



Pre-formed Cavity Trays



CI/SfB	October 2003	
	(21.9)	Ln

CI/SfB	October 2003	
	(21.9)	Ln

Barton Dock Road
 Stretford, Manchester
 M32 0YL
 Telephone: 0161 865 4444
 Fax: 0161 864 1178
 email:
marketing@icopal.co.uk
www.icopal.co.uk

The Icopal range also includes:

- n Flat and Pitched Roof Membranes
- n Vapour Barriers
- n Breather Membranes
- n Roof Vents
- n Eaves Guards
- n Scaffold Sheeting
- n Tarpaulins
- n Containment Membranes
- n Dpm's
- n Radon & Methane Barriers
- n Acoustic Flooring

Every effort has been taken in the preparation of this brochure to ensure the accuracy of representations contained herein. Recommendations as to the use of materials, construction details and methods of installation are given in good faith and relate to typical situations. However, every site has different characteristics and reliance should not be placed upon the foregoing recommendations. Advice can be given as to specific applications of the products, upon request to Icopal.

WORLD LEADERS IN BUILDING MEMBRANES



Complete

Waterproofing

System

Solutions

Icopal Pre-formed Cavity Tray Technology: The total solution to a widespread problem



The DHSS Building, Leeds. Just one of the many prestigious projects where the designers called on the DPC expertise of Icopal. For more information see pg 11.

Icopal pre-formed cavity trays compliment a comprehensive range of DPC's which provide high tensile strength, superior mortar adhesion and assured waterproofing throughout the life of the building.

Icopal pre-formed cavity tray units have been designed to simplify the formation of three dimensional cavity trays. The pre-formed cavity tray units are fabricated in a variety of materials to supplement the Icopal DPC range.

Units are available for a variety of constructions including brick, blockwork and steel or concrete framed structures with external masonry cladding.

Common Problems and the Icopal Solution

"60% of all cavity tray failures are a result of incorrect material specification or installation".



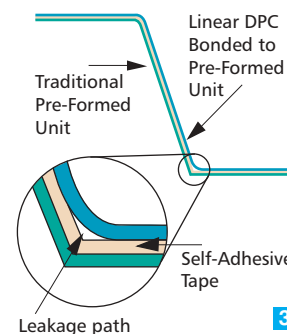
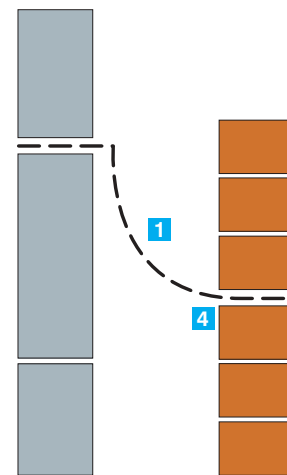
Common Problems

1 Unsupported Laps - Where lap joints between cavity trays occur, failure to insert a joint support unit can lead to separation of the two cavity trays, allowing water into the building.

2 Site formed Units - Where difficult corners exist, failure to pre-form the cavity tray will undoubtedly result in a poorly constructed corner detail making the ingress of water an almost certainty.

3 Traditional Pre-formed Cavity Trays - Where a traditional pre-formed cavity tray is used in conjunction with a flexible DPC a leakage path can occur.

4 Capillary Action - There exists a potential for capillary action to occur across the cavity tray from the external skin.



Icopal DPC range offers a selection of materials: Bitumen, Bitumen Polymer, Bitumen/Lead and Polymeric

Icopal DPCs are suitable for a host of construction applications from residential developments to commercial/industrial projects. For further details on the full DPC range and for design solutions, consult the Icopal Damp Proof Course Brochure.

The Icopal Solution

1 Joint Supports - Icopal offer pre-formed cavity tray units that are manufactured with an integral joint support. Furthermore, joint support units are also available for standard joints (See page 7).

2 Pre-formed Cavity Trays - Icopal offers a range of standard pre-formed units to accommodate traditional construction techniques. Where standard sizes are not applicable, Icopal offer special pre-formed cavity trays to suit the specific design.

