

JUNE 2022



# DELTA PRODUCT CATALOGUE

[www.deltamembranes.com](http://www.deltamembranes.com)  
01992 523 523

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# WELCOME TO OUR PRODUCT CATALOGUE!

Delta Membrane Systems Limited provides a full range of waterproofing and damp proofing solutions for architects, specifiers, developers, contractors, and homeowners on new, retrofit and refurbishment construction and in flood resilience. We also supply ground gas protection membranes, for protecting structures from harmful ground gases such as Radon, Carbon Dioxide, Methane, and Hydrocarbons.

## **Always Happy to Help**

Do you have questions about a project, product, or application? In an ever-changing industry where reduced risk and higher quality is required, you need a waterproofing design partner that is proactive and dedicated to help you keep up with new technologies and solutions to ensure your projects thrive. Whatever the needs of your business, you can rely on the #DeltaTeam to ensure you get the right advice, support, and practical help at exactly the right time to keep you ahead of the competition.

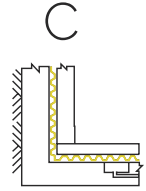
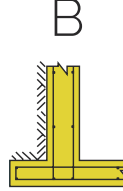
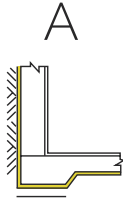
Contact us on 01992 523 523 or  
email [info@deltamembranes.com](mailto:info@deltamembranes.com)



TYPES OF WATERPROOFING

There are many different approaches to structural waterproofing. The construction methods will in part contribute to the specification of types of waterproofing systems and may also determine the overall structural waterproofing strategy.

Structural waterproofing falls into 3 types



With 3 grades

A  
Barrier Protection

B  
Structurally Integral Protection

C  
Drained Protection







SCHOOLS



COMMERCIAL & RESIDENTIAL BUILDINGS



UNDERGROUND CAR PARKING



TUNNELLING



LEISURE FACILITIES



RETAIL UNITS & WAREHOUSES



ARCHIVES / LIBRARIES / VAULTS / MUSEUMS



LISTED BUILDINGS

BELOW GROUND  
WATERPROOFING  
SOLUTIONS



HOSPITALS



INSULATED FORMWORK CONSTRUCTION



# 1

## DELTA

Installing a Delta Membrane System offers complete protection to structures from ground water ingress and contaminants. Our products comply with British Standards 8102:2022, 8485:2015+A1:2019, 85500:2015 and are BBA Accredited.

Our projects include commercial and residential developments, new-build & refurbishment projects and civil infrastructure.

INTERNAL WATERPROOFING

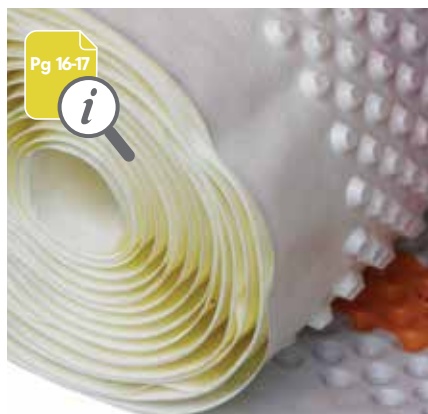


MS 500

An 8mm studded cavity drain membrane suitable for use on internal faces of walls, floors and vaulted ceiling as part of a water management system.

- 8mm studded profile
- Suitable for new, existing and retrofit projects
- Compressive Strength: >250 kN/m<sup>2</sup>
- Drainage capacity: 2.25 L/S m<sup>2</sup>

DMS 005	2m x 20m
DMS 007	2.4m x 20m



MS 500 FIRE RETARDANT

An 8mm studded cavity drain membrane with a Euroclass fire rating of B-S2, d0 (EN 13501-1:2018) suitable for use on internal faces of walls, floors and vaulted ceilings.

- 8mm studded profile
- Euroclass fire rating B-S2, d0
- Compressive Strength: >250 kN/m<sup>2</sup>
- Drainage capacity: 2.25 L/S m<sup>2</sup>

DMS 850	2.4m x 20m
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INTERNAL WATERPROOFING



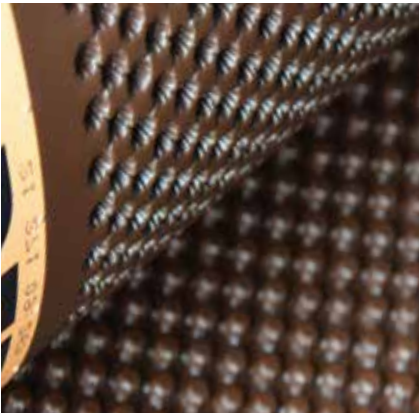
MS 20

20mm studded cavity drain membrane suitable for use on internal faces floors or where higher drainage capacity is required.

