Hydroduct® CF

High density polyethylene combined cavity former and vapour barriers for drained BS 8102:1990 Type C basement construction.

Description

Hydroduct® CF is a highly efficient, cost effective drained cavity former. When installed against the internal face of concrete floors and walls Hydroduct CF will provide a continuous drainage path that must link with the site internal drainage system.

Product	Uses
Hydroduct® CF 20	Forming drained cavities horizontally & vertically
Hydroduct® CF 08	Forming drained cavities vertically in lower risk applications

Advantages

- Separates finishes from structure- reduces the risk of water ingress
- Waterproofing security - allows inspection and leak remediation before installation.
- Economical - easy to install.
- High strength - load transfer through dimpled design.
- Chemical resistant - high density polyethylene resists all common groundwater contaminants.
- Cost effective - reduces lost internal space relative to traditional drainage mediums.

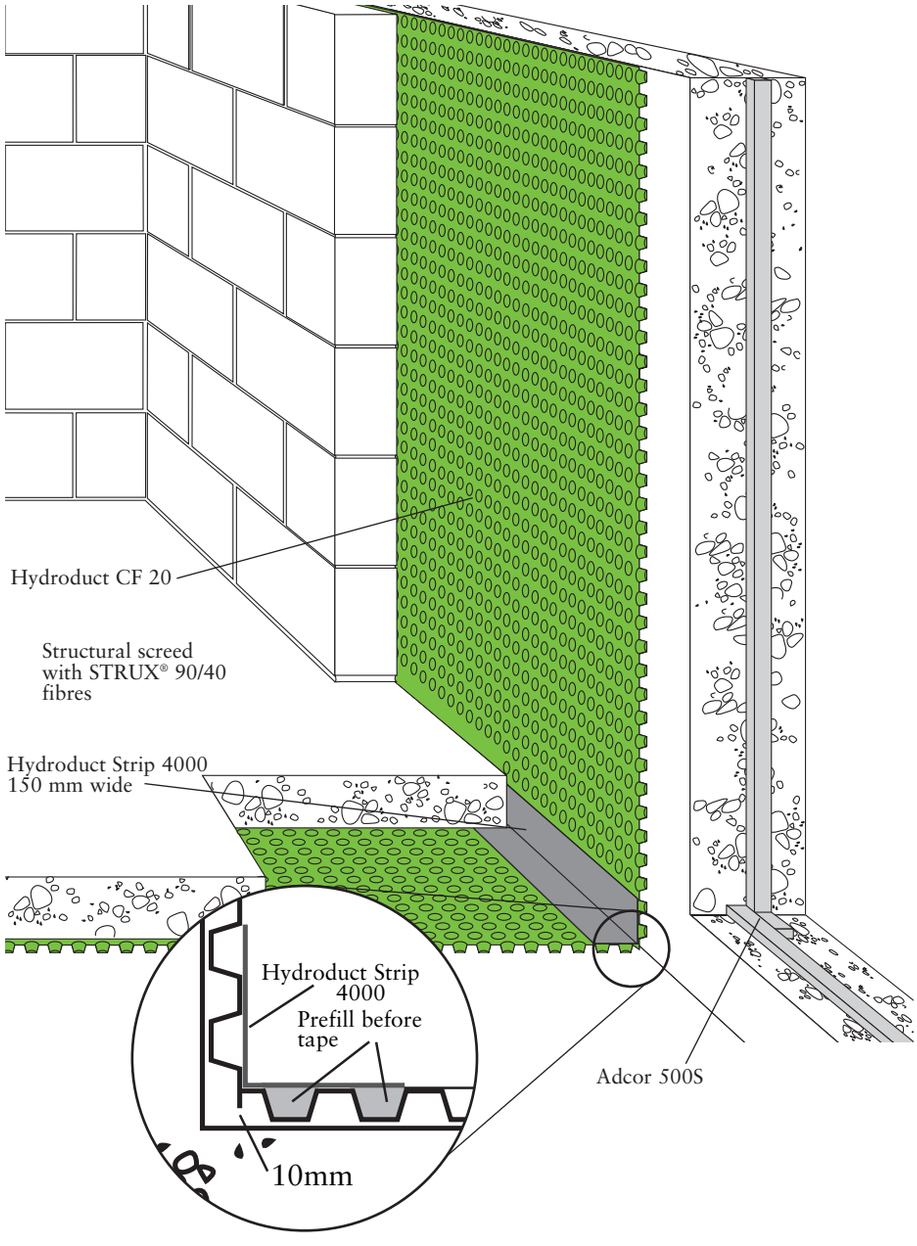
Principal Applications

Installed beneath floor screeds and between concrete and blockwork walls to form an efficient drained cavity to new and existing sub-structures which isolates internal finishes from the structure.

Hydroduct CF forms part of a Type C structure (drained protection) as described in BS 8102:1990.

Design

