drain range

Grating and baskets are available in various shapes, sizes and finishing versions. The grates are selected according to the loads and location of installation. We offer the following grate types:

- Mesh Anti-Slip
- Ladder
- Ladder Hygienic
- Plate
- Perforated

Grates and bezels are manufactured to material Grade 304 as standard with satin finish which is suitable for most applications. Material Grade 316 is available on request.

Maintenance

The high quality grates and bezels are maintenance free but should be inspected periodically and cleaned of any trapped matter.

If drains are not used for a period of time the trap water may evaporate or become fetid. To remedy this, there is no need to remove the grate, simply reprime the Trap by pouring clean water through the drain. NEVER USE BLEACH OR CAUSTIC CLEANING AGENTS.

To clean Stainless Steel grates, use only soapy water and wipe dry. Under no circumstances use metal scouring pads, metal scrapers or wire wool since this will contaminate surfaces leaving rust spots.

Frequency of cleaning depends upon application. Generally, clean the metal when it is dirty in order to restore its original appearance. This may be once a day for a drain in hygienic or aggressive situations.

Inverted or Bell Trap

Should it be necessary to access the drain for maintenance or rodding purposes, the trap must first be removed.

Equipment required:

- Latex rubber gloves
- Bucket of clean water
- Sponge
- Household disinfectant

Procedure:

- Put on protective latex gloves
- Remove grate
- Dry all surfaces
- Remove basket
- Remove trap

Refitting trap:

- Apply silicone lubricant to seal rim of funnel
- Push fit the trap into the drain body
- Replace basket
- Refit grate
- Reprime the trap with clean water
- Dispose of dirty water

Installation of Typical Channel

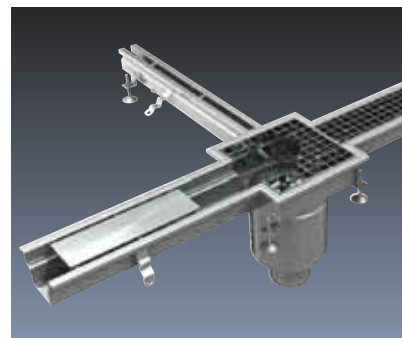
1. Before installing the channel, bolt all its parts constituent parts to ensure tightness of all flange connections (flange-gasket--flange).
2. Install the channel prepared as above in the sewer service pipe's spigot.
3. The next step involves placing of the channel on the required level. The channel edge should be 1-1.5 [mm] below the floor level.
4. When the channel is stabilized, we recommend to secure it against displacement during concrete pouring.
5. Pour concrete on the leveling legs and anchoring elements.
6. In hard to access areas subjected to highest loads, insert the concrete with a spatula.
7. Make sure the elements are clean, free of dirt.
8. Fit gratings, waste baskets and traps.

Channel Depth

Regarding channels made with the bottom fall, the depth of the channels increases with its length. The channel depth at the outlet depends on the initial height, length and the channel fall.

Design Considerations

The placement of floor drains and the channel route depends on the needs and the amount of water to be drained from the floor. The two systems we offer are standard and slot. Channels can be combined as shown below:



Specifying/Ordering

Example 1: Channels in Kitchens

Item: Harmer Stainless.

Floor Construction:

150mm ceramic tiles over insulated solid ground floor slab.

Manufacturer:

Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body /grate type & material:

Standard Channel with adjustable feet and Standard trapped vertical sump with mesh anti-slip grating manufactured from Stainless Steel.

Example 2: Channel Drain in Changing Rooms

Item: Harmer Stainless.

Floor Construction:

150mm ceramic tiles over suspended concrete floor.

Manufacturer:

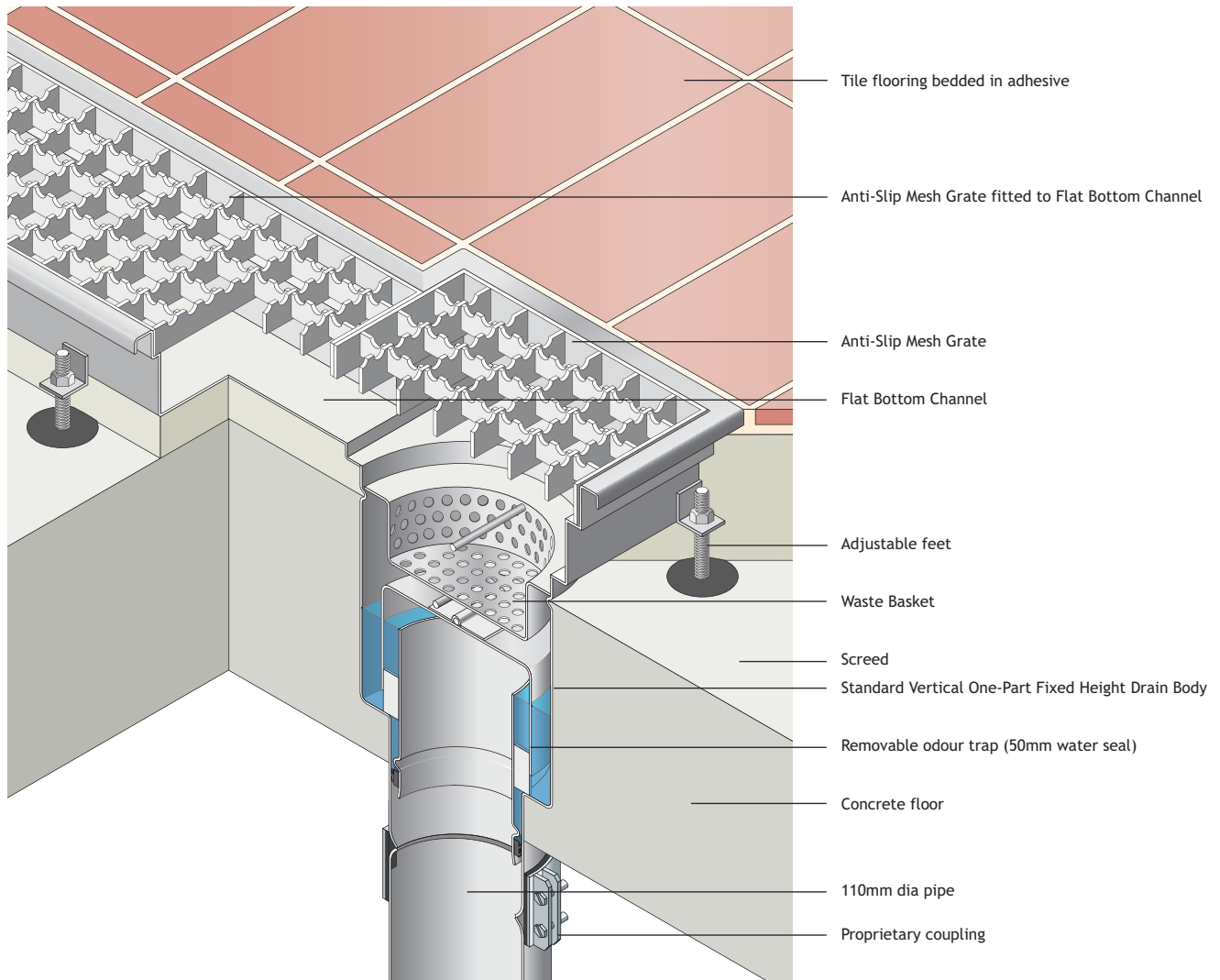
Alumasc Exterior Building Products Ltd, White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG.

Body/grate type & material:

Mini Slot Channel with adjustable feet and Compact two part adjustable height trapped horizontal sump with perforated grating manufactured from Stainless Steel.

Stainless Steel Floor Channels - Application Details

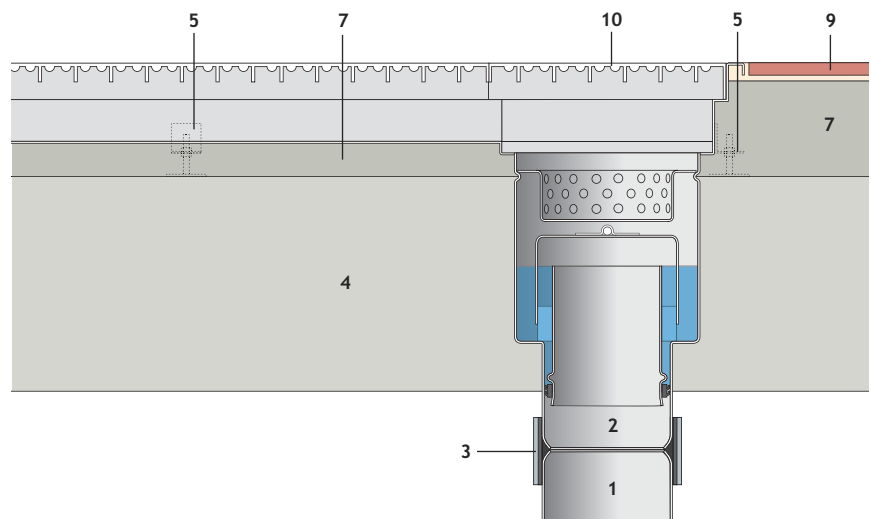
Flat Bottom Channel with Anti-Slip Mesh Grate



Note: Before installing channel, bolt constituent parts to ensure watertight seal of all flange connections

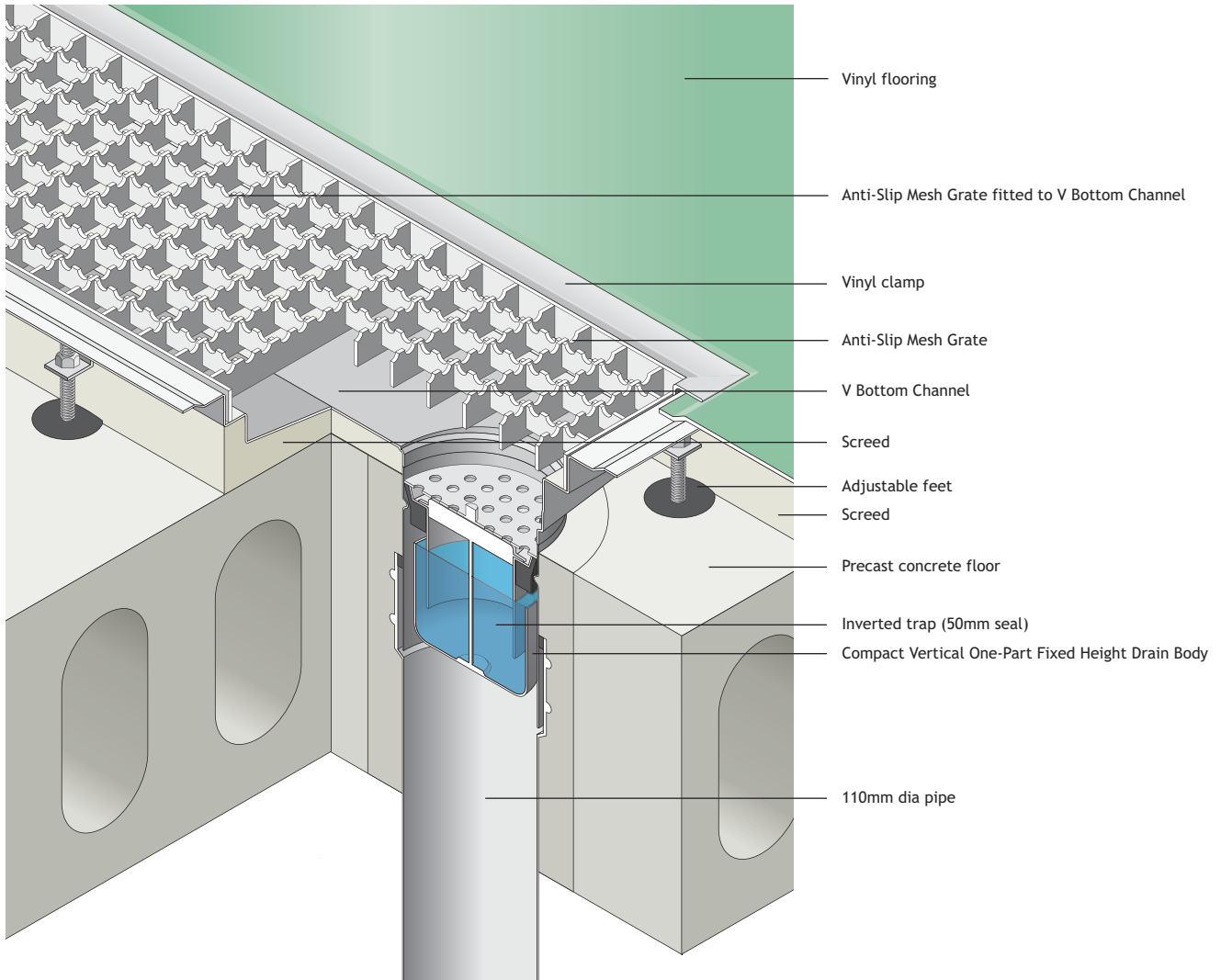
Sitework

1. Position drain pipe to required location.
2. Align outlet of channel over drain pipe.
3. Set outlet to required height (1 to 15mm below FFL) and secure to drain pipe with proprietary coupling.
4. Lay concrete mix to cast drain gully into floor.
5. Set channel falls using adjustable feet fittings.
6. Once channel is stabilised, fix bracing inside channel to prevent distortion.
7. Lay screed to falls.
8. Remove temporary bracing.
9. Apply adhesive and lay tiles.
10. Fit gratings.



Stainless Steel Floor Channels - Application Details

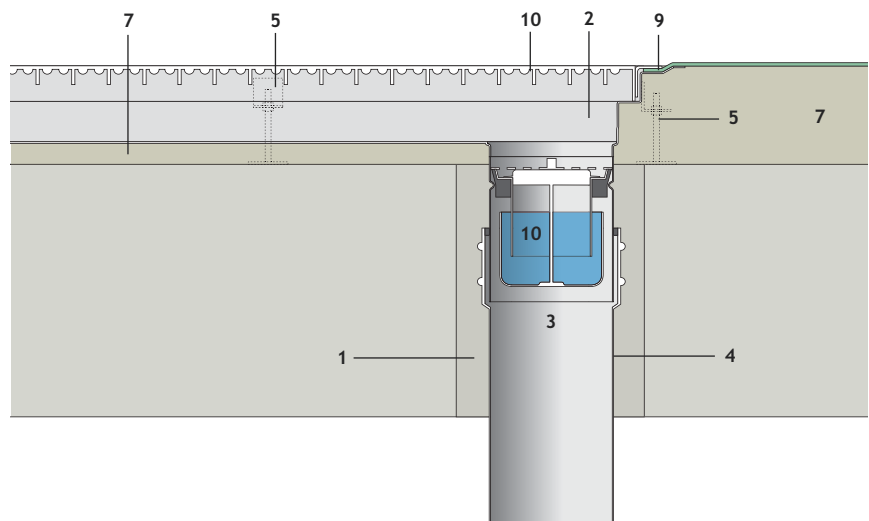
V Bottom Channel with Anti-Slip Mesh Grate



Note: Before installing channel, bolt constituent parts to ensure watertight seal of all flange connections

Sitework

1. Form hole in precast concrete floor to receive drain body.
2. Position channel and drain outlet to the required location.
3. Align outlet with drain pipe.
4. PVC socketed pipe to be pushed and sealed onto socket.
5. Using adjustable feet, set channel to the required FFL.
6. Once channel is stabilised, fix temporary bracing to prevent channel distortion while preparing the floor.
7. Lay screed to falls.
8. Remove temporary bracing.
9. Dress vinyl floor into channel and secure with clamp.
10. Fit trap, strainer and grating.



Harmer Drainage Systems Aluminium Floor Outlets

The Aluminium Floor Outlet range sets new standards in quality, versatility and performance, and comprises polyester powder coated drain bodies, trapped or untrapped, with or without side inlets, complete with a choice of elegant grates.



Aluminium Floor Outlets - Benefits

Harmer Aluminium Floor Outlets show marked advances in design sophistication and performance, but with minimal complexity for enhanced speed and cost effectiveness of installation. These finely engineered floor drains will suit virtually any interior drainage application and all types of flooring.

Flexibility of Application

- Trapped and untrapped versions for vertical or horizontal application, with optional auxiliary inlets

Durable and Long-Lasting

- Polyester powder coated aluminium Drain Body and Clamp Ring

Design Options

- Grates and Bezels available in stainless steel or nickel bronze to suit all floor finishes (screed, tile, flexible sheet flooring)

Ease of Installation

- Grate, Bezel and Throat installed as a single unit into the insitu body

High Flow Performance

- Exceeds current British Standards

Direct Connection to Drainage System

- Via 110mm spigot outlet

Fully Adjustable

- The sliding throat permits vertical (25mm-115mm), horizontal and rotational adjustment to the finest tolerances

Ease of Maintenance

- Top is accessible via removal of Trap and Trap Cup in Bezel



Aluminium Floor Outlets - Product Range Summary

The Harmer Aluminium Floor Outlet range offers great flexibility of choice, trapped or untrapped, with a standard range of interchangeable components that are fast and straightforward to assemble and install.



Trapped Floor Outlets

When a trapped outlet is required, the Grate and Bezel are supplied inclusive of the Trap. Once the drain is installed, the Trap can be easily accessed by unscrewing the Grate and simply lifting out. A Trap can be easily retrofitted to an untrapped Harmer Floor Drain at a later date if required.

Trap Assembly

The Trap consists of a demountable funnel and cap for ease of cleansing. A rubber gasket is factory-fitted to ensure a gastight seal for air testing.



Untrapped Floor Outlets

To use the Harmer Floor Outlet untrapped, simply push-fit the Grate, Bezel and Throat assembly into the DPM Clamp Ring. Water drains directly into the body for discharge.

Drain Bodies

The Harmer Floor Drain Body is available with a vertical or horizontal spigot connection. Versions with inlets for connection from sink, bath, shower wastes, etc, are an option. All Harmer Floor Drain Bodies are factory-fitted with a Dirt Cover prior to site fitting of the grate assembly.



Aluminium Floor Outlets - Product Range Summary

The range of grates includes stainless steel and nickel bronze.



Grates and Bezels

A range of Grates and Bezels is available to suit different floor types and aesthetic requirements. Grates and Bezels are available in satin stainless steel or nickel bronze.

Some typical examples of grates and bezels used with the PVC Throat are shown below.



150mm Circular Bezel



200mm Vinyl Sheet Bezel



200mm Square Bezel



PVC Assembly

Pipe Adaptors

Harmer Pipe Adaptors are the quick and efficient way to incorporate a grate and trapped pipe connection within a suspended floor. See page 111.



Cast Iron Assembly



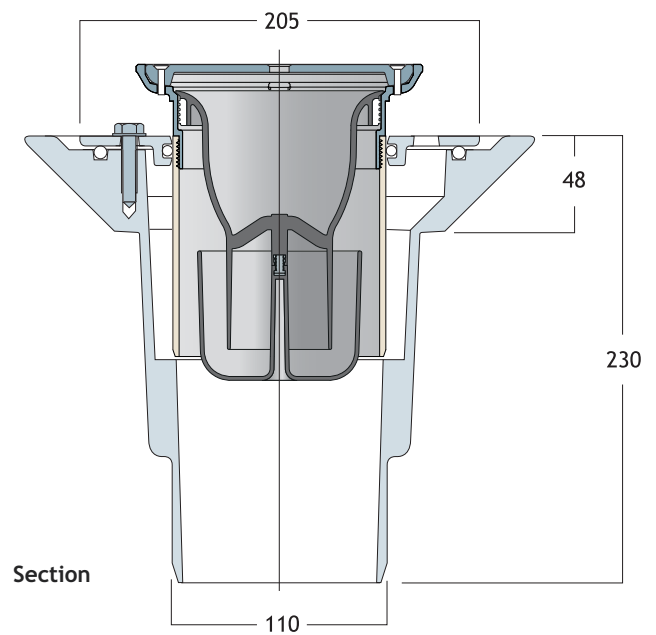
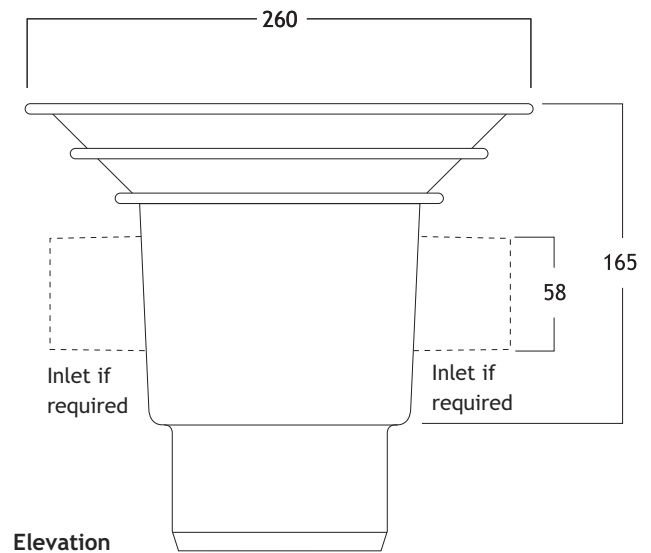
HDPE Assembly

Aluminium Floor Outlets - Trapped Outlets

Vertical Trapped Outlet Components



Drain Body Dimensions



The Trapped Floor Drain incorporates an integral trap assembly with a 50mm water seal and 110mm vertical spigot outlet. It is available with or without side inlets and is supplied as two separate assemblies:

Grate Assembly

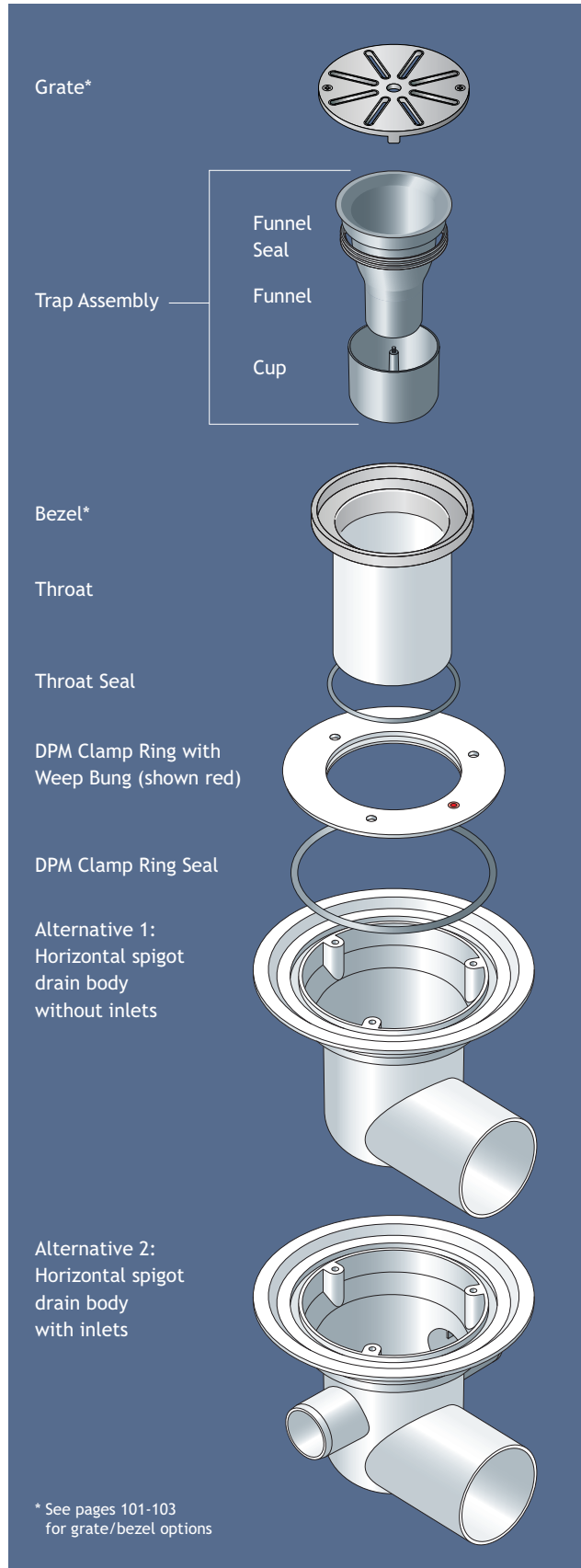
- Consists of stainless steel or nickel bronze grate and bezel, attached to an adjustable smooth sliding throat in white PVC

Body Assembly

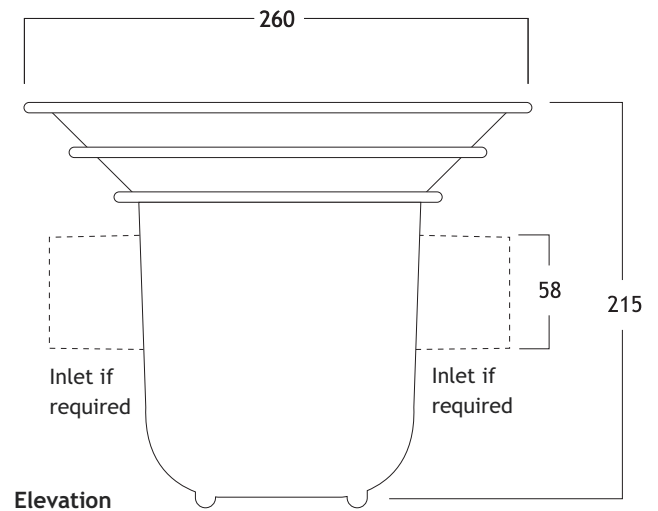
- Consists of a clamp ring and drain body, both in white polyester coated aluminium, neoprene 'O' ring seal, and an integral PVC funnel trap

Aluminium Floor Outlets - Trapped Outlets

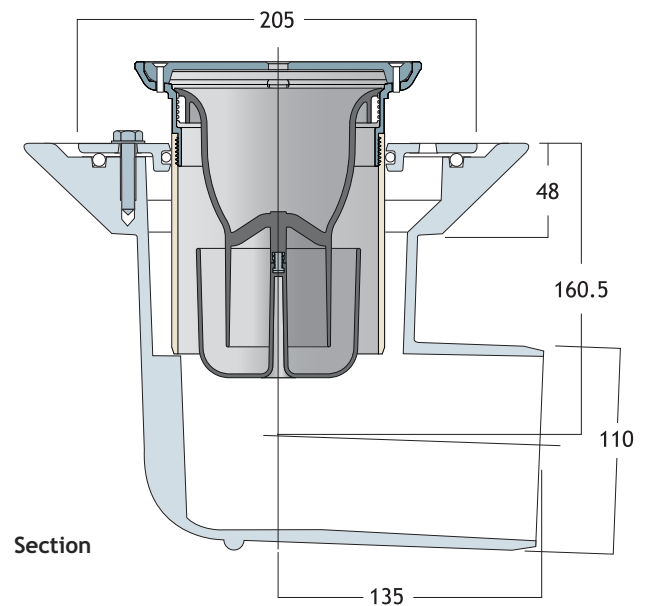
Horizontal Trapped Outlet Components



Drain Body Dimensions



Elevation



Section

The Trapped Floor Drain incorporates an integral trap assembly with a 50mm water seal and 110mm horizontal spigot outlet. It is available with or without side inlets and is supplied as two separate assemblies:

Grate Assembly

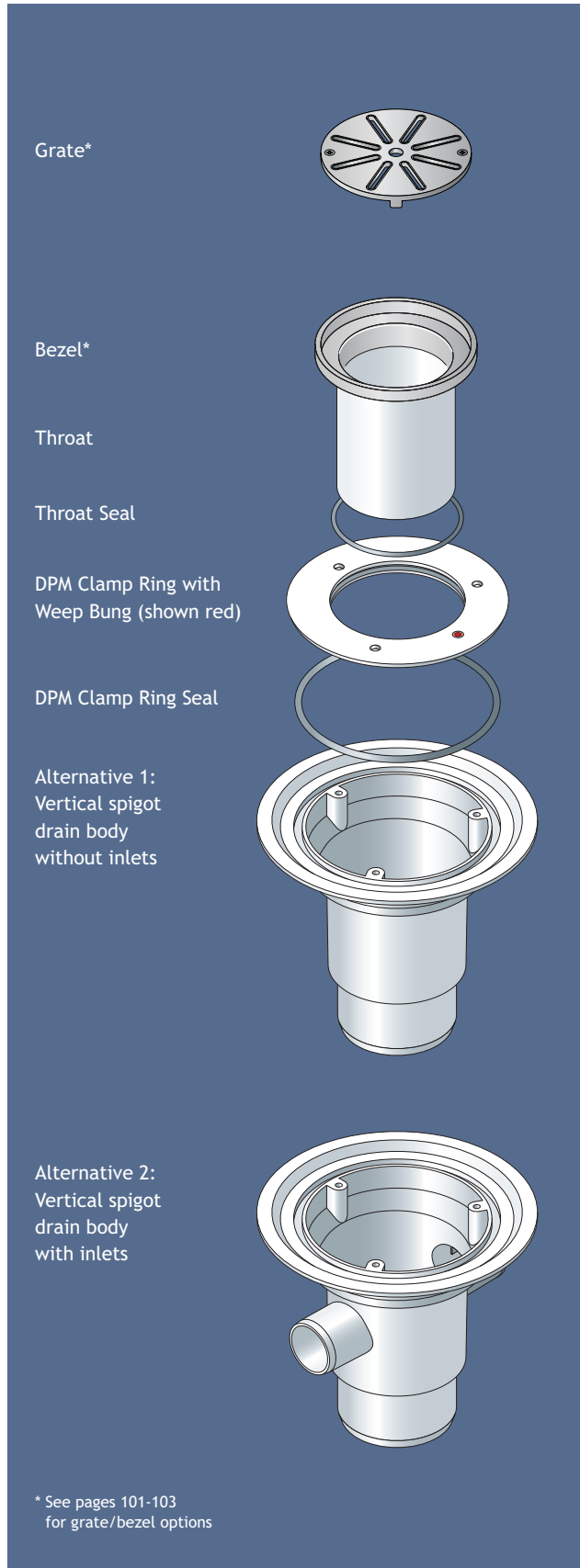
- Consists of stainless steel or nickel bronze grate and bezel, attached to an adjustable smooth sliding throat in white PVC

Body Assembly

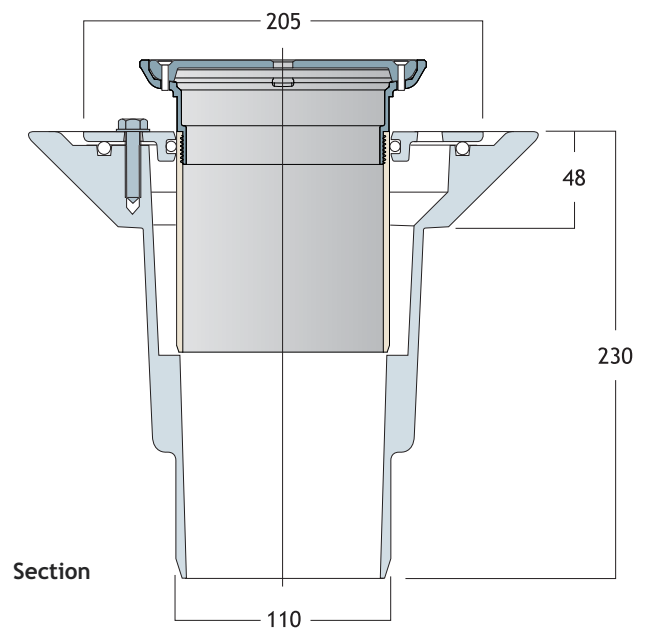
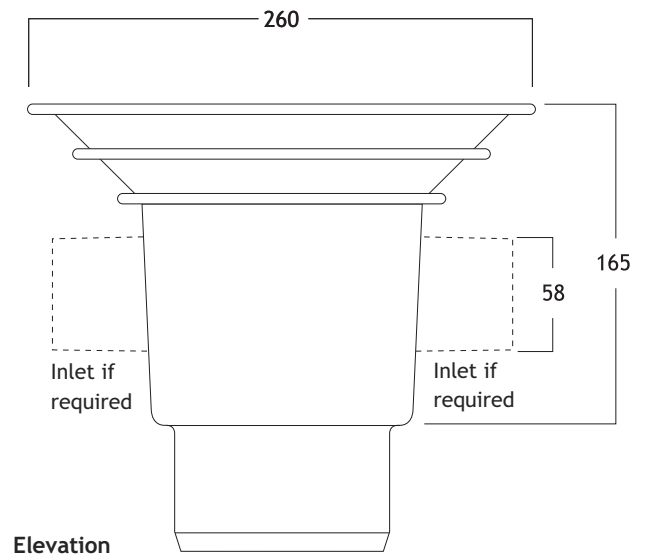
- Consists of a clamp ring and drain body, both in white polyester coated aluminium, neoprene 'O' ring seal, and an integral PVC funnel trap

Aluminium Floor Outlets - Untrapped Outlets

Vertical Untrapped Outlet Components



Drain Body Dimensions



For use where an integral trap is not required. The vertical 110mm spigot Floor Drain is available with or without side inlets and is supplied as two separate assemblies:

Grate Assembly

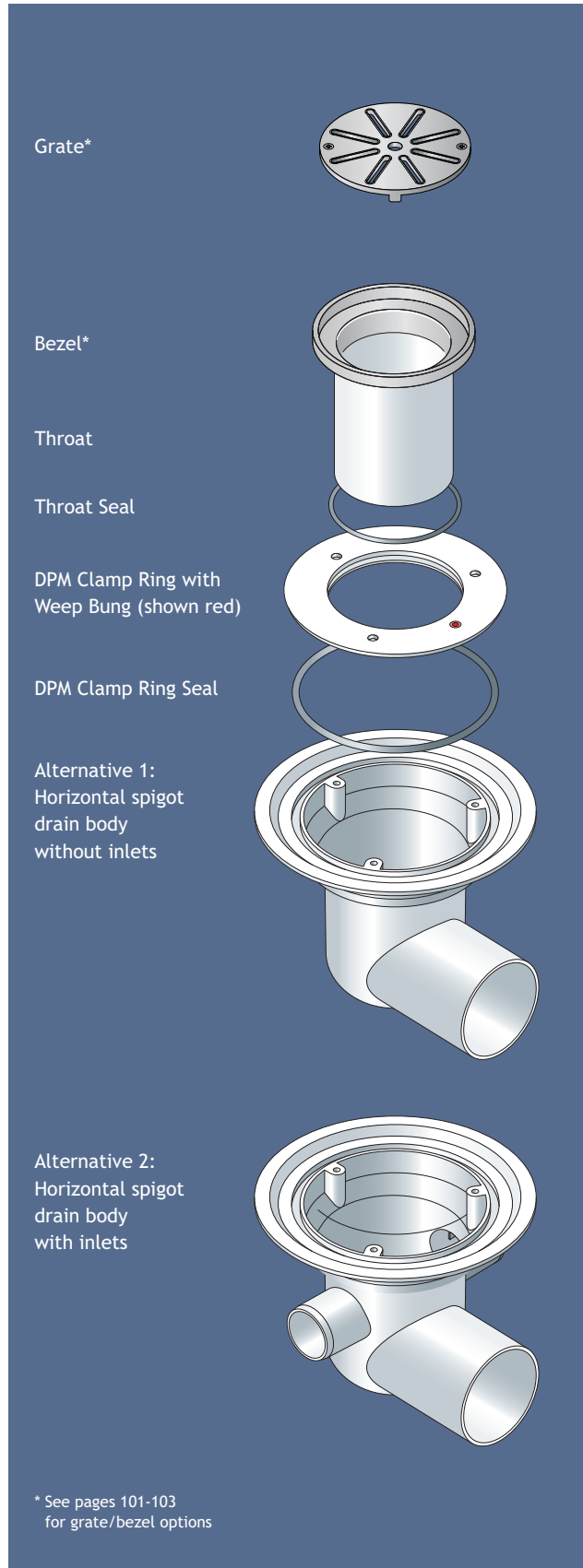
- Consists of stainless steel or nickel bronze grate and bezel, attached to an adjustable smooth sliding throat in white PVC

Body Assembly

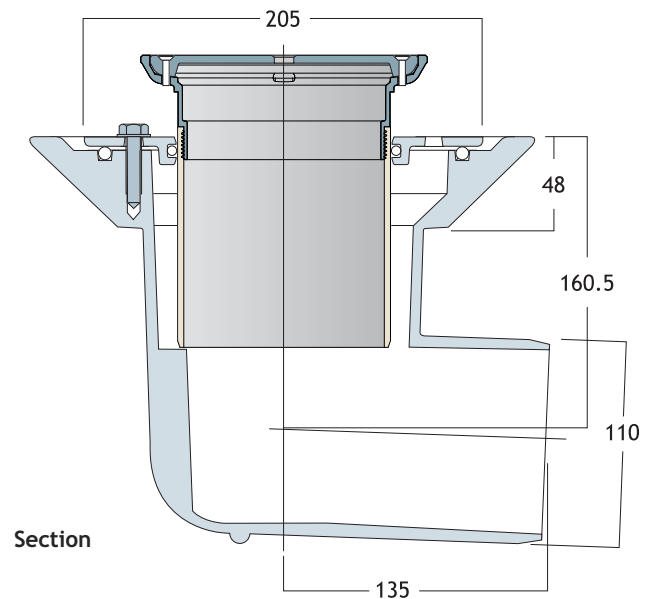
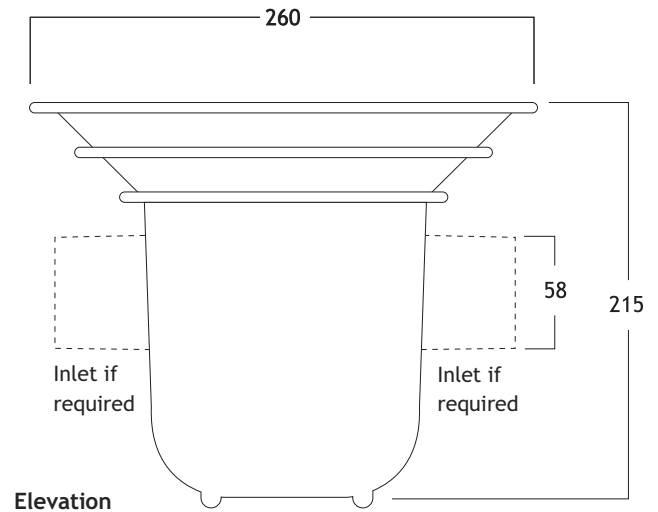
- Consists of a clamp ring and drain body, both in white polyester coated aluminium, and a neoprene 'O' ring seal

Aluminium Floor Outlets - Untrapped Outlets

Horizontal Untrapped Outlet Components



Drain Body Dimensions



For use where an integral trap is not required. The horizontal 110mm spigot Floor Drain is available with or without side inlets and is supplied as two separate assemblies:

Grate Assembly

- Consists of stainless steel or nickel bronze grate and bezel, attached to an adjustable smooth sliding throat in white PVC

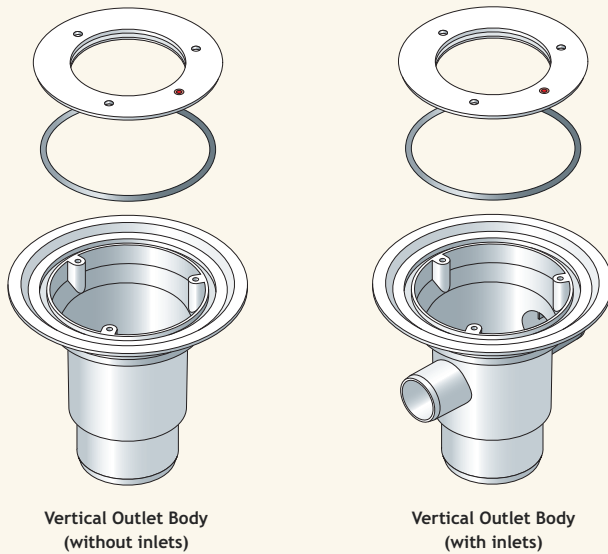
Body Assembly

- Consists of a clamp ring and drain body, both in white polyester coated aluminium, and a neoprene 'O' ring seal

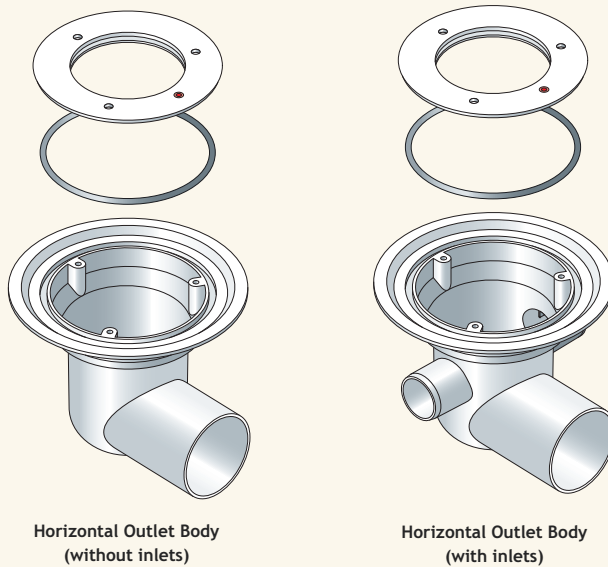
Aluminium Floor Outlets - Drain Body, Grate/Bezel Product Tables

The Harmer Aluminium Floor Outlet range offers great flexibility of choice, trapped or untrapped, with a standard range of interchangeable components that are fast and straightforward to assemble and install.