- 20mm studded profile
- Suitable for higher volumes of water penetration
- Compressive Strength: >150 kN/m<sup>2</sup>
- Drainage capacity: 10 L/S m<sup>2</sup>

DMS 009

2m x 20m



FM

4mm low studded profile specifically designed for floor applications to combat capillary dampness and contamination.

- 4mm studded profile
- Suitable for use on damp proofing walls, floors and vaulting ceilings
- Compressive Strength: 700 kN/m<sup>2</sup>
- Fast Track installation

DMS 023

2m x 20m





## PT

8mm studded HDPE membrane with a heat welded polypropylene mesh. Suitable as an impermeable damp proofing base for plaster or shotcrete (with suitable reinforcement).

- 8mm studded profile
- An effective barrier to the transmission of salts, liquid water and water vapour
- Compressive Strength:  $>70 \text{ kN/m}^2$
- Drainage capacity:  $5 \text{ L/S m}^2$

DMS 001

1.5m x 10m

DMS 002

2m x 20m



## PT 3MM

3mm mesh membrane developed specially for addressing the issue of damp and/or contaminated walls.

- 3mm studded profile
- Provides key for plaster, renders or dab fix
- Drainage capacity:  $2 \text{ L/S m}^2$  / Air volume between studs  $2 \text{ L/m}^2$
- Resistant to chemicals, root penetration, rot proof and neutral towards drinking water