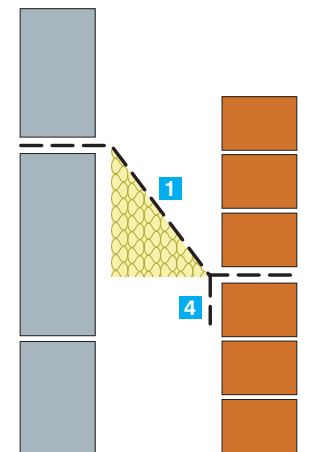
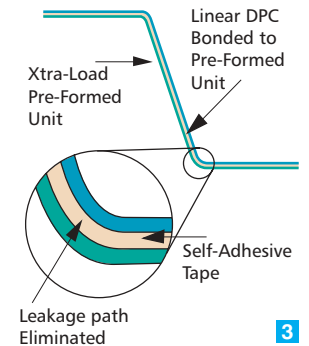
Design Considerations

Cavity trays should be built so that the inner leaf stays dry. The following guidelines are quoted directly from the BRE Good Building Guide GBG 33 and BRE Digest 380 which are derived from the current BS8000:Part 3 and BS5628:Part 3.

- n **Joint Overlap** - A fully sealed 100mm overlap should be provided at each joint.
- n **Joint Support** - Cavity trays should be self supporting or fully supported. This is critical at joints.
- n **150mm Step** - Trays should step down a minimum 150mm towards the outer leaf.
- n **Stop Ends** - If trays are not continuous, stop ends must be provided, fully sealed to each tray.
- n **Smooth Bed** - A DPC in masonry must be laid on a full, even bed of fresh mortar.

3 Radiused Transition - All Icopal pre-formed cavity trays incorporate radius transitions eliminating potential leakage paths.

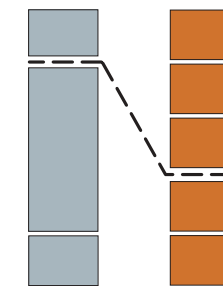
4 Integral Drips - Integral Drips are manufactured as part of the pre-formed cavity tray preventing capillary action across the cavity.



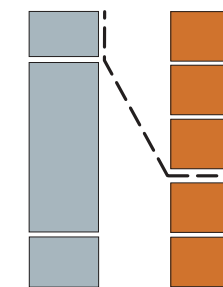
Method of Installation

Icopal Cavity Tray Systems are designed to be either surface fixed or built into the inner leaf.

Built in cavity tray



Surface fixed cavity Tray

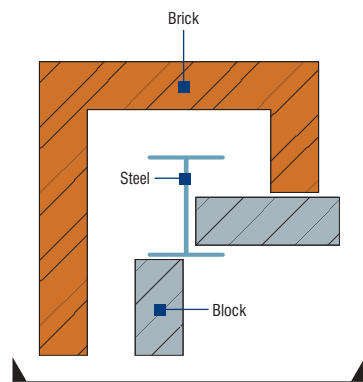


Surface fixing can be either mechanical or heat bonded.

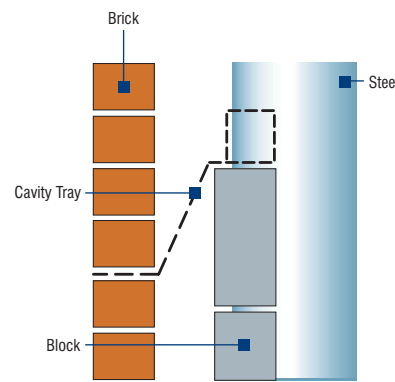
Pre-formed Cavity Trays: Special Bespoke Designs

Icopal pre-formed units are an integral component of the Icopal DPC system. Below are examples of special cavity trays designed by Icopal.