Outlet Body Components

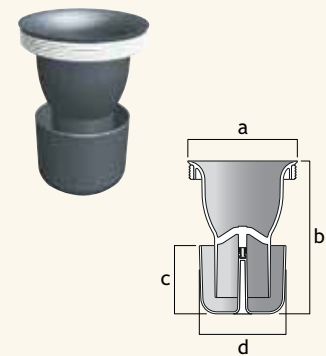


For body dimensions see pages
98 to 101



Outlet Body Type	Product Code
Vertical Outlet Body (without inlets)	BVS100
Vertical Outlet Body (with inlets)	BVS100A
Horizontal Outlet Body (without inlets)	BHS100
Horizontal Outlet Body (with inlets)	BHS100A

Trap



Traps can be ordered separately
by quoting the product code

a (mm)	b (mm)	c (mm)	d (mm)	Product Code
107.5	150	67	85	HF/FT

All four outlet body types, trapped or untrapped, will accept any of the grate and bezel options shown in the following tables on pages 101 to 103.

Aluminium Floor Outlets - Grate/Bezel Product Tables

Grate Options with 150mm Ø Circular Bezels

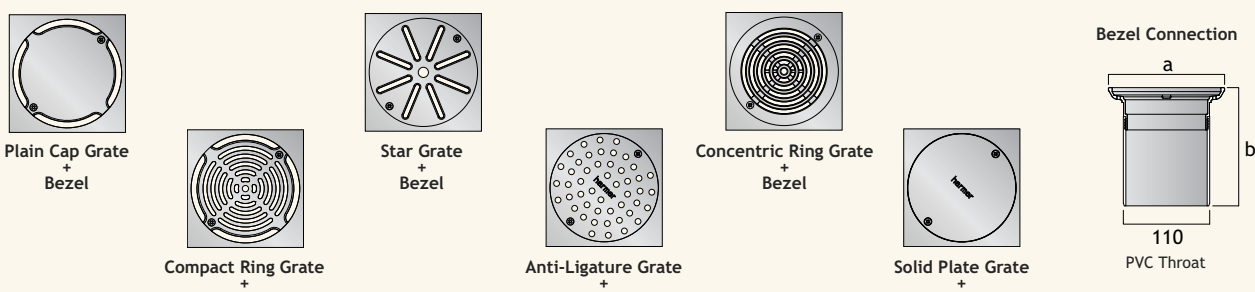
To Specify Untrapped Drains: Remove the suffix /T



Grate Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	Satin Stainless Steel	110	148	151	L15	1.89	2.21	CPA15/SS/B/T
	Nickel Bronze	110	148	151	L15	1.87	2.21	CPA15/NB/B/T
Star	Satin Stainless Steel	110	148	151	L15	2.10	1.15	CSA15/SS/B/T
	Nickel Bronze	110	148	151	L15	1.99	1.15	CSA15/NB/B/T
Concentric Ring	Satin Stainless Steel	110	148	151	L15	1.92	2.42	CCA15/SS/B/T
	Nickel Bronze	110	148	151	L15	1.89	2.42	CCA15/NB/B/T
Compact Ring	Satin Stainless Steel	110	148	151	L15	1.78	2.52	CRA15/SS/B/T
	Nickel Bronze	110	148	151	L15	1.90	2.52	CRA15/NB/B/T
Anti-Ligature	Satin Stainless Steel	110	148	151	L15	1.88	1.80	CAA15/SS/B/T
	Nickel Bronze	110	148	151	L15	2.20	1.80	CAA15/NB/B/T
Solid Plate	Satin Stainless Steel	110	148	151	L15	2.03	–	CBA15/SS/B/T
	Satin Stainless Steel (with Plug Seal*)	110	148	151	L15	2.03	–	RA/CBA15/SS/B
	Nickel Bronze	110	148	151	L15	2.30	–	CBA15/NB/B/T
* (no trap)	Nickel Bronze (with Plug Seal*)	110	148	151	L15	2.30	–	RA/CBA15/NB/B

Grate Options with 150 x 150mm Square Bezels

To Specify Untrapped Drains: Remove the suffix /T

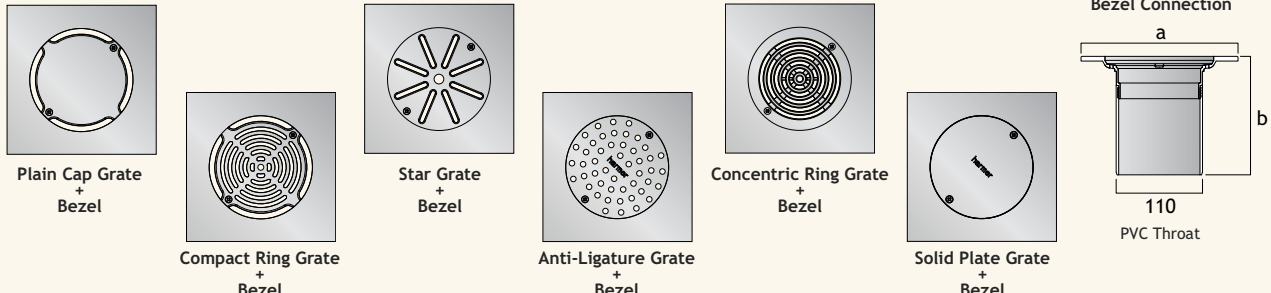


Grate Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	Satin Stainless Steel	110	150	151	L15	2.01	2.21	TPA15/SS/B/T
	Nickel Bronze	110	150	151	L15	1.92	2.21	TPA15/NB/B/T
Star	Satin Stainless Steel	110	150	151	L15	2.22	1.15	TSA15/SS/B/T
	Nickel Bronze	110	150	151	L15	2.04	1.15	TSA15/NB/B/T
Concentric Ring	Satin Stainless Steel	110	150	151	L15	2.04	2.42	TCA15/SS/B/T
	Nickel Bronze	110	150	151	L15	1.94	2.42	TCA15/NB/B/T
Compact Ring	Satin Stainless Steel	110	150	151	L15	1.88	2.52	TRA15/SS/B/T
	Nickel Bronze	110	150	151	L15	1.93	2.52	TRA15/NB/B/T
Anti-Ligature	Satin Stainless Steel	110	150	151	L15	1.90	1.80	TAA15/SS/B/T
	Nickel Bronze	110	150	151	L15	2.25	1.80	TAA15/NB/B/T
Solid Plate	Satin Stainless Steel	110	150	151	L15	2.15	–	TBA15/SS/B/T
	Satin Stainless Steel (with Plug Seal*)	110	150	151	L15	2.15	–	RA/TBA15/SS/B
	Nickel Bronze	110	150	151	L15	2.35	–	TBA15/NB/B/T
* (no trap)	Nickel Bronze (with Plug Seal*)	110	150	151	L15	2.35	–	RA/TBA15/NB/B

Aluminium Floor Outlets - Grate/Bezel Product Tables

Grate Options with 200 x 200mm Square Bezels

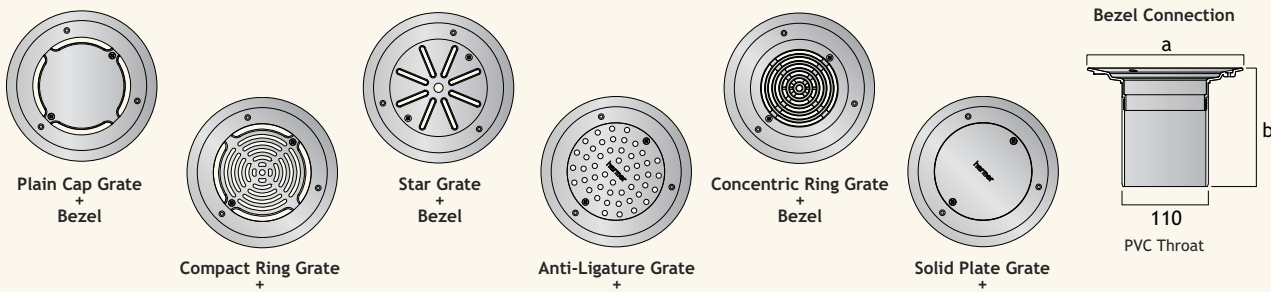
To Specify Untrapped Drains: Remove the suffix /T



Grate Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	Satin Stainless Steel	110	200	151	L15	2.51	2.21	TPA20/SS/B/T
	Nickel Bronze	110	200	151	L15	2.97	2.21	TPA20/NB/B/T
Star	Satin Stainless Steel	110	200	151	L15	2.72	1.15	TSA20/SS/B/T
	Nickel Bronze	110	200	151	L15	3.09	1.15	TSA20/NB/B/T
Concentric Ring	Satin Stainless Steel	110	200	151	L15	2.54	2.42	TCA20/SS/B/T
	Nickel Bronze	110	200	151	L15	2.99	2.42	TCA20/NB/B/T
Compact Ring	Satin Stainless Steel	110	200	151	L15	2.40	2.52	TRA20/SS/B/T
	Nickel Bronze	110	200	151	L15	3.00	2.52	TRA20/NB/B/T
Anti-Ligature	Satin Stainless Steel	110	200	151	L15	2.50	1.80	TAA20/SS/B/T
	Nickel Bronze	110	200	151	L15	3.30	1.80	TAA20/NB/B/T
Solid Plate	Satin Stainless Steel	110	200	151	L15	2.65	–	TBA20/SS/B/T
	Satin Stainless Steel (with Plug Seal*)	110	200	151	L15	2.65	–	RA/TBA20/SS/B
	Nickel Bronze	110	200	151	L15	3.40	–	TBA20/NB/B/T
* (no trap)	Nickel Bronze (with Plug Seal*)	110	200	151	L15	3.40	–	RA/TBA20/NB/B

Grate Options with 200mm Ø Circular Bezels for Vinyl

To Specify Untrapped Drains: Remove the suffix /T

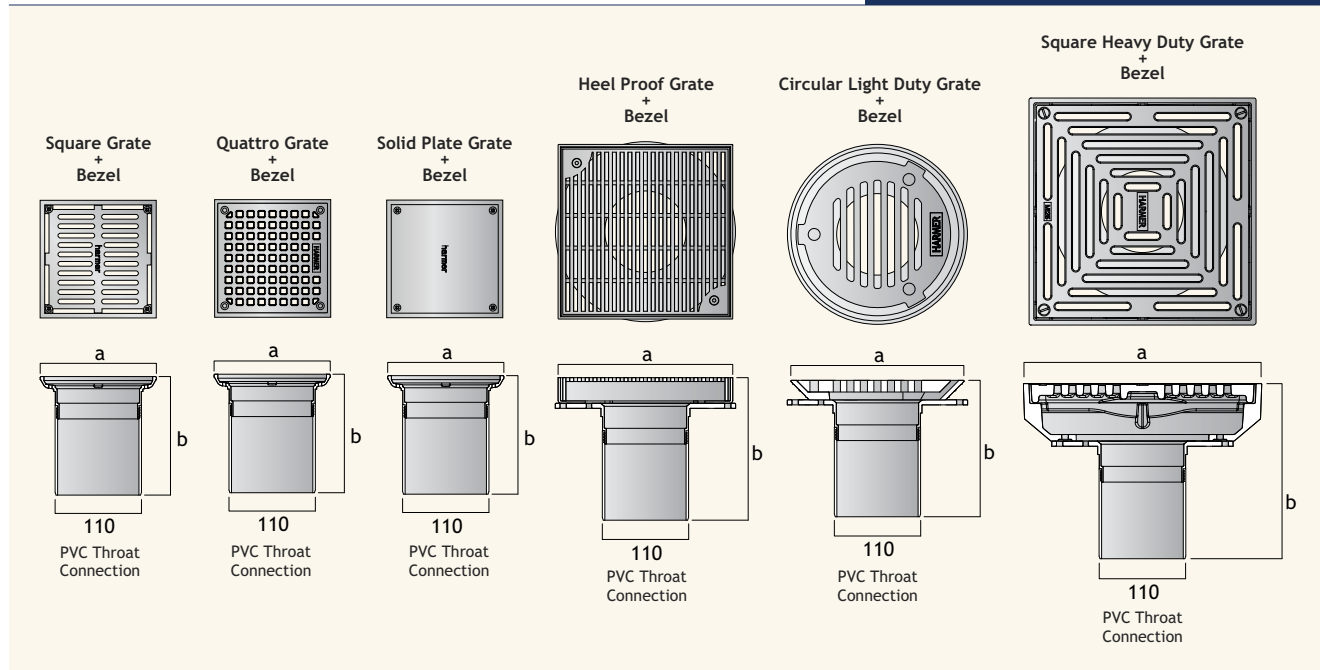


Grate Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Plain Cap	Satin Stainless Steel	110	200	151	L15	2.10	2.21	VPA20/SS/B/T
	Nickel Bronze	110	200	151	L15	2.32	2.21	VPA20/NB/B/T
Star	Satin Stainless Steel	110	200	151	L15	2.31	1.15	VSA20/SS/B/T
	Nickel Bronze	110	200	151	L15	2.44	1.15	VSA20/NB/B/T
Concentric Ring	Satin Stainless Steel	110	200	151	L15	2.13	2.42	VCA20/SS/B/T
	Nickel Bronze	110	200	151	L15	2.34	2.42	VCA20/NB/B/T
Compact Ring	Satin Stainless Steel	110	200	151	L15	2.49	2.52	VRA20/SS/B/T
	Nickel Bronze	110	200	151	L15	3.15	2.52	VRA20/NB/B/T
Anti-Ligature	Satin Stainless Steel	110	200	151	L15	2.59	1.80	VAA20/SS/B/T
	Nickel Bronze	110	200	151	L15	3.45	1.80	VAA20/NB/B/T
Solid Plate	Satin Stainless Steel	110	200	151	L15	2.74	–	VBA20/SS/B/T
	Satin Stainless Steel (with Plug Seal*)	110	200	151	L15	2.74	–	RA/VBA20/SS/B
	Nickel Bronze	110	200	151	L15	3.55	–	VBA20/NB/B/T
* (no trap)	Nickel Bronze (with Plug Seal*)	110	200	151	L15	3.55	–	RA/VBA20/NB/B

Aluminium Floor Outlets - Grate/Bezel Product Tables

Miscellaneous Grates and Bezels

To Specify Untrapped Drains: Remove the suffix /T



Grate Options	Grates and Bezels Material/Finish	Outlet Size (mm)	a (mm)	b (mm)	Load Class	Weight (kg)	Flow Rate (l/s)	Product Code (Trapped)
Square	Satin Stainless Steel	110	200	151	L15	1.95	2.82	SGA15/SS/B/T
	Nickel Bronze	110	200	151	L15	2.20	2.82	SGA15/NB/B/T
Quattro	Satin Stainless Steel	110	200	151	L15	2.11	2.19	SHA15/SS/B/T
	Nickel Bronze	110	200	151	L15	2.30	2.19	SHA15/NB/B/T
Solid Plate	Satin Stainless Steel	110	200	151	L15	2.28	–	SBA15/SS/B/T
	Satin Stainless Steel (with Plug Seal*)	110	200	151	L15	2.28	–	RA/SBA15/SS/B
	Nickel Bronze	110	200	151	L15	2.50	–	SBA15/NB/B/T
	Nickel Bronze (with Plug Seal*)	110	200	151	L15	2.50	–	RA/SBA15/NB/B
* (no trap)								
Heel Proof	Satin Stainless Steel	110	225	182	M125	6.00	3.50	SA225/SS/B/T
Circular Light Duty	Sheradised Ductile Iron	110	222	174	L15	3.60	3.50	CA220/DI/B/T
Square Heavy Duty	Ductile Iron	110	323	227	M125	12.80	6.9	SA300/DI/B/T

Aluminium Floor Outlets - Connections

Connection to Pipework

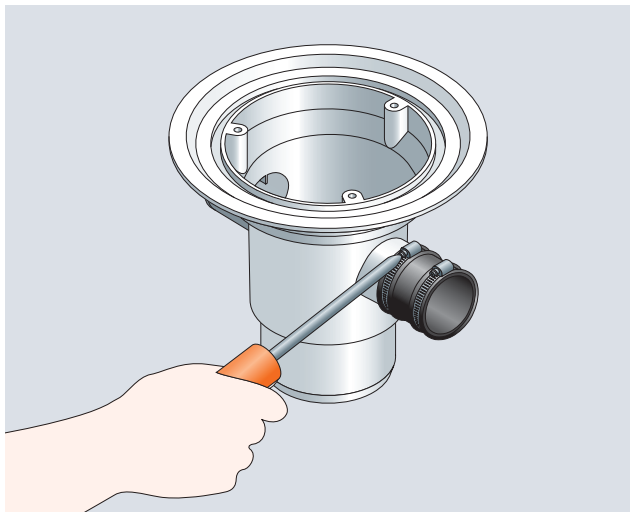
Harmer Floor Drains are designed for connection with various pipe sizes.

Outlet Pipe

- 100mm – connection to PVC uses a push-fit coupling
- 100mm – connection to cast iron uses two-part clamp coupling OR stainless steel twin bolt band coupling
- Other couplings are available from Fernco and Flexseal for connection to clayware

Side Inlet Pipes

- 50mm – connection to PVC uses Fernco (059-059) or Flexseal (DC65). Adapted connections when using McAlpine compression coupling or Osma ring seal connector are to order



1. Fix adjustable, expandable coupling as provided and tighten screws.



2. Insert plain end of 50mm waste pipe into coupling. Tighten screws on metal strap to secure.

Pipe Adaptors for Suspended Floor Drainage

Harmer Floor Pipe Adaptors are the quick and efficient way to incorporate a Grate and trapped pipe connection within a suspended floor.

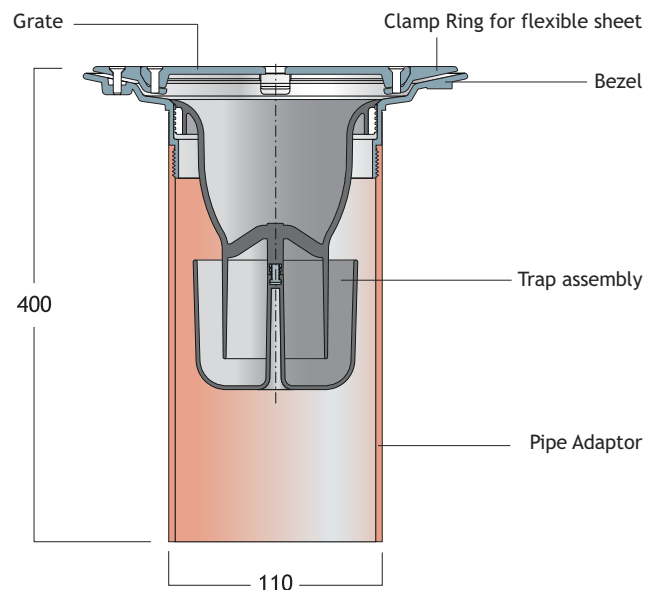
Waterproofing is achieved in conjunction with a vinyl floor covering bonded and clamped into the appropriate Harmer Grate assembly (VRA20).

Harmer Pipe Adaptors are manufactured in SML lightweight cast iron (which is considered non-combustible in current Building Regulations), HDPE and PVC and provide complete continuity of material for onward pipe connection.

Harmer Pipe Adaptors are 400mm length but can be made longer if required. See page 111 for Pipe Adaptor application detail.

Refer to pages 101, 102 and 103 for choices of either stainless steel or nickel bronze Grate finishes.

Section Through Trapped Grate/Pipe Adaptor Assembly



Component Range: Pipe Adaptors

Description	Product Code
100mm Cast Iron	ADP100/SML
100mm HDPE	ADP100/HDPE
100mm PVC	ADP100/PVCU

Aluminium Floor Outlets - Grate Adjustment

Setting up the Grate and Trap Assembly

The Grate and Trap Assembly consists of the foul air Trap factory fitted to the Grate, with the white height-adjustable Throat also attached.



Grate and Trap Assembly

Follow the procedure below to set up the Grate/Trap Assembly correctly during the drainage installation.

- Remove the Dirt Cover.
- Apply silicone lubricant to the Throat Seal.
- Apply silicone lubricant to the height-adjustable Throat.
- Push the Grate and Trap Assembly into the drain body.
- Set to the required height and alignment allowing for underfloor insulation, screed and floor finish.
- Prime the Trap with clean water.
- Cover Grate surface to protect from following trades.

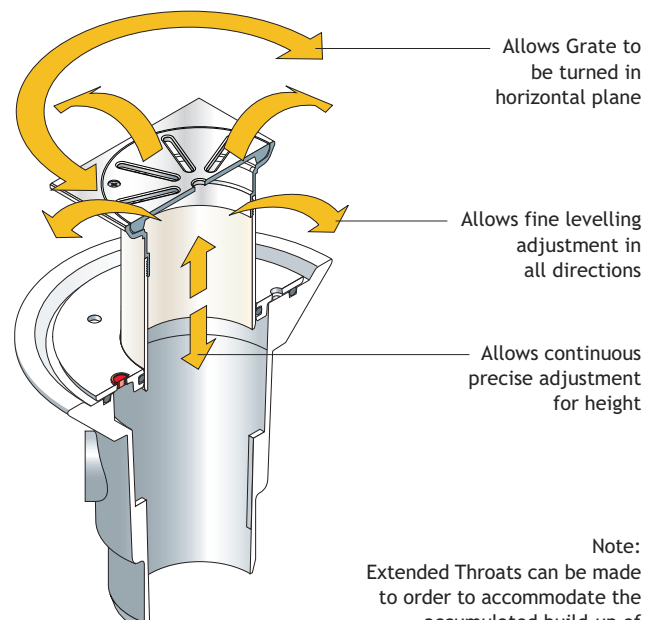


Fine Adjustment

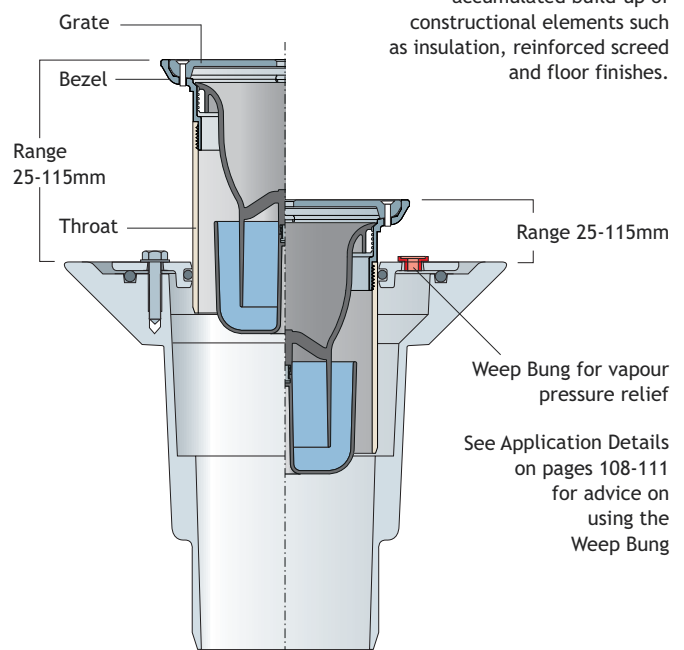
The smooth sliding Throat – unique to the Harmer Floor Drain – provides exceptional flexibility and accuracy of adjustment. The Throat is not threaded; it slides on a Throat Seal (to BS 2494), allowing adjustment to the finest tolerances.

The unique Harmer Floor Drain sliding Throat permits:

- Continuous height adjustment – in a vertical plane, ranging from 25-115mm above dpm with standard Throat component.
- Continuous rotational adjustment – through 360°. The capacity for fine adjustment is particularly useful for aligning square Bezels with tile patterns.
- Multi-directional fine levelling adjustment – to compensate for minor irregularities in floor finishes.



Note:
Extended Throats can be made to order to accommodate the accumulated build-up of constructional elements such as insulation, reinforced screed and floor finishes.



See Application Details on pages 108-111 for advice on using the Weep Bung

Aluminium Floor Outlets - Materials Care, Maintenance, Installation & Specifying/Ordering

Maintenance

The bodies of Harmer Floor Drains have a smooth polyester coating which prevents adherence of foreign matter. During handling, installation and maintenance avoid chipping this protective coating.

The high quality Grates and Bezels are maintenance free but should be inspected periodically and cleared of any trapped matter.

If drains are not used for a period of time the trap water may evaporate or become fetid. To remedy this, there is no need to remove the Grate, simply reprime the Trap by pouring clean water through the drain. NEVER USE BLEACH OR CAUSTIC CLEANING AGENTS.

Should it be necessary to access the drain for maintenance or rodding purposes THE TRAP MUST FIRST BE REMOVED. The foul air trap is a factory assembled unit consisting of three parts and is located within the Grate assembly.

Equipment

- Phillips posidrive screwdriver.
- Latex rubber gloves.
- Paper towels.
- Bucket of warm disinfected water.

To Remove the Trap

- Put on protective latex gloves.
- Remove the two grate securing screws.
- Dry all surfaces.
- Remove the black funnel by pulling integral handle.

The Trap Cup unscrews from the funnel and both components should be cleaned in disinfected water.

Periodic Usage

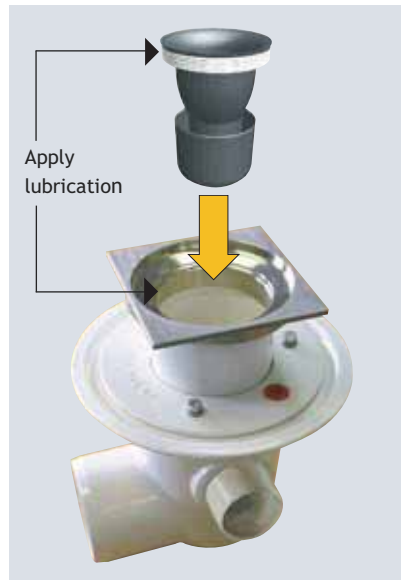
If drains are not used for long periods of time or only intermittently, it is recommended that a Solid Plate Cover be installed instead of the standard grate.

Security

Generally, grates are secured by two Phillips screws but special security fixing options are available from Alumasc. These screws can only be loosened by means of a special screwdriver attachment.

To Replace the Trap

- Apply silicone lubricant to the Funnel Seal.
- Apply silicone lubricant to the matching surface of the Bezel Throat.
- Push fit the Trap into the Bezel Throat.
- Replace the two grate securing screws.
- Reprime the Trap with clean water.
- Dispose of dirty water.
- **Now wash your hands.**



Installation

1. Offer drain body to the required position.
2. Align waste pipe and secure accordingly whilst maintaining the rim of the floor drain is set to the required finished slab level.
3. Lay concrete ground slab.
4. Lay DPM. Cut hole in membrane and clamp firmly to the floor drain with bolts as provided.
5. Lay insulation if required.
6. Remove dirt cover.
7. Slide the grate and bezel in position through "O" ring of clamp to the required FFL.
8. Install funnel trap inside bezel and cover with grating.
9. Lay screed to falls.
10. Lay floor tiles or vinyl depending on floor finished required.

Specifying/Ordering

Floor Drains in Showers

Item: Harmer Floor Drains

Floor Construction: Sheet vinyl over insulated solid ground floor slab.

Manufacturer:

Alumasc Exterior Building Products Ltd,
White House Works,
Bold Road, Sutton,
St Helens,
Merseyside WA9 4JG.

Tel: 01744 648400, Fax: 01744 648401.

Email: info@alumasc-exteriors.co.uk

Web: www.harmerdrainage.co.uk

Reference: Harmer Floor Drains

Body type/material: Vertical spigot with side inlets manufactured from LM6 grade aluminium ref: BVS100/A

Grate finish/material: Satin finish stainless steel complete with Trap Assembly ref: VCA20/SS/B/T

Floor Drains in Changing Rooms

Item: Harmer Floor Drains

Floor Construction: 150mm ceramic tiles over insulated solid ground floor slab.

Manufacturer:

Alumasc Exterior Building Products Ltd,
White House Works,
Bold Road, Sutton,
St Helens, Merseyside WA9 4JG.

Tel: 01744 648400, Fax: 01744 648401.

Email: info@alumasc-exteriors.co.uk

Web: www.harmerdrainage.co.uk

Reference: Harmer Floor Drains

Body type/material: Horizontal spigot with side inlets manufactured from LM6 grade aluminium ref: BHS100/A

Grate finish/material: Machine finish nickel bronze complete with Trap Assembly ref: TCA15/NB/B/T

Aluminium Floor Outlets - NBS Specification

A typical NBS Specification for Harmer Aluminium Floor Outlets. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBSPlus

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN
- Complete the design of the above ground foul drainage system
 - Standard: To BS EN 12056-1:2000 and BS EN 12056-2:2000, and in accordance with BS EN 12056-2:2000, National Annexes NA-NG
 - Proposals: Submit drawings, technical information, calculations and manufacture's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ±38mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

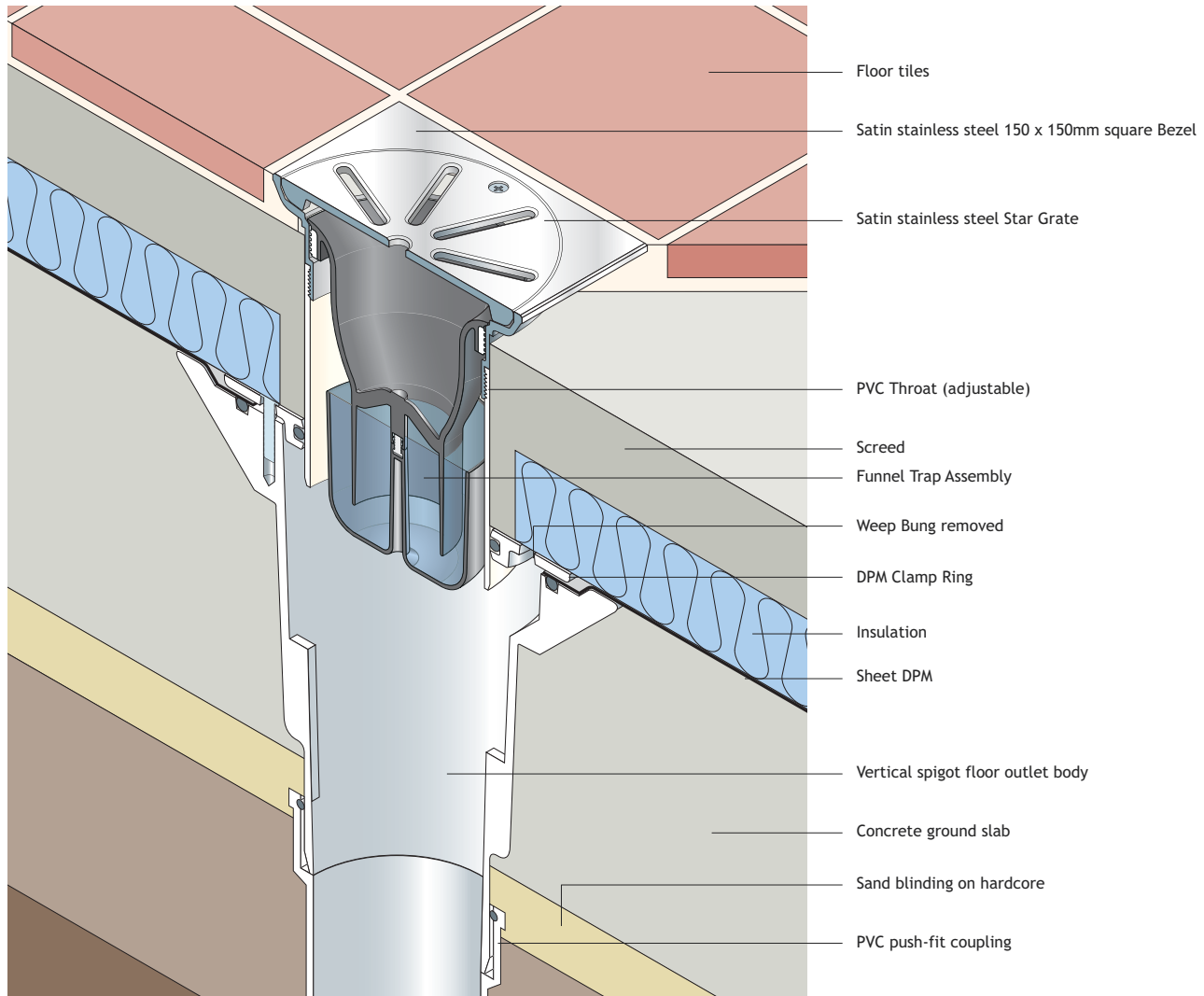
- 310 HARMER FLOOR DRAINAGE
- Floor Finish: Sheet Vinyl/Tile/Resin/Concrete
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Aluminium Floor Drain
- Material: LM6 Grade Aluminium
- Outlet Type: Vertical/Horizontal
Spigot
Trapped/Un-Trapped
With Inlet/Without Inlet
- Grate/Bezel Assembly: 150/200mm Dia
150 x 150/200 x 200mm
Trapped/Un-trapped
Vinyl Clamp
- Grate Type: Plain Cap/Star/Concentric Ring/Compact Ring/Anti-Ligature/
Solid Plate/Square/Quattro
- Grate Material: Machined Nickel Bronze/Satin Stainless Steel
- Product Code: Refer to tables
- Accessories: Foul Air Trap/Pipe Adaptor



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

Aluminium Floor Outlets - Application Details

Trapped Vertical Floor Outlet Body (BVS100) with TSA15/SS/B/T trapped grating assembly in insulated tiled ground floor with sheet DPM



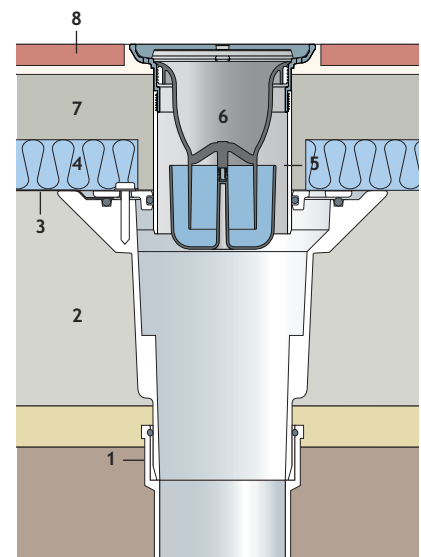
Sitework

1. Connect the floor drain body to pipework. Secure the pipework in position so that the rim of the floor drain body will be level with the finished slab.
2. Lay concrete ground slab.
3. Lay the DPM. Cut a hole in the membrane and clamp firmly to the floor drain body by bolting the DPM Clamp Ring in position.
4. Lay the insulation.
5. Remove the Dirt Cover and push the sliding Throat of the Grate and Bezel Assembly into the DPM Clamp Ring. Adjust for height by sliding up or down against the Throat Seal so that height of Grate above the DPM is equal to the minimum screed thickness.
6. Connect the Funnel Trap Assembly. Push the assembly into the Throat. Connect Grate to Bezel.
7. Lay screed to falls.
8. Lay floor tiles and make any required further fine adjustment to Grate prior to grouting.

Weep Bung

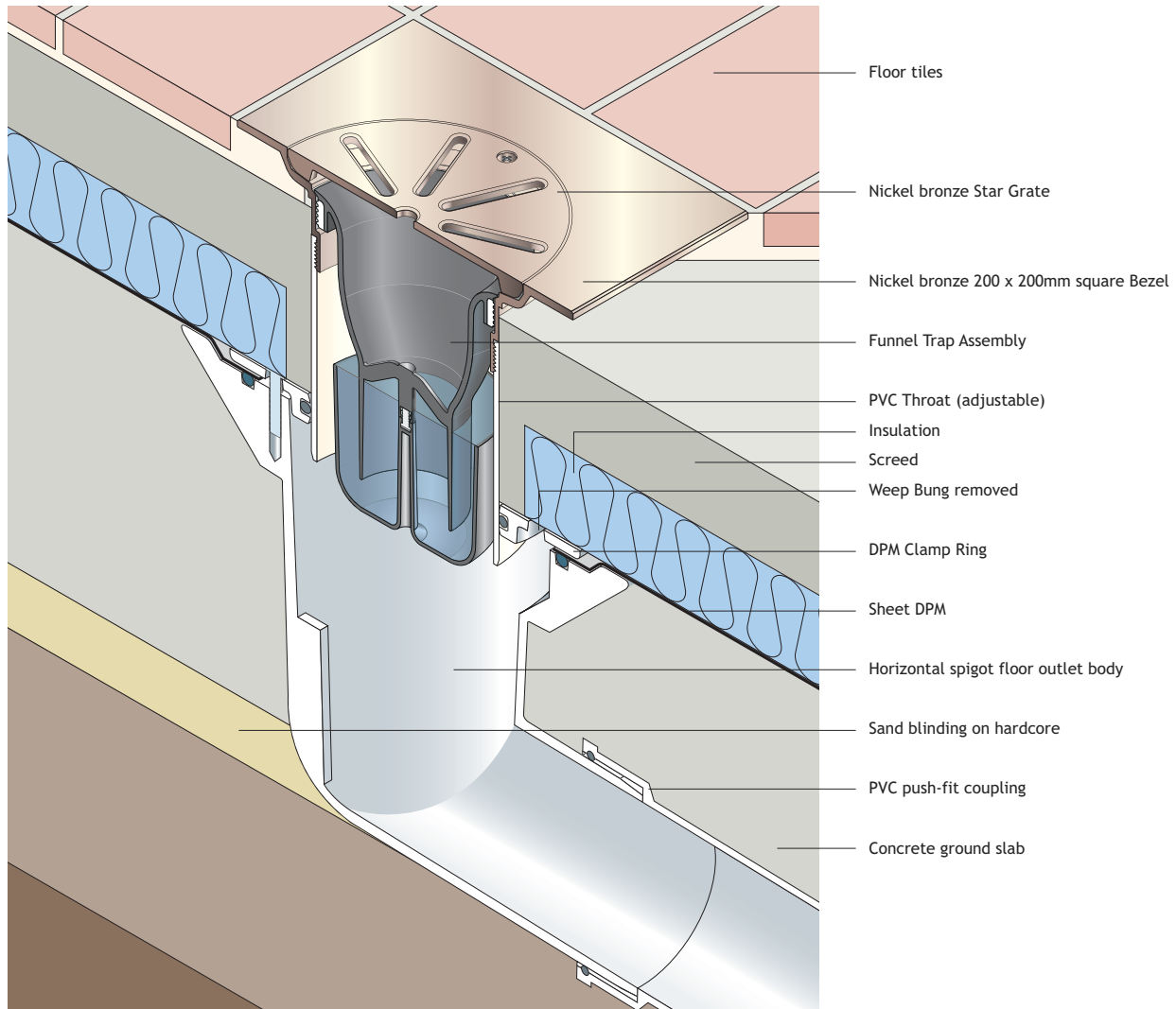
The DPM Clamp Ring has a red Weep Bung to relieve the build-up of vapour pressure where appropriate.

- For tiled floor finish applications, the Weep Bung should be removed.
- For sheet vinyl floor finish applications, the Weep Bung should be left in.
- Pressure test drains before installation.



Aluminium Floor Outlets - Application Details

Trapped Horizontal Floor Outlet Body (BHS100) with TSA20/NB/B/T trapped grating assembly in insulated tiled ground floor with sheet DPM



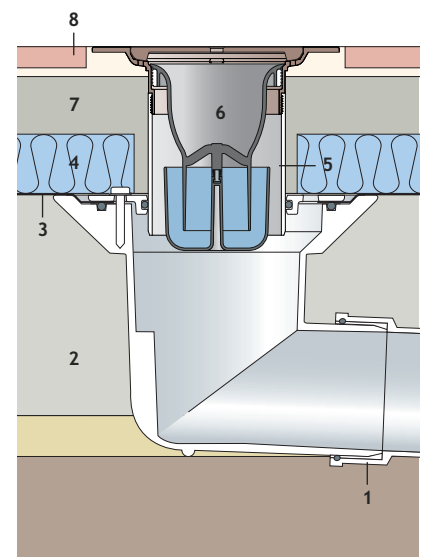
Sitework

1. Connect the floor drain body to pipework. Secure the pipework in position so that the rim of the floor drain body will be level with the finished slab.
2. Lay concrete ground slab.
3. Lay the DPM. Cut a hole in the membrane and clamp firmly to the floor drain body by bolting the DPM Clamp Ring in position.
4. Lay the insulation.
5. Remove the Dirt Cover and push the sliding Throat of the Grate and Bezel Assembly into the DPM Clamp Ring. Adjust for height by sliding up or down against the Throat Seal, so that height of Grate above the DPM is equal to the minimum screed thickness.
6. Connect the Funnel Trap Assembly. Push the assembly into the Throat. Connect Grate to Bezel.
7. Lay screed to falls.
8. Lay floor tiles and make any required further fine adjustment to Grate prior to grouting.