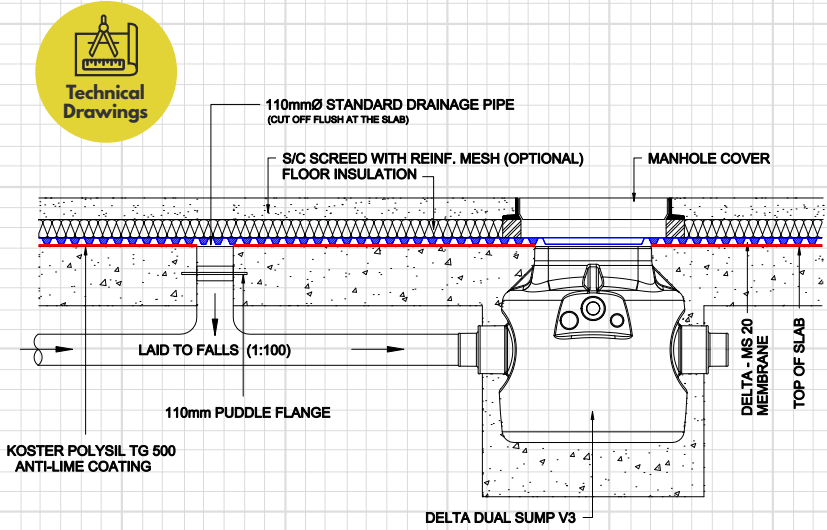
DMS 030

1m x 20m

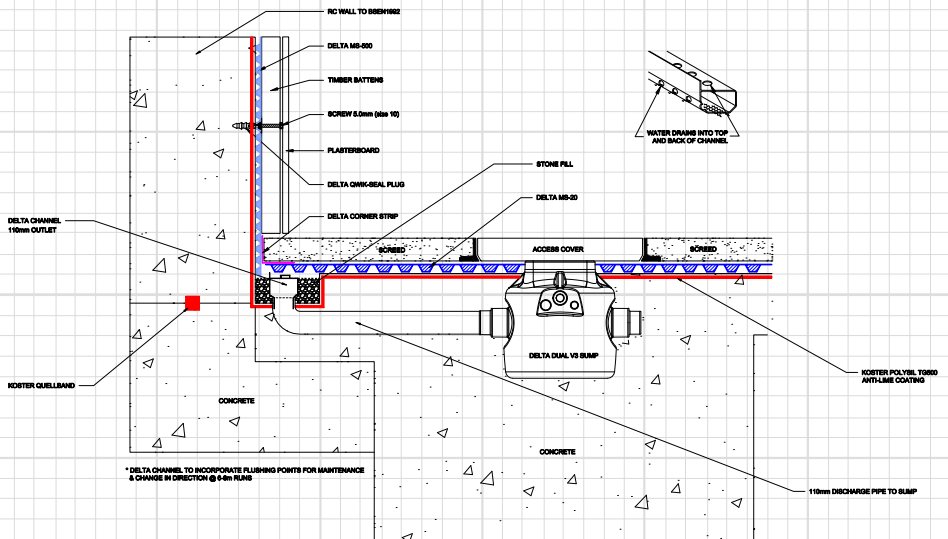
DMS 027

2m x 20m

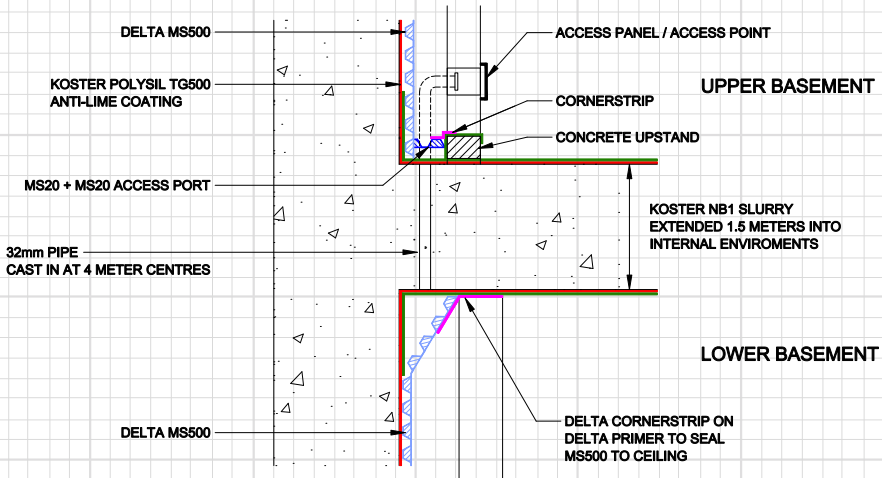
MODULAR DRAINAGE TO SUMP



RECESSED CHANNEL - SUMP DETAIL



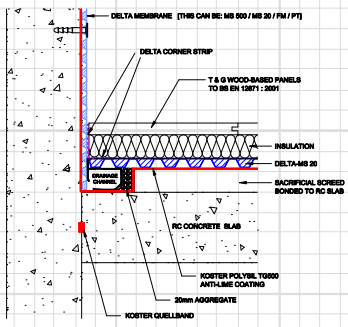
# INTERMEDIATE SLAB DRAINAGE DETAIL



# SACRIFICIAL SCREED 110MM CHANNEL OUTLET

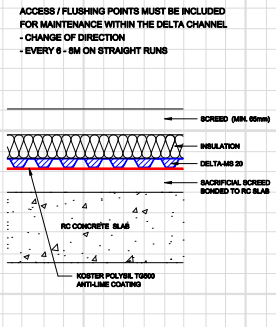
**OPTION 1**

**DRAINED PROTECTION WALL AND FLOOR APPLICATION**  
 - WITH DRAINAGE CHANNEL ON SLAB  
 SACRIFICIAL SCREED / T & G FLOOR PANELS



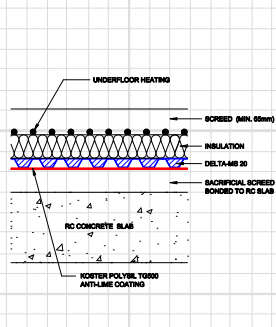
**OPTION 2**

**DRAINED PROTECTION WALL AND FLOOR APPLICATION**  
 - WITH DRAINAGE CHANNEL ON SLAB  
 SACRIFICIAL SCREED / SCREED FINISH



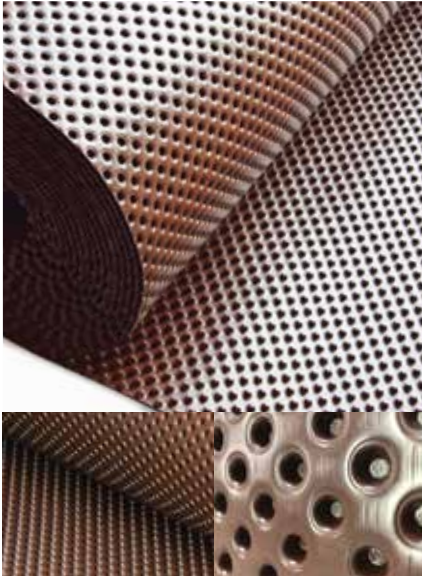
**OPTION 3**

**DRAINED PROTECTION WALL AND FLOOR APPLICATION**  
 - WITH DRAINAGE CHANNEL ON SLAB  
 SACRIFICIAL SCREED / SCREED WITH UNDERFLOOR HEATING





## INTERNAL WATERPROOFING



### AT 800

AT 800 is an innovative 9mm Type C membrane which conforms to BS 8102:2022 and BS 8485:2015+A1:2019, table 7 achieving waterproofing and ground gas protection simultaneously.