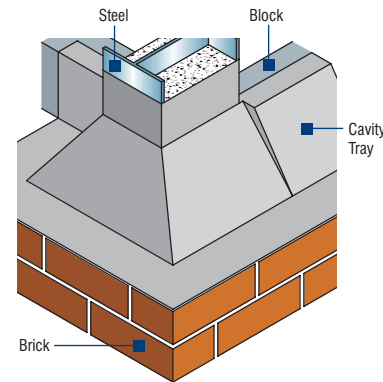
Universal Column (UC) - Corner Detail



UC Corner - Plan

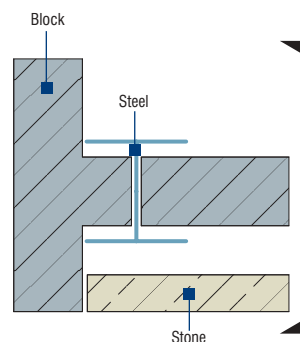


UC Corner - Section

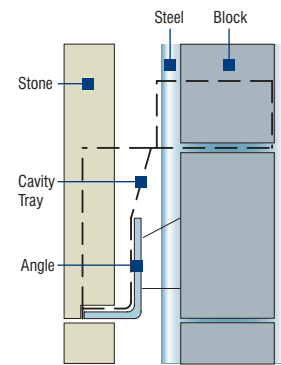


UC Corner - Isometric View

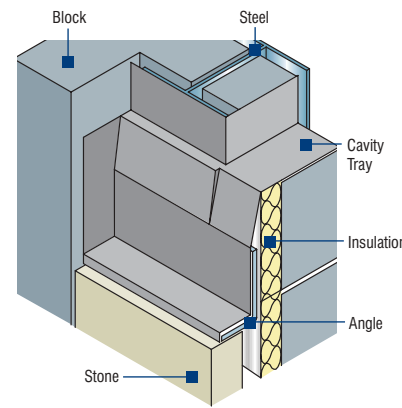
Universal Column (UC) - Stop End Detail



UC Stop End - Plan

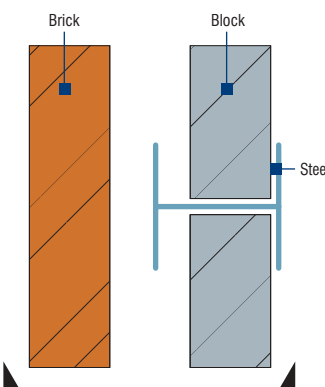


UC Stop End - Section

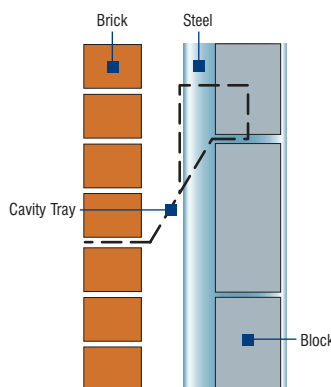


UC Stop End - Isometric View

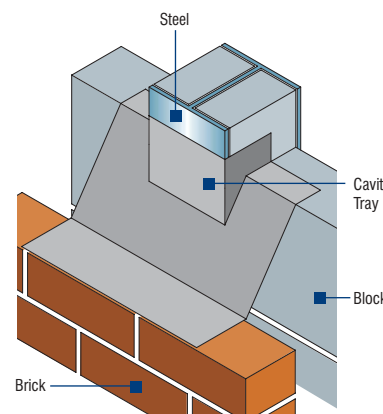
Universal Column (UC) - Windpost



Windpost - Plan



Windpost - Section



Windpost - Isometric View

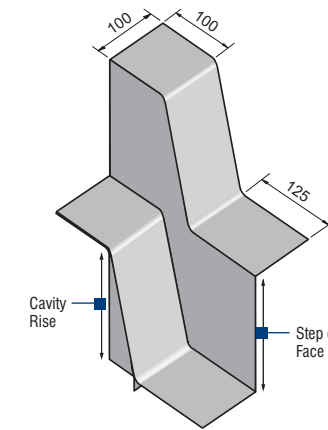
Pre-formed Cavity Trays: Standard Units

Change of Level Brickwork

Reference	Description	Cavity Rise (mm)	Step on Face (mm)
XL110 RH	Change of Level	150	75
XL110 LH	Change of Level	150	75
XL 120 RH	Change of Level	225	75
XL 120 LH	Change of Level	225	75
XL 130 RH	Change of Level	150	225
XL 130 LH	Change of Level	150	225
XL 140 RH	Change of Level	225	225
XL 140 LH	Change of Level	225	225

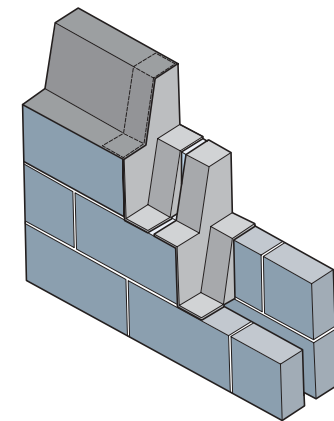
XL 140 RH (LH also available)