Weep Bung

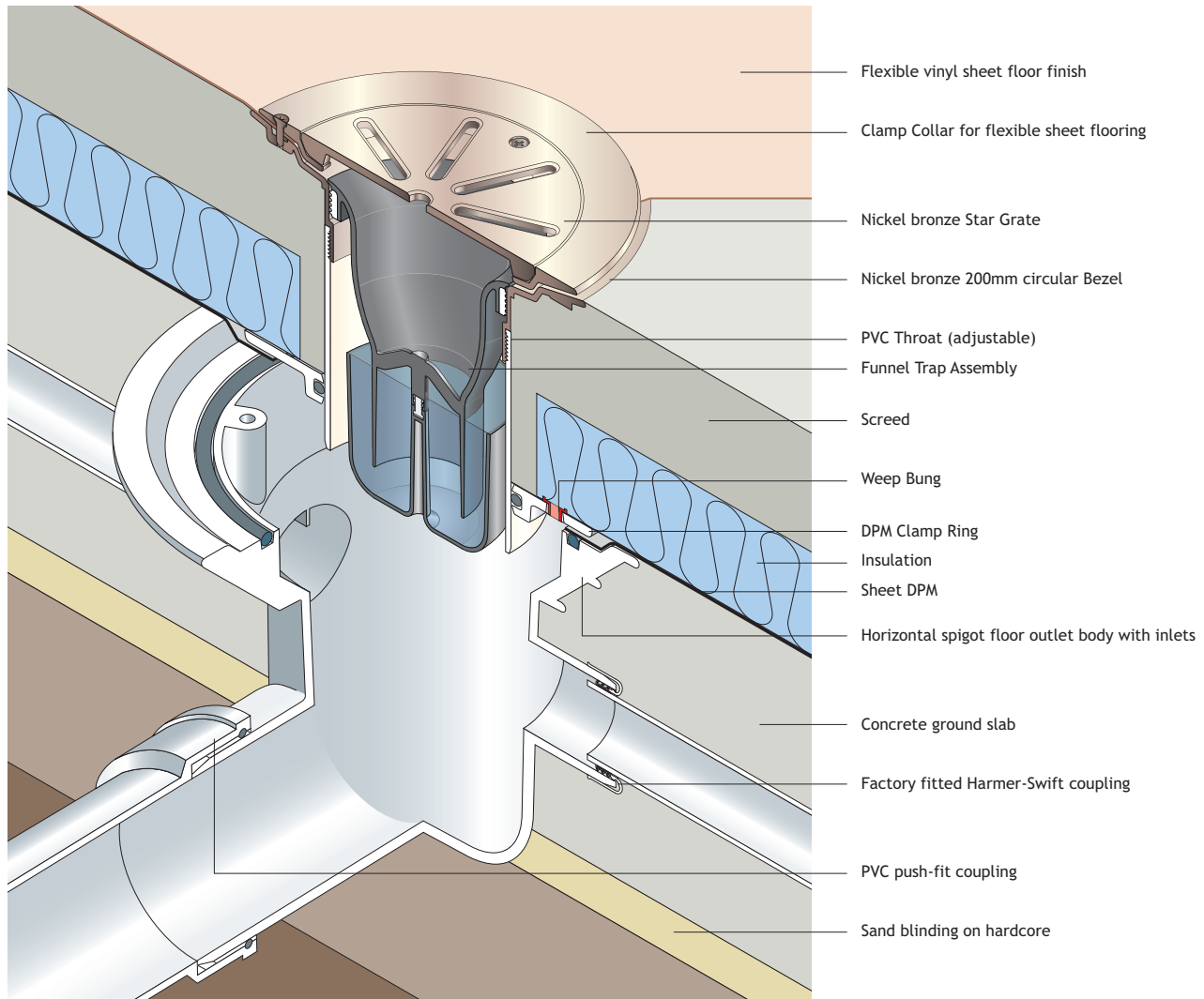
The DPM Clamp Ring has a red Weep Bung to relieve the build-up of vapour pressure where appropriate.

- For tiled floor finish applications, the Weep Bung should be removed.
- For sheet vinyl floor finish applications, the Weep Bung should be left in.
- Pressure test drains before installation.



Aluminium Floor Outlets - Application Details

Trapped Horizontal Floor Outlet Body with Inlets (BHS100A) with VSA20/NB/B/T trapped grating assembly in insulated vinyl covered ground floor with sheet DPM



Sitework

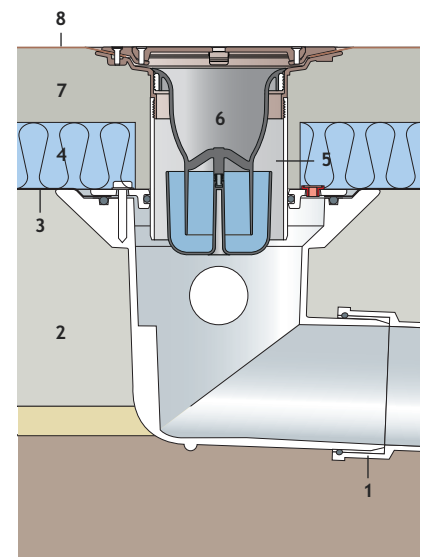
1. Connect the floor drain body to pipework. Secure the pipework in position so that the rim of the floor drain body will be level with the finished slab.
2. Lay concrete ground slab.
3. Lay the DPM. Cut a hole in the membrane and clamp firmly to the floor drain body by bolting the DPM Clamp Ring in position.
4. Lay the insulation.
5. Remove the Dirt Cover and push the sliding Throat of the Grate and Bezel Assembly into the DPM Clamp Ring. Adjust for height by sliding up or down against the Throat Seal, so that height of Grate above the DPM is equal to the minimum screed thickness.
6. Connect the Funnel Trap Assembly. Push the assembly into the Throat. Connect Grate to Bezel.

7. Lay screed to falls.
8. Lay the flexible sheet flooring and screw the Clamp Collar into position to secure the sheet flooring firmly against the Bezel.

Weep Bung

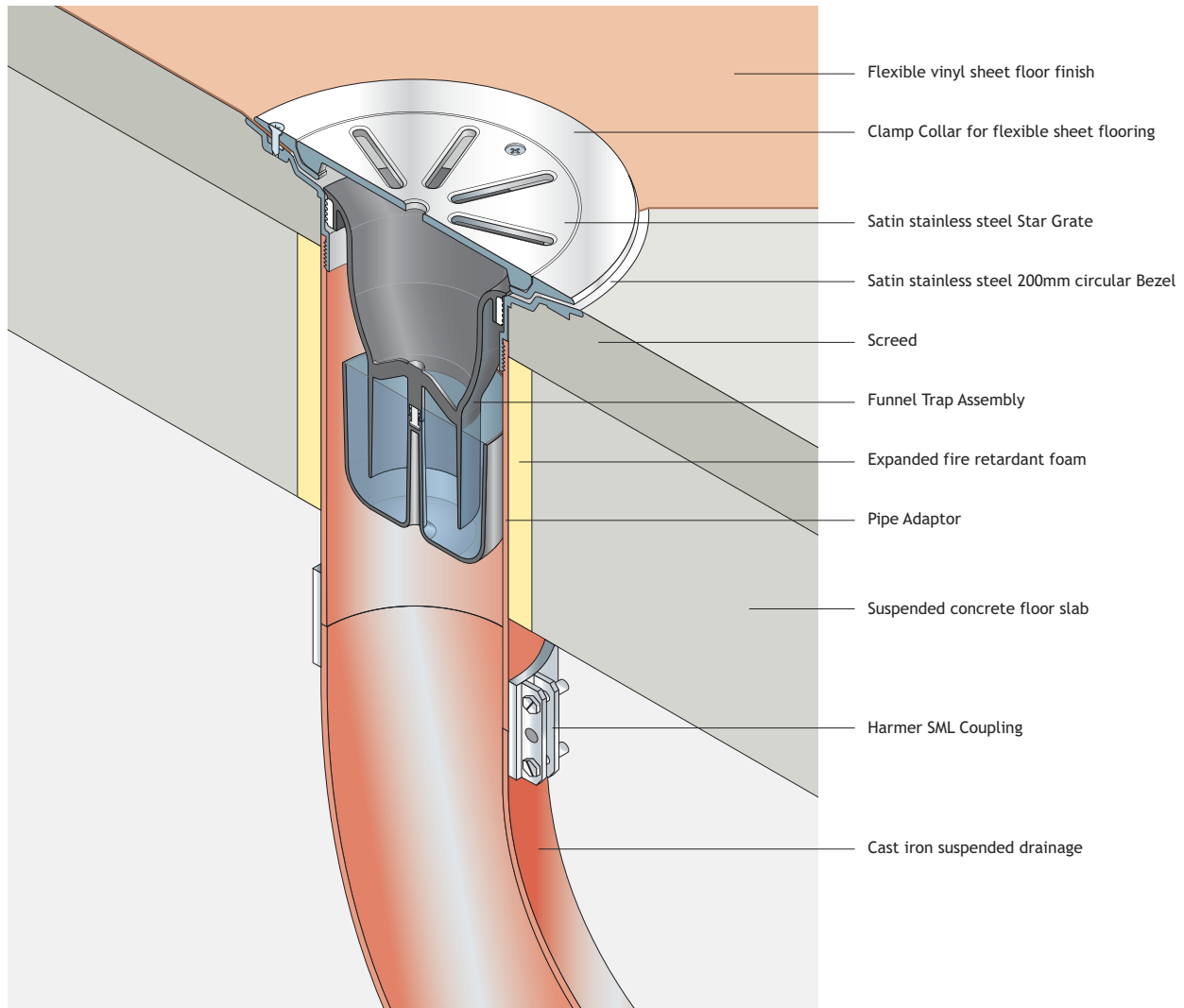
The DPM Clamp Ring has a red Weep Bung to relieve the build-up of vapour pressure where appropriate.

- For tiled floor finish applications, the Weep Bung should be removed.
- For sheet vinyl floor finish applications, the Weep Bung should be left in.
- Pressure test drains before installation.



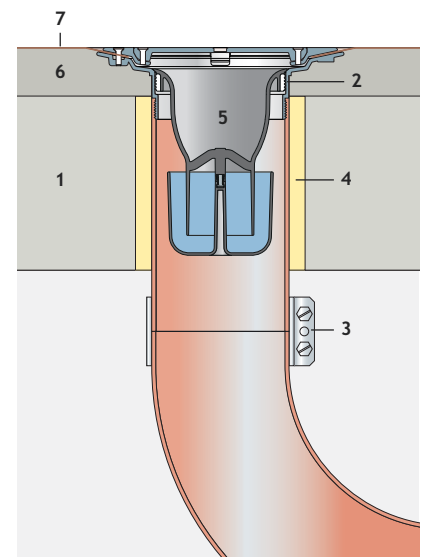
Aluminium Floor Outlets - Application Details

Floor Outlet with cast iron Pipe Adaptor (ADP100/SML) and VSA20/SS/B/T trapped grating assembly in vinyl covered suspended floor



Sitework

1. Erect suspended floor slab and form hole to receive drainage.
2. Connect Bezel to Pipe Adaptor, locate assembly in hole, and temporarily support so that height of Grate above slab is equal to the minimum screed thickness.
3. Connect Pipe Adaptor to pipework with Harmer SML Coupling.
4. Fill space between Pipe Adaptor and concrete with expanded fire retardant foam.
5. Connect the Funnel Trap Assembly. Push the assembly into the Pipe Adaptor. Connect Grate to Bezel.
6. Lay screed to falls.
7. Lay the flexible sheet flooring and screw the Clamp Collar into position to secure the sheet flooring firmly against the Bezel.



Harmer Drainage Systems Backflow Valves

A comprehensive range of single and double flap non-return valves that prevent the back flow of rainwater or waste drainage.



Backflow Valves - Benefits

Increases in heavy rainfall events has made the occurrence of flooding from storm water drains more common. Harmer backflow valves offer a competitive, proven solution effectively protecting properties from the rising problem of flood water backflow from below ground drainage systems.

Design Function and Flexibility

- Harmer Backflow valves are equipped with automatic closing system that starts to operate when flood-water appears and are equipped with an emergency manually-operated closing system
- Harmer Backflow valves effectively protect a building from unpleasant odours getting inside a building when drain and sewerage systems are not used for longer periods
- Harmer Backflow valves reduce the risk of rodents getting inside a building through drain and sewerage systems

Robust Construction

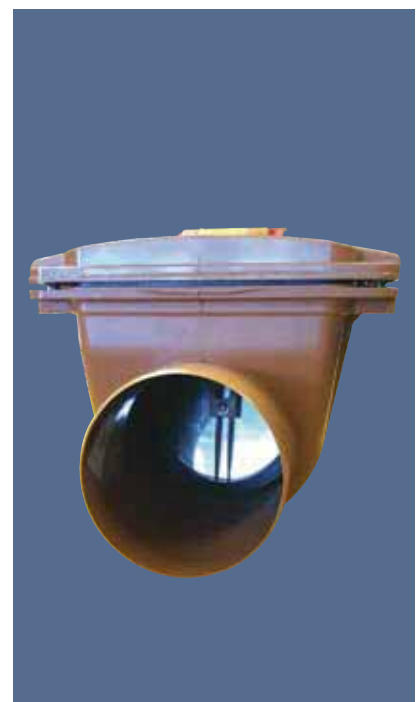
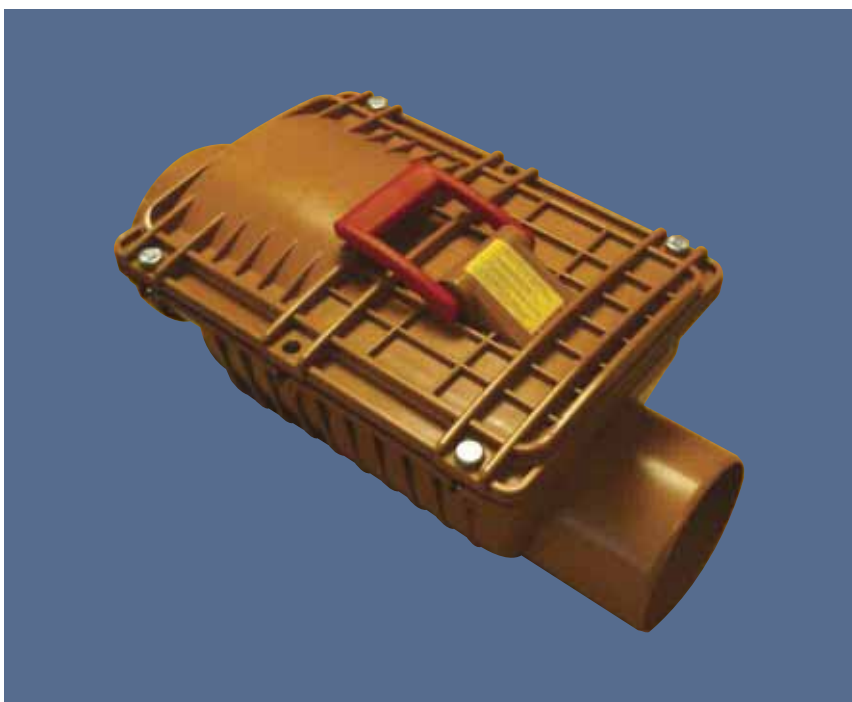
- Harmer Backflow valves are made from impervious ABS giving excellent impact resistance and good resistance to acids and bases
- Harmer Backflow valves incorporate a stainless steel cover to internal flaps which avoid potential for any 'gnawing' damage from rodents
- Cover incorporates stainless steel fixings for life long performance

Standards

- Production of components is controlled under an ISO 9001:2008 Quality Management System

Ease of Maintenance

- Harmer Backwater valves incorporate access covers for easy periodic maintenance or access to remove any trapped material.



Backflow Valves - Product Range Summary

Harmer backflow valves are available in single flap options for incorporation in drainage systems from 50mm to 200mm diameter and in double flap options from 110mm to 200mm diameter.

Single Flap Backflow Valves



Installation of the single flap backflow valve protects the properties up stream of the valve from storm water caused by blockage or flooding of the main storm water drainage system. The internal flap also stop rodents from entering the pipes and is made of stainless steel to avoid potential for rodent 'gnawing'.

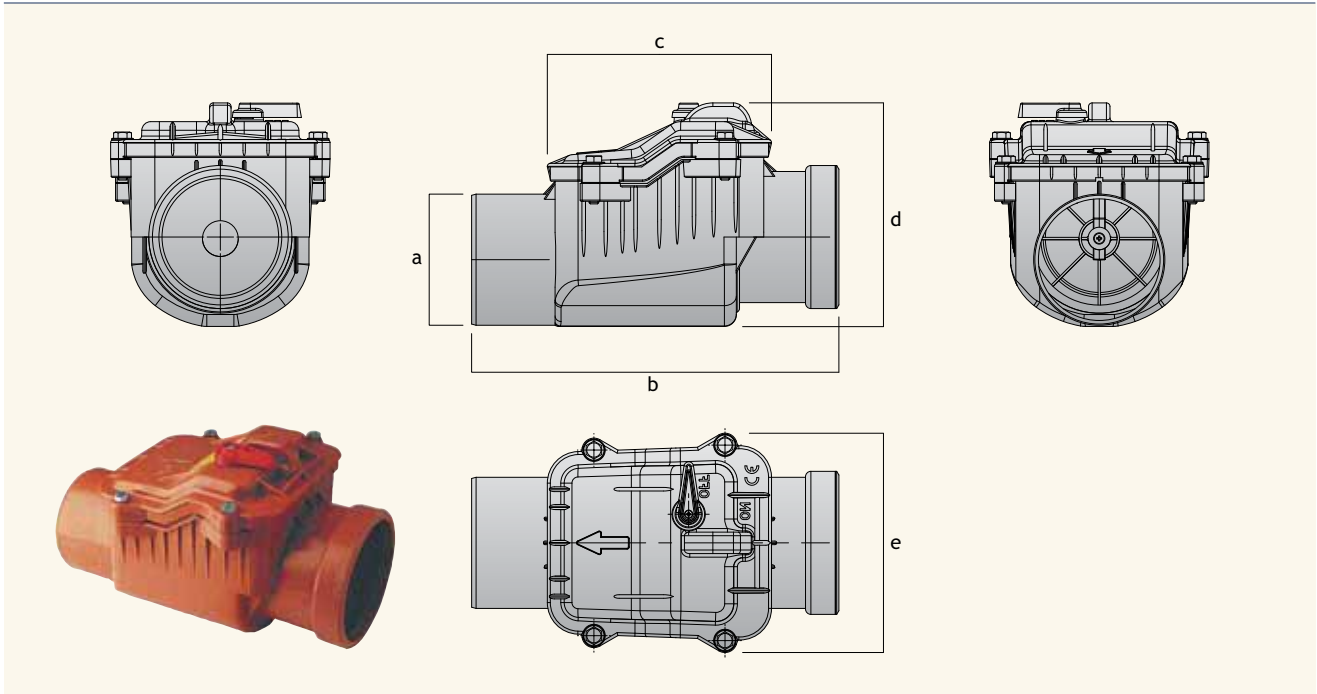
Double Flap Backflow Valves



Installation of the double flap backflow valve gives double protection to properties up stream of the valve from storm water caused by blockage or flooding of the main storm water drainage system. The double internal flaps stop rodents from entering the pipes and is made of stainless steel to avoid potential for rodent 'gnawing' and in addition gives security in case the upstream flap is kept partially open by waste at the time of flooding.

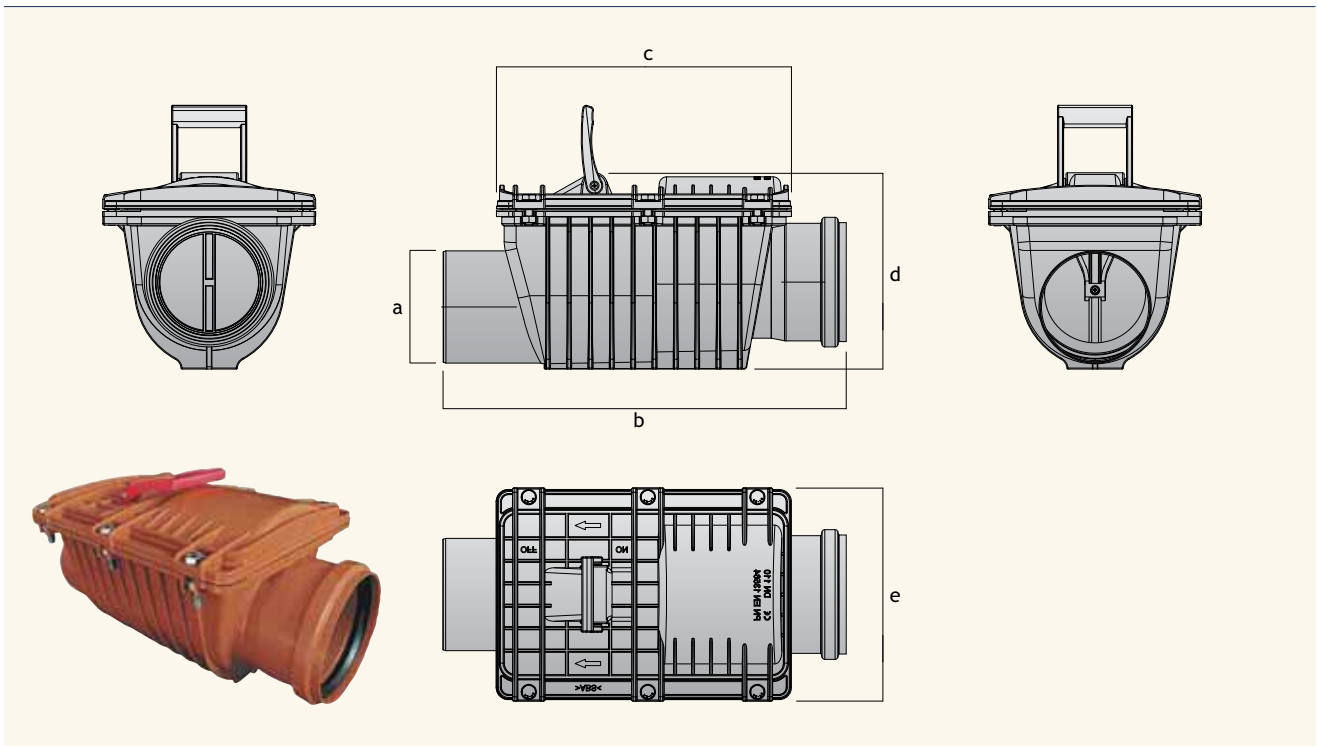
Backflow Valves - Product Tables

Single Flap Backflow Valve 110



Outlet Size (mm)	Connections	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Product Code
110	Push-fit socketed (inlet); proprietary coupling (outlet)	110	308	188	188	184	HBF110S

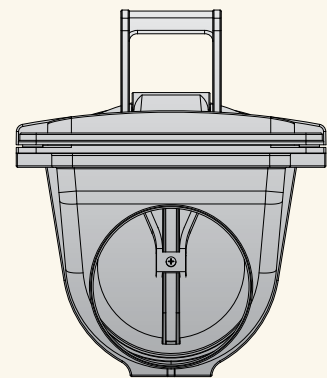
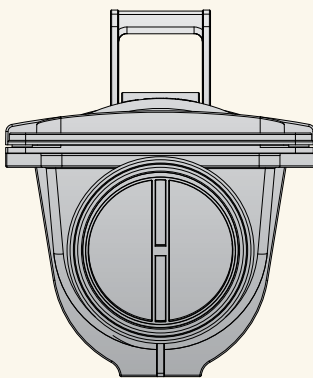
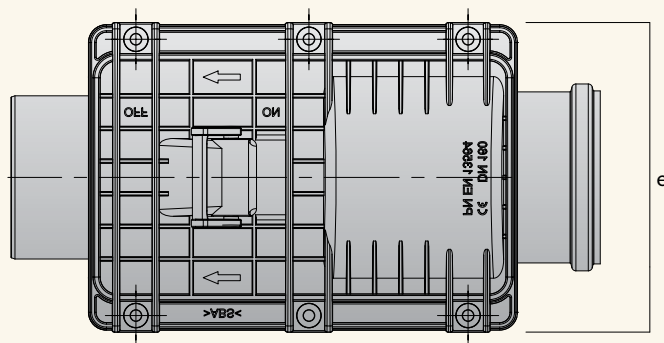
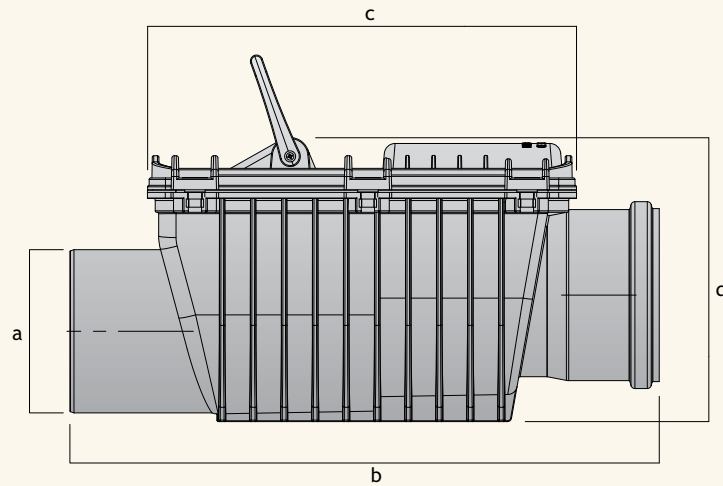
Double Flap Backflow Valve 110



Outlet Size (mm)	Connections	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Product Code
110	Push-fit socketed (inlet); proprietary coupling (outlet)	110	395	289	192	209	HBF110D

Backflow Valves - Product Tables

Double Flap Backflow Valve 160



Outlet Size (mm)	Connections	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Product Code
160	Push-fit socketed (inlet); proprietary coupling (outlet)	160	578	420	278	304	HBV160D

Backflow Valves - Additional Models

Single Flap Range



50mm Single



50mm Single



100mm Single
(alternative to HBF110S)



125mm Single



160mm Single

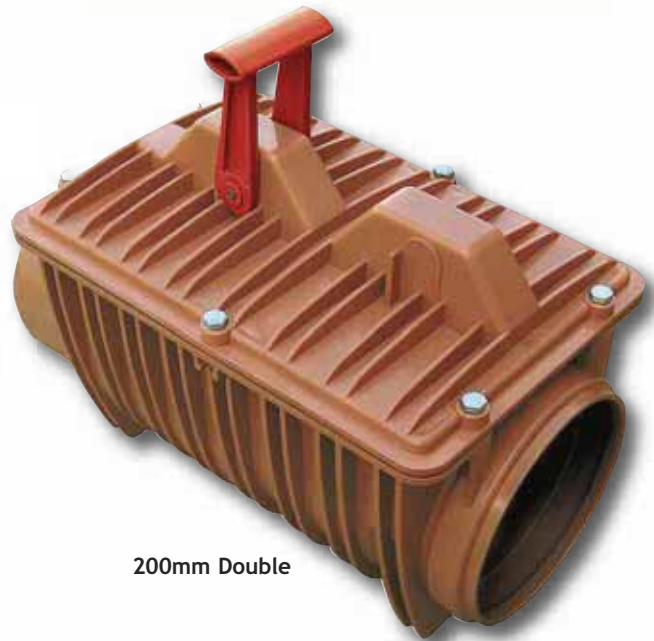


200mm Single

Double Flap Range



125mm Double



200mm Double

Additional models available upon request.

For further information, contact
Harmer Technical Department

Backflow Valves - NBS Specification & General Specification

A typical NBS Specification for Harmer Backflow Valves. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBSPlus

NBS Specification

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN
- Complete the design of the above ground foul drainage system
 - Standard: BS EN 13564 Type 1, 2 or 3 and BS EN 1253
 - Proposals: Submit drawings, technical information, calculations and manufacture's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ± 38 mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

- 310 HARMER FLOOR DRAINAGE
- Floor Construction: Concrete slab
 Manufacturer: Alumasc Exterior Building Products Ltd,
 White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
 Tel: 01744 648400, Fax: 01744 648401.
 Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Polymer Backflow Valve
 Material: Plastic Polymer
 Outlet Type: 110/125/160/200mm Dia
 Flap Control: Single Flap/Double Flap (ABS/Stainless Steel)
 Access Chamber: Required/Not required
 Load Class: L15/K3
 Cover Type: Recessed/Solid
 Backflow Operation: Manual/Automatic
 Product Code: Refer to tables
 Accessories: Access Cover Extension/Conversion Kit/Cover Plate/Multistop/
 Hair Filter/Inlet & Outlet/Cable Extension/Rat Protection Flap



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

General Specification Notes

PRODUCTS

- 355 HARMER FLOOR DRAINAGE
- Floor Construction: Concrete Slab
- Manufacturer:
 Alumasc Exterior Building Products Ltd,
 White House Works, Bold Road, Sutton,
 St Helens, Merseyside WA9 4JG
- Tel: 01744 648400, Fax: 01744 648401.
 Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Polymer Backflow Valve
 Material: Plastic Polymer
 Outlet Type: $\varnothing 110$ mm
 Flap Control: Single Flap ABS
 Access Chamber: Not Required
 Backflow Operation: Manual
 Product Code: HBF110S
 Accessories: Hair Filter/Rat Protection Flap

Backflow Valves - Operation & Design

Operation

When facing back flow sewage, Harmer double flap system automatically blocks the flow of water through the first flap. In case this flap is not completely shut (waste blockage), the second flap blocks the flow, thus preventing flooding. After the backwater recedes, free flow of sewage is automatically restored.

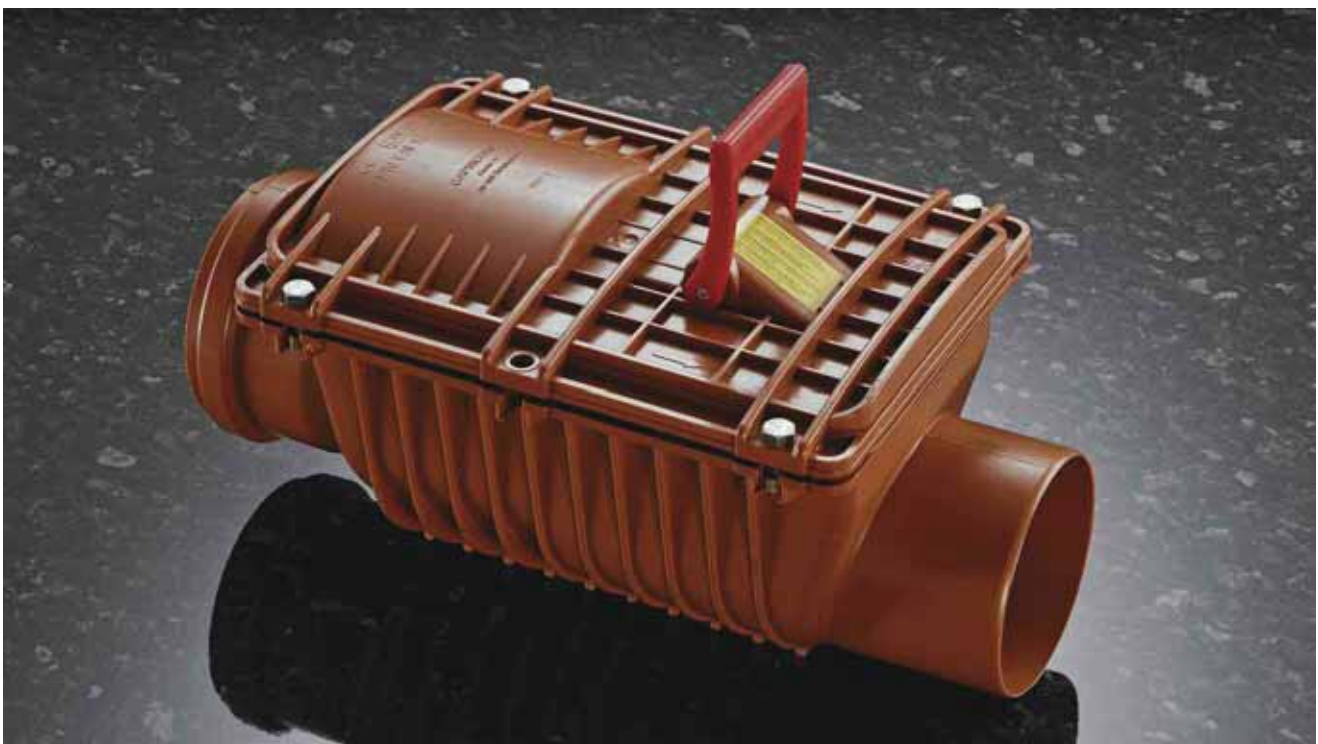
For the purpose of cleaning/servicing, the system has a manual override handle so that both flaps can be locked shut.

Design

1. Screws made of high quality stainless steel.
2. Regular maintenance is the key to correct operation of the valve flaps, made of stainless steel, gives additional protection from rodents and extends the operational life of the locking mechanism.
3. Reinforced structure (ABS), guarantees rigidity and durability.
4. Backwater valves effectively prevent unpleasant odours getting inside a building when drain and sewerage systems are not used for longer periods.
5. Backwater valves provide an easy method of access for performance of periodic maintenance of flaps. They should be inspected at least twice per year.

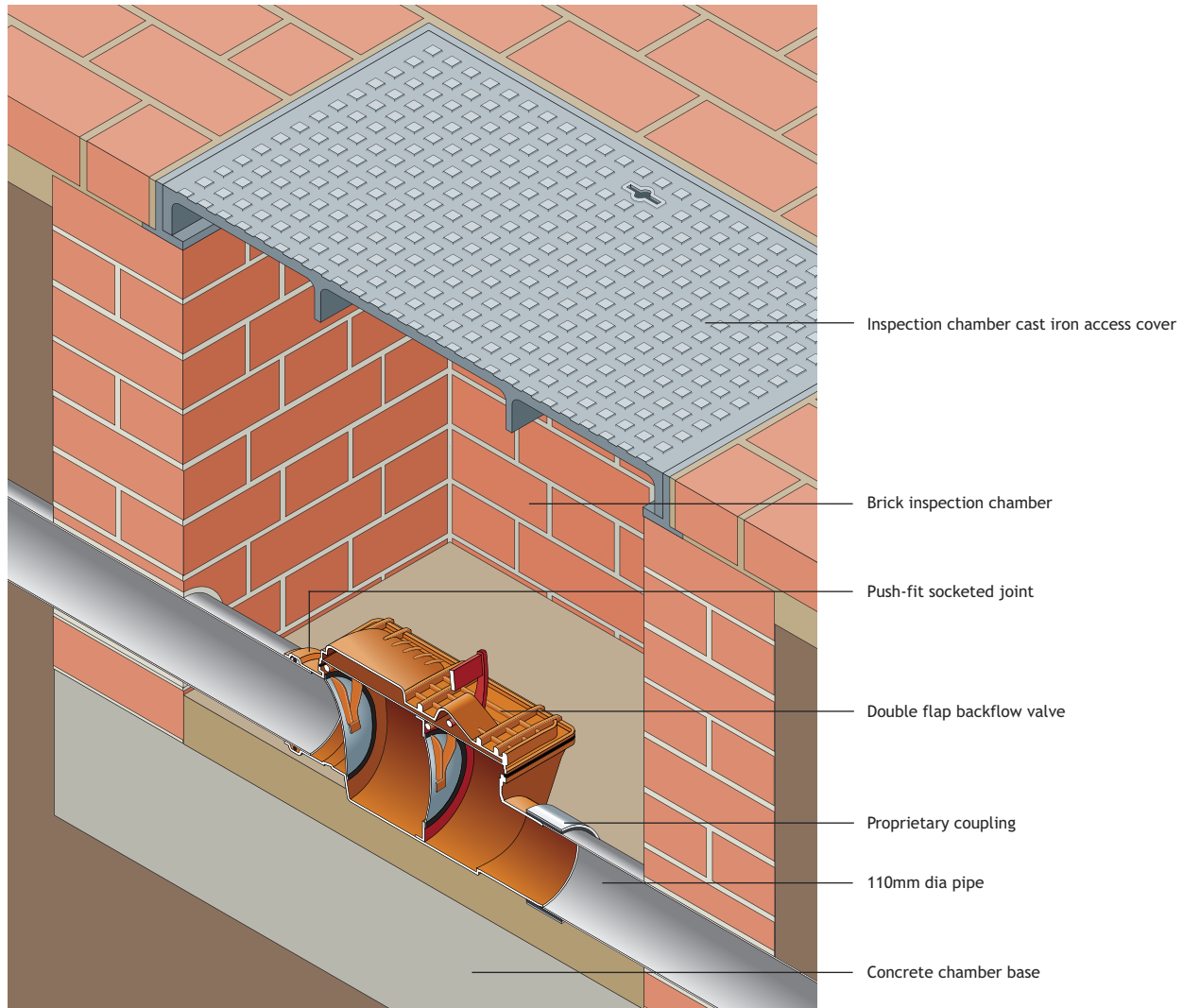
Single Flap versus Double Flap

Level of Protection Comparison	Single Flap Non-Return Valve	Double Flap Non-Return Valve
Protection Against Rodents	★	★ ★
Backwater Prevention	★	★ ★
Odour Prevention	★	★ ★



Backflow Valves - Application Details

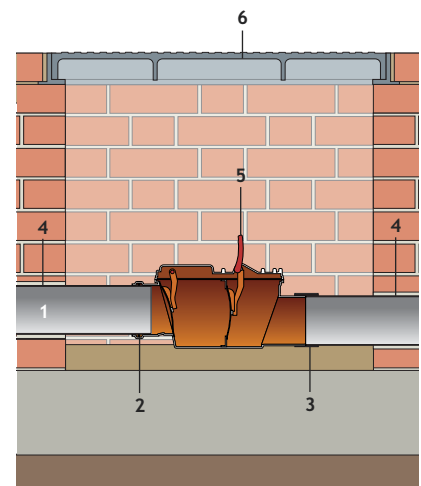
Double Flap Backflow Valve in brick inspection chamber



For sewage systems

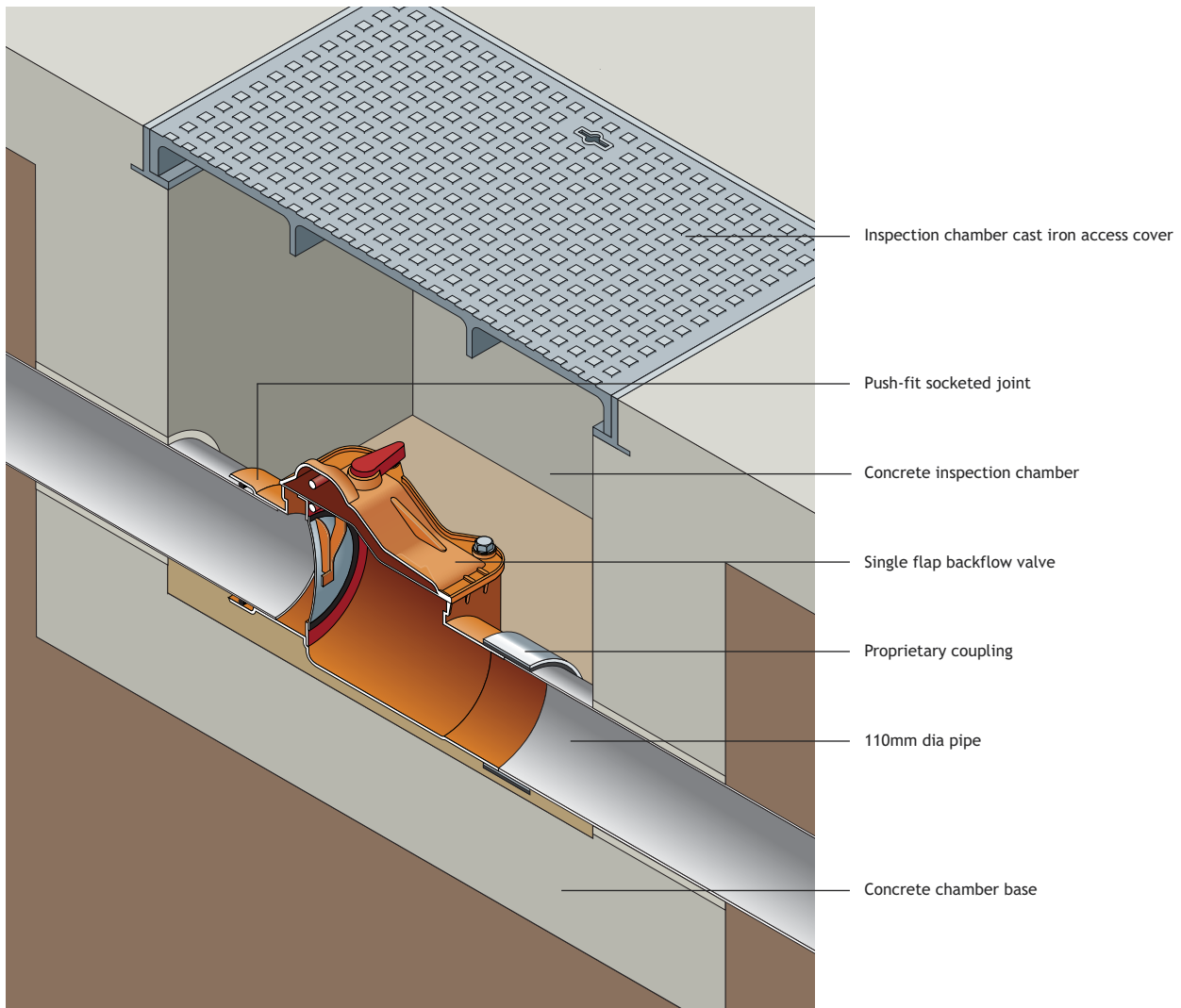
Sitework

1. Ensure underground pipe entering inspection chamber is laid to fall.
2. Centrally position backflow stop and push fit socketed end onto pipe.
3. Connect opposite side to adjoining pipe using proprietary coupling.
4. All pipework fittings **MUST** be sealed at inspection chamber wall protrusions.
5. Ensure top lever handle is in the "ON" position to allow waste water discharge.
6. Fit inspection chamber access cover.



Backflow Valves - Application Details

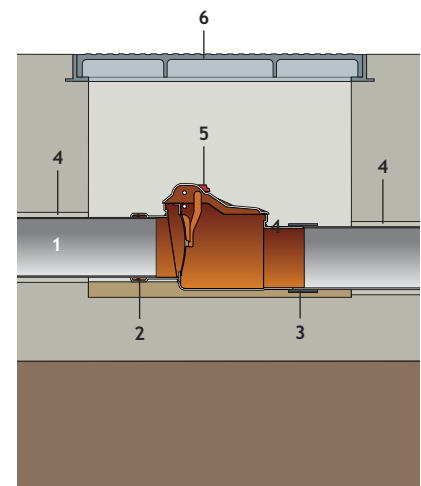
Single Flap Backflow Valve in concrete inspection chamber



For storm water systems

Sitework

1. Ensure underground pipe entering inspection chamber is laid to fall.
2. Centrally position backflow stop and push fit socketed end onto pipe.
3. Connect opposite side to adjoining pipe using proprietary coupling.
4. All pipework fittings **MUST** be sealed at inspection chamber wall protrusions.
5. Ensure top lever handle is in the "ON" position to allow waste water discharge.
6. Fit inspection chamber access cover.