- 9mm studded profile
- Conforms to BS 8102:2022 and BS 8485:2015+A1:2019, Table 7
- Air volume between studs approx. 7.9 L/m<sup>2</sup>
- Ideal for complex substructures

DMS 026

2m x 20m



### JOIST BOOTS / TOP HATS

Solving long standing problems, Delta "boots" steel joist end "top hats" make a real difference in structural waterproofing situations where steels are embedded in walls, in below ground sections of structures. Available in any size, as we make these to order with a 3-5 day turn around.

- Made to order
- Protects Steel Joists
- Prevents Steel Joists from rusting
- Continuous waterproofing when used in conjunction with waterproofing solutions

SPECIAL ORDER

## DAMP PROOFING



### HIGH PERFORMANCE DPC

Delta High Performance DPC is a high performance polymeric material designed to suit all applications. Available in various widths either for use in buildings up to four storeys or for use in buildings in excess of four storeys.

DMS 300	100mm x 20m
DMS 301	150mm x 20m
DMS 303	300mm x 20m
DMS 304	450mm x 20m
DMS 305	600mm x 20m
DMS 345	1000mm x 20m



### WATER BASED EPOXY RESIN

Water Based Epoxy Resin is suitable for all applications where concrete or masonry requires waterproofing and protection. It is applied in the same manner as ordinary emulsion paint with the added benefit of application in damp conditions. Once dried Water Based Epoxy leaves a tough, non-toxic, waterproof, easy to clean surface.

DMS 485	2.5 ltr	White
DMS 486	2.5 ltr	Clear
DMS 487	2.5 ltr	Grey
DMS 488	2.5 ltr	Blue
DMS 144	5 ltr	White
DMS 148	5 ltr	Clear
DMS 149	5 ltr	Grey
DMS 150	5 ltr	Blue



TYPE C WATERPROOFING & GROUND GAS PROTECTION



BASEMENT DRAINAGE TO COMPLIMENT TYPE C SYSTEM



DAMP PROOFING - LONDON UNDERGROUND STATION



ON SITE SUPPORT



SUMP PUMP REBATE - TYPE C SYSTEM



DAMP PROOFING & WATERPROOFING



INTERNAL  
WATERPROOFING  
SOLUTIONS



BASEMENT DRAINAGE MONITORING



DELTA MS 500 INSTALLATION



STRUCTURES OF HISTORICAL IMPORTANCE



BASEMENT DRAINAGE



DAMP PROOFING



LIGHTWELL WATERPROOFING



HERITAGE WATERPROOFING



COMMERCIAL WATERPROOFING





# Fire Retardant Type C Waterproofing

## Fire Retardancy

In an age where prevention to fire is rightly under scrutiny in the construction industry, thoughts should be given to specifying materials which have properties which not only reduce the risk to occupants' safety, but also have a lesser reaction time in the event of fire.

Important considerations should be given when designing a basement or below ground structure on how it will behave during the event of fire. Whilst a basement is not counted when assessing the numbers of storeys of a property for fire resistance and means of escape, it should be factored into design and be a key consideration.

Typically, 30 minutes fire resistance is required for a two-storey house over a basement, which increases to 60 minutes where the number of storeys is four or more.



Standard Type C Membrane



Delta MS 500 Fire Retardant



Don't forget Deltas Ultra Fix Plugs for your complete Waterproofing Solution

See pg 26 for more Ancillaries

## Delta MS Fire Retardant System

The Delta Fire Retardant Type C Cavity Drainage System is the safest form of waterproofing system available, offering complete protection from water or water vapour and fire-retardant protection. Delta MS 500 Fire Retardant Membrane is an extremely effective Type C cavity drain waterproofing membrane which utilises the highest grade of High-Density Polyethylene (HDPE) with a fire classification of B-s2, d0.

When burnt, Delta MS 500 Fire Retardant HDPE membrane inhibits and delays the spread of fire by suppressing the chemical reactions in the flame, with no dripping fire debris.