Sub-structures should be designed in accordance with the recommendations of BS 8102 1990 'Protection of Structures Against Water from the Ground' Additional design recommendations are made in CIRIA Report 139.
Grace recommends the use of waterstops to all reinforced concrete construction and movement joints in sub structures with drained cavity protection.



NBS Plus

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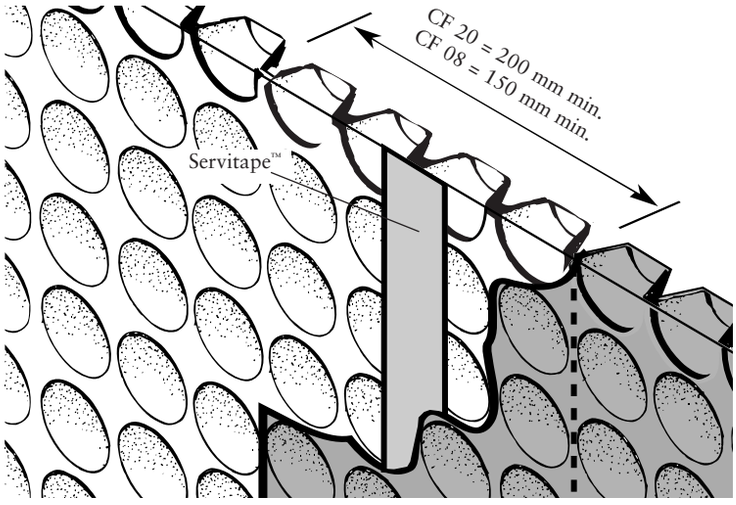
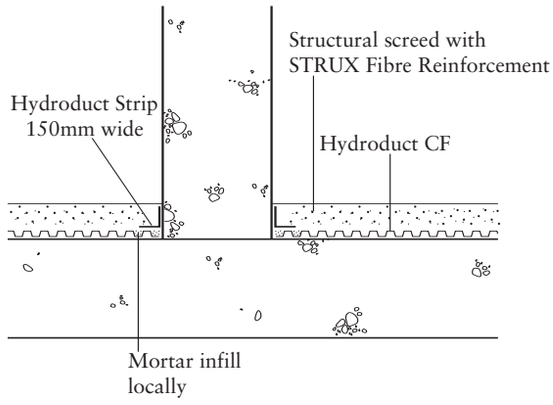
Hydroduct® CF20 Installation



Hydroduct CF to be overlapped at all joints bonded centrally with Servitape

Hydroduct CF - wall or column joint



The vertical Hydroduct CF should be installed before the horizontal.

Vertical:
Install Hydroduct CF in a continuous vertical strip (wall paper style) on walls, with dimples to the external wall using fixings at typically 600 mm centres. The detail for overlapping adjacent sheets is shown above. Where vertical strips are not practical, apply horizontally, but ensure horizontal laps are weathered to the external face and vertical joints are staggered. For penetrations through walls refer to Grace Technical Services. If horizontal laps are unavoidable, the upper sheet must be overlapped by the lower sheet, to ensure water is retained within the Hydroduct/wall cavity.
Do not crease Hydroduct CF at the floor/wall junction - cut and butt as detail on previous page.