Harmer Drainage Systems Aluminium Shower Floor Outlets

The premium, high performance
Aluminium Shower Floor Outlet range,
with BBA approved polyester powder coated outlet bodies,
and a choice of attractive caps and grates.



Aluminium Shower Floor Outlets - Benefits

Harmer Aluminium Shower Floor Outlets are precision engineered to establish the highest possible performance standards for versatility, choice and durability offering architects, specifiers and consultants exceptional benefits.

Compliances

- Harmer Shower Floor Outlets fully meet the requirements of BS EN 1253 for general design, flow performance and load testing

High Flow Performance

- In independent tests, flow performances of up to 1.3 litres per second (80 litres per minute) have been recorded

Robust and Secure

- The drain bodies and fittings are lightweight, durable and strong, and when tested in accordance with BS EN 1253, the load class designation is K3, meaning that the drain can withstand a 300 kg vertical load
- Security fixings are also available to prevent unauthorised removal of caps and grates

A Choice of Caps and Grates

- The range of top accessible caps and grates is suitable for both tiled or sheet floor applications
- The range includes powder coated aluminium, stainless steel and nickel bronze to co-ordinate and harmonise with the wetroom environment

Low Maintenance and Hygienic

- The easy clean cap design with fast flow 50mm trap affords unrestricted waterways, reduced hair snagging and dirt build up
- The top access trap, for use with both the vertical and horizontal drain bodies, is simple to remove and replace

Easy and Quick to Install

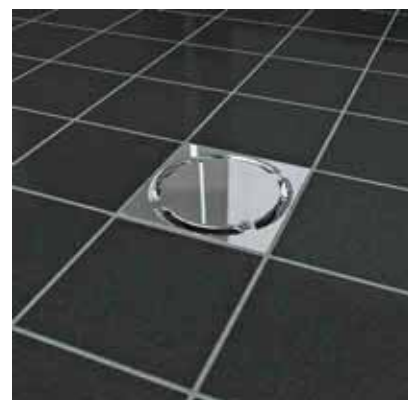
- Compact vertical and horizontal drain bodies install into timber and concrete floor construction
- Drain bodies easily connect to other materials, including the Harmer SML lightweight cast iron soil and waste system, HDPE, PVC and polypropylene
- Fully compatible with UK pipe sizes, where 43mm (1½"), 56mm (2") and 110mm (4") connections are required

Value for Money

- High-pressure die-cast drain bodies are manufactured from LM6 aluminium alloy which has excellent resistance to corrosion under both atmospheric and marine conditions
- Drain bodies are polyester powder coated to BBA-approved standard to further increase protection and extend product life

Sustainable

- Aluminium is 100% recyclable making it a cost effective and sustainable material
- End of life Harmer Shower Drains can be recast into new aluminium products



Aluminium Shower Floor Outlets - Product Range Summary

The Harmer Aluminium Shower Drain range offers a mix of precision engineered metal components chosen for their durability and aesthetic characteristics. The range is available with a choice of vertical or horizontal outlets and is suitable for both tiled and flexible sheet flooring applications.

Drain Bodies

Use of materials and smooth flow ensures reliable installation and service life. Ideal for all types of solid and suspended concrete floor construction including installations where shallow invert pipework is essential, e.g. joisted timber floor construction.

- Top accessible for quick and easy maintenance
- 56mm (2") pipe outlet for increased flow performance. Proprietary fittings adapt to 43mm (1 1/2") pipework
- Connections to cast iron, HDPE and most PVC and Polypropylene plastic pipes and fittings
- Vertical Drain Bodies push fit into 110mm ring seal pipe sockets
- Horizontal Drain Bodies have an integral fall in the sump that eliminates silt collection
- All Shower Drains are supplied with a removable 50mm smooth flow foul air trap

Harmer Level Access Former

Installation of Harmer Shower Drains is made easier with preformed level access formers designed to simplify the process of creating drainage falls in joisted floor construction. Ideal for use with tiled and flexible sheet flooring.

Benefits of Harmer Level Access Former:

- No need for flooring overlay
- No firrings on joists
- No alterations to joists
- No trip risk from stepped threshold
- No bathroom door alteration

Harmer Level Access Formers are made from 22mm thick, high quality birch plywood in a variety of sizes and outlet positions. They are load safe to 380 kg and very easy to fit.

For further advice about this product, contact Alumasc Technical Services on 01744 648400.



Vertical Drain Body

Horizontal Drain Body

Aluminium Shower Floor Outlets - Product Range Summary

Harmer Shower Drains are available with an extensive choice of caps and grates in a variety of metals and finishes for complete co-ordination with tiled or flexible sheet flooring, adding quality and style to the wetroom experience.

Flexible Sheet Flooring

Caps, Grates and Clamps

The cap, grate and clamp components are for sheet flooring applications and combine with both vertical and horizontal outlet bodies.

Load Class K3 to BS EN 1253 applies.

The components available are:

- Pebble Cap - in White polyester powder coated Aluminium (standard); also available in a choice of colours on request
- Plain Cap - in Mirror Finish, Stainless Steel, Nickel Bronze
- Star Grate - in Stainless Steel, Nickel Bronze
- Concentric Ring Grate - in Stainless Steel, Nickel Bronze
- A new Anti-Ligature grate option is also available in Stainless Steel and Nickel Bronze
- The Clamps match the colours and materials of the Caps and Grates

The combinations of components and materials offered by Alumasc are shown in the tables on pages 128 and 132.

Tiled Floors

Caps, Grates and Tile Frames

The cap, grate and tile frame components are for tiled floor applications and combine with both vertical and horizontal outlet bodies. The tile frames are available in sizes 150mm x 150mm or 200mm x 200mm.

Load Class K3 to BS EN 1253 applies.

The components available are:

- Pebble Cap - in White polyester powder coated Aluminium (standard), also available in a choice of colours on request
- Plain Cap - in Mirror Finish, Stainless Steel, Nickel Bronze
- Star Grate - in Stainless Steel, Nickel Bronze
- Concentric Ring Grate - in Stainless Steel, Nickel Bronze
- A new Anti-Ligature grate option is also available in Stainless Steel and Nickel Bronze
- The Tile Frames match the colours and materials of the Caps and Grates

The combinations of components and materials offered by Alumasc are shown in the tables on pages 129 and 133.



Pebble Cap + Clamp
White Aluminium



Plain Cap + Clamp
Mirror Finish



Star Grate + Clamp
Stainless Steel



Concentric Ring Grate + Clamp
Nickel Bronze



Pebble Cap + Tile Frame
White Aluminium



Plain Cap + Tile Frame
Mirror Finish

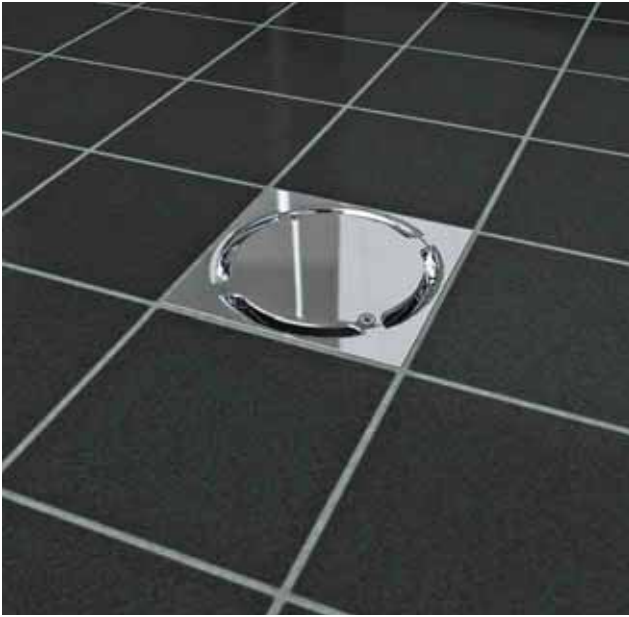


Star Grate + Tile Frame
Stainless Steel



Concentric Ring Grate + Tile Frame
Nickel Bronze

Aluminium Shower Floor Outlets - Vertical Outlet



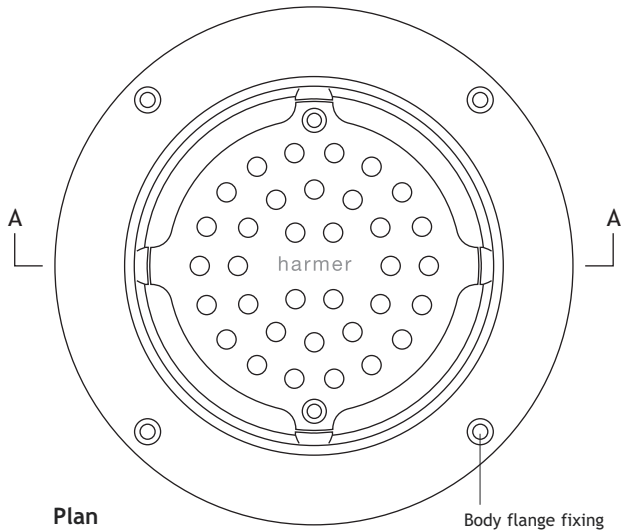
Vertical Outlet Components

- 1 Stainless Steel screws (provided) for securing Caps and Grates. Anti-tamper security fixings are also available
- 2 White polyester powder coated Aluminium Pebble Cap; also available in Plain Mirror Finish, Stainless Steel or Nickel Bronze
- 3 Nickel Bronze Concentric Ring Grate; also available in Stainless Steel
- 4 Stainless Steel Star Grate; also available in Nickel Bronze
- 5 150mm x 150mm Tile Frame (also 200mm x 200mm) to match Cap and Grate selections
- 6 Stainless Steel clamp screws (provided) for securing Clamp to Drain Body
- 7 Clamp for securing flexible sheet flooring or under-tile waterproof membrane to match Cap and Grate selections
- 8 50mm Foul Air Trap push fits into Drain Body. Crossbar allows easy removal
- 9 Vertical Drain Body with 56mm (2") outlet. Main part of Drain Body also push-fits into 110mm ring seal socket

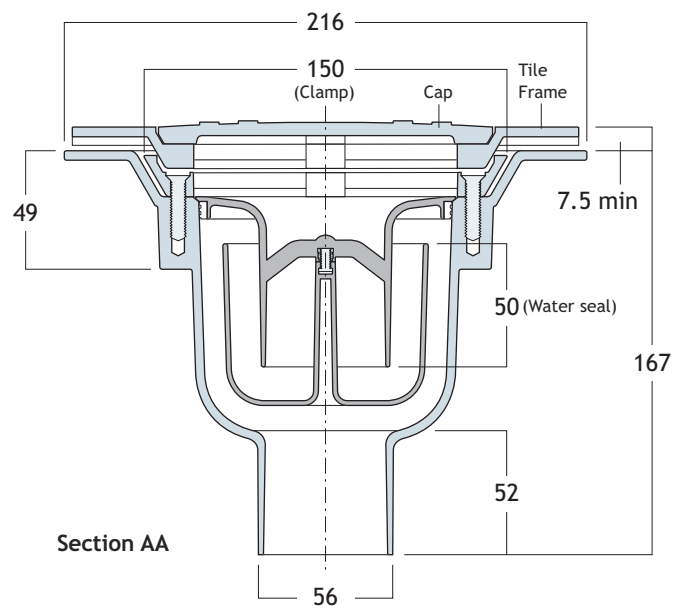
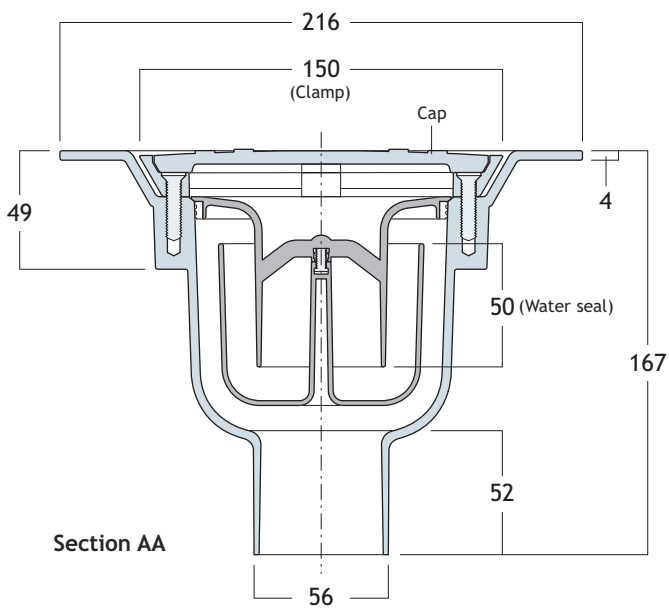
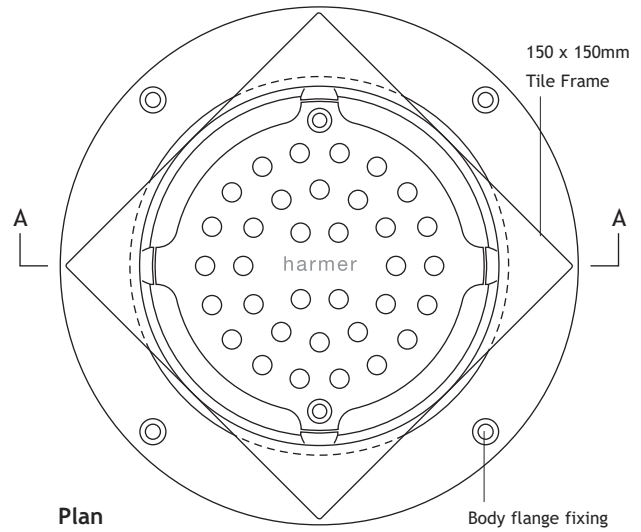


Aluminium Shower Floor Outlets - Vertical Outlet

**Drain Body Dimensions
(Flexible Sheet Flooring)**



**Drain Body Dimensions
(Tiled Flooring)**



Note: All dimensions are shown in millimetres

Aluminium Shower Floor Outlets - Product Tables

Vertical Outlet Combinations for Flexible Sheet Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

Note: Nickel bronze is a copper-based alloy and may tarnish with time

White PPC Aluminium Clamp and Pebble Cap



Product Code	Flow Rate	Load Class	Weight
AVS/WH	1.3 l/s	K3	1.1 kg

Note: Also available in a choice of colours on request. Surcharges may apply.

Mirror Finish Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
AVS/CH	1.3 l/s	K3	1.1 kg

Stainless Steel Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
AVS/CS	1.3 l/s	K3	1.7 kg

Nickel Bronze Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
AVS/CN	1.3 l/s	K3	1.7 kg

Stainless Steel Clamp and Star Grate



Product Code	Flow Rate	Load Class	Weight
AVS/SS	0.8 l/s	K3	1.8 kg

Nickel Bronze Clamp and Star Grate



Product Code	Flow Rate	Load Class	Weight
AVS/SN	0.8 l/s	K3	1.8 kg

Stainless Steel Clamp and Concentric Ring Grate



Product Code	Flow Rate	Load Class	Weight
AVS/RS	0.8 l/s	K3	1.6 kg

Stainless Steel Anti-Ligature drain available AVS/AS

Nickel Bronze Clamp and Concentric Ring Grate



Product Code	Flow Rate	Load Class	Weight
AVS/RN	0.8 l/s	K3	1.6 kg

Nickel Bronze Anti-Ligature drain available AVS/AN

Aluminium Shower Floor Outlets - Product Tables

Vertical Outlet Combinations for Tiled Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

Note: Nickel bronze is a copper-based alloy and may tarnish with time

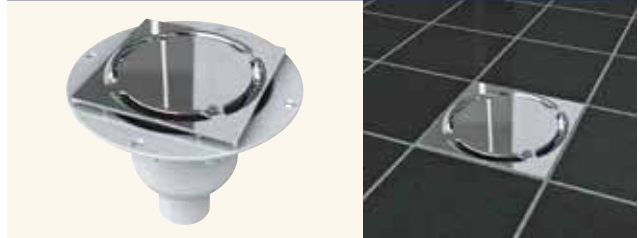
White PPC Aluminium Tile Frame and Pebble Cap



Product Code	Size	Flow Rate	Load Class	Weight
AVS/WH/T15	150x150mm	1.3 l/s	K3	1.3 kg
AVS/WH/T20	200x200mm	1.3 l/s	K3	1.5 kg

Note: Also available in a choice of colours on request. Surcharges may apply.

Mirror Finish Tile Frame and Plain Cap



Product Code	Size	Flow Rate	Load Class	Weight
AVS/CH/T15	150x150mm	1.3 l/s	K3	1.3 kg

Stainless Steel Tile Frame and Plain Cap



Product Code	Size	Flow Rate	Load Class	Weight
AVS/CS/T15	150x150mm	1.3 l/s	K3	2.0 kg
AVS/CS/T20	200x200mm	1.3 l/s	K3	2.7 kg

Nickel Bronze Tile Frame and Plain Cap



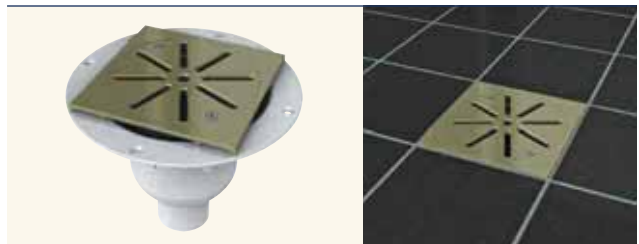
Product Code	Size	Flow Rate	Load Class	Weight
AVS/CN/T15	150x150mm	1.3 l/s	K3	2.0 kg
AVS/CN/T20	200x200mm	1.3 l/s	K3	2.7 kg

Stainless Steel Tile Frame and Star Grate



Product Code	Size	Flow Rate	Load Class	Weight
AVS/SS/T15	150x150mm	0.8 l/s	K3	2.1 kg
AVS/SS/T20	200x200mm	0.8 l/s	K3	2.8 kg

Nickel Bronze Tile Frame and Star Grate



Product Code	Size	Flow Rate	Load Class	Weight
AVS/SN/T15	150x150mm	0.8 l/s	K3	2.1 kg
AVS/SN/T20	200x200mm	0.8 l/s	K3	2.8 kg

Stainless Steel Tile Frame and Concentric Ring Grate



Product Code	Size	Flow Rate	Load Class	Weight
AVS/RS/T15	150x150mm	0.8 l/s	K3	2.0 kg
AVS/RS/T20	200x200mm	0.8 l/s	K3	2.6 kg

Stainless Steel Anti-Ligature drain available AVS/AS/T15 & AVS/AS/T20

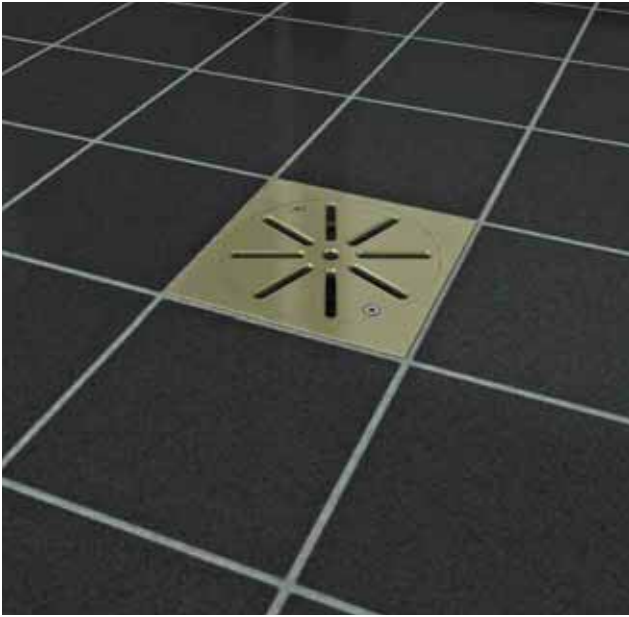
Nickel Bronze Tile Frame and Concentric Ring Grate



Product Code	Size	Flow Rate	Load Class	Weight
AVS/RN/T15	150x150mm	0.8 l/s	K3	2.0 kg
AVS/RN/T20	200x200mm	0.8 l/s	K3	2.6 kg

Nickel Bronze Anti-Ligature drain available AVS/AN/T15 & AVS/AN/T20

Aluminium Shower Floor Outlets - Horizontal Outlet



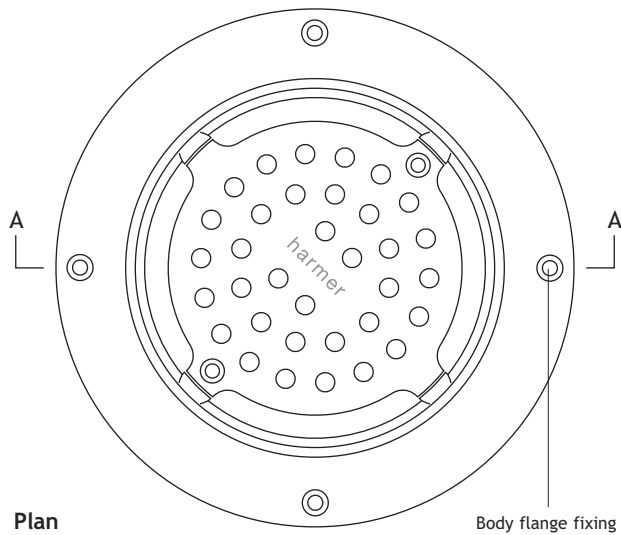
Horizontal Outlet Components



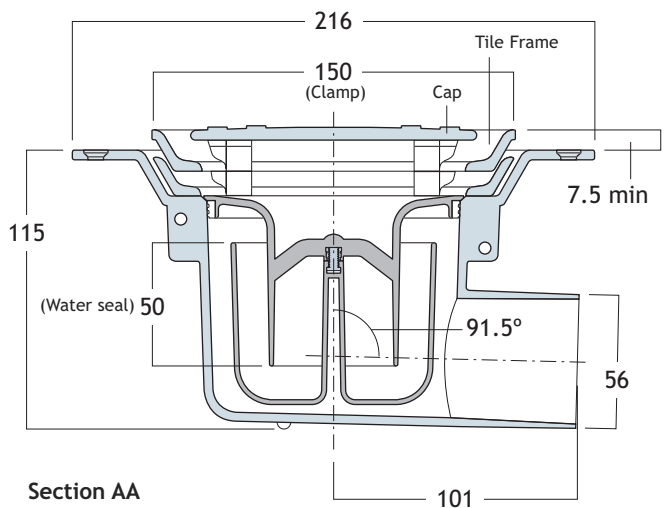
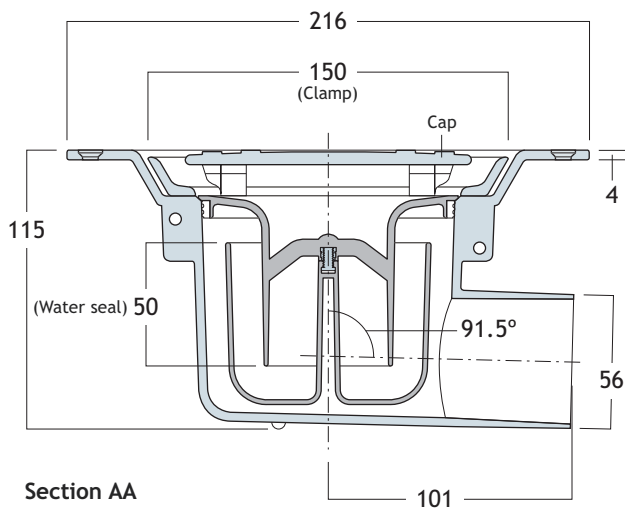
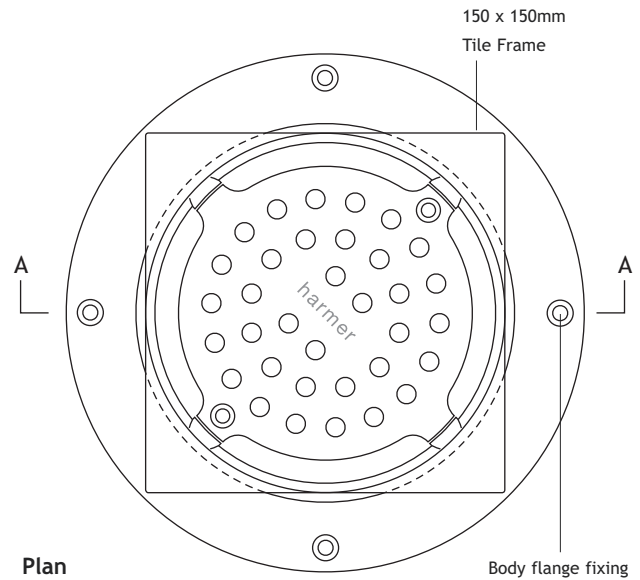
- 1 Stainless Steel screws (provided) for securing Caps and Grates. Anti-tamper security fixings are also available
- 2 White polyester powder coated Aluminium Pebble Cap; also available in Plain Mirror Finish, Stainless Steel or Nickel Bronze
- 3 Nickel Bronze Concentric Ring Grate; also available in Stainless Steel
- 4 Stainless Steel Star Grate; also available in Nickel Bronze
- 5 150mm x 150mm Tile Frame (also 200mm x 200mm) to match Cap and Grate selections
- 6 Stainless Steel clamp screws (provided) for securing Clamp to Drain Body
- 7 Clamp for securing flexible sheet flooring or under-tile waterproof membrane to match Cap and Grate selections
- 8 50mm Foul Air Trap push fits into Drain Body. Crossbar allows easy removal
- 9 Horizontal Drain Body with 56mm (2") outlet

Aluminium Shower Floor Outlets - Horizontal Outlet

**Drain Body Dimensions
(Flexible Sheet Flooring)**



**Drain Body Dimensions
(Tiled Flooring)**



Note: All dimensions are shown in millimetres

Aluminium Shower Floor Outlets - Product Tables

Horizontal Outlet Combinations for Flexible Sheet Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

Note: Nickel bronze is a copper-based alloy and may tarnish with time

White PPC Aluminium Clamp and Pebble Cap



Product Code	Flow Rate	Load Class	Weight
AHS/WH	0.8 l/s	K3	1.1 kg

Note: Also available in a choice of colours on request. Surcharges may apply.

Mirror Finish Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
AHS/CH	0.8 l/s	K3	1.1 kg

Stainless Steel Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
AHS/CS	0.8 l/s	K3	1.7 kg

Nickel Bronze Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
AHS/CN	0.8 l/s	K3	1.7 kg

Stainless Steel Clamp and Star Grate



Product Code	Flow Rate	Load Class	Weight
AHS/SS	0.8 l/s	K3	1.8 kg

Nickel Bronze Clamp and Star Grate



Product Code	Flow Rate	Load Class	Weight
AHS/SN	0.8 l/s	K3	1.8 kg

Stainless Steel Clamp and Concentric Ring Grate



Product Code	Flow Rate	Load Class	Weight
AHS/RS	0.8 l/s	K3	1.6 kg

Stainless Steel Anti-Ligature drain available AHS/AS

Nickel Bronze Clamp and Concentric Ring Grate



Product Code	Flow Rate	Load Class	Weight
AHS/RN	0.8 l/s	K3	1.6 kg

Nickel Bronze Anti-Ligature drain available AHS/AN

Aluminium Shower Floor Outlets - Product Tables

Horizontal Outlet Combinations for Tiled Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

Note: Nickel bronze is a copper-based alloy and may tarnish with time

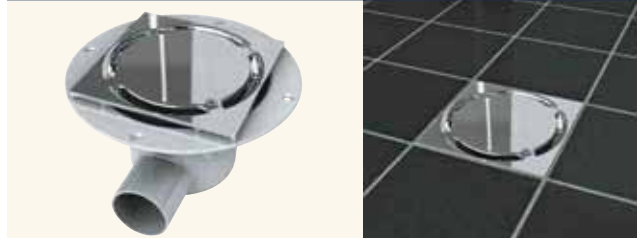
White PPC Aluminium Tile Frame and Pebble Cap



Product Code	Size	Flow Rate	Load Class	Weight
AHS/WH/T15	150x150mm	0.8 l/s	K3	1.3 kg
AHS/WH/T20	200x200mm	0.8 l/s	K3	1.5 kg

Note: Also available in a choice of colours on request. Surcharges may apply.

Mirror Finish Tile Frame and Plain Cap



Product Code	Size	Flow Rate	Load Class	Weight
AHS/CH/T15	150x150mm	0.8 l/s	K3	1.3 kg

Stainless Steel Tile Frame and Plain Cap



Product Code	Size	Flow Rate	Load Class	Weight
AHS/CS/T15	150x150mm	0.8 l/s	K3	2.0 kg
AHS/CS/T20	200x200mm	0.8 l/s	K3	2.7 kg

Nickel Bronze Tile Frame and Plain Cap



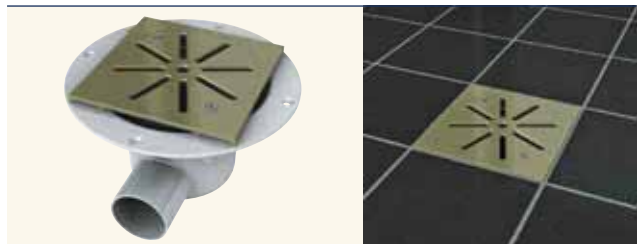
Product Code	Size	Flow Rate	Load Class	Weight
AHS/CN/T15	150x150mm	0.8 l/s	K3	2.0 kg
AHS/CN/T20	200x200mm	0.8 l/s	K3	2.7 kg

Stainless Steel Tile Frame and Star Grate



Product Code	Size	Flow Rate	Load Class	Weight
AHS/SS/T15	150x150mm	0.8 l/s	K3	2.1 kg
AHS/SS/T20	200x200mm	0.8 l/s	K3	2.8 kg

Nickel Bronze Tile Frame and Star Grate



Product Code	Size	Flow Rate	Load Class	Weight
AHS/SN/T15	150x150mm	0.8 l/s	K3	2.1 kg
AHS/SN/T20	200x200mm	0.8 l/s	K3	2.8 kg

Stainless Steel Tile Frame and Concentric Ring Grate



Product Code	Size	Flow Rate	Load Class	Weight
AHS/RS/T15	150x150mm	0.8 l/s	K3	2.0 kg
AHS/RS/T20	200x200mm	0.8 l/s	K3	2.6 kg

Stainless Steel Anti-Ligature drain available AHS/AS/T15 & AHS/AS/T20

Nickel Bronze Tile Frame and Concentric Ring Grate



Product Code	Size	Flow Rate	Load Class	Weight
AHS/RN/T15	150x150mm	0.8 l/s	K3	2.0 kg
AHS/RN/T20	200x200mm	0.8 l/s	K3	2.6 kg

Nickel Bronze Anti-Ligature drain available AHS/AN/T15 & AHS/AN/T20

Aluminium Shower Floor Outlets - Connection & Maintenance

The Harmer Shower Drain is highly versatile and can be connected to most types of pipework. The cap, clamp and trap have been designed to optimise efficient flow performance for self-cleaning and reduced maintenance.

Pipe Connection

Harmer Aluminium Shower Drain bodies have a nominal 56mm diameter spigot. They connect to lightweight cast iron, HDPE, PVC and Polypropylene pipe materials.



Connecting to 56mm (2") lightweight cast iron. Use Stainless Steel Harmer Duo Coupling.



Connecting to 56mm (2") ABS, HDPE, PVC-U or Polypropylene. Use proprietary compression coupling.



Connecting to 43mm (1 1/2") ABS or Polypropylene. Use proprietary reducing, compression coupling.



Connecting to 110mm HDPE/PVC-U (Vertical Drain Body only). Use ring seal pipe socket.

Drain Access

For tiled or flexible sheet flooring. The Harmer Shower Drain's removable trap is top accessible for ease of access and maintenance.



Remove 2 no. cap retaining screws. Do not remove clamp screws.



Lift aside Cap taking care not to lose screws. Do not remove Clamp.



Lift out Trap using cross bar and rinse thoroughly.



Wash internal surfaces with diluted disinfectant and soft sponge. Reverse process to re-assemble.

Care and Maintenance

The Harmer Shower Drain bodies are manufactured in corrosion resistant LM6 aluminium alloy with polyester powder coating to assist self-cleansing and smooth flow. A choice of Caps, Grates, Clamps and Tile Frames are manufactured in a variety of materials and finishes.

During site handling, installation and maintenance avoid damage to the coated surfaces. Any contamination arising from construction, such as concrete or cement, should be removed from surfaces using a soft cloth or sponge.

Cleaning solutions, such as those used to clean masonry and tiling must never be used with metals. If this happens, the acid solution must be diluted and rinsed away with clean water. When cleaning or wiping always use a soft cloth or sponge - do not use scourers or abrasive compounds.

Modern cleaning processes use sterilizers for hygiene purposes. Proprietary solutions, when used in accordance with the manufacturer's instructions, should be safe but if used incorrectly (e.g warm or concentrated), may cause discolouration or corrosion. NEVER USE BLEACH, CAUSTIC AGENTS OR SOLVENTS.

Cleaning Methods

Provide for the following items:

- Latex protective gloves
- Pozidrive screwdriver
- Bucket of clean water
- Sponge
- Household disinfectant

For polyester powder coated aluminium, mirror finish, stainless steel and nickel bronze caps, grates, clamps and tile frames, wash with soap or mild detergent applied with a clean sponge or soft clean cloth and rinse off with clean water.

Watermarks can be removed by lightly buffing with a soft clean cloth. For stainless steel, a soft-fibre brush may be used. NEVER USE STEEL WOOL.

Aluminium Shower Floor Outlets - Specification & Installation

Standard specification guidelines for the Harmer Aluminium Shower Drain are set out below. Full NBS format specifications (R11 Above-Ground Foul Drainage systems) are available for download from the Harmer Drainage website.

NBS Specification

Standards:

To BS EN 12056-1:2000 and BS EN 12056-2:2000, in accordance with BS EN 12056-2:2000 National Annexes NA-NG.

Harmer Shower Drain Products

Manufacturer:

Alumasc Exterior Building Products Ltd,
White House Works,
Bold Road, Sutton,
St Helens,
Merseyside WA9 4JG.

Tel: +44 (0) 1744 648400

Fax: +44 (0) 1744 648401

Email: info@alumasc-exteriors.co.uk

Aluminium Drain Bodies:

Horizontal Outlet or Vertical Outlet

Caps and Grates - Flexible Sheet Flooring

For use on a timber or suspended concrete floor, choose one of the following:

- White Polyester Powder Coated Aluminium - Pebble Cap
- Mirror Finish - Plain Cap
- Stainless Steel - Plain Cap; Concentric Ring Grate; Star Grate
- Nickel Bronze - Plain Cap; Concentric Ring Grate; Star Grate

Caps and Grates - Tiled Flooring

For use on a timber or suspended concrete floor, choose one of the following:

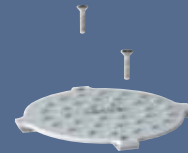
- 150 x 150mm or 200 x 200mm Tile Frame
- White Polyester Powder Coated Aluminium - Pebble Cap
- Mirror Finish - Plain Cap
- Stainless Steel - Plain Cap; Concentric Ring Grate; Star Grate; Anti-Ligature
- Nickel Bronze - Plain Cap; Concentric Ring Grate; Star Grate; Anti-Ligature

Installation

Installation notes for each component of the Harmer Aluminium Shower Drain are detailed below (not shown in the actual installation sequence that would be undertaken on site). Additional, explanatory isometric illustrations and sectional drawings are given on pages 136 to 139.

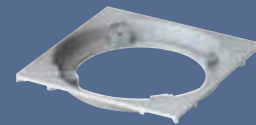
Caps/Grates

Fix into the tile frame or clamp using two stainless steel screws (provided).



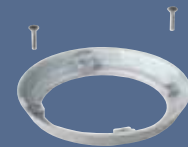
Tile Frames

For tiled floor applications, bed the 150mm x 150mm or 200mm x 200mm tile frame into tile adhesive. Apply flexible sealant around edge to prevent cracking.



Clamp Ring

Fix using two M5 x 25mm stainless steel screws (provided) to secure flexible sheet flooring and undertile waterproofing membranes to the drain body.



Foul Air Trap

Push fit the trap with 50mm seal into the drain body. The cross bar allows easy removal.



Vertical Drain Body

Install into plywood flooring or concrete deck construction.

Fix through the 4 no. countersunk holes in the top flange of the body.



Horizontal Drain Body

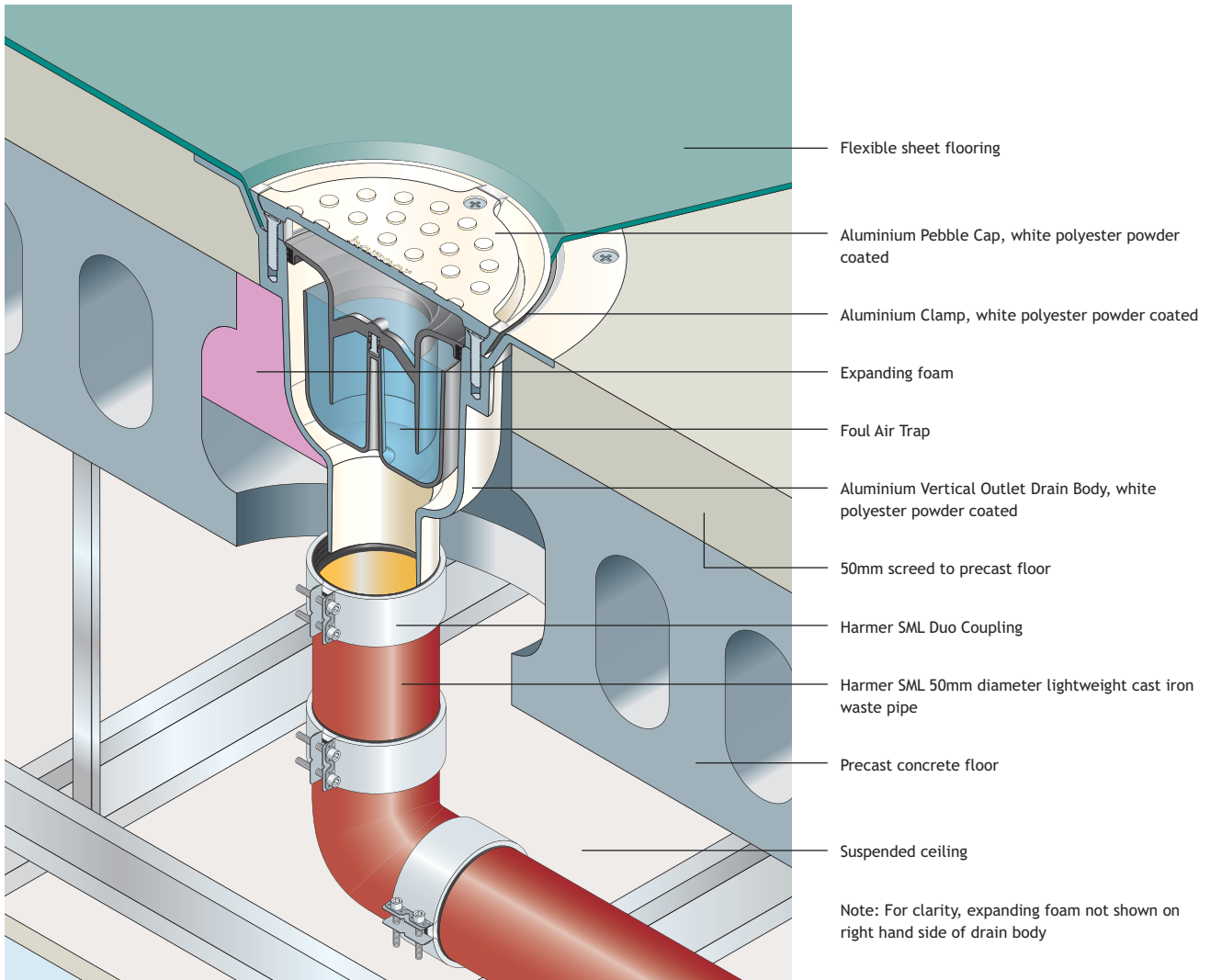
Install into concrete and joisted timber floor construction.

Fix through the 4 no. countersunk holes in the top flange of the body.