Delta Fire Retardant Ultra Fix Plug

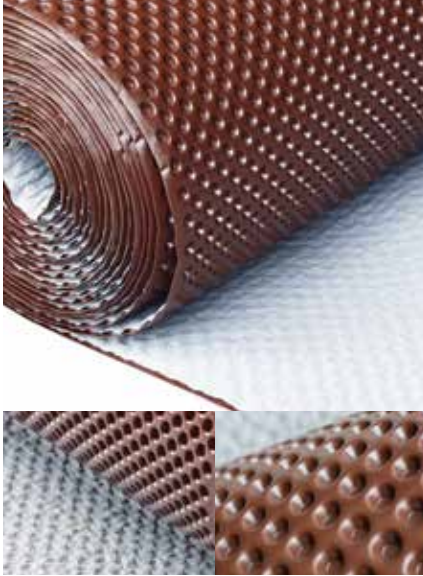


Installation of Delta MS 500 Fire Retardant

Sheet Thickness: 0.5mm  
Stud Height: 8mm  
Roll Size: 2.4m x 20m

Compressive Strength:  $>250 \text{ kN/m}^2$   
Drainage Capacity:  $2.25 \text{ L/S m}^2$   
135 L/MIN M  
8 100 L/H M

EXTERNAL WATERPROOFING



NP DRAIN

NP Drain is a 8mm, two-layer geocomposite external drainage membrane suitable for vertical and horizontal drainage in civil engineering, buildings, tunnels, and retaining walls.

- Acts as a protection layer over Type A Primary Waterproofing Systems
- Drainage rate approx. 2.25 L/S/ m<sup>2</sup>
- Compressive Strength: >150 kN/m<sup>2</sup>
- Rot-proof, impact resistant and non-deformable

DMS 022

2m x 20m



MS DRAIN

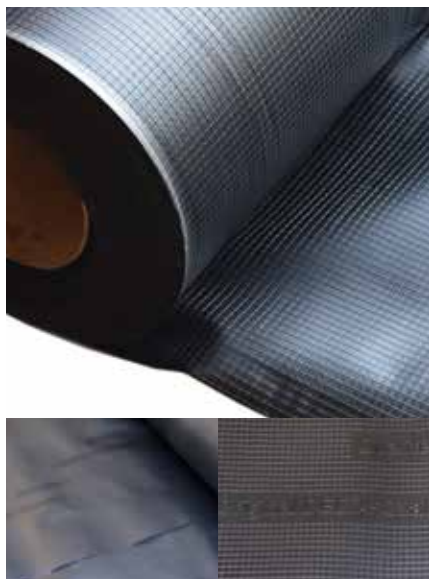
MS Drain serves as a drainage layer with fused-on geotextile. The fused-on hydrophilic geotextile ensures water drains reliably. The sheet features a high compressive strength of c. 500kN/m<sup>2</sup> as well as more than 8,900 dimples/m<sup>2</sup>.

- 4mm studded profile
- Drainage rate approx. 0.6 L/S/ m<sup>2</sup>
- Compressive Strength: >500 kN/m<sup>2</sup>
- May be installed at depths of up to 10 metres

DMS 233

2m x 30m





## ROOT BLOCK

Delta Root Block provides robust root barrier protection to primary waterproofing systems covering green roofs, blue roofs, hybrid roofs or where intrusive root systems are present.

- Cost effective root barrier
- Prevents, contains and mitigates root penetration
- Compatible with bitumen
- Suitable for existing and newly planted trees and plants

DMS 119

4m x 25m



## GEO-DRAIN QUATTRO

A unique 9mm compact four-layer external drainage membrane suitable for vertical and horizontal drainage, maximum safety for thick viscoelastic coatings and a multitude of alternative Type A systems.

- 9mm studded profile
- Air volume between studs 7g L/m<sup>2</sup>
- Compressive Strength: >400 kN/m<sup>2</sup>
- Geotextile filter to stop the drain clogging
- Perforated slip layer with wick

DMS 006

2m x 12.5m

## EXTERNAL WATERPROOFING



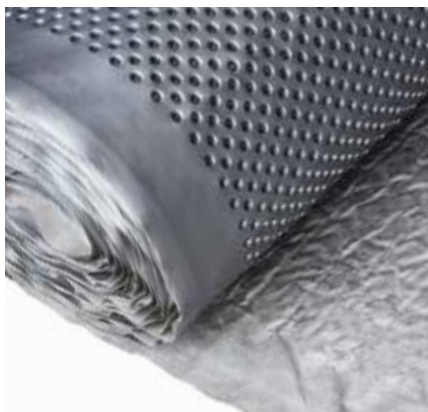
### FLORAXX TOP

Floraxx Top is a protective and drainage membrane with water storage function, equipped with an integrated filter-stable geotextile which provides a surface drainage and water storage solution in one. Ideal for green roofs (both extensively and intensively) planted.