Standard Change of Level 225mm Cavity Rise x 225mm Step on Face



TYPICAL DETAIL:

Change of level

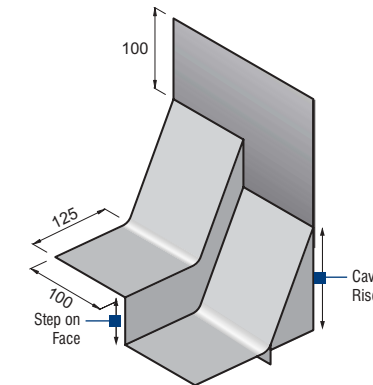


Change of Level Surface Fixed

Reference	Description	Cavity Rise (mm)	Step on Face (mm)
XL 220 RH	Change of Level	150	75
XL 220 LH	Change of Level	150	75
XL 240 RH	Change of Level	150	225
XL 240 LH	Change of Level	150	225

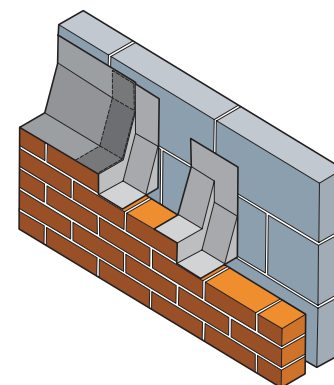
XL 220 LH

Standard Change of Level, Surface Fixed 225mm Cavity Rise x 75mm Step on Face



TYPICAL DETAIL

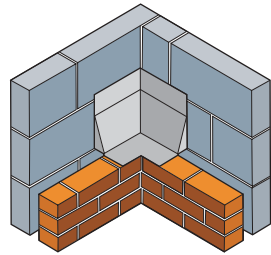
Change of level (Surface fixed)



Pre-formed Cavity Trays: Standard Units (Cont.)

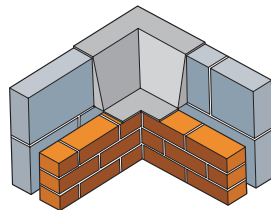
TYPICAL DETAIL:

(Surface Fixed)



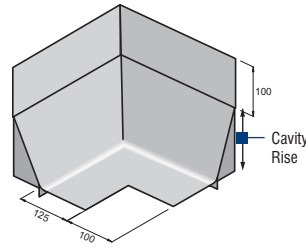
TYPICAL DETAIL:

(Brick/Block Fixed)



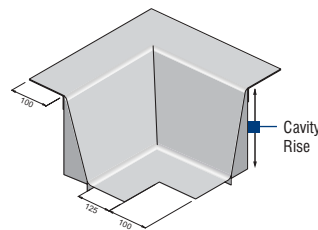
XL 320

Standard Internal Corner, Surface fixed, 150mm Cavity Rise



XL 340

Standard Internal Corner, 225mm Cavity Rise (150mm Cavity Rise also available, ref XL 310)

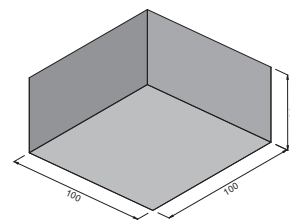


Internal Corners

Reference	Description	Cavity Rise (mm)
XL 310	Internal Corner	150
XL 320	Internal Corner	150
XL 330	Lintol Stop End	N/A
XL 340	Internal Corner	225

XL 330

Standard Internal Corner

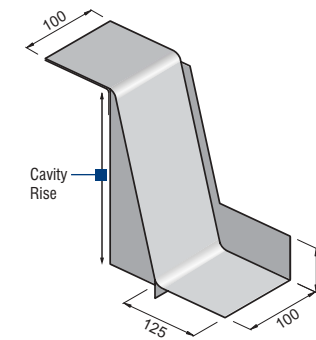


Stop Ends

Reference	Description	Cavity Rise (mm)
XL 510 RH	Stop End	150
XL 510 LH	Stop End	150
XL 520 RH	Stop End	225
XL 520 LH	Stop End	225
XL 530 RH	Stop End	75
XL 530 LH	Stop End	75
XL 610 RH	Stop End	150
XL 610 LH	Stop End	150
XL 620 RH	Stop End	225
XL 620 LH	Stop End	225