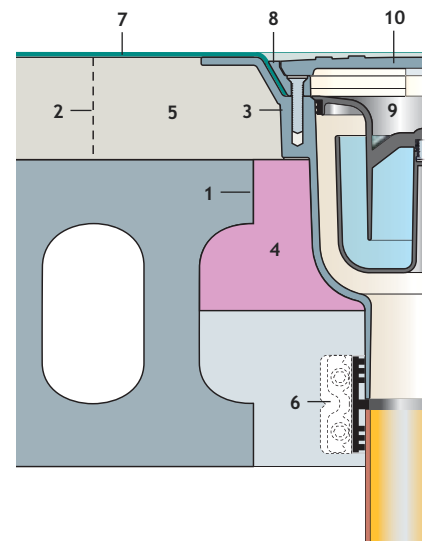
Aluminium Shower Floor Outlets - Application Details

Shower Drain with Vertical Outlet in suspended concrete floor with flexible sheet flooring



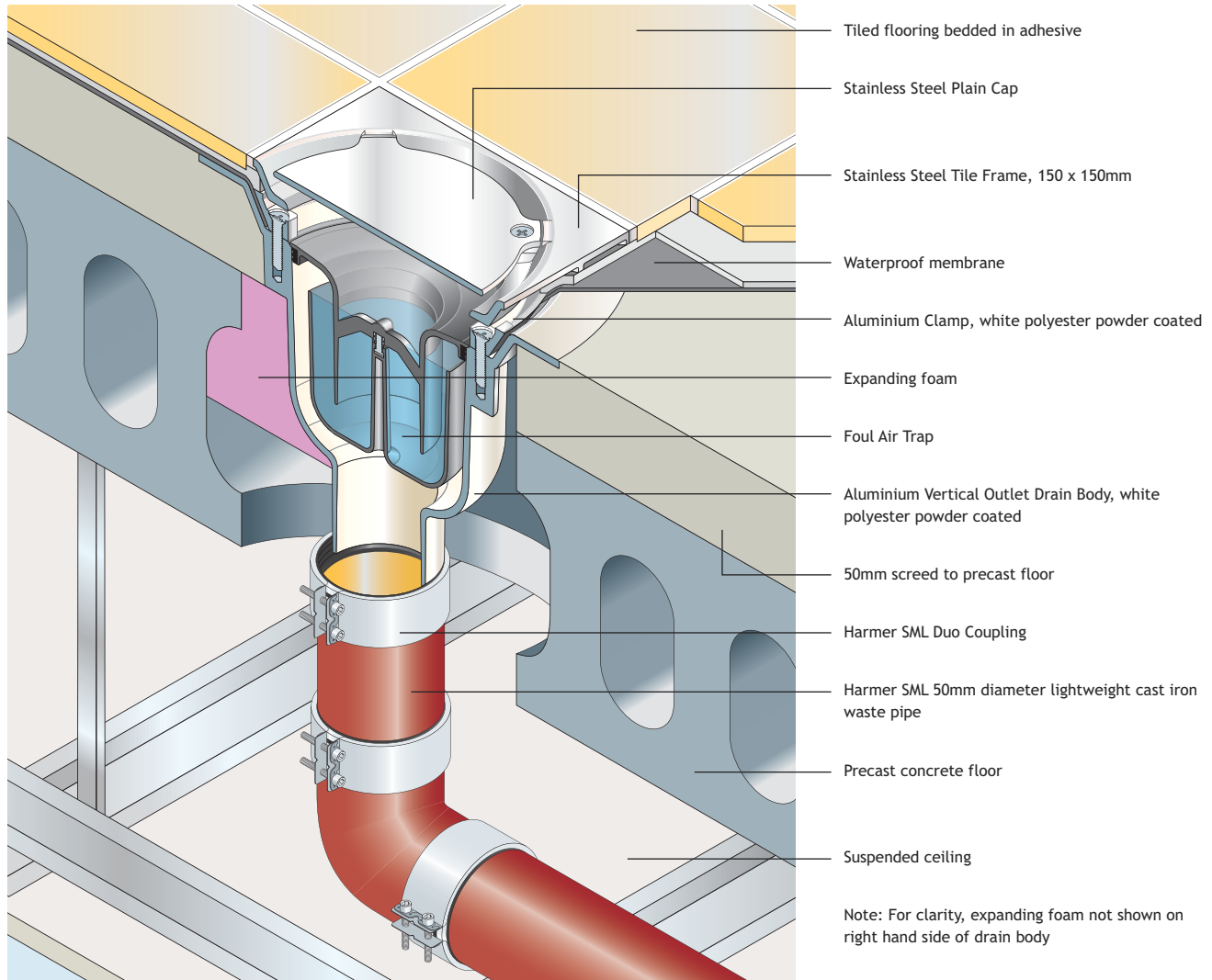
Sitework

1. Form hole in precast concrete floor to receive Drain Body.
2. Form shutter around hole and lay main area of screed, ensuring a fall of 1:40 towards the proposed drain position.
3. Remove shutter. Place, and temporarily support, Drain Body to the correct level.
4. Within precast concrete floor depth, seal space around Drain Body with expanding foam. Keep clear of outlet spigot.
5. Remove temporary support. Lay remaining screed so that Drain Body flange is flush with top of screed.
6. Connect Drain Body to Harmer SML waste pipe using Harmer SML Duo Coupling.
7. Lay flexible sheet flooring and dress over and seal to rim of Drain Body. Trim flooring to edge of screw pockets (optimum hole diameter is 122mm).
Do not cut into protective Drain Body coating.
8. Screw Clamp firmly in position to secure sheet flooring.
9. Insert Foul Air Trap into Drain Body and prime.
10. Screw Pebble Cap onto Clamp.



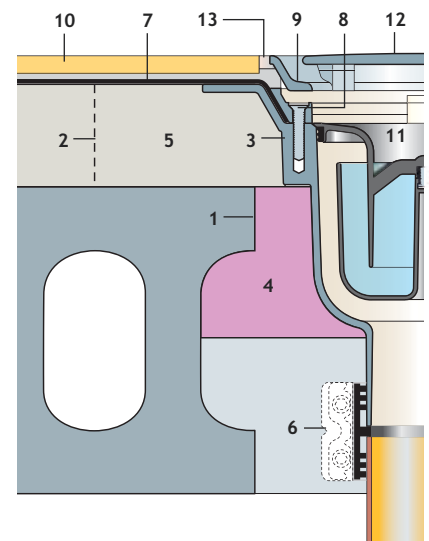
Aluminium Shower Floor Outlets - Application Details

Shower Drain with Vertical Outlet in suspended concrete floor with tiled flooring



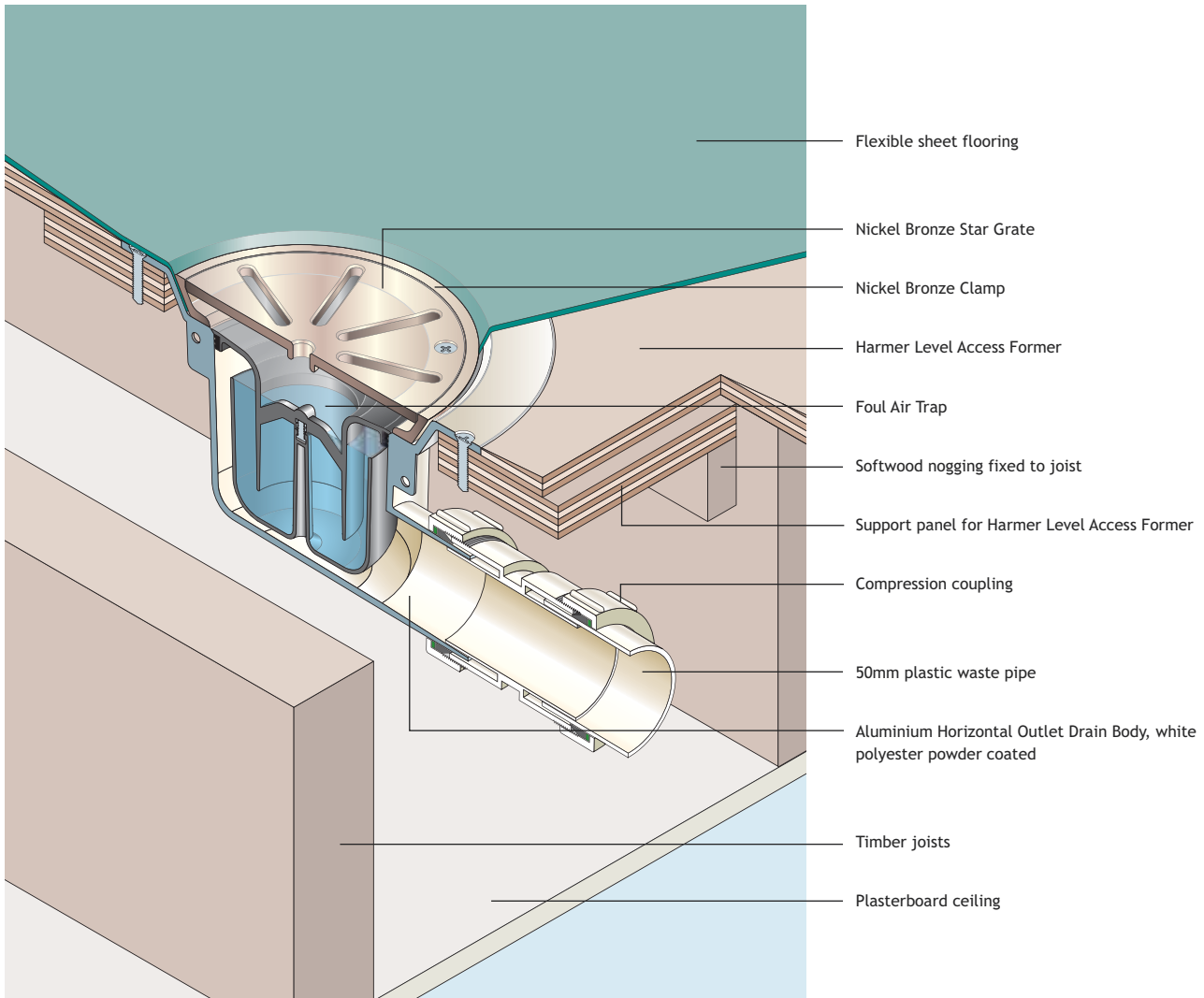
Sitework

1. Form hole in precast concrete floor to receive Drain Body.
2. Form shutter around hole and lay main area of screed, ensuring a fall of 1:40 towards the proposed drain position.
3. Remove shutter. Place, and temporarily support, Drain Body to the correct level.
4. Within precast concrete floor depth, seal space around Drain Body with expanding foam. Keep clear of outlet spigot.
5. Remove temporary support. Lay remaining screed so that Drain Body flange is flush with top of screed.
6. Connect Drain Body to Harmer SML waste pipe using Harmer SML Duo Coupling.
7. Apply waterproof membrane to manufacturers' instructions. Dress membrane over and seal to rim of Drain Body. Trim to edge of screw pockets (optimum hole diameter is 122mm). **Do not cut into protective Drain Body coating.**
8. Screw Clamp firmly in position to secure waterproof membrane.
9. Bed the Tile Frame over the Drain Body to the required level, using tile adhesive.
10. Bed tiles with tile adhesive, working away from the Tile Frame.
11. Insert Foul Air Trap into Drain Body and prime.
12. Screw Plain Cap onto Tile Frame.
13. Apply flexible sealant between tile and edge of Tile Frame, then apply grout conventionally to remainder of tile joints.



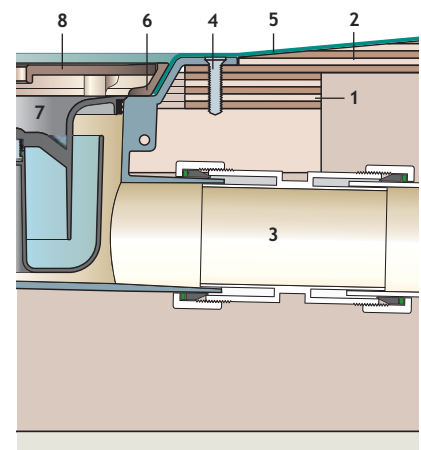
Aluminium Shower Floor Outlets - Application Details

Shower Drain with Horizontal Outlet in timber floor with flexible sheet flooring



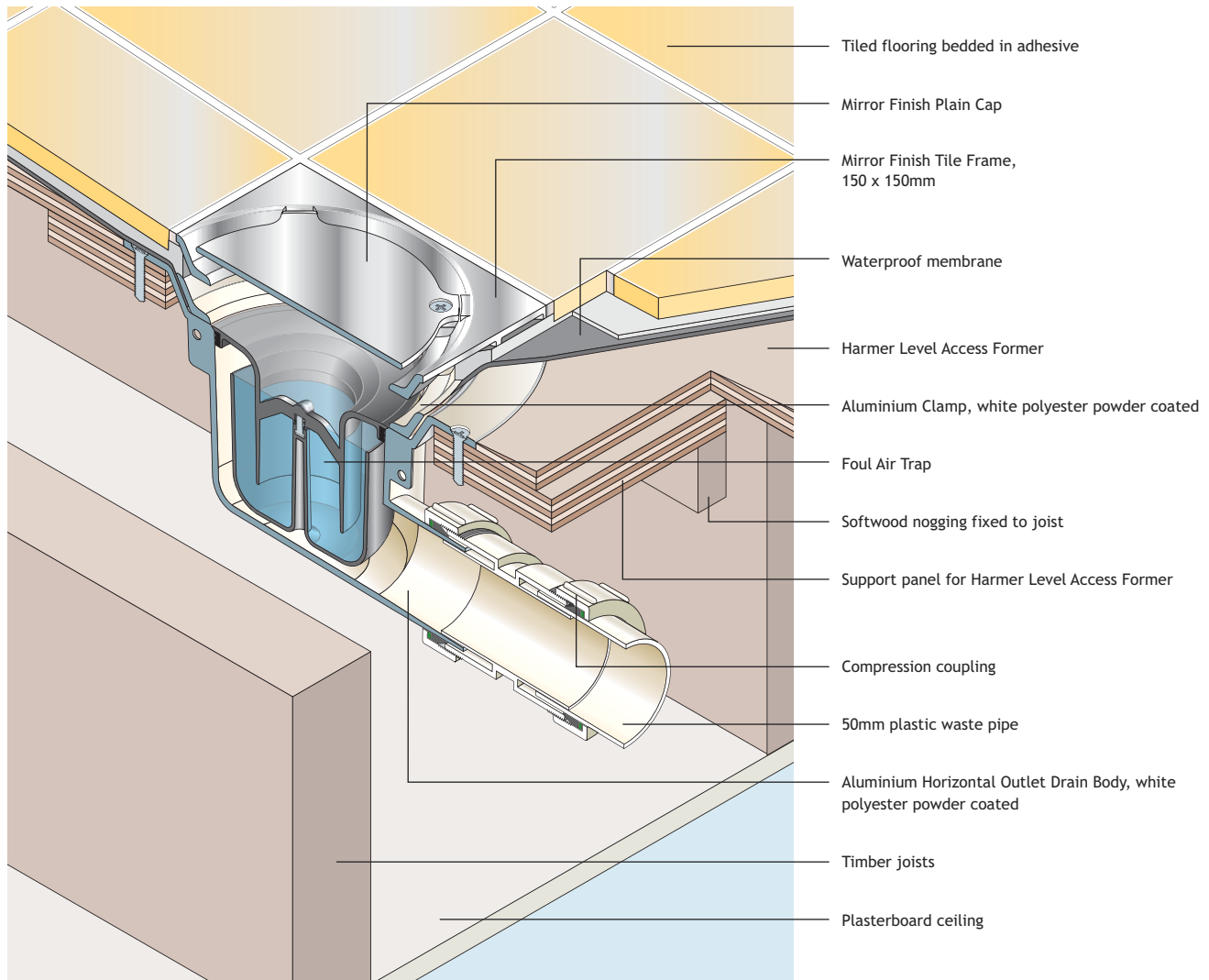
Sitework (using Harmer Level Access Former)

1. Fabricate 18mm (minimum) thick support panel (complete with hole for Drain Body) and softwood noggings, and fit flush with top of joists.
2. Fit Harmer Level Access Former (complete with integral falls and hole for Drain Body) over the ply support panel. Secure the Harmer Level Access Former to the joists using 50mm x No.8 countersunk screws at 225mm centres. Fill screw heads with filler flush to plywood surface.
Note: Harmer Level Access Former is available in various perimeter sizes and drain outlet positions to suit joist layout and site conditions.
3. Connect Drain Body to waste pipe using compression coupling.
4. Screw-fix Drain Body to Harmer Level Access Former using 25mm x No.8 countersunk screws. Then lay marine ply decking to remainder of floor, butting up to Harmer Level Access Former.
5. Lay the flexible sheet flooring and dress over and seal to rim of Drain Body. Trim flooring to edge of screw pockets (optimum hole diameter is 122mm).
Do not cut into protective Drain Body coating.
6. Screw Clamp firmly in position to secure sheet flooring.
7. Insert Foul Air Trap into Drain Body and prime.
8. Screw Star Grate onto Clamp.



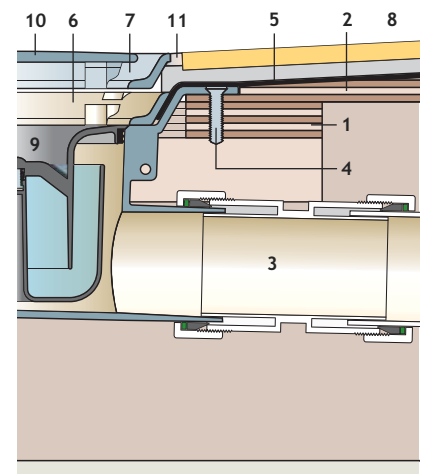
Aluminium Shower Floor Outlets - Application Details

Shower Drain with Horizontal Outlet in timber floor with tiled flooring



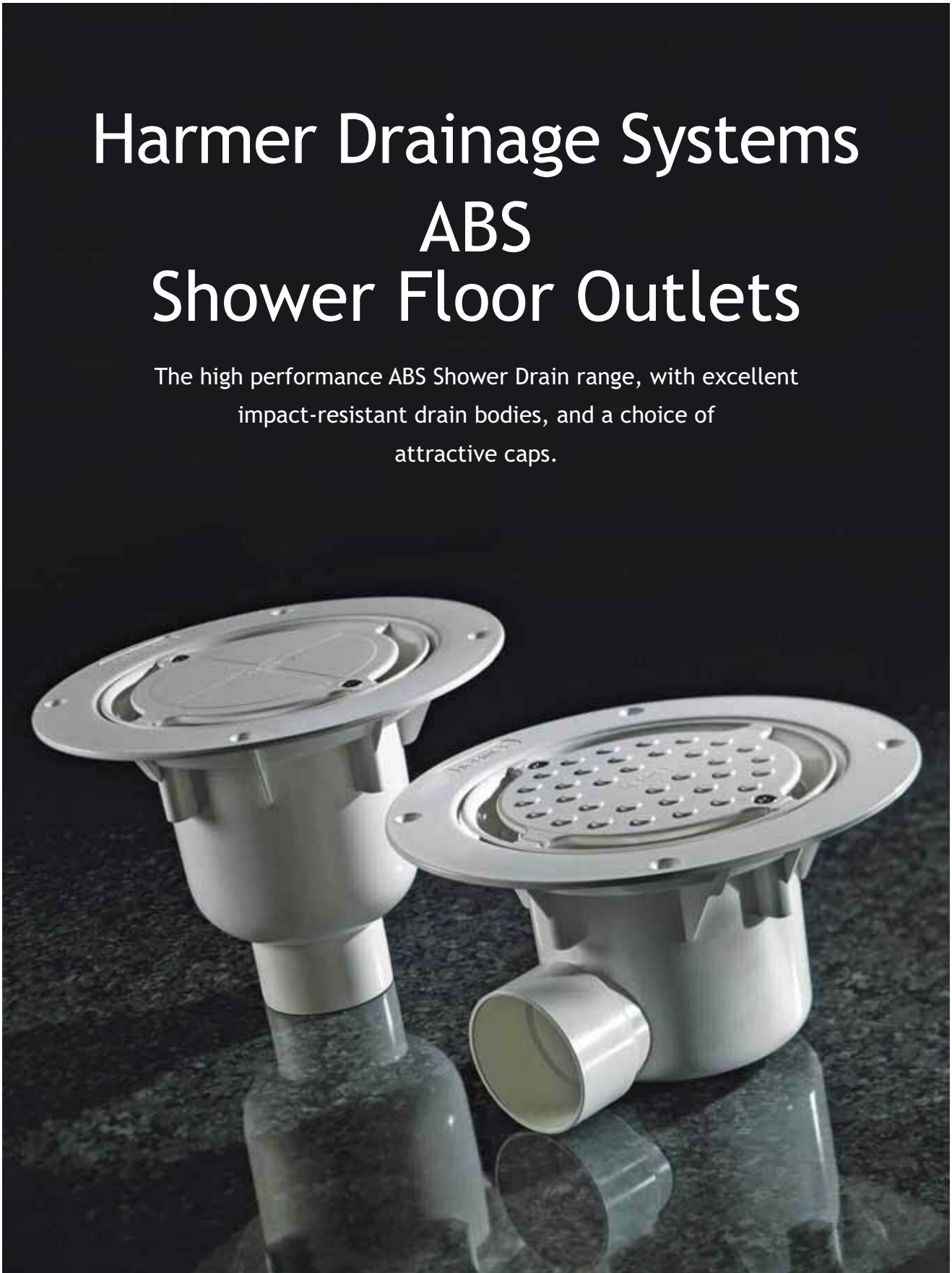
Sitework (using Harmer Level Access Former)

1. Fabricate 18mm (minimum) thick support panel (complete with hole for Outlet Drain Body) and softwood noggings, and fit flush with top of joists.
2. Fit Harmer Level Access Former (complete with integral falls and hole for Drain Body) over the ply support panel. Secure the Harmer Level Access Former to the joists using 50mm x No.8 countersunk screws at 225mm centres. Fill screw heads with filler flush to plywood surface.
Note: Harmer Level Access Former is available in various perimeter sizes and drain outlet positions to suit joist layout and site conditions.
3. Connect Drain Body to waste pipe using compression coupling.
4. Screw-fix Drain Body to Harmer Level Access Former using 25mm x No.8 countersunk screws. Then lay marine ply decking to remainder of floor, butting up to Harmer Level Access Former.
5. Apply waterproof membrane to manufacturers' instructions. Dress membrane over and seal to rim of Drain Body. Trim to edge of screw pockets (optimum hole diameter is 122mm). **Do not cut into protective Drain Body coating.**
6. Screw Clamp firmly in position to secure waterproof membrane.
7. Bed the Tile Frame over the Drain Body to the required level, using tile adhesive.
8. Bed tiles with tile adhesive, working away from the Tile Frame.
9. Insert Foul Air Trap into Drain Body and prime.
10. Screw Plain Cap onto Tile Frame.
11. Apply flexible sealant between tile and edge of Tile Frame, then apply grout conventionally to remainder of tile joints.



Harmer Drainage Systems ABS Shower Floor Outlets

The high performance ABS Shower Drain range, with excellent impact-resistant drain bodies, and a choice of attractive caps.



ABS Shower Floor Outlets - Benefits

Harmer ABS Shower Floor Outlets combine high performance, innovative design and value engineering to establish class-leading standards in drainage.

Compliances

- Harmer Shower Floor Outlets fully meet the requirements of BS EN 1253 for general design, flow performance and load testing

High Flow Performance

- Designed for high flow drainage with achievable flow rates of up to 1.3 litres per second (80 litres per minute)

Robust and Secure

- Manufactured in ABS plastic compound for corrosion resistance with under-ribbed flange for extra strength
- Security fixings are also available to prevent unauthorised removal of caps

A Choice of Caps

- The range of top accessible caps is suitable for both tiled or sheet floor applications
- Attractive mirror finish and ABS caps are available in practical plain, quadrant or pebble finishes

Low Maintenance and Hygienic

- The antimicrobial ABS compound enhances hygiene and control of bacteria
- The efficient Harmer Shower design ensures self-cleansing flow
- The top access trap, for use with both the vertical and horizontal drain bodies, is simple to remove and replace

Easy and Quick to Install

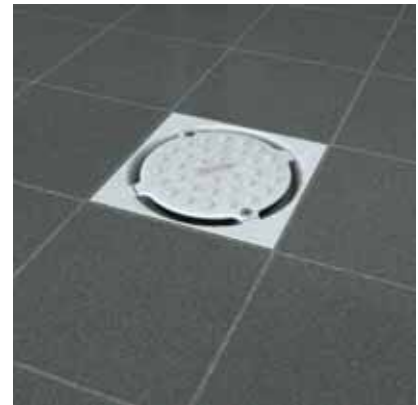
- Compact vertical and horizontal drain bodies install into timber and concrete floor construction
- Drain bodies are designed for direct connection to ABS solvent cement pipe systems
- Connections to PVC can be made using proprietary connectors
- Fully compatible with UK pipe sizes, where 43mm (1½"), 56mm (2") and 110mm (4") connections are required

Value for Money

- The use of the ABS plastic compound keeps material cost low while efficiency of design ensures premium performance

Sustainable

- ABS plastic is non toxic and 100% recyclable



ABS Shower Floor Outlets - Product Range Summary

Harmer ABS Shower Drains represent the perfect combination of plastic materials and good design brought together to provide practical function with efficient, low maintenance design. The use of ABS antimicrobial materials in conjunction with hard wearing and easy to clean surfaces results in a product range ideal for every application.

Drain Bodies

Efficient and compact design, ideal for all types of solid and suspended concrete floor construction including installations where shallow invert pipework is essential, e.g. joisted timber floor construction.

- Top accessible for quick and easy maintenance
- 56mm (2") solvent weld socket connects to plastic pipe. Also supplied with adaptor to 43mm (1 1/2") pipe
- Vertical drain body push fits into 110mm ring seal pipe socket
- Horizontal drain bodies have integral fall in sump to eliminate silt and sludge retention
- All Harmer ABS Shower Drains are antimicrobial
- ABS Shower Drains are supplied with a removable 50mm smooth flow foul air trap

Harmer Level Access Former

Installation of Harmer Shower Drains is made easier with preformed level access formers designed to simplify the process of creating drainage falls in joisted floor construction. Ideal for use with tiled and flexible sheet flooring.

Benefits of Harmer Level Access Former:

- No need for flooring overlay
- No firrings on joists
- No alterations to joists
- No trip risk from stepped threshold
- No bathroom door alteration

Harmer Level Access Formers are made from 22mm thick, high quality birch plywood in a variety of sizes and outlet positions. They are load safe to 380 kg and very easy to fit.

For further advice about this product, contact Alumasc Technical Services on 01744 648400.



Harmer ABS Antimicrobial

Harmer ABS Antimicrobial allows the constant release of bacteriostats that work to provide improved hygiene through the control and elimination of bacteria from the drain body surfaces in typical wetroom and shower room environments.

Benefits of Harmer ABS Antimicrobial:

- Eliminates bacteria and mould growth
- Contributes to improved hygiene
- Reduces unpleasant odours caused by bacteria
- Prevents staining and discolouration
- Keeps surfaces clean

Harmer ABS Antimicrobial involves the use of additives to the basic ABS plastic compound. It is not a coating. It will never wear off. It does not require replacing and is harmless to humans.

ABS Shower Floor Outlets - Product Range Summary

All Harmer ABS Shower Drains are supplied with a choice of caps in antimicrobial plastic as well as high lustre mirror finish for added appeal. Harmer ABS Shower Drain is easily cast into concrete floor construction whilst optional Harmer Level Access Formers provide ready falls without the need for modifications to floor joists.

Flexible Sheet Flooring

Caps and Clamps

The cap and clamp components are for sheet flooring applications and combine with both vertical and horizontal outlet bodies.

Load Class K3 to BS EN 1253 applies.

The components available are:

- Pebble Cap - in White ABS
- Quadrant Cap - in White ABS
- Plain Cap - in Mirror Finish
- Anti-Ligature Cap - Stainless Steel and Nickel Bronze
- The Clamps match the colours and materials of the Caps

The combinations of components and materials offered by Alumasc are shown in the tables on pages 145 and 147.



Tiled Floors

Caps and Tile Frames

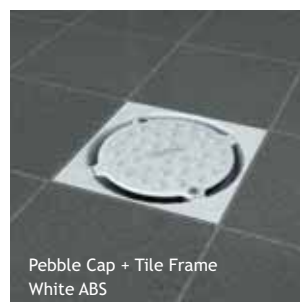
The assemblies are suitable for tiled floor applications and combine with both vertical and horizontal outlet bodies. They are available in 150mm x 150mm or 200mm x 200mm.

Load Class K3 to BS EN 1253 applies.

The components available are:

- Pebble Cap - in White ABS
- Quadrant Cap - in White ABS
- Plain Cap - in Mirror Finish
- Anti-Ligature Cap - Stainless Steel and Nickel Bronze
- The Tile Frames match the colours and materials of the Caps

The combinations of components and materials offered by Alumasc are shown in the tables on pages 145 and 147.

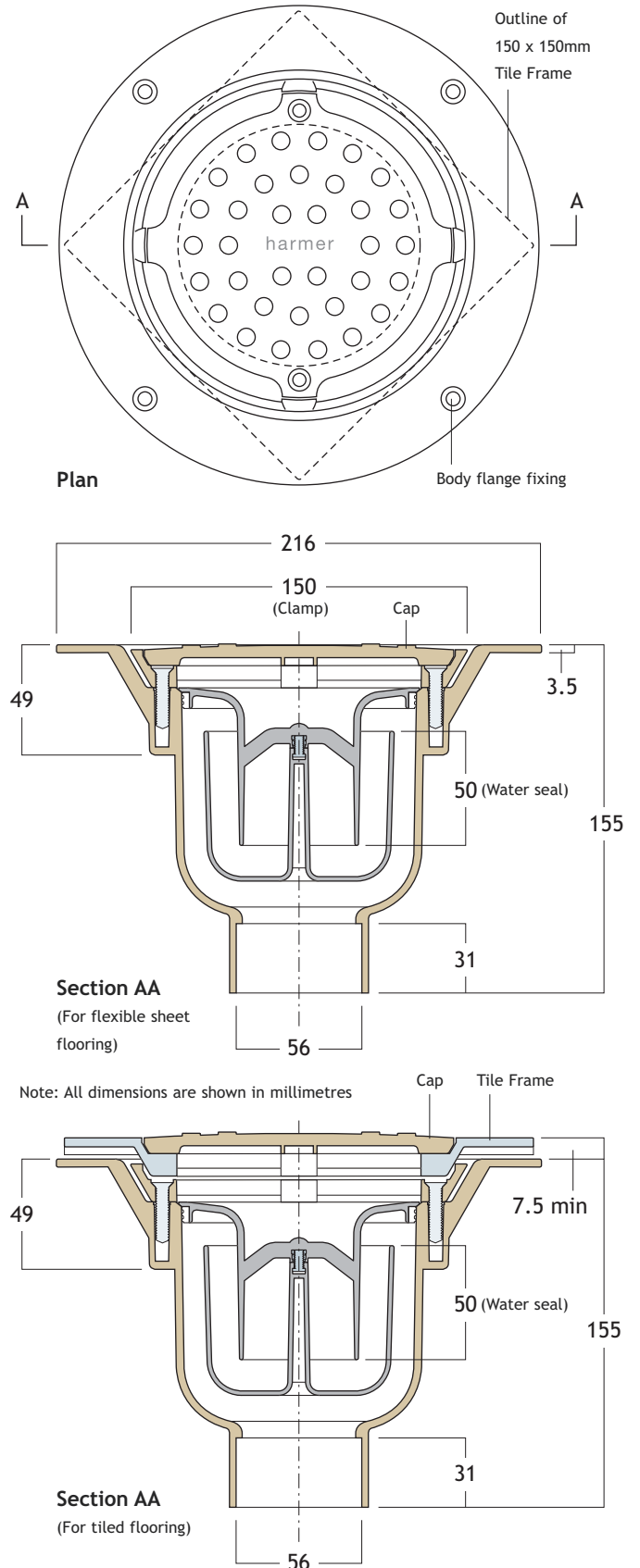


ABS Shower Floor Outlets - Vertical Outlet

Vertical Outlet Components



Drain Body Dimensions



ABS Shower Floor Outlets - Product Tables

Vertical Outlet Combinations for Flexible Sheet Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

White Clamp and ABS Pebble Cap



Product Code	Flow Rate	Load Class	Weight
CVS/CP	1.3 l/s	K3	0.5 kg

Vertical Outlet Combinations for Tiled Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

White Tile Frame and ABS Pebble Cap



Product Code	Size	Flow Rate	Load Class	Weight
CVS/CP/T15	150x150mm	1.3 l/s	K3	0.7 kg
CVS/CP/T20	200x200mm	1.3 l/s	K3	0.9 kg

White Clamp and ABS Quadrant Cap



Product Code	Flow Rate	Load Class	Weight
CVS/CQ	1.3 l/s	K3	0.5 kg

White Tile Frame and ABS Quadrant Cap



Product Code	Size	Flow Rate	Load Class	Weight
CVS/CQ/T15	150x150mm	1.3 l/s	K3	0.7 kg
CVS/CQ/T20	200x200mm	1.3 l/s	K3	0.9 kg

Mirror Finish Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
CVS/CH	1.3 l/s	K3	0.7 kg

Mirror Finish Tile Frame and Plain Cap



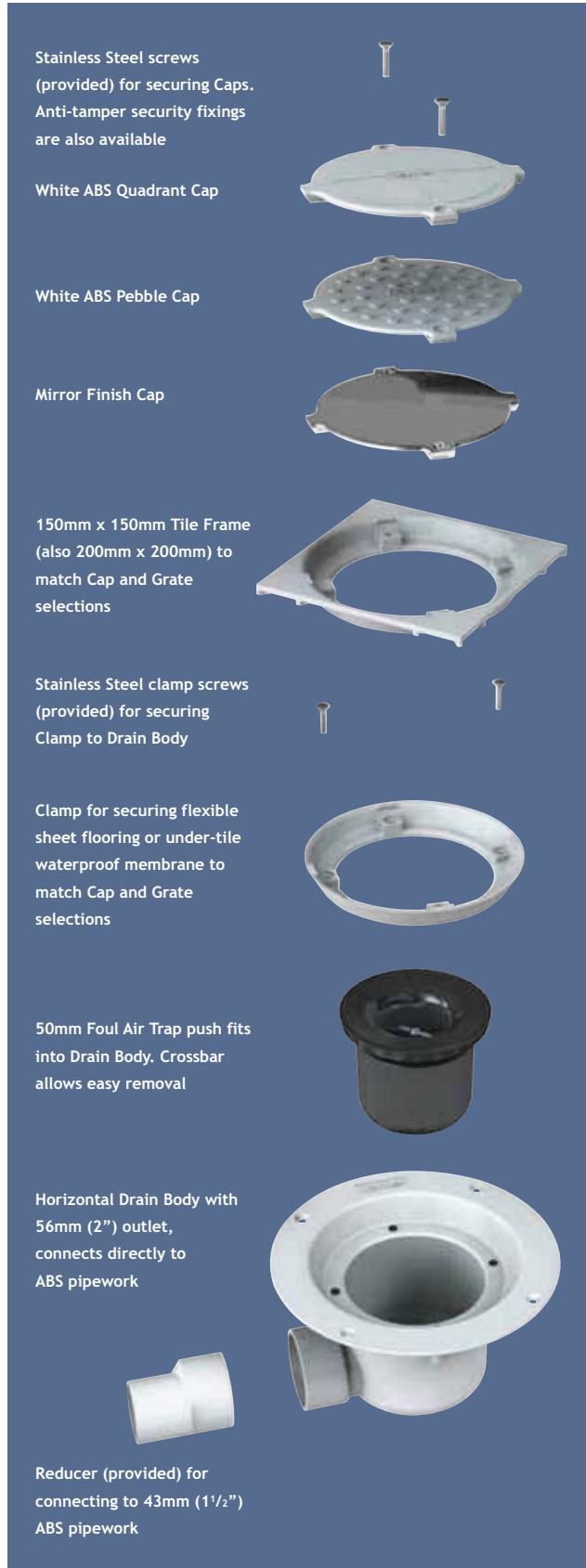
Product Code	Size	Flow Rate	Load Class	Weight
CVS/CH/T15	150x150mm	1.3 l/s	K3	0.8 kg

Stainless Steel Anti-Ligature drain available CVS/AS, CVS/AS/T15 & CVS/AS/T20

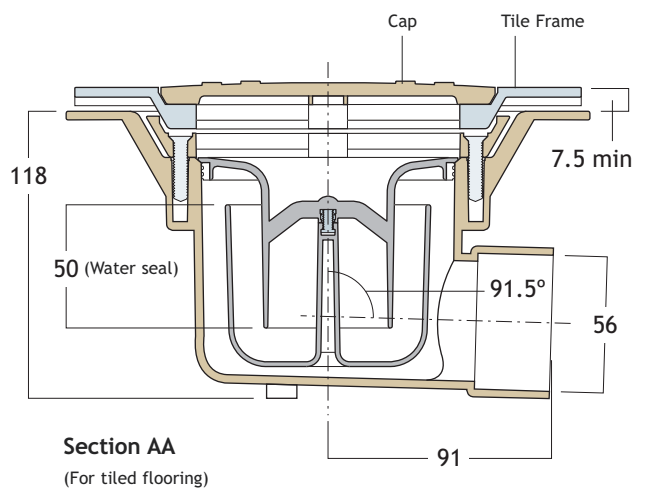
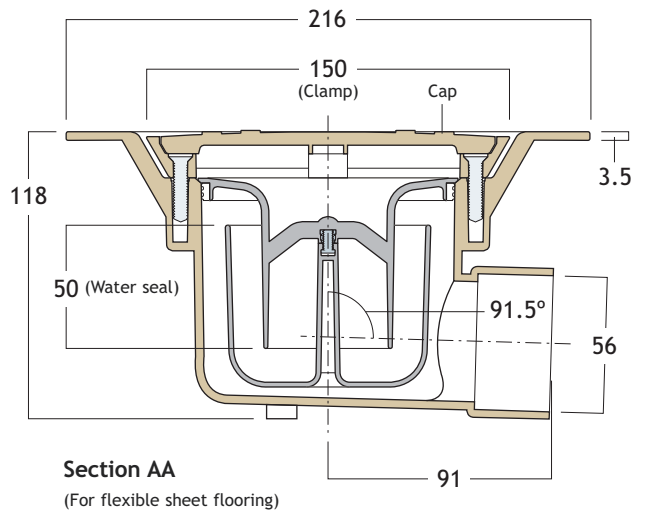
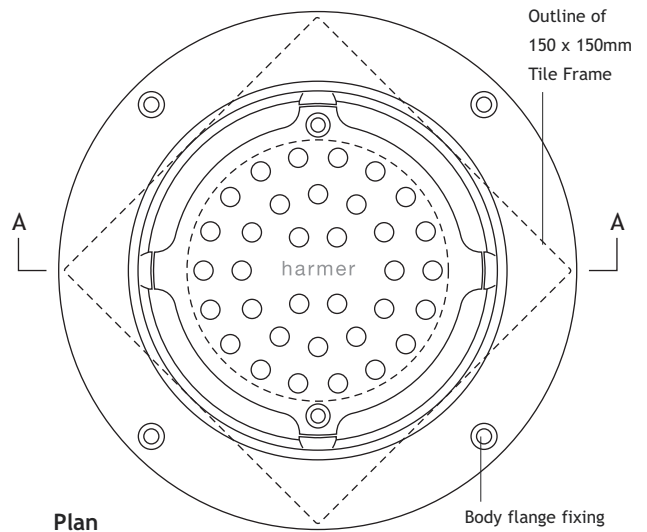
Nickel Bronze Anti-Ligature drain available CVS/AN, CVS/AN/T15 & CVS/AN/T20

ABS Shower Floor Outlets - Horizontal Outlet

Horizontal Outlet Components



Drain Body Dimensions



Note: All dimensions are shown in millimetres

ABS Shower Floor Outlets - Product Tables

Horizontal Outlet Combinations for Flexible Sheet Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

White Clamp and ABS Pebble Cap

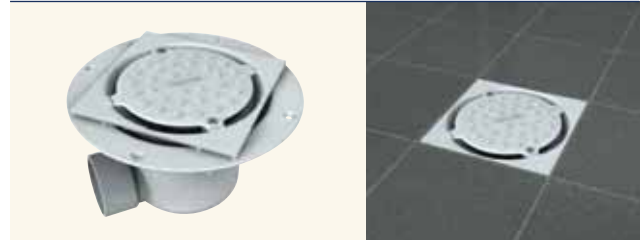


Product Code	Flow Rate	Load Class	Weight
CHS/CP	0.8 l/s	K3	0.5 kg

Horizontal Outlet Combinations for Tiled Flooring

Note: Add suffix /LC to product codes if anti-tamper security screws are required

White Tile Frame and ABS Pebble Cap



Product Code	Size	Flow Rate	Load Class	Weight
CHS/CP/T15	150x150mm	0.8 l/s	K3	0.7 kg
CHS/CP/T20	200x200mm	0.8 l/s	K3	1.0 kg

White Clamp and ABS Quadrant Cap



Product Code	Flow Rate	Load Class	Weight
CHS/CQ	0.8 l/s	K3	0.5 kg

White Tile Frame and ABS Quadrant Cap



Product Code	Size	Flow Rate	Load Class	Weight
CHS/CQ/T15	150x150mm	0.8 l/s	K3	0.7 kg
CHS/CQ/T20	200x200mm	0.8 l/s	K3	1.0 kg

Mirror Finish Clamp and Plain Cap



Product Code	Flow Rate	Load Class	Weight
CHS/CH	0.8 l/s	K3	0.7 kg

Mirror Finish Tile Frame and Plain Cap



Product Code	Size	Flow Rate	Load Class	Weight
CHS/CH/T15	150x150mm	0.8 l/s	K3	0.8 kg

Stainless Steel Anti-Ligature drain available CHS/AS, CHS/AS/T15 & CHS/AS/T20

Nickel Bronze Anti-Ligature drain available CHS/AN, CHS/AN/T15 & CHS/AN/T20

ABS Shower Floor Outlets - Connection & Maintenance

The Harmer Shower Floor Outlet is highly versatile and can be connected to most types of pipework. The cap, clamp and trap have been designed to optimise efficient flow performance for self-cleaning and reduced maintenance.

Pipe Connection

Harmer ABS Shower Drain bodies have a nominal 56mm diameter spigot. They connect to ABS, PVC and Polypropylene pipe materials.



Connecting to 56mm (2") ABS. Use solvent cement pipe joint.



Connecting to 43mm (1 1/2") ABS. Use 50mm (2") to 43mm (1 1/2") solvent cement reducer (provided).



Connecting to 43mm (1 1/2") Polypropylene. Use 50mm to 43mm (1 1/2") proprietary solvent cement/compression reducer.