- Acting as a protection, filtration, and seepage layer, retains 7 L of water per m<sup>2</sup>
- Compressive Strength: >200 kN/m<sup>2</sup>
- May be used on green inverted roofs (S value: c.0.4M)
- Integrated geotextile layer

DMS 205

2m x 10m



### TERRAXX

9mm dimpled sheet membrane with geotextile layer which acts as a surface layer. Used as a green roof external drainage layer which also offers protection to the primary waterproofing system.

- 9mm studded profile
- Compressive Strength: >400 kN/m<sup>2</sup>
- Prevents frost damage and encrustations
- Reliably protects and insulates waterproofing layers against mechanical damage

DMS 025

2.4m x 12.5m



## AQUADUCT

Delta Aquaduct is an external land drain coil. Installed externally to direct ground water into a sump or soak away and reduce pressure from bearing on the structure. Delta Aquaduct is perforated for maximum performance and incorporates an outer geotextile filter to prevent particles from entering the conduit system. Available in 2 lengths/widths with complimentary connectors also available (please see below table for DMS codes) also referred to as couplers or joiners) to connect multiple coils of Delta Aquaduct together. This ideal, cost-effective external drainage option is suitable for most projects. Delta Aquaduct coil is designed for excellent water flow and allows for easy maintenance and inspection.

DMS078-1	Aquaduct 60 (60mm x 50m)	DMS 145	Aquaduct 60 End Caps (red/Blue bung)
DMS 085	Aquaduct 100 (100mm x 50m)	DMS 095	Aquaduct 100mm T-Piece Connectors
DMS 087	Aquaduct 60mm Straight Connectors	DMS 096	Aquaduct 100mm Straight Connectors
DMS 089	Aquaduct 60mm T-Piece Connector	DMS 098	Aquaduct 100mm Y-Piece Connector
DMS 102	Aquaduct 60mm Y-Piece Connectors		



## GEO-DRAIN CLIPS

Geo-Drain Clips are used to securely fix external drainage and protection membranes such as Geo-Drain Quattro, Terraxx or NP Drain.

DMS 093

Box of 100



PODIUM DECK



DELTA FLORAXX TOP - GREEN ROOF



PODIUM DECK



GREEN ROOF



DELTA TERRAXX



HYBRID ROOF

## EXTERNAL WATERPROOFING SOLUTIONS



DELTA GEO-DRAIN QUATTRO



WELBECK ABBEY





DELTA GEO-DRAIN QUATTRO



COMMERCIAL STRUCTURE



RESIDENTIAL STRUCTURE



TWIN / COMBINATION - 2 FORMS



TWIN / COMBINATION - 2 FORMS



DELTA GEO-DRAIN QUATTRO

GLASS INSULATION



DELTA GLASS FLOOR BOARD T4

Delta Glass Floorboard T4+ is a superior insulation which offers a high compressive strength. Manufactured from specially graded recycled glass and natural raw materials. When joint sealed is impermeable to water vapor.



DELTA GLASS WALL BOARD T3+

Delta Glass Wall Board T3+ insulation is extremely popular. Delta Glass T3+ consists of T3+ slabs bonded together, the upper surface of the insulation is lined with a PE/Glass fleece composite.



DELTA GLASS ROOF BOARD G2 T3+

Delta Glass Roof Board G3 T3+ is a robust, Radon protective insulation with a high compressive strength. G2 T3+ can be used as a single layer or as a first layer in a two-layer insulation system.



DELTA GLASS PERINSUL HL

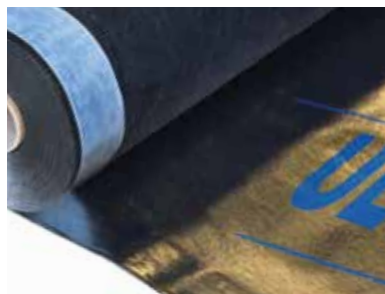
Delta Glass Perinsul HL is an extremely high-density speciality product used to eliminate structural thermal bridging. Delta Glass Perinsul HL's upper side (Green Side) and lower surface of insulation are bitumen coated and laminated with glass reinforced fleece, compatible with mortar.