Horizontal:
Floor slabs should ideally be laid to falls to drainage gully or outlets. However a flat slab is acceptable providing there are no adverse falls and low spots are infilled. Where surface irregularities exceed 5 mm, cut back and make good. Loose lay Hydroduct CF with dimples to the floor and cut around any obstructions. Mechanically fix to substrate. Seal around column bases, obstructions etc by applying Hydroduct Strip 4000 to the clean dry Hydroduct CF and onto the primed substrate (see detail). All substrates to receive Hydroduct Strip 4000 other than Hydroduct CF should first be primed with B1 primer to ensure full adhesion. Fill dimples with mortar beneath Hydroduct Strip 4000 to provide a flat support surface.
Form laps by interlocking four dimples and sealing with 30 mm Servitape™ 4000 double sided adhesive tape. Where horizontal butt joints are unavoidable fill two rows of dimples each side of the joint with mortar. Cover butt joint with Hydroduct Strip 4000.
Form end and side laps by interlocking four dimples and sealing with Servitape double sided adhesive tape.
Ensure Hydroduct CF links fully with drainage outlets and inspect for damage. Damaged areas can be made good by cutting an over-sized patch of Hydroduct CF and fixing with Servitape 4000.
All penetrations through Hydroduct CF should be sealed with Servijoint One sealant or similar.
Avoid compressing Hydroduct CF during concrete screed placement by using temporary boards to spread loads. Place reinforcement onto mortar 'dabs' to avoid point loads onto the Hydroduct CF.

Compatibility

Hydroduct CF is compatible with all cementitious, bituminous and polyethylene building materials. For compatibility with other materials check with Grace Technical Services.

Limitations

Not suitable for internal applications where no linkage with the site drainage system is possible.

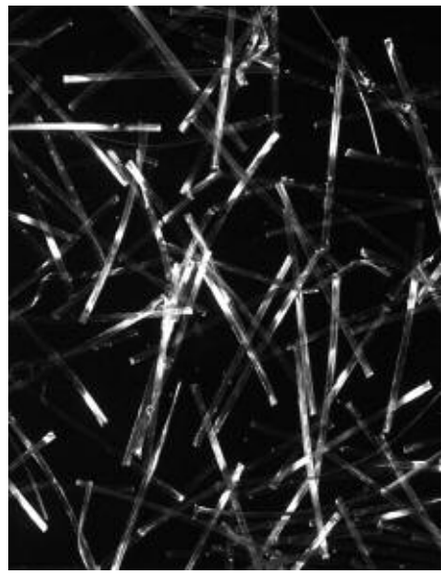
Use STRUX® 90-40 Fibre reinforcement to replace steel mesh in structural screed topping

- Minimises screed thickness, maximises headroom
- Reinforcement delivered and placed with screed
- Reduces labour and saves programme time
- Enhances safety - no handling and cutting of mesh in confined spaces
- Reinforcement evenly distributed throughout the screed to minimise cracking

STRUX® 90/40 FIBRE REINFORCEMENT

Description

STRUX® 90/40 Fibre Reinforcement is a unique form of high strength, high modulus synthetic structural reinforcement that is distributed throughout the concrete matrix. STRUX 90/40 gives toughness, impact and fatigue resistance to concrete. It consists of synthetic fibres 40 mm in length with an aspect ratio of 90 that have specifically been designed to replace welded wire fabric, light reinforcing bars and steel fibres in flooring applications.



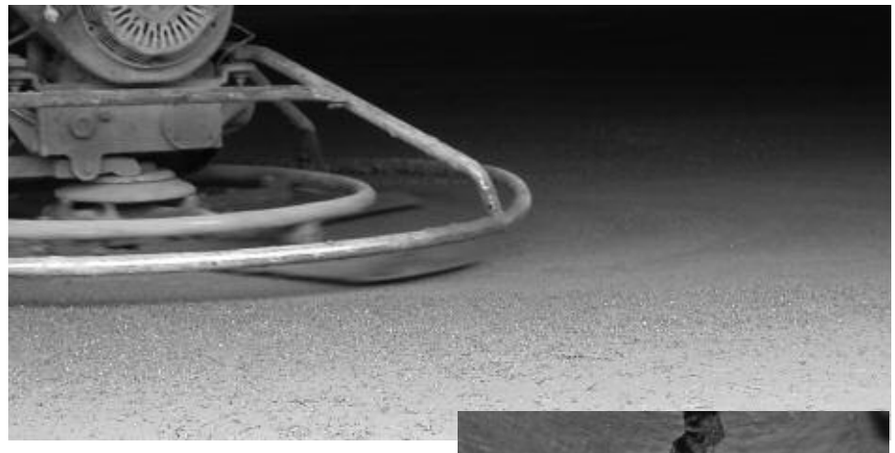
Product Advantages

STRUX 90/40 has been designed to provide:

- Tight crack control
- Good dispersion and pumpability
- Ductility
- Durability
- No corrosion issue
- Quick, easy and safe application
- An efficient and cost effective reinforcement alternative

Uses

STRUX 90/40 is specially designed for ease of use, rapid dispersion, good finishability and improved pumpability in flooring applications. STRUX 90/40 may be used in commercial floors, industrial floors, residential floors, other flat work applications and form work applications. The performance of STRUX 90/40 depends on the compressive strength of concrete.



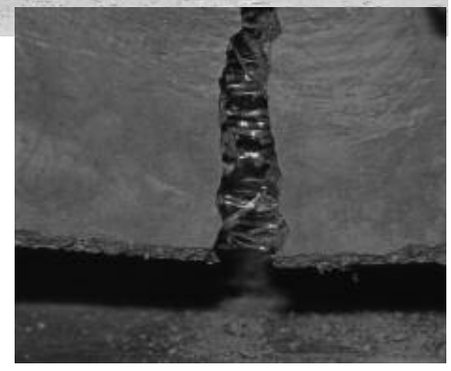
Advantages

STRUX 90/40 enhances safety during installation by eliminating the risk for potential injury caused by handling and placement commonly associated with steel fibres or welded wire fabrics. Additionally, STRUX 90/40 does not corrode.

The geometry, strength and the elastic modulus of STRUX 90/40 were optimized to provide superior crack control. With STRUX 90/40, fibres are uniformly built into the concrete, eliminating a concern over proper positioning of reinforcement. Also, STRUX 90/40 controls plastic shrinkage cracking and cracking due to drying shrinkage of the concrete.

Addition Rates

STRUX 90/40 addition rates are dependent on the specific application and desired properties and will vary between 1.8 to 7.0 kg/m^3. Please refer to Grace representative.



Supply

Product	Unit of Sale	Weight/Unit of Sale
Hydroduct® CF 20	2.0 m x 20 m rolls	weight 40 kg
Hydroduct® CF 08	2.4 m x 20 m rolls	weight 29 kg
B1 primer	5 or 25 litre cans	
Servitape™ 4000	30 mm x 12 m rolls	
Hydroduct® Strip 4000	150 mm x 12 m rolls	
Storage	Store either externally or internally, ideally on pallets	

Physical Properties

Product	Typical Value	
	CF 20	CF 08
Sheet thickness	1.0 mm	0.6 mm
Dimple height	20 mm	8 mm
Vertical drainage capacity	10 litre/sec/metre	2.25 litres/sec/metre
Compressive Strength (prior to concreting)	150 kN/m^2	135 kN/m^2
MVTR(moisture vapour transmission rate)	0.19 gm/m^2/24 hr	0.31 gm/m^2/24 hr

Equipment by Others

Pat activated tools - Spit Pulsa 700E nail drill - or Tapcon (to suit substrates).
Other **Tools Required** Stanley Knife, paint brush, hammer drill with 6mm drill bit

NBS Specification Clause

Refer to Clause J40 290.

Health and Safety

There is no legal requirement for a Material Safety Data Sheet for Hydroduct CF 20, Hydroduct CF 08, Servitape or Hydroduct Strip. For health and safety questions on these products please contact Grace Construction Products Limited.
For Primer B1, read the product label and Material Safety Data Sheet (MSDS) before use. Users must comply with all risk and safety phrases. MSDS's can be obtained from Grace Construction Products or from our web site at www.graceconstruction.com.

Details shown are typical illustrations only and not working drawings. For assistance with working drawings and additional technical advice please contact Grace Technical Services

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