Connecting to all 110mm plastic pipes (vertical Drain Body only). Use ring seal pipe socket.

Drain Access

For tiled or flexible sheet flooring. The Harmer Shower Drain's removable trap is top accessible for ease of access and maintenance.



Remove 2 no. cap retaining screws. Do not remove clamp screws.



Lift aside cap taking care not to lose screws. Do not remove Clamp.



Lift out Trap using cross bar and rinse thoroughly.



Wash internal surfaces with diluted disinfectant and soft sponge. Reverse process to re-assemble.

Care and Maintenance

The Harmer Shower Drain bodies are manufactured in an antimicrobial ABS plastic compound to assist hygiene and the reduction in bacteria as well as self-cleansing and smooth flow. A choice of Caps is manufactured in the same ABS compound with the exception of the mirror finish cap which is stainless steel.

ABS is a durable plastic. However, during site handling, installation and maintenance, avoid dropping or impact especially in cold weather. Any contamination arising from construction, such as concrete or cement, should be removed from surfaces using a soft cloth or sponge.

ABS resists corrosion and chemical attack, however cleaning solutions, such as those used to clean masonry and tiling must never be used with Mirror Finish parts.

When cleaning or wiping always use a soft cloth or sponge - do not use scourers or abrasive compounds.

Modern cleaning processes use sterilizers for hygiene purposes. Proprietary solutions, when used in accordance with the manufacturer's instructions, should be safe. NEVER USE BLEACH, CAUSTIC AGENTS OR SOLVENTS.

Cleaning Methods

Provide for the following items:

- Latex protective gloves
- Pozidrive screwdriver
- Bucket of clean water
- Sponge
- Household disinfectant

For ABS plastic and aluminium items, wash with soap or mild detergent applied with a clean sponge or soft clean cloth and rinse off with clean water.

Watermarks can be removed by lightly buffing with a soft clean cloth. NEVER USE STEEL WOOL.

ABS Shower Floor Outlets - Specification & Installation

Standard specification guidelines for the Harmer ABS Shower Floor Outlet are set out below. Full NBS format specifications (R11 Above-Ground Foul Drainage systems) are available for download from the Harmer Drainage website.

NBS Specification

Standards:

To BS EN 12056-1:2000 and BS EN 12056-2:2000, in accordance with BS EN 12056-2:2000 National Annexes NA-NG.

Harmer Shower Drain Products

Manufacturer:

Alumasc Exterior Building Products Ltd,
White House Works,
Bold Road, Sutton,
St Helens,
Merseyside WA9 4JG.

Tel: +44 (0) 1744 648400

Fax: +44 (0) 1744 648401

Email: info@alumasc-exteriors.co.uk

ABS Antimicrobial Drain Bodies:

Horizontal Outlet or Vertical Outlet

Caps - Flexible Sheet Flooring

For use on a timber or suspended concrete floor, choose one of the following:

- White ABS - Pebble Cap
- White ABS - Quadrant Cap
- Mirror Finish - Plain Cap
- Anti-Ligature Cap

Caps - Tiled Flooring

For use on a timber or suspended concrete floor, choose one of the following:

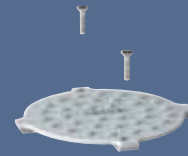
- 150 x 150mm or 200 x 200mm Tile Frame
- White ABS - Pebble Cap
- White ABS - Quadrant Cap
- Mirror Finish - Plain Cap
- Anti-Ligature Cap

Installation

Installation notes for each component of the Harmer ABS Shower Drain are detailed below (not shown in the actual installation sequence that would be undertaken on site). Additional, explanatory isometric illustrations and sectional drawings are given on pages 150 to 153.

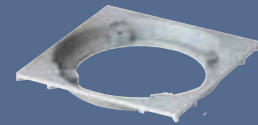
Caps/Grates

Fix into the tile frame or clamp using two stainless steel screws (provided).



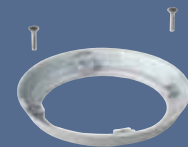
Tile Frames

For tiled floor applications, bed the 150mm x 150mm or 200mm x 200mm tile frame into tile adhesive. Apply flexible sealant around edge to prevent cracking.



Clamp Ring

Fix using two M5 x 25mm stainless steel screws (provided) to secure flexible sheet flooring and undertile waterproofing membranes to the drain body.



Foul Air Trap

Push fit the trap with 50mm seal into the drain body. The cross bar allows easy removal.



Vertical Drain Body

Install into plywood flooring or concrete deck construction.

Fix through the 4 no. countersunk holes in the top flange of the body.



Horizontal Drain Body

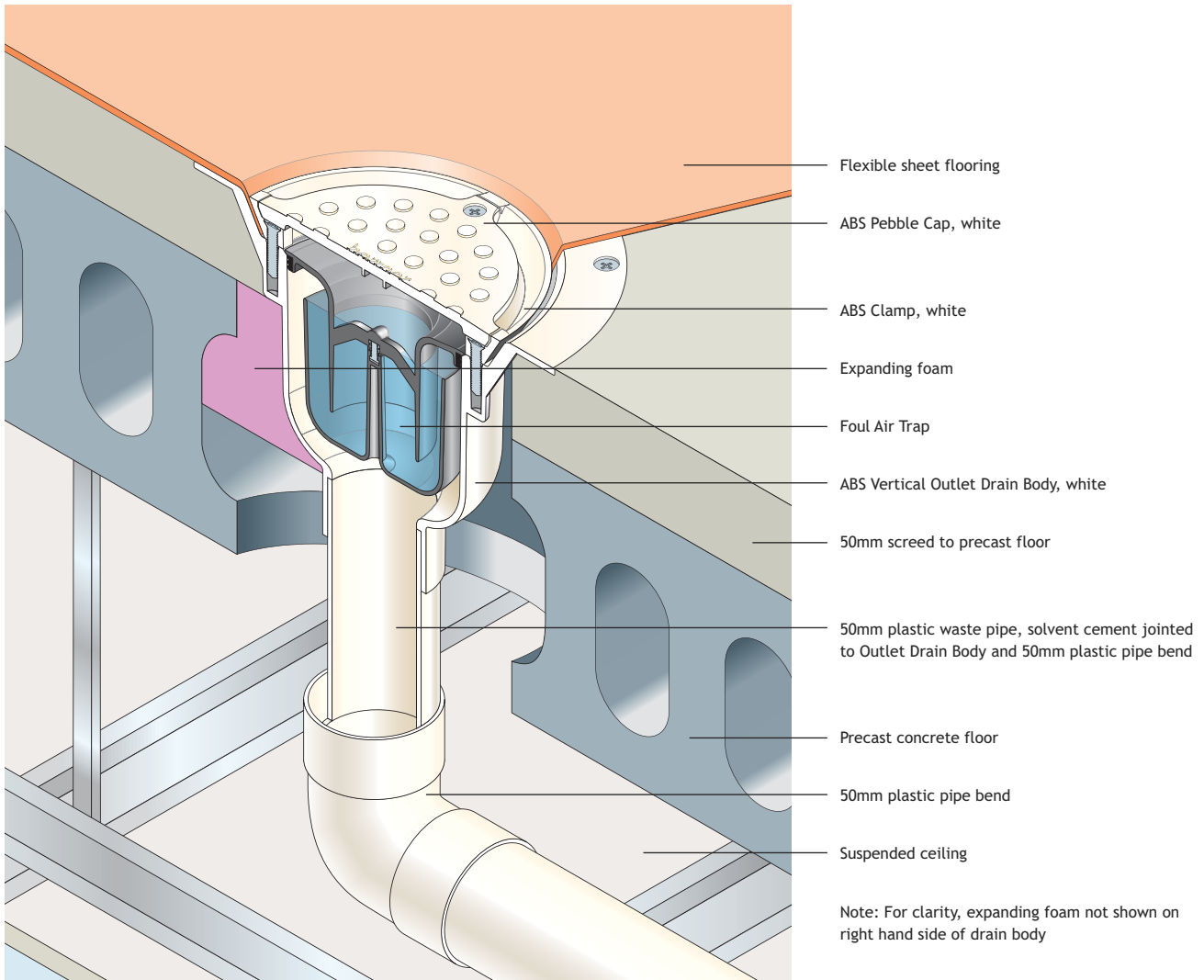
Install into concrete and joisted timber floor construction.

Fix through the 4 no. countersunk holes in the top flange of the body.



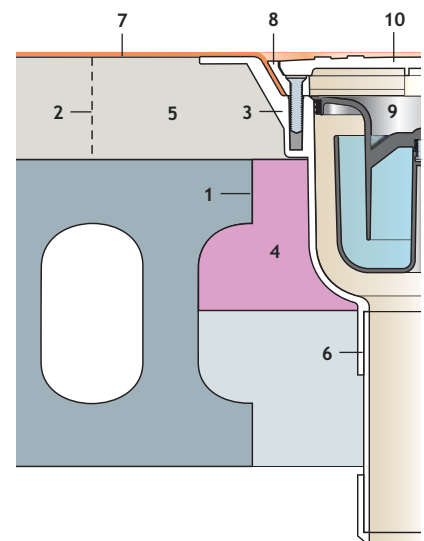
ABS Shower Floor Outlets - Application Details

Shower Drain with Vertical Outlet in suspended concrete floor with flexible sheet flooring



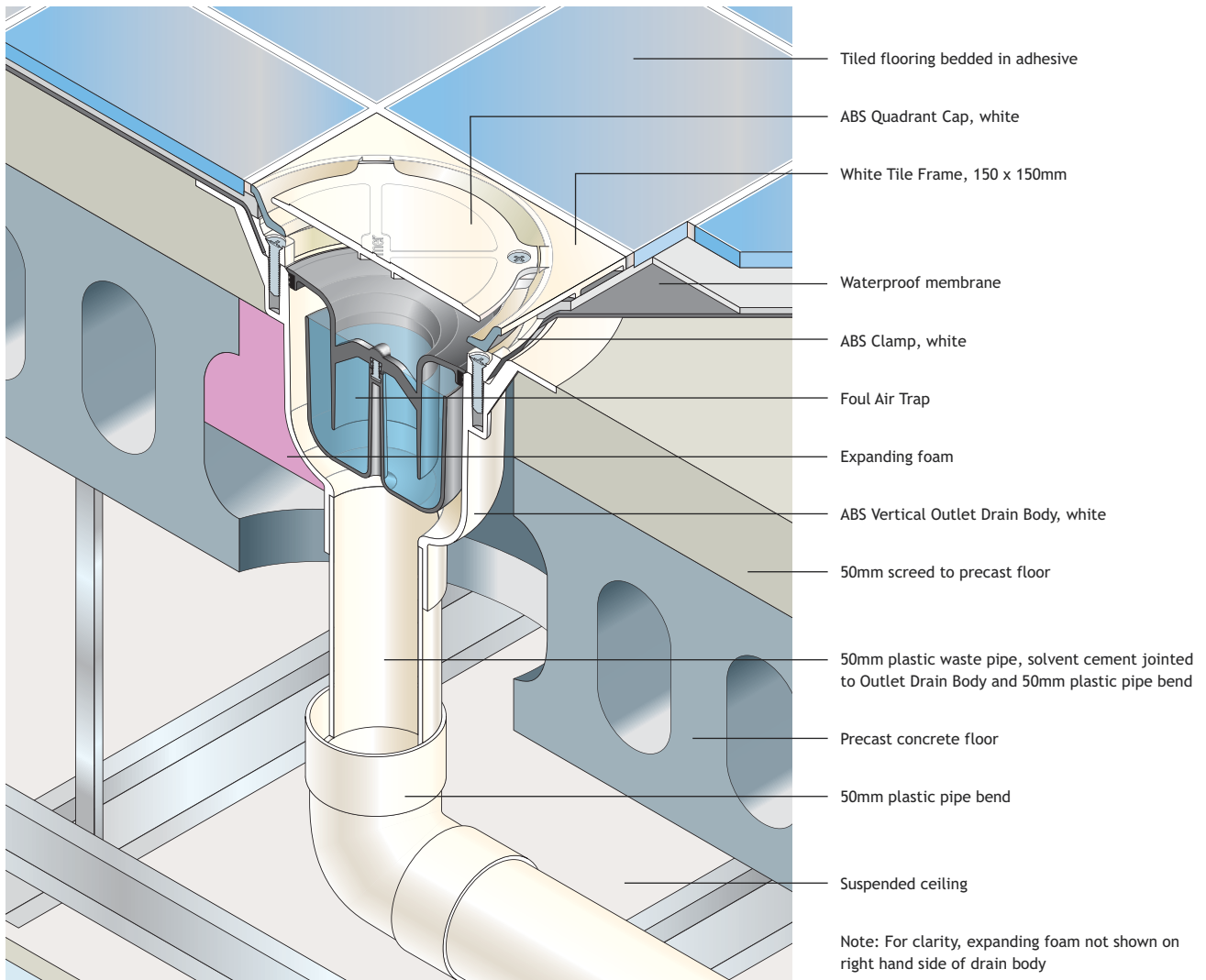
Sitework

1. Form hole in precast concrete floor to receive Drain Body.
2. Form shutter around hole and lay main area of screed, ensuring a fall of 1:40 towards the proposed drain position.
3. Remove shutter. Place, and temporarily support, Drain Body to the correct level.
4. Within precast concrete floor depth, seal space around Drain Body with expanding foam. Keep clear of outlet spigot.
5. Remove temporary support. Lay remaining screed so that Drain Body flange is flush with top of screed.
6. Connect Drain Body to plastic waste pipe using solvent cement joint.
7. Lay flexible sheet flooring and dress over and seal to rim of Drain Body. Trim flooring to edge of screw pockets (optimum hole diameter is 122mm).
Do not cut into ABS Drain Body.
8. Screw Clamp firmly in position to secure sheet flooring.
9. Insert Foul Air Trap into Drain Body and prime.
10. Screw Pebble Cap onto Clamp.



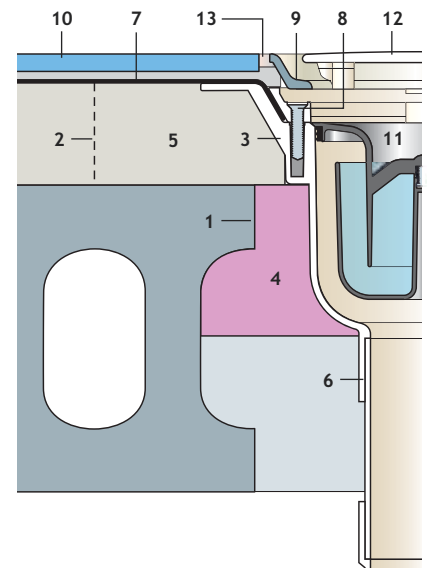
ABS Shower Floor Outlets - Application Details

Shower Drain with Vertical Outlet in suspended concrete floor with tiled flooring



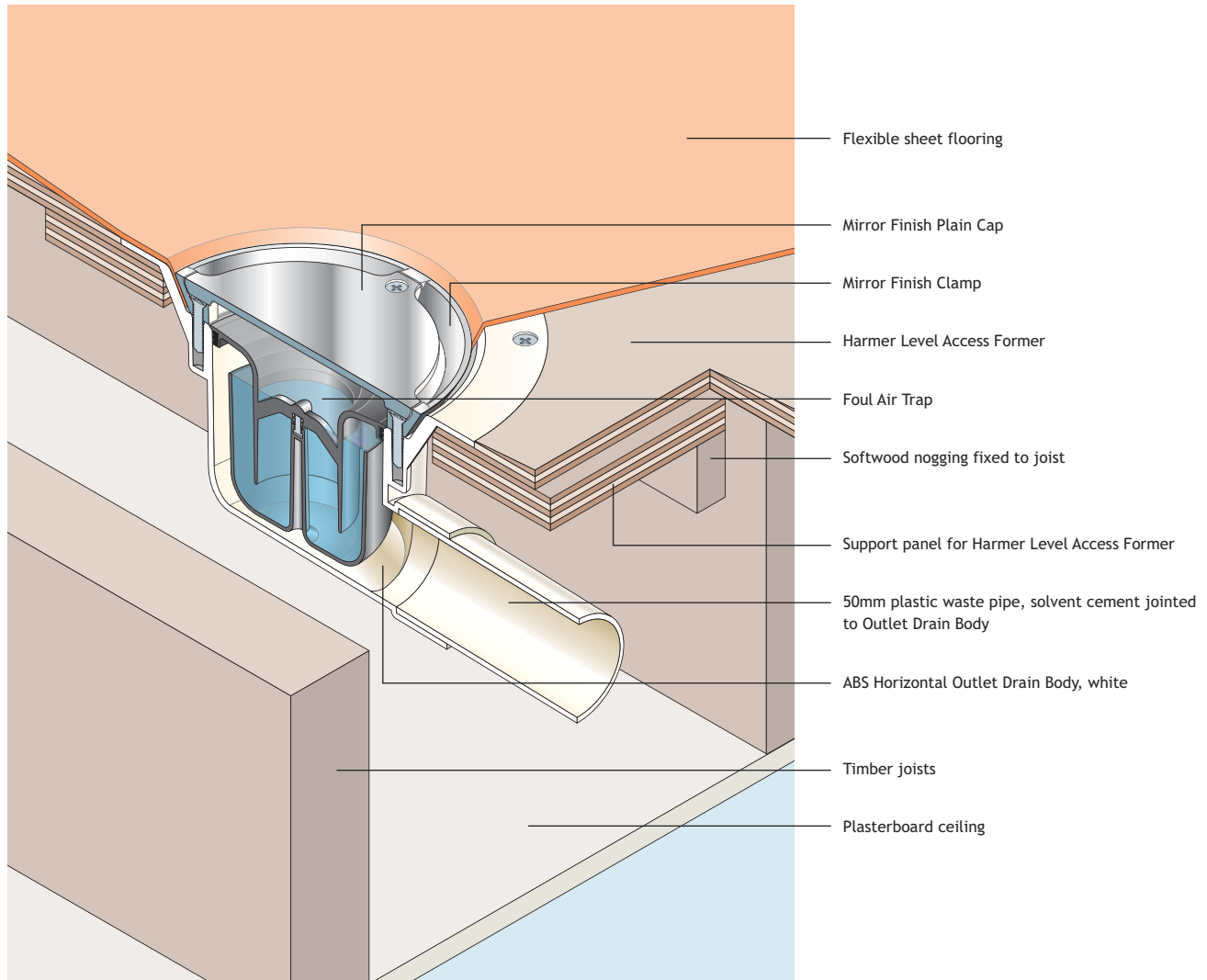
Sitework

1. Form hole in precast concrete floor to receive Drain Body.
2. Form shutter around hole and lay main area of screed, ensuring a fall of 1:40 towards the proposed drain position.
3. Remove shutter. Place, and temporarily support, Drain Body to the correct level.
4. Within precast concrete floor depth, seal space around Drain Body with expanding foam. Keep clear of outlet spigot.
5. Remove temporary support. Lay remaining screed so that Drain Body flange is flush with top of screed.
6. Connect Drain Body to plastic waste pipe using solvent cement joint.
7. Apply waterproof membrane to manufacturers' instructions. Dress membrane over and seal to rim of Drain Body. Trim to edge of screw pockets (optimum hole diameter is 122mm). **Do not cut into ABS Drain Body.**
8. Screw Clamp firmly in position to secure waterproof membrane.
9. Bed the Tile Frame over the Drain Body to the required level, using the adhesive.
10. Bed tiles with tile adhesive, working away from the Tile Frame.
11. Insert Foul Air Trap into Drain Body and prime.
12. Screw Quadrant Cap onto Tile Frame.
13. Apply flexible sealant between tile and edge of Tile Frame, then apply grout conventionally to remainder of tile joints.



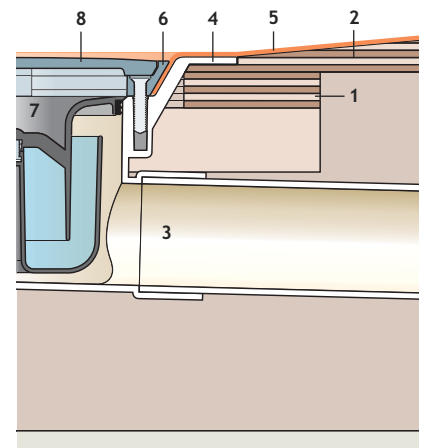
ABS Shower Floor Outlets - Application Details

Shower Drain with Horizontal Outlet in timber floor with flexible sheet flooring



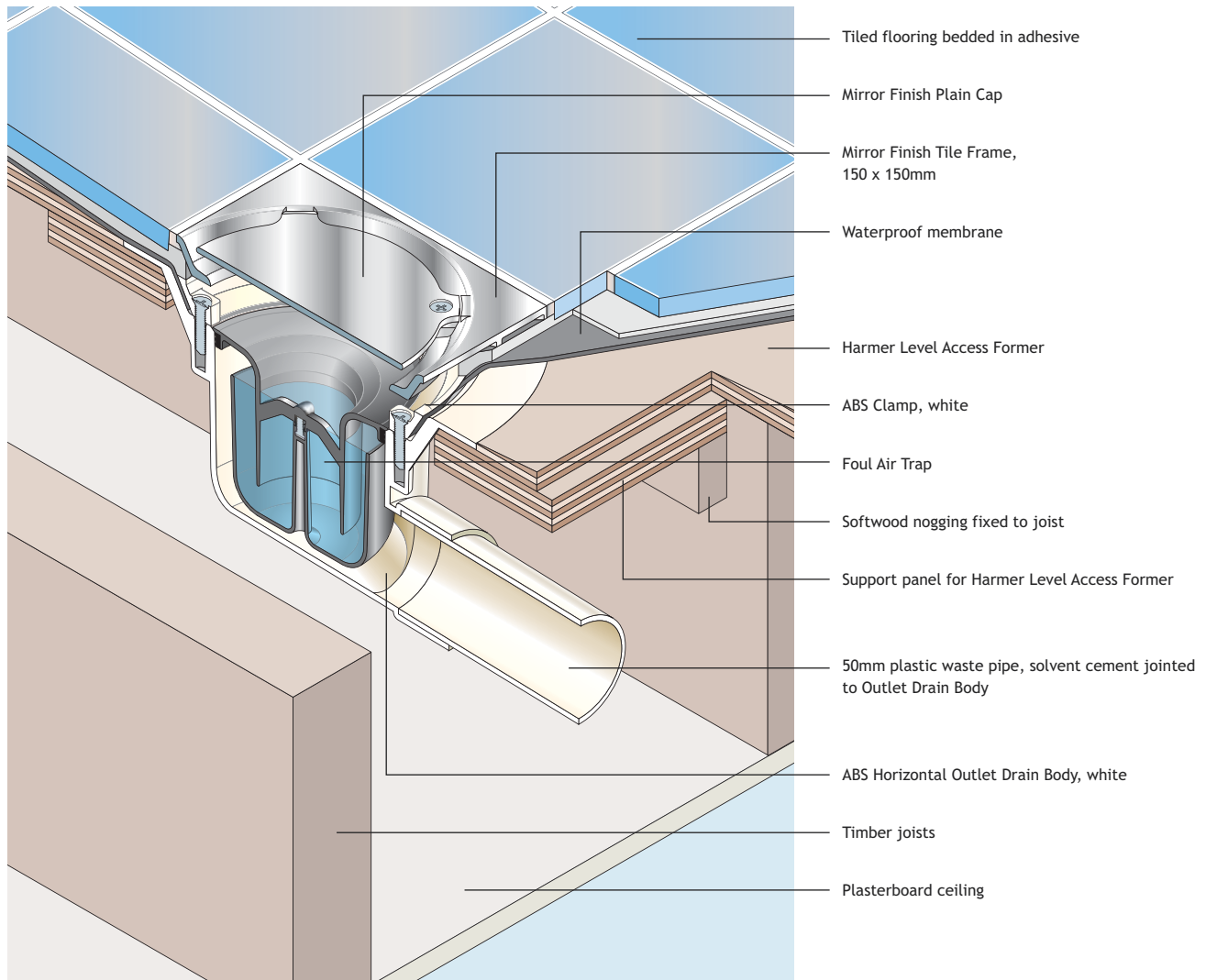
Sitework (using Harmer Level Access Former)

1. Fabricate 18mm (minimum) thick support panel (complete with hole for Drain Body) and softwood noggings, and fit flush with top of joists.
2. Fit Harmer Level Access Former (complete with integral falls and hole for Drain Body) over the ply support panel. Secure the Harmer Level Access Former to the joists using 50mm x No.8 countersunk screws at 225mm centres. Fill screw heads with filler flush to plywood surface.
Note: Harmer Level Access Former is available in various perimeter sizes and drain outlet positions to suit joist layout and site conditions.
3. Connect Drain Body to waste pipe using solvent cement joint.
4. Screw-fix Drain Body to Harmer Level Access Former using 25mm x No.8 countersunk screws. The lay marine ply decking to remainder of floor, butting up to the Harmer Level Access Former.
5. Lay the flexible sheet flooring and dress over and seal to rim of Drain Body. Trim flooring to edge of screw pockets (optimum hole diameter is 122mm).
Do not cut into ABS Drain Body.
6. Screw Clamp firmly in position to secure sheet flooring.
7. Insert Foul Air Trap into Drain Body and prime.
8. Screw Plain Cap onto Clamp.



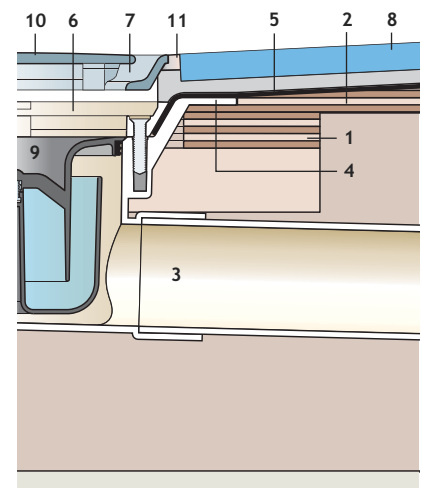
ABS Shower Floor Outlets - Application Details

Shower Drain with Horizontal Outlet in timber floor with tiled flooring



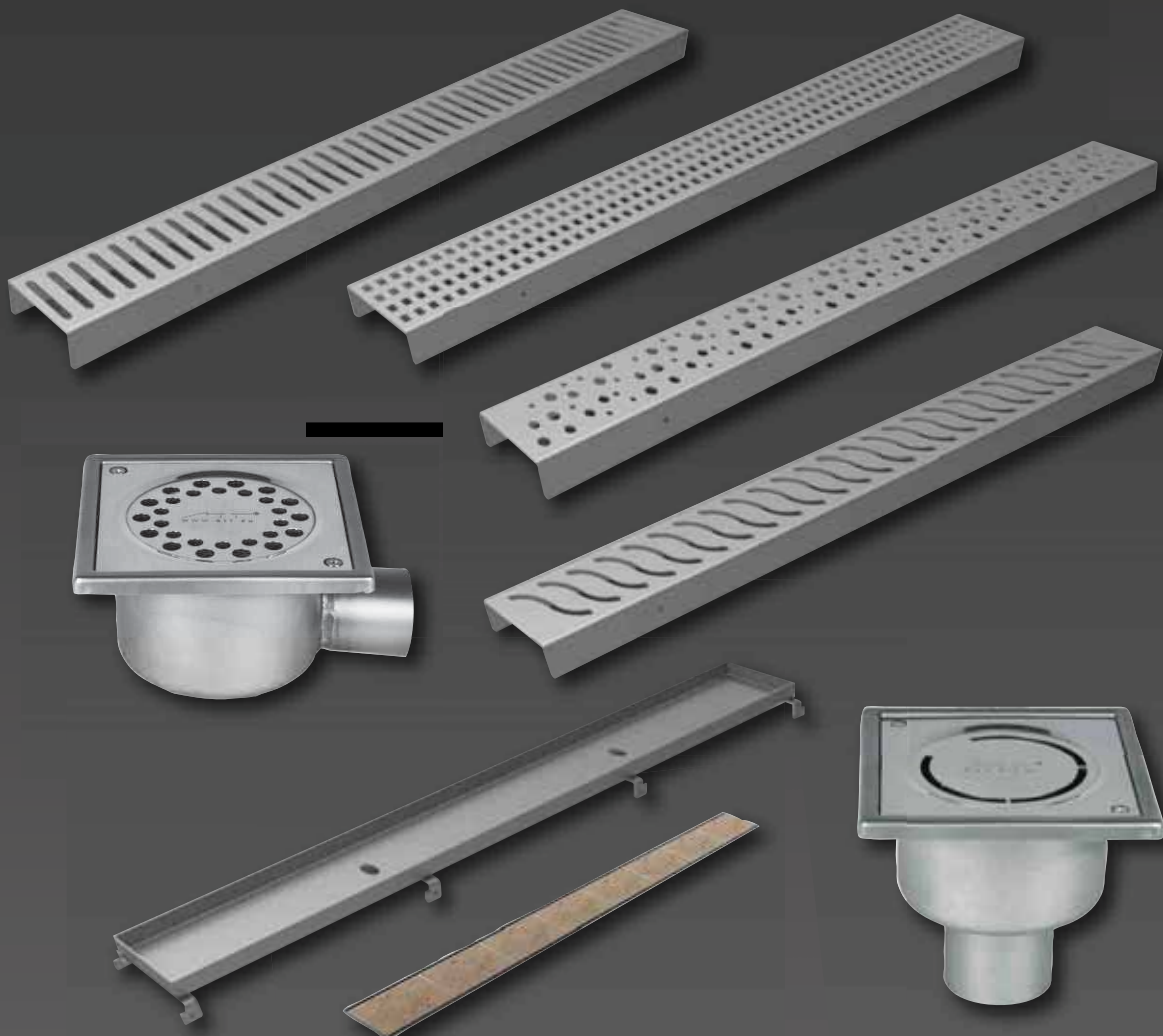
Sitework (using Harmer Level Access Former)

1. Fabricate 18mm (minimum) thick support panel (complete with hole for Drain Body) and softwood noggings, and fit flush with top of joists.
2. Fit Harmer Level Access Former (complete with integral falls and hole for Drain Body) over the ply support panel. Secure the Harmer Level Access Former to the joists using 50mm x No.8 countersunk screws at 225mm centres. Fill screw heads with filler flush to plywood surface. Note: Harmer Level Access Former is available in various perimeter sizes and drain outlet positions to suit joist layout and site conditions.
3. Connect Drain Body to waste pipe using solvent cement joint.
4. Screw-fix Drain Body to Harmer Level Access Former using 25mm x No.8 countersunk screws. Then lay marine ply decking to remainder of floor, butting up to Harmer Level Access Former.
5. Apply waterproof membrane to manufacturers' instructions. Dress membrane over and seal to rim of Drain Body. Trim to edge of screw pockets (optimum hole diameter is 122mm). **Do not cut into ABS Drain Body.**
6. Screw Clamp firmly in position to secure waterproof membrane.
7. Bed the Tile Frame over the Drain Body to the required level, using tile adhesive.
8. Bed tiles in tile adhesive, working away from the Tile Frame.
9. Insert Foul Air Trap into Drain Body prime.
10. Screw Plain Cap onto Tile Frame.
11. Apply flexible sealant between tile and edge of Tile Frame, then apply grout conventionally to remainder of tile joints.



Harmer Drainage Systems Stainless Steel Shower Channels & Outlets

The new high performance stainless steel linear wet room drain and shower drains. Available with a choice of 5 grate options for tile and vinyl floors applications.



Stainless Steel Shower Floor Channels & Outlets - Benefits

Harmer Stainless Steel Shower Channels and Drains offer a range of high performance linear wet room drains and shower gullies to suit modern bathroom requirements. The spa channels and drains are available in a choice of stylish grate options in a variety of lengths.

Compliances

- The stainless steel is fully pickle passivated to ensure high quality corrosion-free joints

Flow Performance

- High flow rate performance
- Spa channels have an integral outlet with a 50mm connector

Robust and Secure

- Available in V2A Grade 304 stainless steel
- Excellent corrosion resistance and durability

A Choice of Channels and Grates

- Suitable for both tile and vinyl floor applications
- The spa channels are available with 5 stylish grate designs to suit any wet room design, including a tile finish option
- Available in 5 different lengths from 700mm to 1200mm
- The shower drain is available with either a vertical or horizontal outlet
- The drains are available with 5 stylish grate options

Low Maintenance

- Easy to clean and maintain with easy access to the channel and trap within the drain body

Easy and Quick to Install

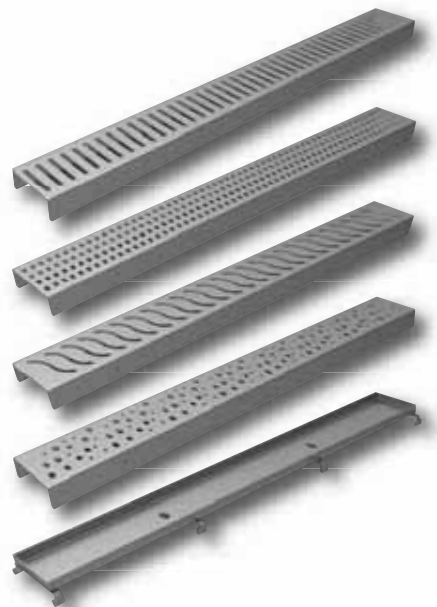
- Simple and easy to install, especially suited for projects where a shallow depth outlet is required
- The channels have Integral feet and supports to help secure positioning
- The Spa channel can be used in connection with a wet room former
- Secure fixings for the drain bodies

Value for Money

- Stainless steel is very durable and resistant in domestic and industrial applications so its life cycle cost is excellent

Sustainable

- Stainless steel is 100% recyclable
- Around 60% recycled material is used in the production of stainless steel



Stainless Steel Shower Floor Channels - Product Range Summary



Shower Floor Channels

The new high performance range of stainless steel linear wet room drains. Available in a range of channel widths and lengths along with a choice of stylish grate options for tiled and flexible sheet vinyl flooring to suit any wet room design.

Harmer Stainless Steel shower channels offer an excellent solution for new wet room designs, removing the requirement for the traditional shower basins. This enables better use of limited space and can give extra design style to contemporary bathroom designs.

The shower channels are available in either a standard design which is ideal for a screed floor or with flange for a tile floor finish.

- Available in 5 different channel lengths from 700mm to 1200mm
- Integral fall so no slope required
- They can be used in combination with a wet room former

Grate Options

There are 5 stylish grate options.

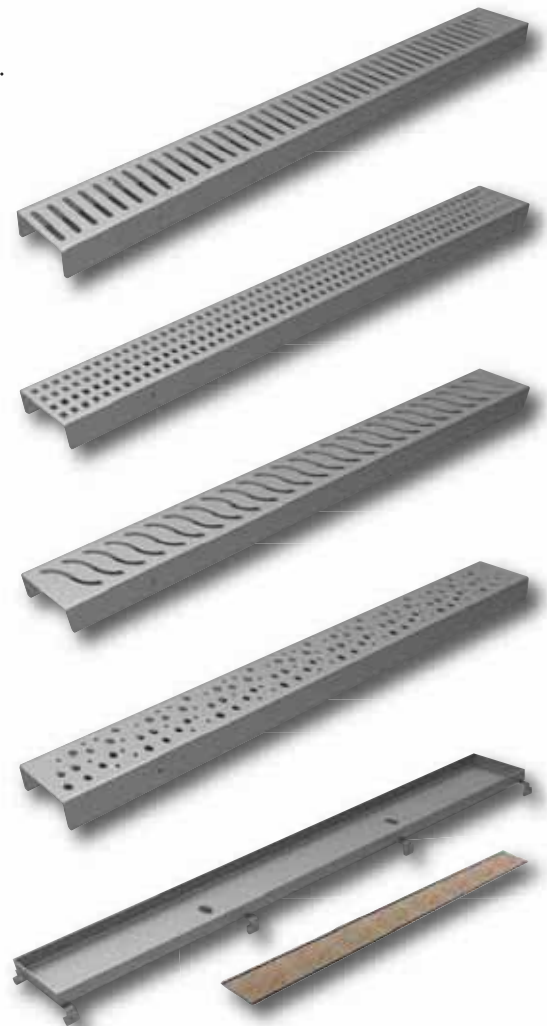
Brescia Grate

Quattro Grate

Verona Grate

Genoa Grate

Palermo Grate*



*Example of possible tile arrangement for Palermo Grate

Stainless Steel Shower Floor Outlets - Product Range Summary



Shower Floor Outlets

A range of shallow depth stainless steel trapped shower gullies available with a vertical or horizontal outlets. Available in a choice of three stylish grate designs to suit and bathroom or wet room design. The stainless steel shower gullies are especially suited for projects where a shallow depth outlet is required

- Designed for all types of bathrooms and wet room design for both domestic and commercial applications
- The horizontal outlet has a depth of 58mm
- The vertical Outlets as a total depth of 77mm including the spigot
- Supplied with a 50mm Connector
- Integral four air trap conforms to BS EN 1253 requirement for a 50mm water seal
- Three stylish 100mm x 100mm polished stainless steel grate options
- Available in 304 grade stainless steel
- Supplied with secure fixings for the grate

Grate Options

There are 3 stylish grate options.

Casoria Grate



Florence Grate



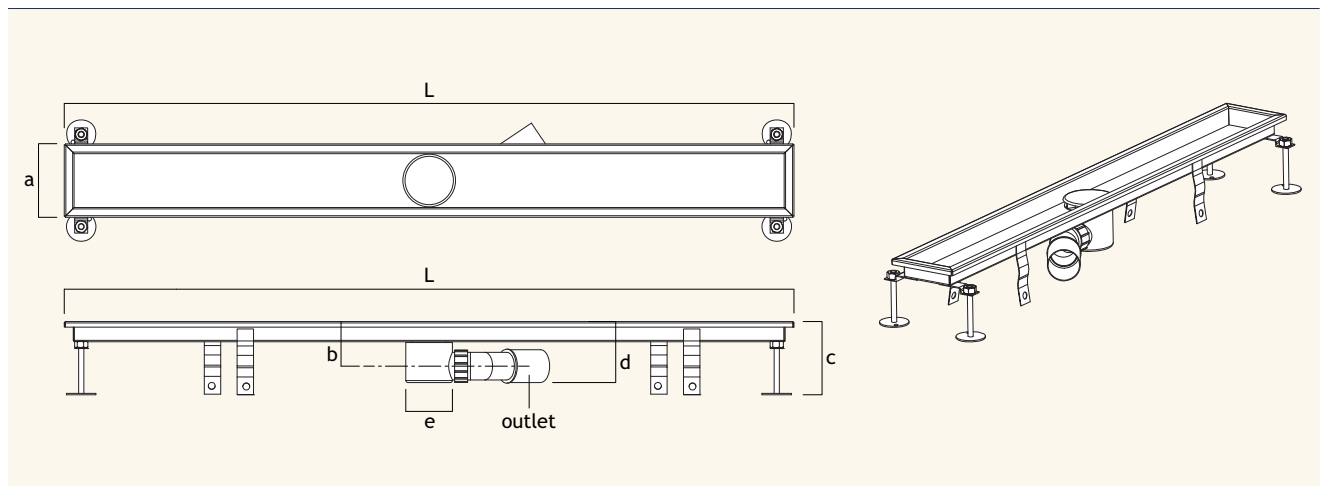
Genoa Grate



Stainless Steel Shower Floor Channels - Tiled Floor Product Tables

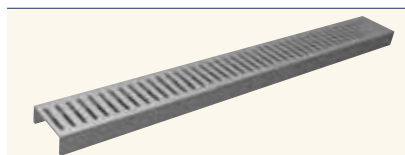
Harmer Stainless Steel shower channels offer a range of lengths from 700 to 1200mm. With a choice of four stylish grate designs and a special tile infill grate. The standard design is ideally suited for screed floors.