For all Special Orders please contact 01992 523523



## DELTA GLASS PC F ANCHOR (INSULATION FASTENING)

Delta Glass PC F Anchor is a unique stainless-steel anchor fixing which enables complete continuation of Delta Glass to the wall and soffit on installation. Suitable for supported and accepting of screw nail anchor substrates.



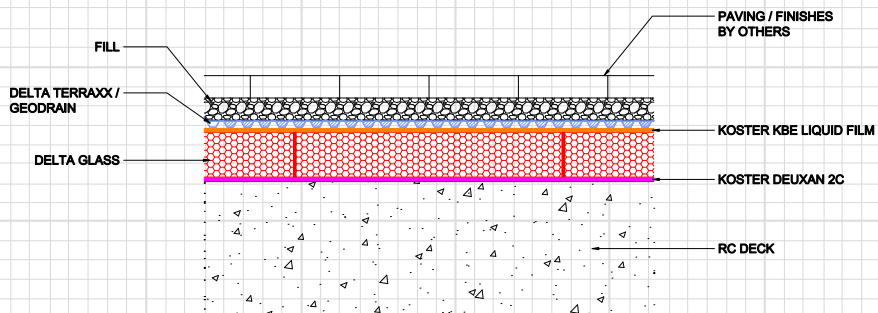
## DELTA ULTRA CONTROL VCL

Delta Ultra Control VCL is a robust, highly reflective air and vapour control layer (AVCL), suitable for timber, masonry or steel. Offering excellent thermal resistance, Delta Ultra Control VCL is available with integrated tape to seal overlaps to ensure radiant heat is reflected back into the structure, minimising absorption and energy transfer.

DMS 046

1.5m x 50m

## RC DECK & DELTA GLASS - PAVED DECK





ANCILLARIES



ROPE

A dependable sealing for Delta fixing plugs which do not have grommets. Delta Rope is ideal for sealing joints in MS20 and in stud to stud joints.

DMS 011 | 4.75m x 10mm



DOUBLE SIDED TAPE

This strong and durable double sided butyl tape is ideal for sealing membranes together at overlaps/adjacent seals.

DMS 012 | 22.5m x 28mm



CORNER STRIP

A waterproof, firm, and lasting single-sided sealing tape, typically used for sealing and connecting membranes on joints/wall floor junction or overlap.

DMS 020 | 150mm x 20m



FIRE RETARDANT FLEECE TAPE

A high-performance fire retardant fleece backed butyl waterproof sealing tape for butt joints and overlapping of membranes.

DMS 852 | 1mm x 220mm x 20m



FLEECE TAPE

Designed for use with Delta PT membranes. Suitable for joint sealing, detailing around service penetrations where Delta PT membranes have been installed.

DMS 238 | 100mm x 20m



MS CLIPS

Delta MS Clips are used for external waterproofing applications where a external drainage and protection membrane is installed.

DMS 099 | MS Clip



MS PROFILE STRIP

Delta MS Profile Strip is used in external waterproofing applications as a capping strip where an external drainage and protection membrane is installed.

DMS 017 | 2m length



PT PROFILE STRIP

Delta PT Profile Strip is used in applications where a Delta PT membrane is installed above ground.

DMS 016 | 2m length



DELTA WASHERS

Delta Washers are used for securely fixing external drainage and protection membranes.

DMS 024 | Box of 100

## MEMBRANE FIXING PLUGS



### DELTA PLUGS

Provides a fixing point for Delta MS 500 membrane. Delta fixing plugs have a centrally located internal shank which accommodates a 5.5mm dia./size 12 screw at a maximum depth of 30mm.

DMS 014 | Box of 100



### FLEXI-DRI PLUS PLUGS

These plugs have a centrally located internal shank that can accommodate a 5mm dia./size 10 screw at a maximum depth of 30mm.

DMS 239 | Box of 100



### QWIK-SEAL PLUGS

A watertight self-sealing fixing plug suitable for MS 500 & PT membranes. These plugs have a centrally located internal shank that can accommodate a 5mm dia./size 10 screw at a maximum depth of 30mm.

DMS 131 | Box of 100



### ULTRA FIX PLUGS

Delta Ultra Fix plugs are specifically designed to fix and secure Delta MS 500 Fire Retardant Membrane. Delta Ultra Fix Plugs offer a tailor-made maximum hold for ease of installation. These plugs have a centrally located internal shank that can accommodate a 5mm dia./size 10 screw at a maximum depth of 30mm.