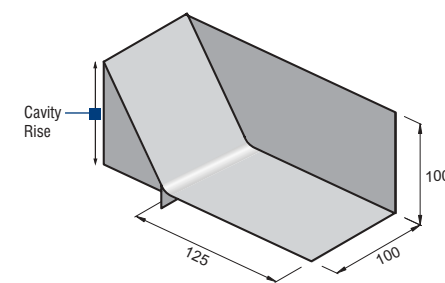
XL 520 RH

Standard Stop End, 225mm Cavity Rise



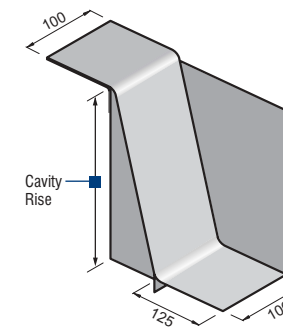
XL 530

Angle Stop End



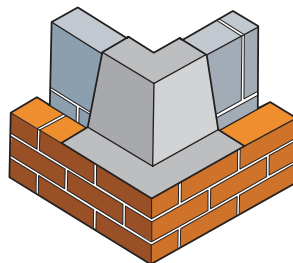
XL 620 RH

Standard Column Stop End, 225mm Cavity Rise



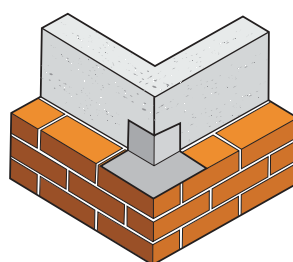
TYPICAL DETAIL

(Brick/Block Fixed)



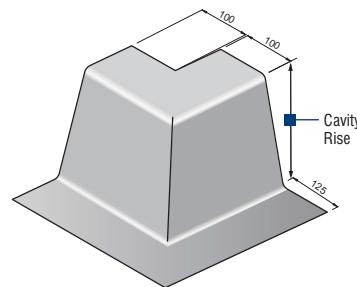
TYPICAL DETAIL

(Surface Fixed)



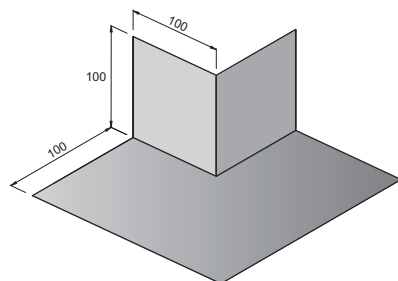
XL 420

Standard External Corner, 225mm Cavity Rise



XL 440

Standard External Corner



External Corners

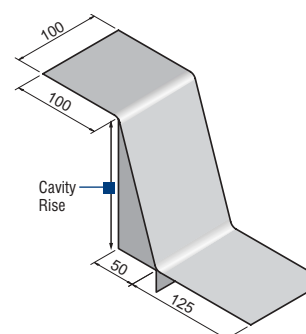
Reference	Description	Cavity Rise (mm)
XL 410	External Corner	150
XL 420	External Corner	225
XL 430	External Corner	150
XL 440	External Corner	N/A

Joint Support

Reference	Description	Cavity Rise (mm)
XL 710	Joint Support	150
XL 720	Joint Support	225