Standard Shower Floor Channels for Tiled Floors



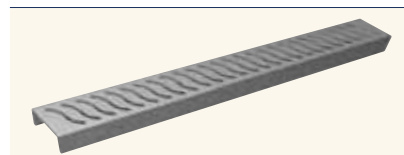
Outlet Size (mm)	Length (L) (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
50	700 to 1200	106	65	176-188	143	65

Brescia Grate



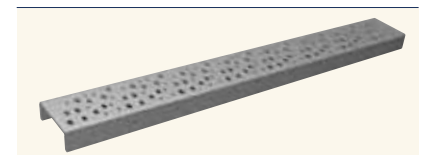
Grate Length (mm)	Product Code
700	SC/700/B
800	SC/800/B
900	SC/900/B
1000	SC/1000/B
1200	SC/1200/B

Verona Grate



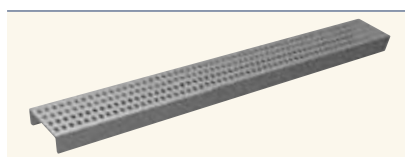
Grate Length (mm)	Product Code
700	SC/700/V
800	SC/800/V
900	SC/900/V
1000	SC/1000/V
1200	SC/1200/V

Genoa Grate



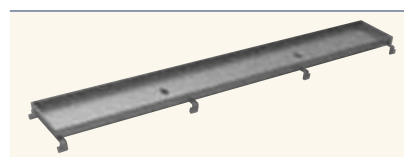
Grate Length (mm)	Product Code
700	SC/700/G
800	SC/800/G
900	SC/900/G
1000	SC/1000/G
1200	SC/1200/G

Quattro Grate



Grate Length (mm)	Product Code
700	SC/700/Q
800	SC/800/Q
900	SC/900/Q
1000	SC/1000/Q
1200	SC/1200/Q

Palermo Grate

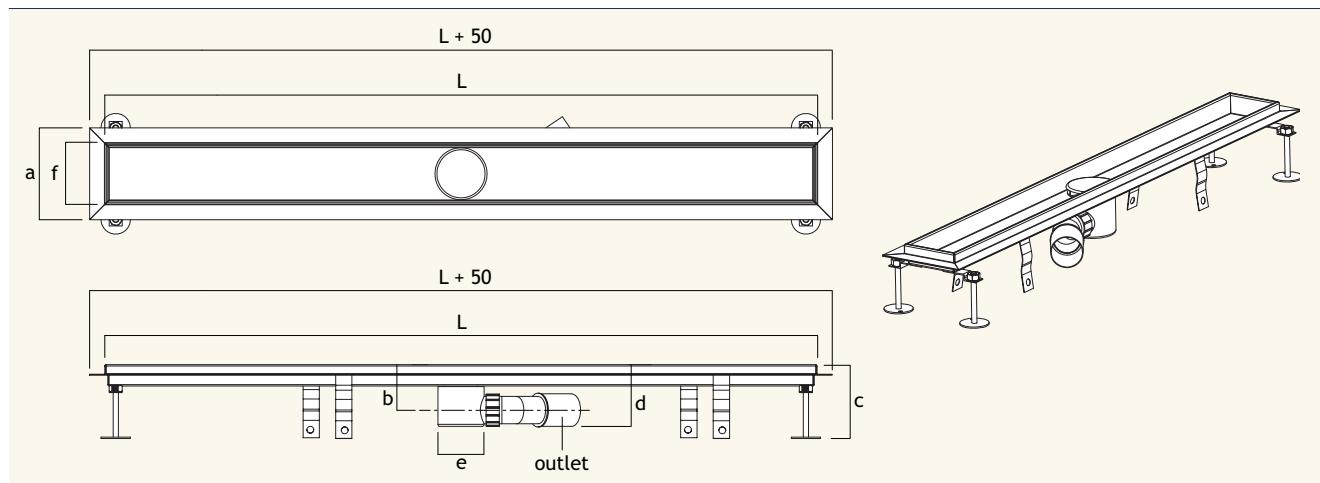


Grate Length (mm)	Product Code
700	SC/700/P
800	SC/800/P
900	SC/900/P
1000	SC/1000/P
1200	SC/1200/P

Stainless Steel Shower Floor Channels - Tiled Floor Product Tables

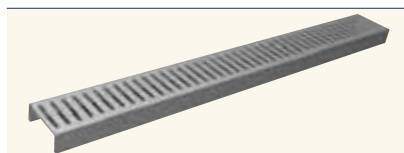
Harmer Stainless Steel shower channels offer a range of lengths from 700 to 1200mm. With a choice of four stylish grate designs and a special tile infill grate. The channel with flange design is ideally suited for tiled floors.

Shower Floor Channels with Flange for Tiled Floors



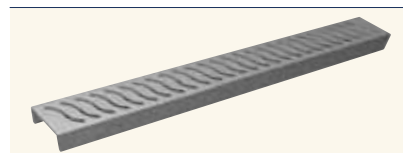
Outlet Size (mm)	Length (L) (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
50	700 to 1200 (+50)	136	65	176-188	143	65	88

Brescia Grate



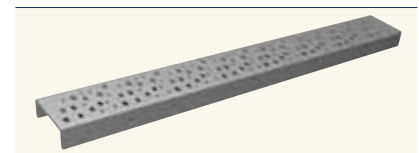
Grate Length (mm)	Product Code
700	SCF/700/B
800	SCF/800/B
900	SCF/900/B
1000	SCF/1000/B
1200	SCF/1200/B

Verona Grate



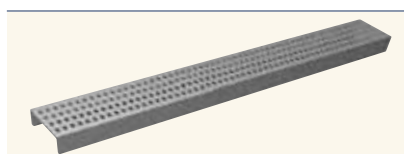
Grate Length (mm)	Product Code
700	SCF/700/V
800	SCF/800/V
900	SCF/900/V
1000	SCF/1000/V
1200	SCF/1200/V

Genoa Grate



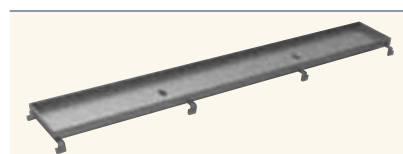
Grate Length (mm)	Product Code
700	SCF/700/G
800	SCF/800/G
900	SCF/900/G
1000	SCF/1000/G
1200	SCF/1200/G

Quattro Grate



Grate Length (mm)	Product Code
700	SCF/700/Q
800	SCF/800/Q
900	SCF/900/Q
1000	SCF/1000/Q
1200	SCF/1200/Q

Palermo Grate



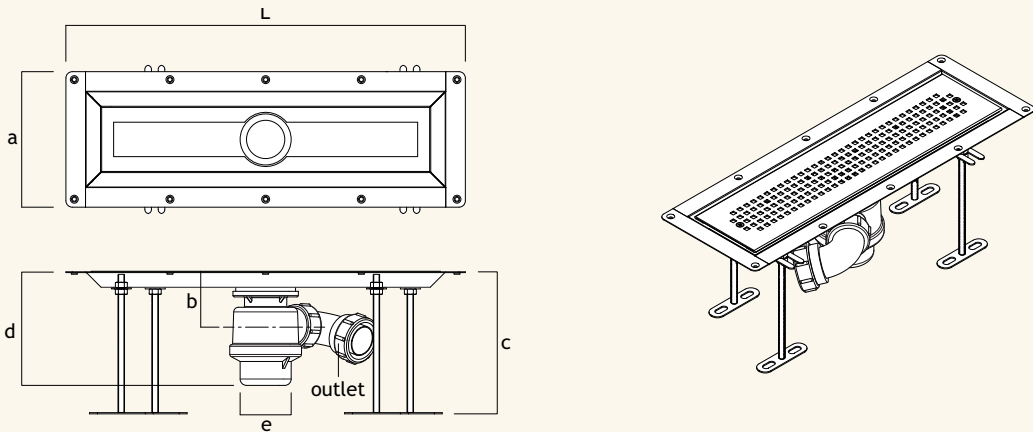
Grate Length (mm)	Product Code
700	SCF/700/P
800	SCF/800/P
900	SCF/900/P
1000	SCF/1000/P
1200	SCF/1200/P

Stainless Steel Shower Floor Channels - Flexible Sheet Floor Product Tables

Harmer Stainless Steel shower channels offer a range of lengths from 700 to 1200mm. With a choice of four stylish grate designs.

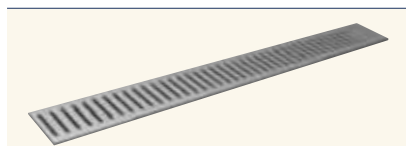
The Flexible sheet channel design has an integral clamp to ensure a secure waterproof finish, ideally suited for vinyl floor applications.

Shower Floor Channels for Flexible Sheet Floors



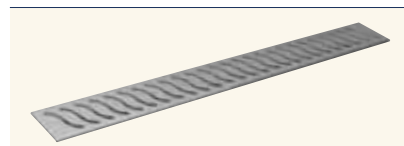
Outlet Size (mm)	Length (L) (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)
50	700 to 1200 (+40)	170	62	176-188	143	65

Brescia Grate



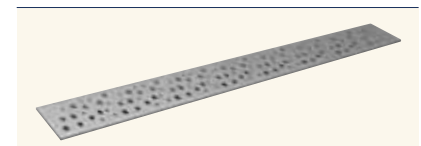
Grate Length (mm)	Product Code
700	SCV/700/B
800	SCV/800/B
900	SCV/900/B
1000	SCV/1000/B
1200	SCV/1200/B

Verona Grate



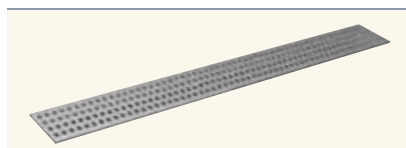
Grate Length (mm)	Product Code
700	SCV/700/V
800	SCV/800/V
900	SCV/900/V
1000	SCV/1000/V
1200	SCV/1200/V

Genoa Grate



Grate Length (mm)	Product Code
700	SCV/700/G
800	SCV/800/G
900	SCV/900/G
1000	SCV/1000/G
1200	SCV/1200/G

Quattro Grate

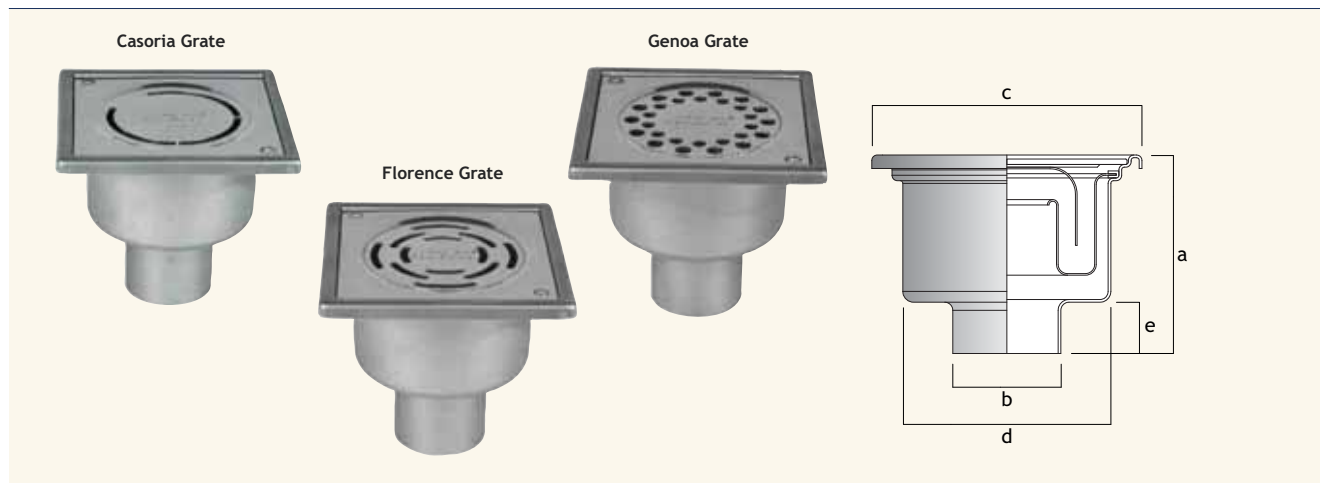


Grate Length (mm)	Product Code
700	SCV/700/Q
800	SCV/800/Q
900	SCV/900/Q
1000	SCV/1000/Q
1200	SCV/1200/Q

Stainless Steel Shower Floor Outlets - Tiled Floor Product Tables

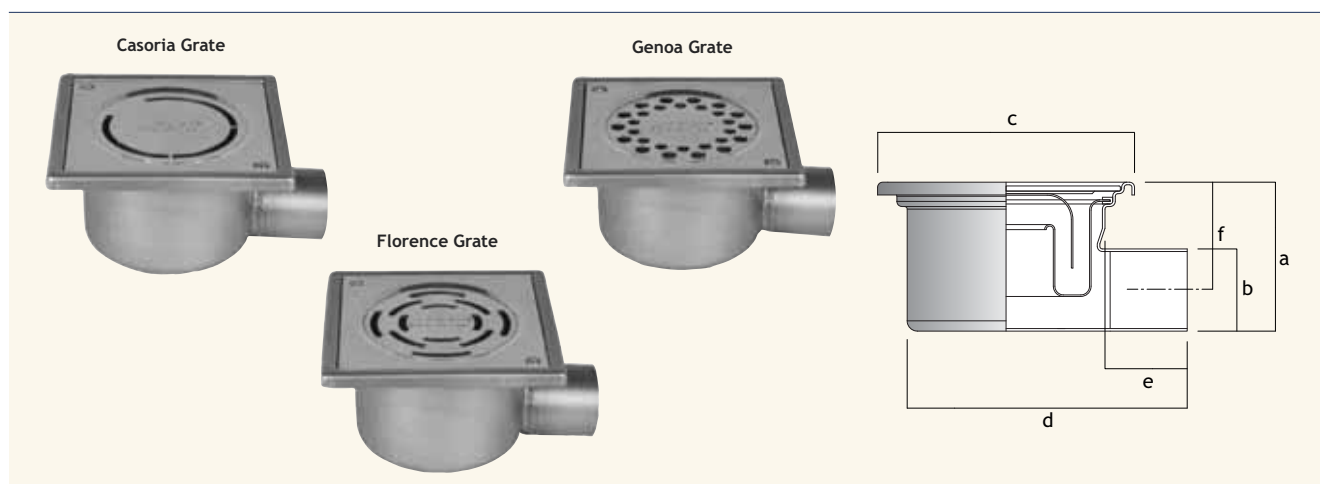
A range of shallow depth Stainless Steel trapped shower drains available either with vertical or horizontal outlets. Available in three grate designs to suit any bathroom or wet room.

Vertical Shower Floor Outlets for Tiled Floors



Outlet Size (mm)	Grate Type	Grate Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	Product Code
40	Casoria	100 x 100	74	40	100	77	20	SBV40/S10/C
40	Florence	100 x 100	74	40	100	77	20	SBV40/S10/F
40	Genoa	100 x 100	74	40	100	77	20	SBV40/S10/G

Horizontal Shower Gullies for Tiled Floors



Outlet Size (mm)	Grate Type	Grate Size (mm)	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Product Code
32	Casoria	100 x 100	58	32	100	107	30	42	SBH32/S10/C
32	Florence	100 x 100	58	32	100	107	30	42	SBH32/S10/F
32	Genoa	100 x 100	58	32	100	107	30	42	SBH32/S10/G

Stainless Steel Shower Floor Channels & Outlets - NBS Specification

A typical NBS Specification for Harmer Stainless Steel Shower Floor Channels & Outlets. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk.

For project specific specification advice, contact Harmer Technical Services.

NBSPlus

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN
- Complete the design of the above ground foul drainage system
 - Standard: To EN 1253
 - Proposals: Submit drawings, technical information, calculations and manufacturer's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ± 38 mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

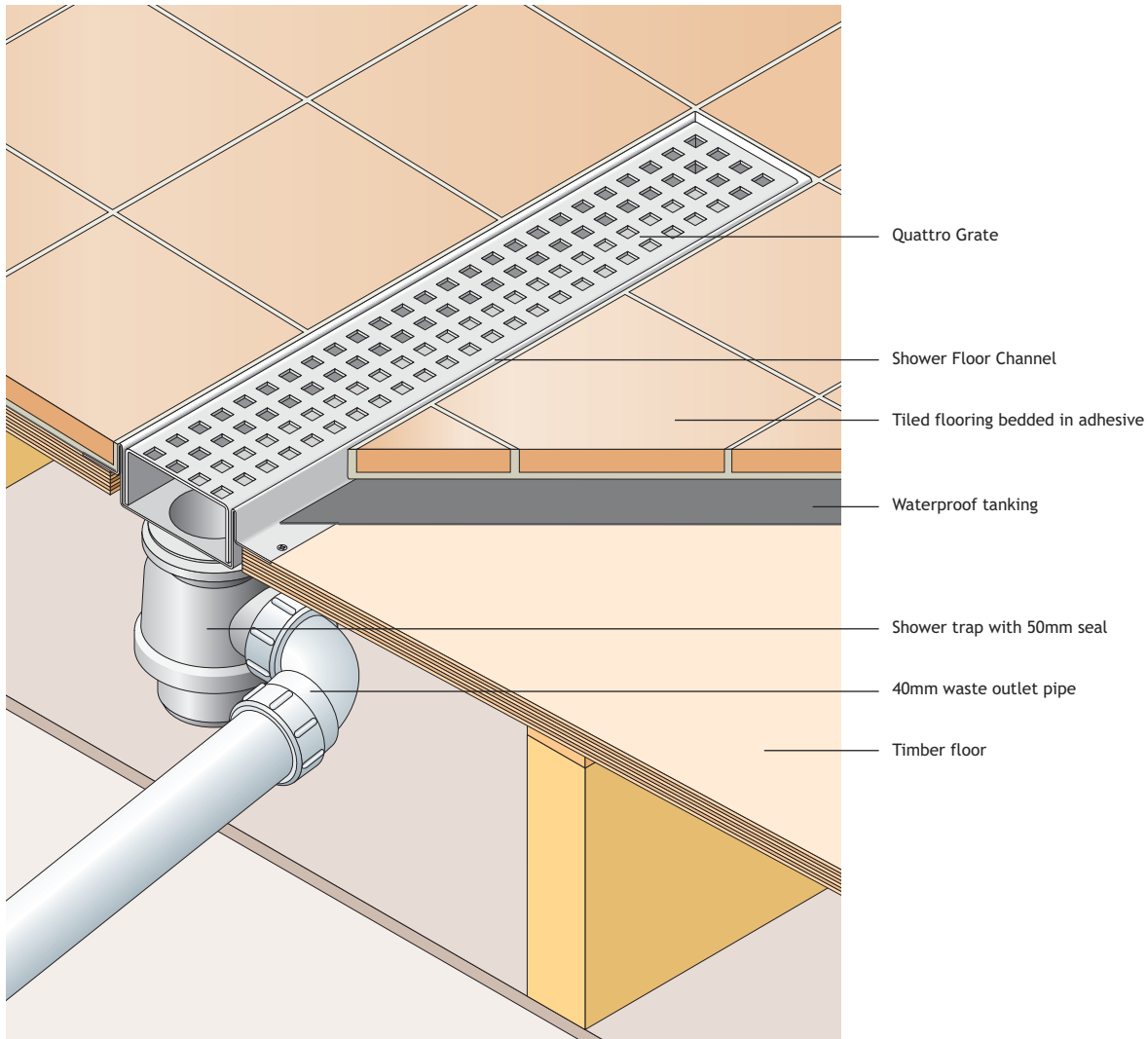
- 310 HARMER FLOOR DRAINAGE
- Floor Finish: Tile/Vinyl
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Stainless Steel SPA Channel
- Material: Grade 304 Stainless Steel
- Channel Type: Stainless Steel Shower Channels - Tile
Stainless Steel Shower Channels - Vinyl
- Outlet Type: 32mm dia horizontal spigot, 0.2l/s
- Channel Length: 700, 800, 900, 1000, 1200mm
- Grate Type: Brescia, Quattro, Verona, Genoa, Palermo
- Grate Material: Austenitic Grade 304 Stainless Steel, pickle passivated, brushed
- Product Code: Refer to tables
- Accessories: 500 x 500mm Corner Channel



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

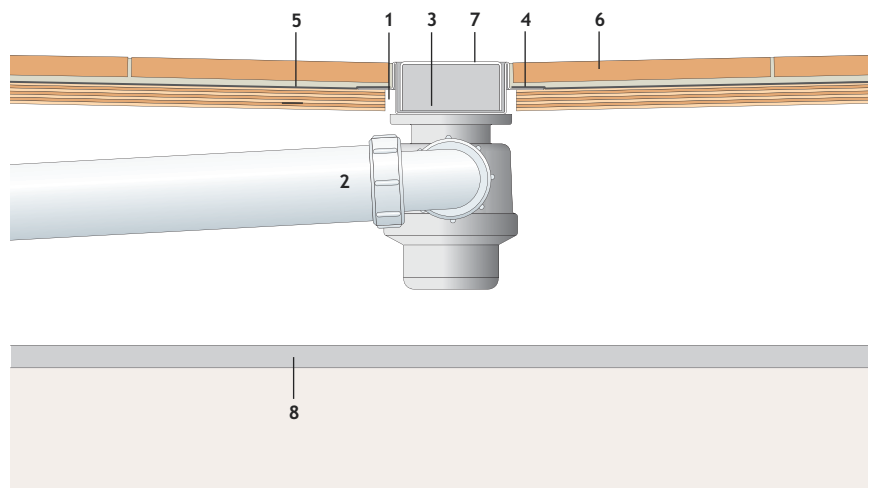
Stainless Steel Shower Floor Channels & Outlets - Application Details

Shower Floor Channel with Flange for Tiled Floor Finish, with Quattro Grate



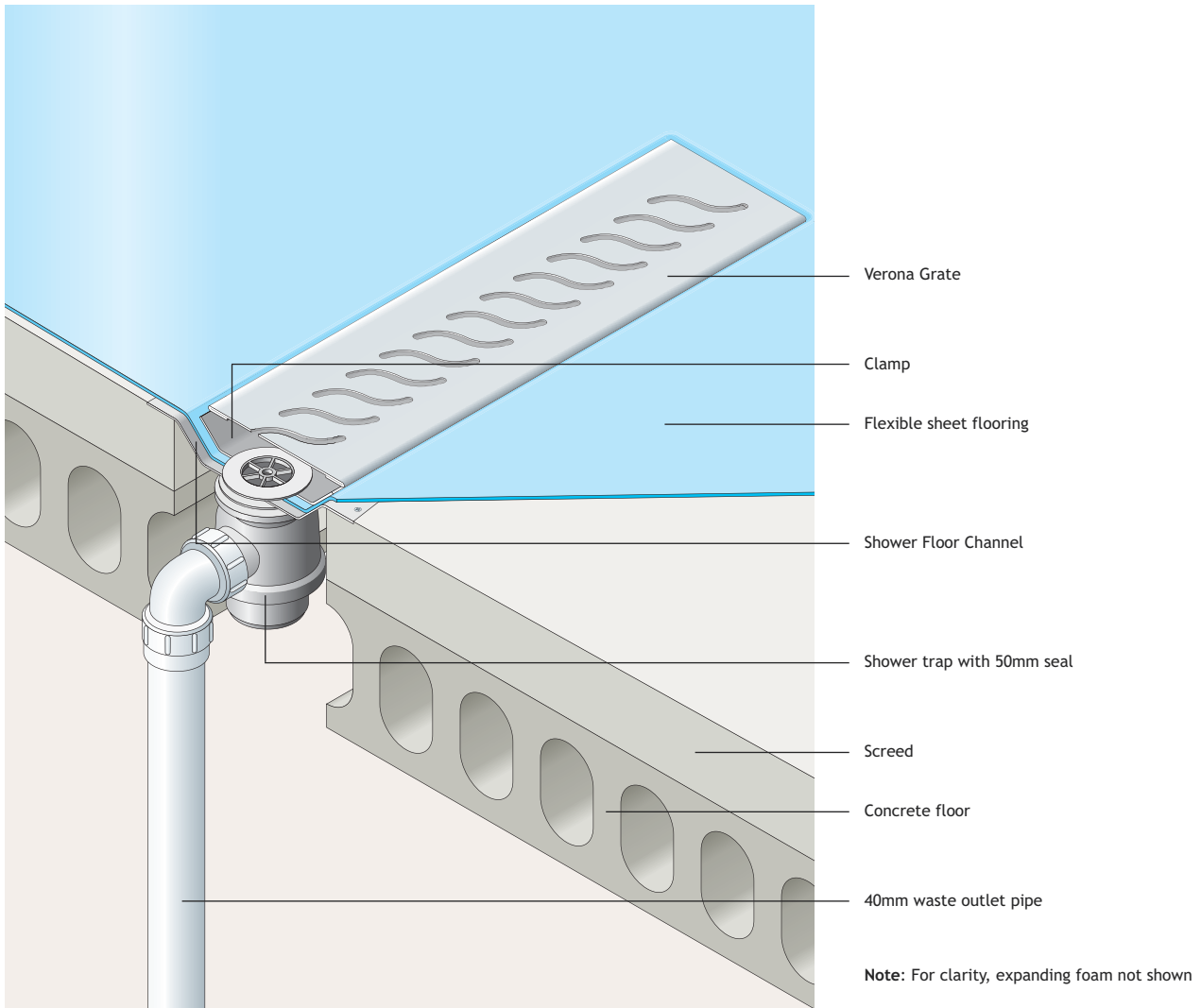
Sitework

1. Form cut-out in floor to receive channel.
2. Line up waste pipe connection and fit plastic gully.
3. Place channel into cut-out and secure gully.
4. Apply fixing screws to flange of channel to secure to floor.
5. Lay waterproof tanking to flange.
6. Apply adhesive and lay floor tiles.
7. Place grating into channel.
8. Fix ceiling lining.



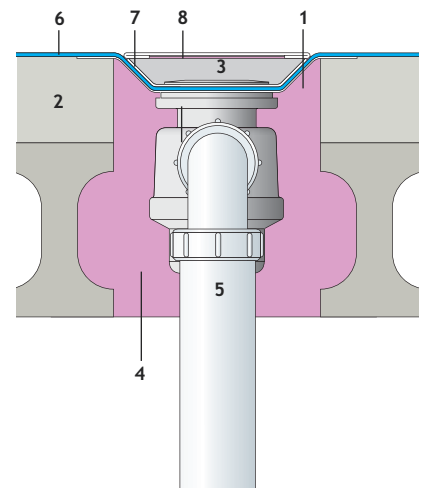
Stainless Steel Shower Floor Channels & Outlets - Application Details

Shower Floor Channel for Flexible Sheet Floor Finish, with Verona Grate



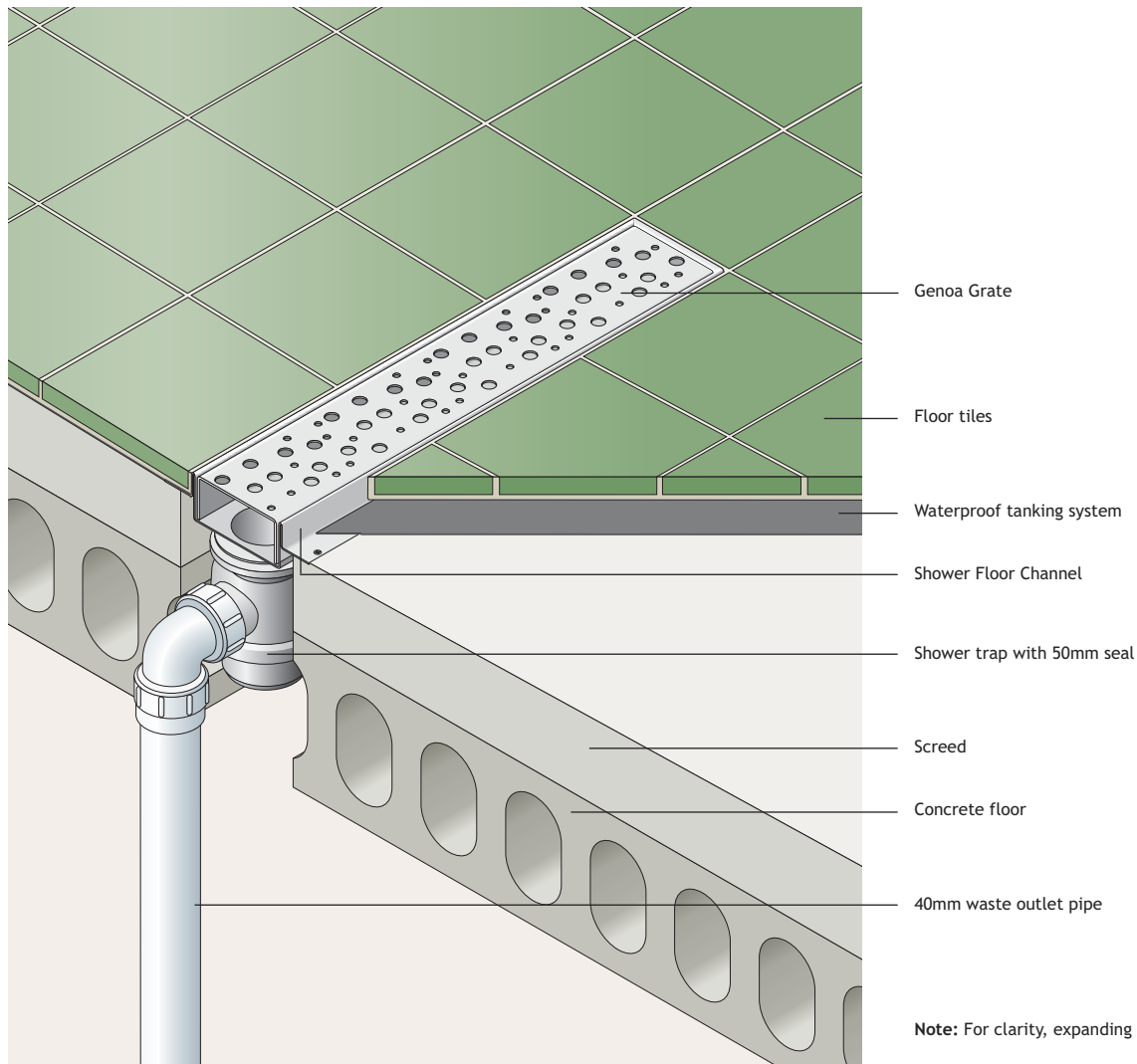
Sitework

1. Form hole to receive shower drain trap in precast concrete floor.
2. Form shutter around hole and shutter around slot for channel. Lay main area of screed to fall towards channel.
3. Remove shutters. Secure shower drain trap to channel. Secure channel into position.
4. Within precast concrete floor depth, seal space around trap and channel with expanding foam.
5. Connect waste pipe.
6. Lay vinyl sheet flooring and dress into channel.
7. Secure clamp over vinyl.
8. Fit grating.



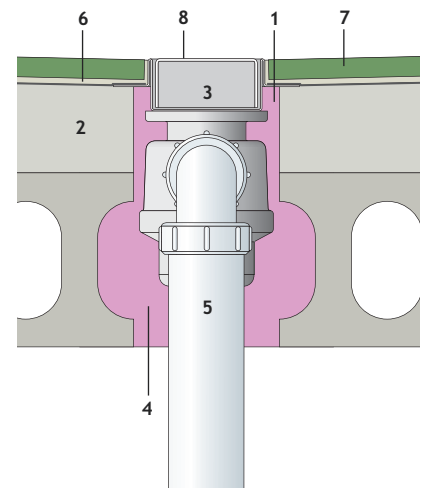
Stainless Steel Shower Floor Channels & Outlets - Application Details

Shower Floor Channel for Tiled Floor Finish, with Genoa Grate



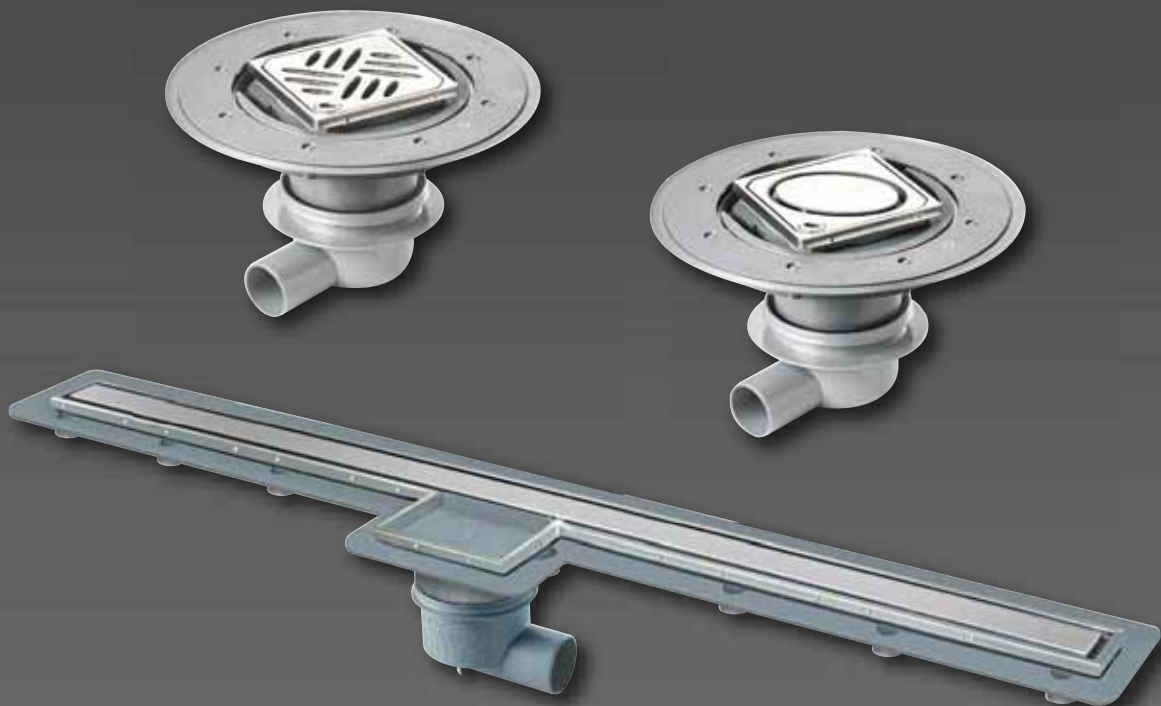
Sitework

1. Form hole to receive shower drain trap in precast concrete floor.
2. Form shutter around hole and shutter around slot for channel. Lay main area of screed to fall towards channel.
3. Remove shutters. Secure shower drain trap to channel. Secure channel into position.
4. Within precast concrete floor depth, seal space around trap and channel with expanding foam.
5. Connect waste pipe.
6. Apply waterproof tanking to flange of channel.
7. Apply adhesive and lay tiles.
8. Fit grating.



Harmer Drainage Systems Linearis Shower Channels & Outlets

The Harmer Linearis Channel and Outlet drainage range offers a mix of sophisticated elegance and advanced engineering to meet all the practical, aesthetic and functional demands of today's contemporary shower and wet rooms, and at the same time removing the need for conventional shower trays.



Linearis Shower Floor Channels & Outlets - Benefits

The Harmer Linearis Shower Channel and Outlet drainage range copes exceptionally well with the high flow demands of modern showers, delivering fast and efficient drainage for domestic, residential and leisure developments, especially luxury bathrooms and fitness centres.

Compliances

- Linearis is manufactured in accordance with EN 1253
- All products are manufactured under ISO 9001: 2000 quality standard

Flow Performance

- High flow rate performance up to 1.2 litres per second for Slimline channels that will cope with high volume shower heads

Robust and Secure

- Grates, covers and rims are made with Grade 304 stainless steel
- Channel and outlet bodies are made from ABS

A Choice of Channels and Outlets

- The channels and outlets are designed for tiled floor applications
- The Slimline 40 and 60 shower channels are available in a choice of widths and lengths to suit any wet room design
- The Slimline 60 channel grating can be reversed so that only the rim is visible when filled with tiling
- The shower outlets are available with 3 grate designs, including a recessed option for receiving tiles
- The shower channels and outlets are available with a choice of drain bodies, and with either vertical or horizontal outlets

Low Maintenance

- Easy access for maintenance

Easy and Quick to Install

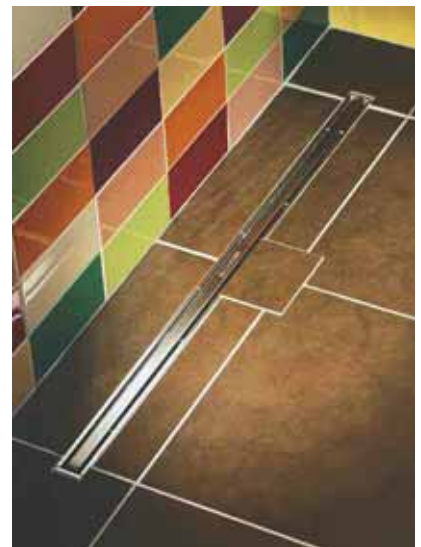
- Vertical and lateral adjustment for ease of installation of the channels and outlets, with the outlets offering 360° orientation of grates
- Lockable covers
- Suitable for sub-tile waterproofing
- Adjustable for different tile thicknesses

Value for Money

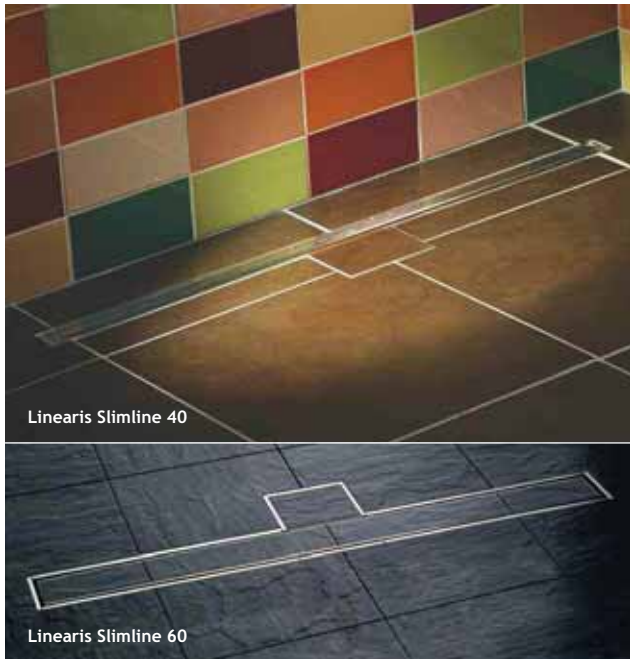
- Stainless steel is very durable and resistant in domestic and leisure applications, thereby offering excellent value for money over the life of the products

Sustainable

- Stainless steel is 100% recyclable
- Around 60% recycled material is used in the production of stainless steel

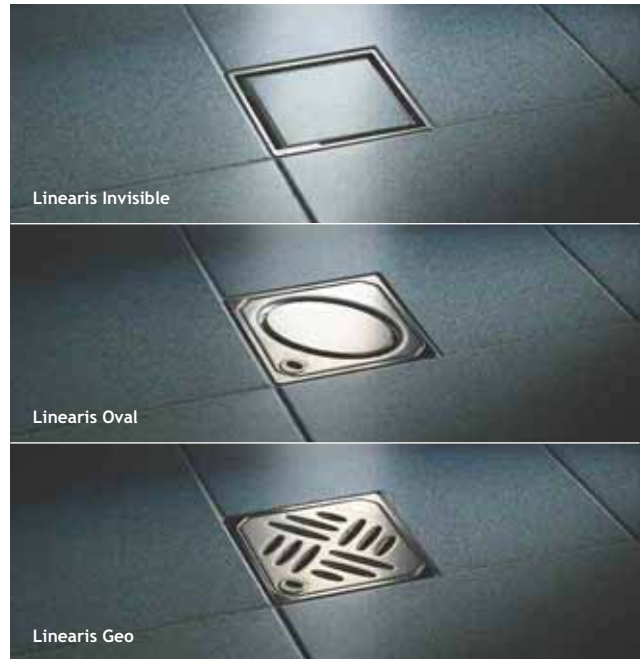


Linearis Shower Floor Channels & Outlets - Product Range Summary



Linearis Slimline 40

Linearis Slimline 60



Linearis Invisible

Linearis Oval

Linearis Geo

Linearis Channel Drainage

The sleek, clean lines of the Linearis Slimline 40 and Slimline 60 channels will complement and enhance the tiling pattern in any shower or wet room.

Available in a choice of widths and lengths, the high performance channels deliver fast and efficient drainage. Additionally both Slimline channels feature lockable covers and have easy access for maintenance.

Linearis Slimline 40



Linearis Slimline 60



Linearis Shower Gullies

The Harmer Linearis range of shower gullies presents the opportunity to select a gully to coordinate with your room styling. There are 3 types to choose from:

Invisible features a recessed cover which can easily be tiled to minimise the appearance of the drain and blend it in with the adjacent tiles.

Oval conveys elegance to add a touch of luxury to the wet room or shower.

Geo represents a contemporary symmetrical design which will complement any modern scheme.

Linearis Oval



Linearis Invisible



Linearis Geo



Linearis Shower Floor Channels & Outlets - Product Tables

Linearis Slimline 40 and 60 Shower Floor Channels

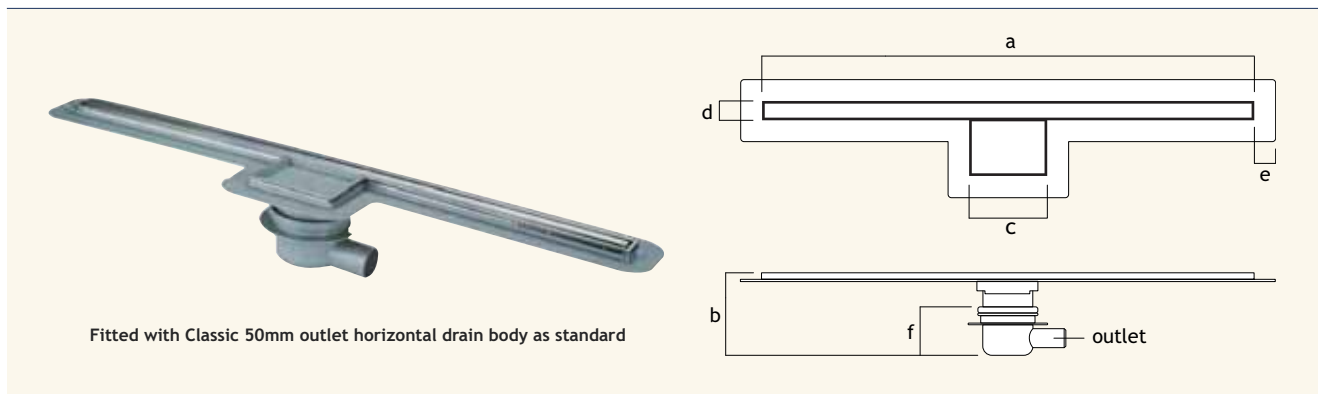
Both channel drain options are available in 3 lengths.

The Slimline 40 Channel can be adjusted to accommodate different tile thicknesses ranging from 8-10mm. It is supplied complete with a Classic 50mm diameter outlet horizontal drain body as standard. Other drain bodies are available - see tables on page 171.

The Slimline 60 Channel can be adjusted to accommodate different tile thicknesses ranging from 8-20mm. Additionally, the Slimline 60 Channel can be reversed and filled with tiling to fully match the surrounding floor tiles. It is supplied complete with a Practicus 50mm diameter outlet horizontal drain body as standard. Other drain bodies are available - see tables on page 171.

Various accessories are also available for both channel types - see page 172.

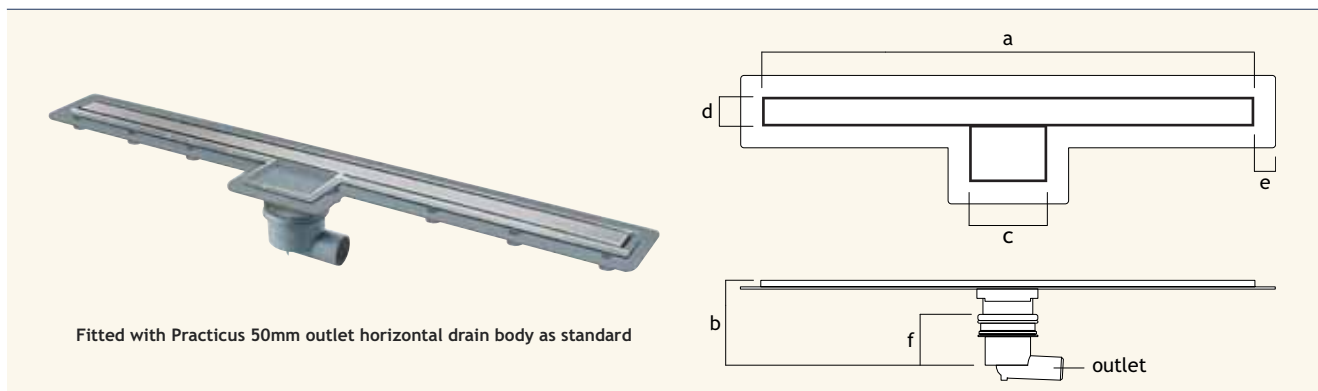
Linearis Slimline 40



Outlet Size (mm)	Materials	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Flow Rate (l/s)	Weight (kg)	Product Code
50	ABS with brushed stainless steel cover	750	112-160	140	40	40	90	0.4*	1.6	40150.83
50	ABS with brushed stainless steel cover	950	112-160	140	40	40	90	0.4*	1.8	40150.85
50	ABS with brushed stainless steel cover	1150	112-160	140	40	40	90	0.4*	2.0	40150.87

Note: *With 10mm threshold (see page 174 and 175 for detail)

Linearis Slimline 60



Outlet Size (mm)	Materials	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)	Flow Rate (l/s)	Weight (kg)	Product Code
50	ABS with brushed stainless steel cover	750	187-230	140	60	40	130	0.6*, 1.2**	3.8	48908
50	ABS with brushed stainless steel cover	950	187-230	140	60	40	130	0.6*, 1.2**	4.3	48910
50	ABS with brushed stainless steel cover	1150	187-230	140	60	40	130	0.6*, 1.2**	4.7	48912

Note: *0.6 l/s without threshold (see page 174 and 175 for detail) **1.2 l/s with 10mm threshold (see page 174 and 175 for detail)

Linearis Shower Floor Channels & Outlets - Product Tables

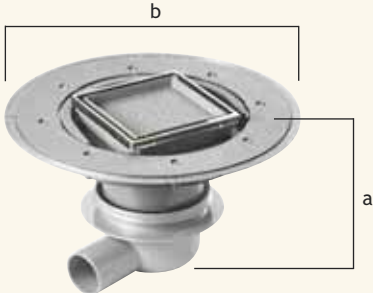
Linearis Invisible, Oval and Geo Shower Floor Outlets

All 3 gully drain options are fully adjustable through a 360° rotation for convenient installation. The Invisible gully can also be tiled to match the surrounding floor tiling. The gullies can be adjusted to accommodate different tile thicknesses ranging from 8-20mm.

The gullies are supplied complete with a Classic 50mm diameter outlet horizontal drain body as standard. Other drain bodies are available - see tables on page 171.

Various accessories are also available for all 3 gully types - see page 172.

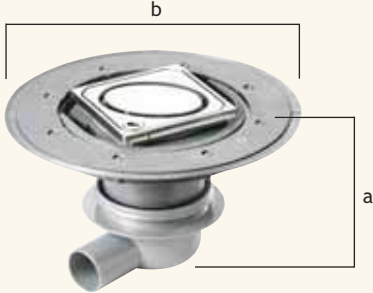
Linearis Invisible



Fitted with Classic 50mm outlet horizontal drain body as standard

Outlet Size (mm)	Materials	a (mm)	b (mm)	Load Class (to EN 1253)	Flow Rate (l/s)	Weight (kg)	Product Code
50	ABS with stainless steel rim	133-190	312	K3	0.9	1.2	40150.55

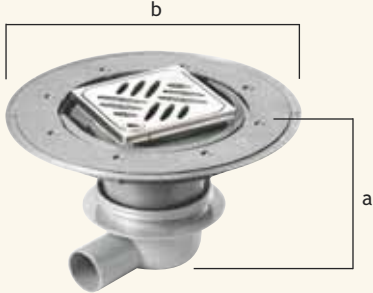
Linearis Oval



Fitted with Classic 50mm outlet horizontal drain body as standard

Outlet Size (mm)	Materials	a (mm)	b (mm)	Load Class (to EN 1253)	Flow Rate (l/s)	Weight (kg)	Product Code
50	ABS with brushed stainless steel cover	133-190	312	K3	0.9	1.2	40150.54

Linearis Geo



Fitted with Classic 50mm outlet horizontal drain body as standard

Outlet Size (mm)	Materials	a (mm)	b (mm)	Load Class (to EN 1253)	Flow Rate (l/s)	Weight (kg)	Product Code
50	ABS with brushed stainless steel cover	133-190	312	K3	0.9	1.2	40150.53

Linearis Shower Floor Channels & Outlets - Product Tables

Linearis Classic, Practicus, Superflat and Ultraflat Drain Bodies


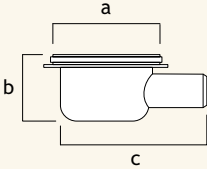

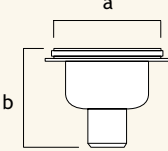
Classic and Superflat drain bodies are used to form Slimline 40, Invisible, Oval or Geo assemblies.

Practicus and Ultraflat drain bodies are used to form Slimline 60 assemblies.


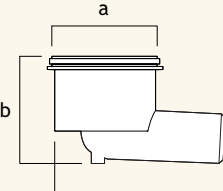

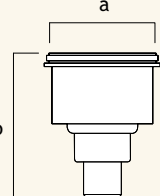

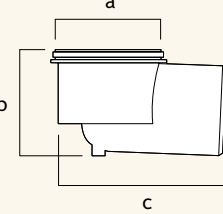

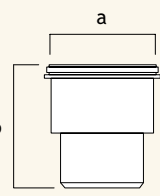
The 50mm water seal (Classic and Practicus) conforms to EN 1253.

The 30mm water seal option (Superflat and Ultraflat) is for restricted depth applications.


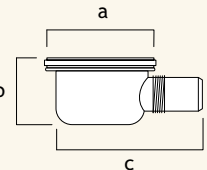

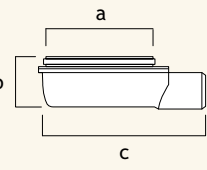
Linearis Classic

							
50 horizontal		50 vertical					
Outlet Size (mm)	Materials	a (mm)	b (mm)	c (mm)	Water Trap (mm)	Weight (kg)	Product Code
50 horizontal	ABS	129	90	184	50	0.2	40150
50 vertical	ABS	129	135	—	50	0.2	40250

Linearis Practicus

							
50 horizontal		50 vertical					
							
100 horizontal		100 vertical					
Outlet Size (mm)	Materials	a (mm)	b (mm)	c (mm)	Water Trap (mm)	Weight (kg)	Product Code
50 horizontal	Polypropylene	150	132	313	50	0.8	45150
50 vertical	Polypropylene	150	192	—	50	0.8	45250
100 horizontal	Polypropylene	150	132	215	50	0.8	45110
100 vertical	Polypropylene	150	153	—	50	0.8	45210

Linearis Superflat and Ultraflat

								
Superflat		Ultraflat						
Body Type	Outlet Size (mm)	Materials	a (mm)	b (mm)	c (mm)	Water Trap (mm)	Weight (kg)	Product Code
Superflat	50 horizontal	Polypropylene	129	80	194.5	30	0.2	42701
Ultraflat	50 horizontal	ABS	150	69	227	30	0.3	45700

Linearis Shower Floor Channels & Outlets - Accessories and Maintenance

Miscellaneous Accessories for Channels and Outlets

A range of accessories is available for use with all the Linearis shower channel and outlet systems.

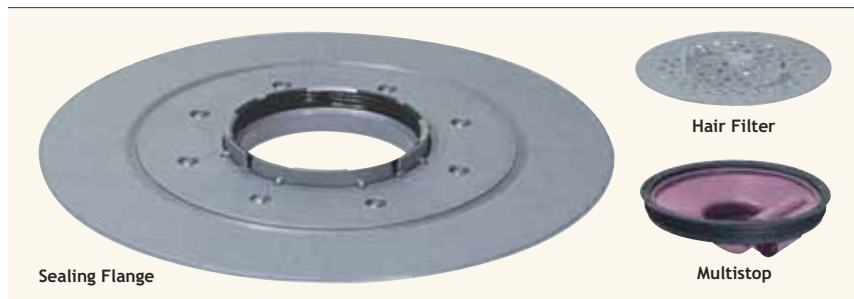
Whilst optional, the accessories are recommended to ensure maximum performance efficiency.

The Sealing Flange is used when there is a requirement for an additional waterproofing membrane under a concrete screed.

The Hair Filter is an effective method of preventing hair build-up.

The Multistop prevents the potential problems of odour, insects and foam build-up.

Accessories



Accessory Type	Material	Product Code	
		For Slimline 40, Invisible, Oval, Geo	For Slimline 60
Sealing Flange	ABS	43401	48401
Hair Filter	Polypropylene	43700	48700
Multistop	Polypropylene	43500	48500

Maintenance Access

Maintenance is made easy when using the Linearis range because of the incorporation of integral access methods:

- Slimline 40 and Slimline 60 Shower Channels have lockable covers.
- ◆ The Invisible Shower Gully has a lockable cover.
- Oval and Geo Shower Gullies both feature a Lock & Lift System.



Linearis Channel (Slimline 40 shown)



Linearis Gully (Geo shown)



Linearis Gully (Oval shown)



Linearis Shower Floor Channels & Outlets - NBS Specification

A typical NBS Specification for Linearis Floor Channels & Outlets. A full range of NBS specifications and floor drainage calculators are available via the Harmer online NBS Specification Builder at www.harmerdrainage.co.uk. For project specific specification advice, contact Harmer Technical Services.

NBSPlus

R11 Above Ground Foul Drainage Systems

To be read with Preliminaries/General Conditions

GENERAL

- 115 ABOVE GROUND FOUL DRAINAGE SYSTEMS
- Sanitary and floor drainage outlets: As per detail sections below
 - Waste pipework: As per detail sections below
 - Discharge stack and branch pipework: As per detail sections below
 - Separate ventilating pipework: As per detail sections below
 - Accessories: As per detail sections below
 - Disposal: As per detail sections below

SYSTEM PERFORMANCE

- 210 DESIGN
- Complete the design of the above ground foul drainage system
 - Standard: To EN 1253
 - Proposals: Submit drawings, technical information, calculations and manufacturer's literature
- 220 COLLECTION AND DISTRIBUTION OF FOUL WATER
- General: Complete, and without leakage or noise nuisance
- 230 DESIGN PARAMETERS - GENERAL
- Quick, quiet and complete, self-cleansing in normal use, without blockage, cross-flow, back-fall, leakage, odours, noise nuisance or risk to health
 - Pressure fluctuations in pipework (maximum): ± 38 mm water gauge
 - Water seal retained in traps (minimum): 25mm

PRODUCTS

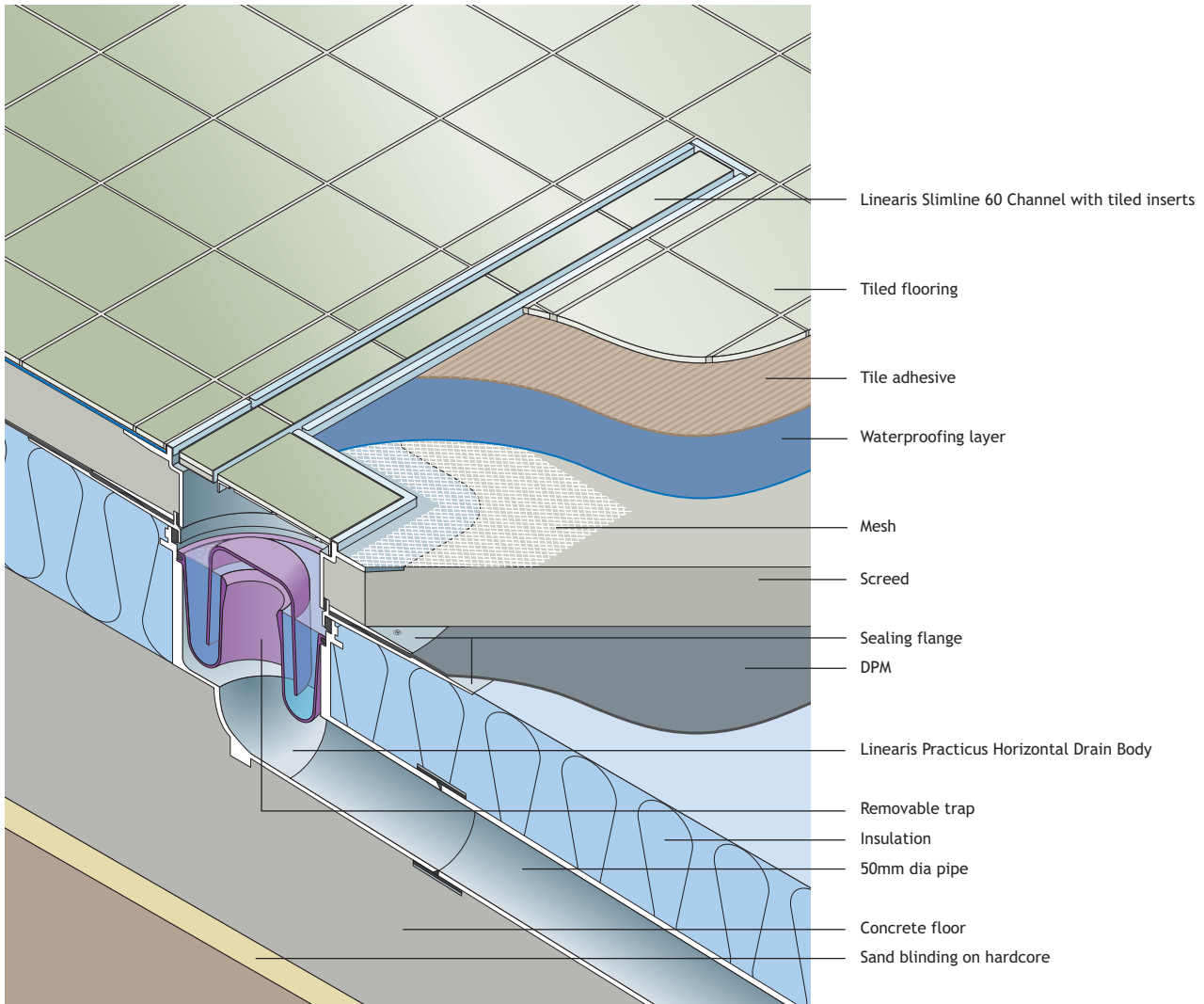
- 310 HARMER FLOOR DRAINAGE
- Floor Finish: Tile
Manufacturer: Alumasc Exterior Building Products Ltd,
White House Works, Bold Road, Sutton, St Helens, Merseyside WA9 4JG
Tel: 01744 648400, Fax: 01744 648401.
Email: harmer@alumasc-exteriors.co.uk
- Reference: Harmer Linearis Shower Channel and Outlets
- Material: ABS
- Channel Type: Linearis Slimline 40/Linearis Slimline 60
- Outlet Type: Horizontal Trap, 50mm Dia, 0.4l/s or 0.6l/s
- Channel Length: 750/950/1150mm
- Grate Material: Austenitic Grade 304 Stainless Steel, pickle passivated, brushed
- Product Code: Refer to tables
- Accessories: Drain Bodies/100mm Outlet Dia/Sealing Flange/Multistop/Hair Filter



Create Harmer Drainage NBS specifications by selecting the required product range, profile, size and finish by visiting: www.harmerdrainage.co.uk

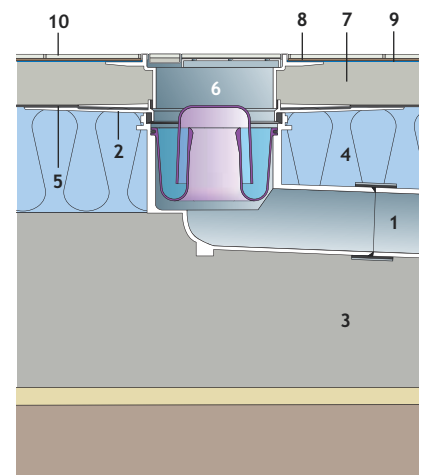
Linearis Shower Floor Channels & Outlets - Application Details

Slimline 60 Channel used with DPM Above Insulation



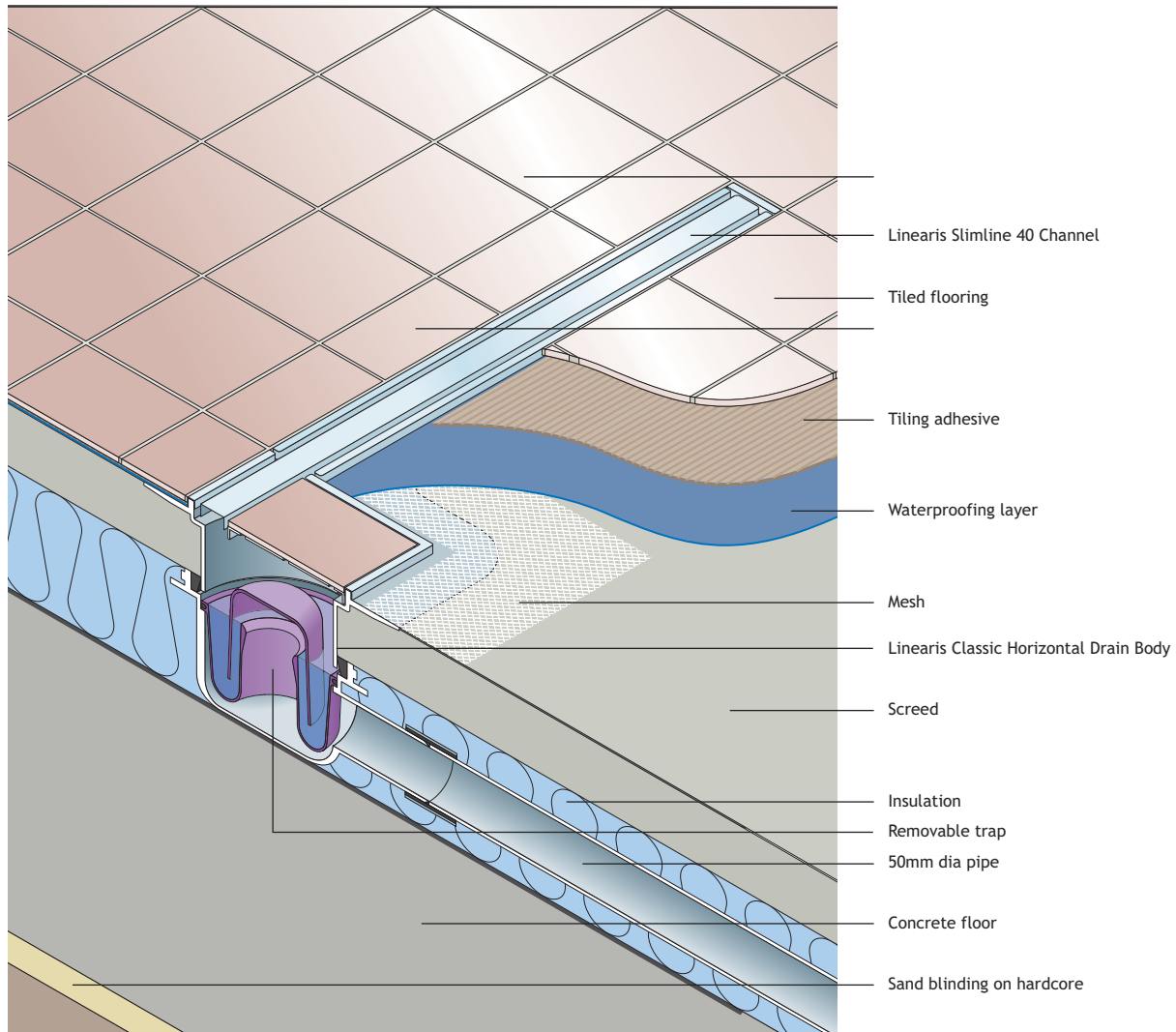
Sitework

1. Connect waste pipe to drain body with proprietary coupling.
2. Set pipework so that the clamping flange of the lower section drain body will be level with the top insulation.
3. Lay concrete slab.
4. Lay insulation.
5. Lay DPM. Cut a hole in the membrane and clamp firmly to the floor drain incorporating optional sealing flange.
6. Push fit the sliding upper adjustable channel section into the drain body to the correct height for FFL.
7. Lay screed to falls.
8. Fit mesh sheet around perimeter of complete channel.
9. Apply waterproof tanking layer.
10. Apply adhesive and lay floor tiles.



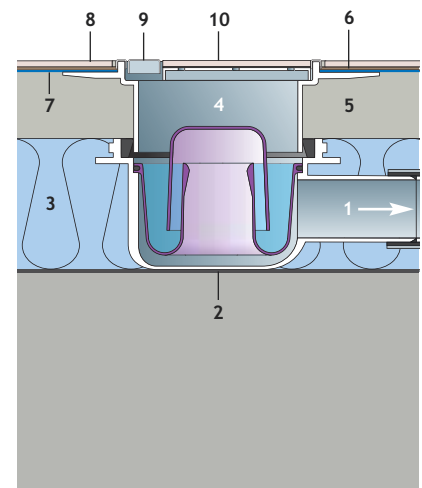
Linearis Shower Floor Channels & Outlets - Application Details

Slimline 40 Channel used with DPM Below Insulation



Sitework

1. Connect waste pipe to drain body with proprietary coupling.
2. Position drain body on concrete floor.
3. Lay insulation.
4. Push fit the sliding upper adjustable channel section into the drain body to the correct height for FFL.
5. Lay screed to falls.
6. Fit mesh sheet around perimeter of complete channel.
7. Apply waterproof tanking layer.
8. Apply adhesive and lay floor tiles.
9. Fit the channel grating.
10. Fit the access cover.



Other Harmer Drainage Products: Harmer SML Socketless Soil & Waste System

The Harmer SML lightweight, dry-jointed cast iron pipework system is at the leading edge of cast iron technology.

Agrément certified and fully compliant with BS EN 877 and with CE Mark conformity. Comprising a comprehensive range of fittings and accessories, SML is the ideal soil and waste system which can also be used for rainwater installations.

Applications

- A complete soil & waste pipework system
- Covers installation from pipework connection to stacks and underground sewer connections
- Also suited to rainwater installations in conjunction with Harmer Roof Outlets
- Pipes available in standard 3m lengths, in diameters of 50mm to 400mm
- Choice of ductile or stainless steel couplings

Performance

- Agrément certified no. 05/4191 and meets European Standard BS EN 877
- Kitemark approval by the British Standards Institute (BSI) to the BS EN 877: 1999 standard for cast iron pipes and fittings.
- CE Mark: European product conformity to harmonised standard BS EN 877 in accordance with Construction Products Regulation 2013
- Lightweight, strong and durable
- Excellent noise attenuation, tested to BS EN 14366: 2004
- Non-combustible – fire protection collars not necessary
- High tensile strength
- Inherent resistance to external accidental damage and vandalism
- Quick to assemble
- 100% recyclable



Installation & Fixing

- Assembled by means of twin screw couplings
- Secure socketless fixing between pipe and fitting
- No special installation equipment required
- Epoxy coatings ensure pipes and fittings need minimal maintenance over lifetime of installation

Materials & Finishes

- Pipes and fittings manufactured in grey iron to DIN 1691 (exceeds BS 1452 Grade 150, ISO 185 Grade 15)
- Couplings are manufactured in stainless steel and ductile cast iron
- Exterior surfaces of pipes have a primer coat, minimum thickness 40 µm
- Interior surfaces of pipes have an epoxy coating with a minimum thickness of 120 µm
- Fittings are coated externally and internally with an epoxy coating, minimum thickness 60 µm

Other Harmer Drainage Products: Harmer LCC Traditional Cast Iron Soil & Waste Systems

Alumasc has taken the original processes for the casting of iron, and combined them with modern manufacturing techniques to produce a product fully attuned to today's refurbishment requirements.

Features

Harmer LCC incorporates all the inherent characteristics of cast iron, plus dimensional accuracy and a consistent standard of finish for the final site installation.

An extensive range of fittings and accessories provides great flexibility in installation, while special detailing requirements can be catered for through Alumasc's fabrication and pattern making workshops.

Alumasc has also perfected the welding of cast iron, so that fittings or offsets to suit a particular situation can be specially fabricated where the alternative of making a pattern would not be economic.

Key Benefits

- Ideal for itemised replacement of existing LCC systems
- Manufactured to original imperial dimensions
- Supplied ready painted
- Comprehensive range of fittings
- Unique specials manufacture and fabrication



General Description

Finishes

Harmer LCC soil and waste pipes and fittings are factory-dipped in bitumen in accordance with BS 416. Where gloss painting is required, it is advisable to contact Alumasc Technical Services on 01744 648400.

Standards

Harmer LCC waste pipes and fittings comply with the requirements of BS 416: Discharge, ventilating pipes and fittings, sand cast or spun in cast iron, Part 1, 1990. Harmer LCC systems also comply with the relevant sections of the Building Regulations throughout the United Kingdom.

Installation

BS 8000: Workmanship on building sites, Part 13, Code of practice for above ground drainage and sanitary appliances, 1989 is applicable.

Imperial Dimensions

All products are made to the original imperial dimensions. This ensures a compatible interchange between old and new pipes and fittings and makes it more likely that, where an existing installation is being repaired or replaced, the original fixing holes can be re-used.

Pipe Joints

Pipe joints should be made using a caulking of 6mm diameter yarn, now available only in glass fibre instead of the traditional tarred yarn, with a minimum 38mm thickness of lead wool, well compacted.

Pipe Fixing and Support

Holderbats for plugging and screwing to walls are available. Bobbins should be used to pack out the holderbat to give a 32mm painting gap for pipes up to 75mm (3") diameter, and 38mm for the 88mm (3 1/2") and 100mm (4") diameter pipes. For fixing centres reference should be made to BS 8000: Maximum distance between sanitary pipe supports, Table 1.

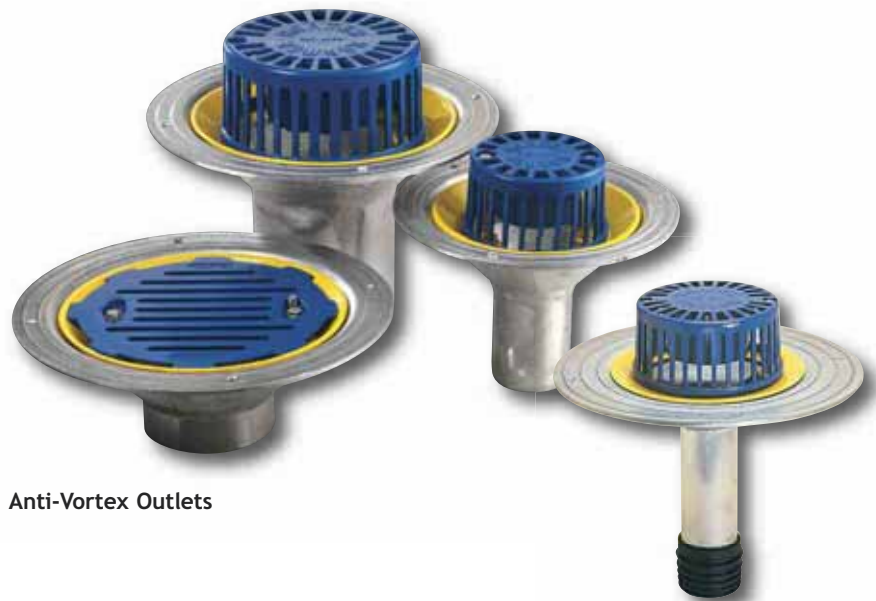
Other Harmer Drainage Products: Harmer Roof Drainage - The Aluminium Range

Harmer Aluminium Roof Outlets are hydraulically engineered to ensure trouble-free performance in excess of building life, whilst offering versatility and choice for architects, specifiers and consultants.

The range includes the high performance, enhanced flow Anti-Vortex System, and also Detail Outlets with integral sump bodies used to solve problematic detailing requirements.

Applications

- Provides flat roof drainage for warm, cold and inverted roofs
- For flat roof structures with insitu cast concrete, timber or lightweight metal deck construction
- Ideal for connection to continuous waterproofing systems (single layer, built up felt, mastic asphalt or single ply)
- Designed to connect to individual downpipes
- Screw outlets recommended where connection to outlet occurs within thickness of concrete slab, where a completely gas-tight seal is required
- AV® Retro-Gulley outlets available for flat roof refurbishment (removal of old rainwater outlet not necessary)



Anti-Vortex Outlets

Performance

- Lightweight, durable and non-corrodible
- AV® outlets drain up to 40% more roof area than conventional gravity outlets
- High flow performance with increasing head of water at the outlet
- Life expectancy of aluminium: 40 years (rural/suburban areas); up to 25 years (industrial/marine areas)
- Aluminium is 100% recyclable



Detail Outlets

Installation & Fixing

- Easy to handle and fix
- Minimal maintenance requirements

Materials & Finishes

- Precision cast in aluminium silicon alloy LM6 to BS EN 1559:1997
- The outlet body (fully concealed after installation) is in mill finish aluminium
- Gunmetal specification available for connection to copper pipework and for installation in copper or lead-clad roofs
- The grate is polyester powder coated coated in blue; clamping collar is coated in yellow
- Domical grates supplied as standard; flat grates are available



Accessories & Pipe Connections

Other Harmer Drainage Products: Harmer Roof Drainage - The Cast Iron Range

The high quality Cast Iron Roof Outlet range, featuring medium sump and large sump bodies, two-way outlets and an extensive range of load-bearing grates.

Harmer Cast Iron Roof outlets provide a practical solution to many building drainage applications. Inherently strong, cast iron is an ideal choice for load-bearing applications.

Applications

- The medium sump range is a compact outlet body in vertical and horizontal variations
- The large sump range provides a deeper sump for 100 and 150mm vertical pipe
- Two way outlet is suitable for use in a parapet wall construction
- Provides flat roof drainage for warm, cold and inverted roofs
- For flat roof structures with insitu cast concrete, timber or lightweight metal deck construction
- Ideal for use with copper and lead clad roofs where the risk of bi-metallic corrosion is high
- For load bearing applications where rainwater outlets are exposed to vehicular traffic



Medium Sump Outlets

Performance

- The Harmer cast iron range is cast to BS EN 1561
- Designated load rating up to 12.5 tonnes
- Medium and large sump outlet bodies are available with varying flow rate capacity
- Cast iron components will last over the lifetime of the building, and are 100% recyclable



Two-Way Outlets

Materials & Finishes

- The crystallised nature of cast iron gives the material very high strength and robustness
- Once installed, cast iron components resist impact damage even in exposed areas
- All Harmer cast iron clamps and grates are surface treated using a sherardized zinc coating which provides an extremely hard wearing anti-corrosive finish
- Domical grates are made from UV-stable polypropylene to give long life service
- Two-way outlet rectangular grates available in sherardized cast iron, nickel bronze or mill finish aluminium. Aluminium grates can be polyester powder coated upon request



Large Sump Outlets

Other Harmer Drainage Products:

Harmer Roof Drainage - The Insulated Range

Harmer Insulated Outlets, the high insulation, rigid polyurethane foam body range of roof outlets, are for use where the requirement is to eliminate condensation forming on the underside of the outlet because of thermal bridging - mainly in metal deck on warm and inverted roof installations.

Applications

- For use as an alternative to metal outlets in metal deck on warm and inverted roof installations
- Insulated outlets eliminate condensation forming on the underside of the outlet due to thermal bridging
- Available with a flexible connecting membrane fused to the outlet body, to seal to bituminous or single-ply flat roof waterproof membrane
- An alternative to the connecting membrane is a clamping ring for sealing specialised single-ply membranes into outlet mouth
- For flat roof structures with insitu cast concrete, timber or lightweight metal deck construction
- Ideal for use with copper and lead clad roofs where the risk of bi-metallic corrosion is high
- For load bearing applications where rainwater outlets are exposed to vehicular traffic

Performance

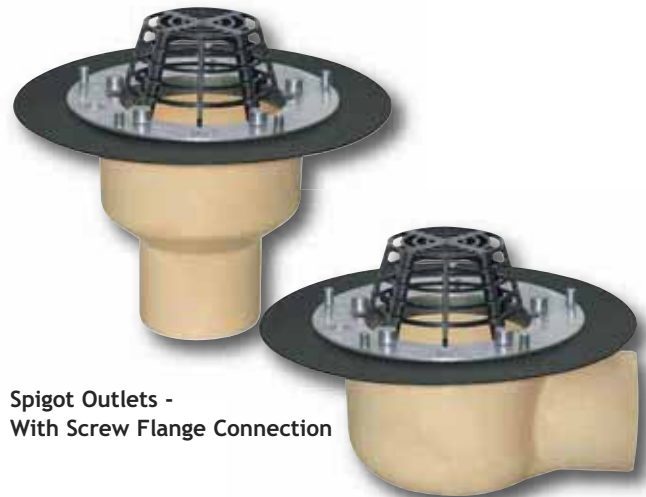
- High insulation value of outlet body reduces heat loss. One piece outlet body provides completely watertight connection between roof membrane and rainwater pipe
- Flange connection to flat roof membran creates a fully watertight connection
- Domical grate permits free flow of rainwater. Vertical, horizontal and graduated vertical spigot configurations available
- Options include a thermostatically controlled heating element for ultimate control in cold conditions

Materials & Finishes

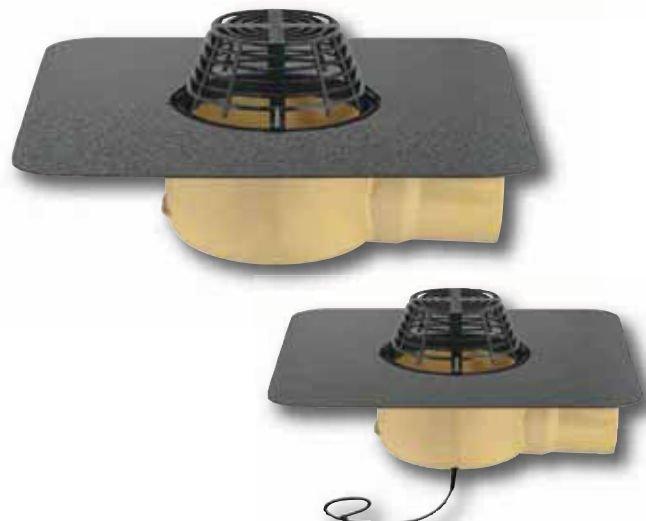
- Rigid polyurethane foam body fused with elastomeric bitumen flange. Alternative flange specifications available for PVC, EPDM, TPO and EB roofing membranes
- Supplied with black polyamide domical grate as standard. Aluminium flat grates available for use in inverted roofs where outlet is covered by paving on raised supports
- A polyurethane extension piece, with bonded connection flange, caters for alternative insulation thicknesses

Installation & Fixing

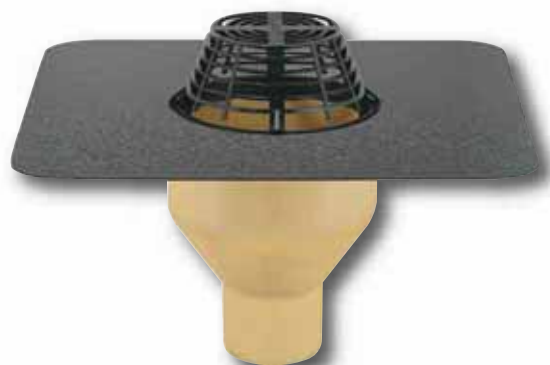
- Easy to handle and fix
- Minimal maintenance requirements



Spigot Outlets -
With Screw Flange Connection



(With thermostatically controlled
heating element as option)



Spigot Outlets -
With Elastomeric Membrane Connection

Other Harmer Drainage Products: The Modulock Raised Deck Support Ranges

Fully engineered, versatile, raised deck product ranges, Modulock Pedestal, Modulock Uni-Ring and Uni-Plus, are ideal for concealed drainage and the support of paving slabs, timber or sheet decking at varying heights from the sub-structure. Available with a Self-Levelling head, a Fixed Head or the NEW Timber Decking Self-Levelling Head.

Applications

- Ideal for concealed drainage and the support of paving slabs, timber or sheet decking at varying heights from the sub-structure
- Designed for use in terraces, walkways, balconies and ballasted flat roof constructions
- Irregular, uneven or sloping sub-bases can usually be easily surmounted by the system resulting in a new level raised floor
- Allows for accommodation of services and pipework beneath the floor such as electricity, gas, and drainage channels, etc
- The New Timber Decking Head is suitable for all types of wood joists and is ideal for all types of decking applications. It has a locking system to stop any head rotation, and the pedestals are self-levelling up to 5°

Performance

- Harmer Modulock comprises 15 basic modules, each with a supporting head and base component, allowing a wide range of void heights
- Modules are used either individually or in combination to give floor voids ranging from 28mm to 550mm
- The Modulock pedestal self-levelling head compensates for gradients up to 5°
- Fine adjustment for both height and level are possible
- Locating blades on Modulock pedestal self-levelling head assist positioning of slabs and maintaining open joints when required
- Resistant to temperatures from -40° to +120°, UV-stable and resistant to acids
- Watertight and resistant to mould and the freeze/thaw cycle

Materials & Finishes

- The Modulock Pedestals are made of polypropylene, and the self-levelling heads also have a rubber layer on the head to provide an anti-noise and anti-slip bedding surface

Installation & Fixing

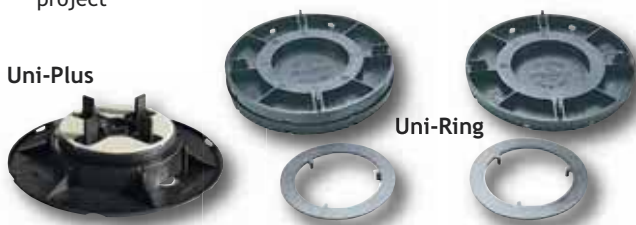
- Quick and easy to install, the supports provide fast, efficient drainage through the open joints of the slabs to the concealed drainage system below
- Fine adjustment to levels can be made using the adjustment key
- Harmer's design software is able to assist with the exact specification and detailed layout of Modulock pedestals for a project



Modulock Pedestal



Uni-Plus



Uni-Ring

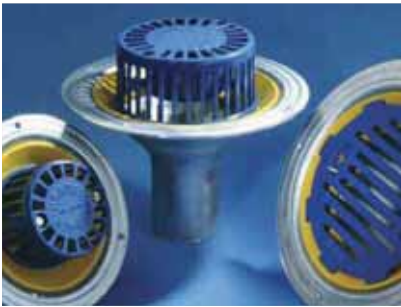
Alumasc Premium Products - All Brands

Alumasc provides an unrivalled range of premium products for building exteriors and drainage, along with high levels of technical expertise and project support.



Alumasc is the UK's leading manufacturer of aluminium rainwater systems and offers a complete range of gutters, downpipes and fascia/soffits for both contemporary and traditional architecture.

Alumasc's cast iron rainwater system is for historic and restoration sites, with bespoke designs available to match or replace existing installations.



Alumasc's Harmer brand provides market leading solutions for rainwater handling and building drainage.

Aluminium roof, floor and shower drains are complemented by specialist drainage ranges in plastic. A choice of cast iron pipework systems is available for internal and rainwater drainage. Specialist rainwater management systems and paving and deck supports are also available.



Alumasc is a leading supplier of innovative, high performance waterproofing and green roof systems.

The range includes Derbigum and Eurorof flat roof membranes, Hydrotech hot-melt waterproofing, Eurorof Caltech cold-applied liquid roofing, the BluRoof stormwater management system, Blackdown green roofs and a full range of complementary accessories.



Roof-Pro is the leading provider of non-penetrative, free-standing supports for building services and access systems.

Roof-Pro Systems are designed to provide a future-proof, free-standing solution for supported building services on a range of flat roof designs.



External wall insulation and render systems manufacturer with a 25-year track record.

Alumasc are a leader in the design and development of thermally efficient insulated render systems which utilise a choice of decorative polymer-modified, silicone and mineral renders along with traditional and acrylic brick slips.

ALUMASC

RAINWATER SYSTEMS

- Aluminium Rainwater Systems
- Aluminium Fascias, Soffits and Copings
- Cast Iron Rainwater Systems

www.alumascrainwater.co.uk

HARMER

DRAINAGE SYSTEMS

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- Cast Iron Soil & Waste Systems
- Rainwater Management Systems
- Paving and Decking Supports

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ALUMASC

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- Structural Waterproofing
- Green Roof Systems

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- Large Unit Support
- Condenser Unit Support
- Pipe & Duct Support
- Cable Management
- Access Systems

www.roof-pro.co.uk

ALUMASC

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- Brick Slips
- Decorative Coatings

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HARMER

DRAINAGE SYSTEMS

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A division of:



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