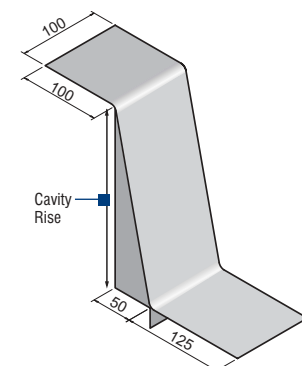
XL 710

Standard Joint Support, 150mm Cavity Rise



XL 720

Standard Joint Support, 225mm Cavity Rise



Call on our expertise in the early days, for peace of mind in the future

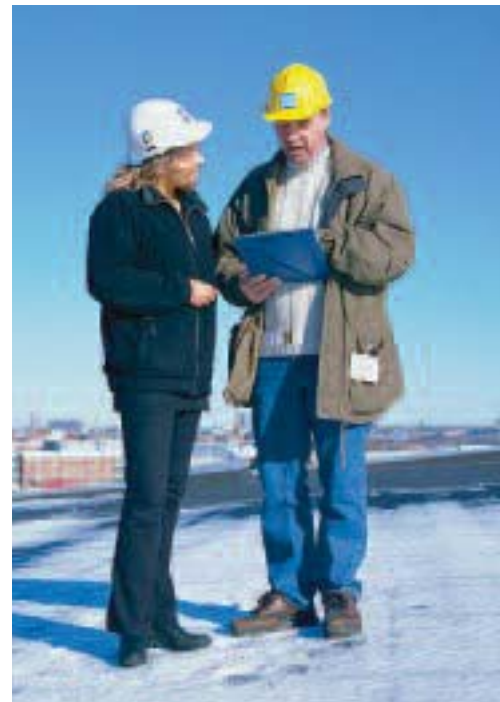
Contemporary building design standards demand higher quality, better performance and greater durability than ever before. Nowhere are these demands more apparent than in waterproofing. Whether you're designing a new building or refurbishing an existing one, errors at the specification stage can lead not only to failure but also to specifier liability.

Confidence comes as standard

Bringing in our specialist team during the initial design phase takes away the risk, solving your DPC detailing problems and allowing you to proceed with confidence, knowing you can demonstrate compliance with the Code of Practice.

In addition to helping you set your design criteria our team can also supply a complete waterproofing design solution including CAD drawings where appropriate. Our advice will take into account key factors including:

- n The mix of construction materials
- n Any unique or complex construction practices being used
- n The number of storeys
- n The effect of building movement, stability and longevity on the DPC specification
- n The location and exposure of the building



Our support is on-going

Once the contract is underway our team will continue to work with you, visiting the site to give practical help and solve any technical issues that may arise.



Glyndebourne, the first opera house to be built in the UK for almost 100 years had Icopal's technical input for all waterproofing issues.

Quality you can rely on from an Approved Contractor Network

Icopal is a founder member of the National Structural Waterproofing Association. NSWA is a non-profit making organisation committed to raising standards of design, workmanship and materials across the structural waterproofing sector.

NSWA provides a forum for manufacturers, specifiers, management contractors and trade operatives to develop industry improvements that provide building owners with long term peace of mind.

One very important NSWA initiative has been to create a register of approved contractor trade members. Each member has been independently assessed to ensure that they can consistently meet the association's strict criteria for standards of workmanship and the use of the best products and systems.



All the guidance you need

For detailed DPC and cavity tray installation information plus a list of approved contractors, please contact our Technical Support Team.



Founder Member Organisations



Office Development, Manchester



St. Katherine's Dock, London



Goodwood Racecourse, Aintree



Waterproofing expertise proven at the highest international level

Icopal products are distributed by 81 offices across Europe, North America, the Middle East and Asia. Icopal DPC system technical support and products have featured in some of the most notable building projects of recent years, and here you can see just some of them.



Glyndebourne Opera House, Sussex

Design issues: Loadbearing brickwork with complex detailing, for example in the continuously curved wall of the auditorium drum.

DPC solution: Icopal Ledumite DPC system was used throughout to sustain high loads. Fully bonded cavity tray.

Cambridge History Faculty, Cambridge

Design issues: DPC failure in existing building.

DPC solution: Full DPC replacement using a full range of Icopal products.



Wild Screen World, Bristol

Design issues: A unique building with load-bearing brickwork, a range of materials and complex detailing.

DPC solution: Icopal Ledumite cavity trays were used in conjunction with Icopal Imperma Tanking Membrane.



Wellcome Trust Seed Bank Building, Sussex

Design issues: Complex detailing required highly specialised DPC application.

DPC solution: Icopal Alumite and Nubit DPCs were used throughout. Due to the complex detailing, Icopal ran a series of on-site 'teach-in' fixing demonstrations for the main contractor and stone cladding team.

DHSS Building, Leeds

Design issues: A steel framed structure with stone clad precast concrete elements, the building varies in height from eight to twelve storeys with a bow shaped external wall.

DPC solution: Icopal Ledumite DPC was used throughout for complex cavity trays and difficult junctions, all heat bonded to the steelwork.