DMS 051 | Box of 200

DMS 050 | Box of 200 with Grommets



### PT PLUGS

A watertight self-sealing fixing plug which works in harmony with PT or PT 3mm membranes. Delta PT Plugs are available with grommets. Grommets allow for a watertight, self-sealing finish.

DMS 015-1 | Box of 200

DMS 133-1 | Box of 200 with Grommets



### STOP PINS

Delta Stop Pins are self adhesive pins used in external waterproofing applications where external drainage and protection membranes are used.

DMS 029 | Box of 100



### GL2 BRACKETS

GL2 Drying Bracket/Gyplyner brackets. This adjustable metal bracket helps create a firm & rigid background when lining old masonry walls. The clever but simple bracket is pre-drilled for quick fitting, and is designed to be easily bent to provide extra adjustment.

DMS 049 | Box of 100

ANCILLARIES



DELTA THAN

Delta Than is a superior waterproof mastic which is suitable for sealing joints and detailing.

DMS 019	310ml
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DELTA MASTIC

Delta acrylic mastic is a universal mastic, ideal for sealing joints and detailing. Delta Mastic is not suitable for use as a waterproof mastic.

DMS 013	400ml
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CEM 805 ADHESIVE

CEM 805 Adhesive is used to permanently seal joints between DualProof membranes. CEM 805 Adhesive can also be used to effectively seal the inside of service penetrations in basements against water ingress and is hydrophilic.

DMS 286	290ml
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DELTA FIX ADHESIVE

Formulated as an adhesive for bonding and anchoring most building materials e.g. brick, stone, steel, mortar & timber.

DMS 018	400ml (fix adhesive)
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DMS 044	Fix Mixer Nozzles
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DMS 043	Twin Cartridge Applicator
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DRILL BITS

Fully ground, straight shank drill bit. For drilling fixing plugs to membranes.

DMS 076	8mm
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DMS 075	9mm
---------	-----

DMS 041	10mm
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DMS 042	11mm
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PUDDLE FLANGE

A Delta Puddle Flange offers a waterproof seal when applying Delta Modular Drainage. A Delta Puddle Flange prevents ground water percolating up between the 110mm pipe work/RC slab or wall junction, reducing water ingress through the critical floor/wall junctions.

DMS 161	110mm (various sizes available from 32mm to 160mm)
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### 110V PERISTALTIC PUMP

Fitting GEKA. Ideal for pumping waterproofing slurries, renders and plasters. This machine is lightweight, compact, and portable therefore easy to transport and move on site. On trolley, with 35ltr hooper.

DMS 373



### C330/03 COMPRESSOR

The C330/30 Compressor is a lightweight, oil free, piston, high pressure air compressor. This unit produces a working pressure of up to 10 bar (1400 rot./min).

DMS 971



### HAND LEVER PISTON PUMP HD 2K

For continuous transfer of resin injections, lever hand operated heavy-duty pump is ideal for quick and localised injection works. Supplied with 2 x hose (A & B) and monometer frame.

DMS 957



### HAND LEVER PISTON PUMP HD 250

For continuous transfer of resin injections, lever hand operated heavy-duty pump. Supplied with hose and strainer and monometer frame.

DMS 954



### 2 COMPONENT INJECTION PUMP 1:1

The 2-Component Injection Pump for PUR Gels and Acrylic Resins is easily transportable. The air driven, variable mixing ratio (from 1:1 up to 1:15) when required, has a 14.33 RS flush, HP hose dia 4-7.5 - NPS 1/4". Supplied with mounting kit for suction hose, mixing valve cpl and cpl without valve.

DMS 960



### A4000 ECO SPRAYER

The A4000 is an airless spray unit suitable for resin injection. Equipped with high efficiency airless technology, utilising a 6 ltr hooper.

DMS 950

ANCILLARIES



REMOTE CONTROL CABLE

Remote control cable with remote control switch for Peristaltic Pump.

DMS 969    Length 16m



HP-HOSE FOR HAND LEVER PISTON PUMP

High-quality hose with end fittings. Each assembly features one end fitting (which eliminates an incorrectly matched insert and sleeve) and matching hoses. Suitable for the HD 2K and HD 250 models.

DMS 955    5m



HP HOSE FOR A4000

Hose to suit electric airless sprayer A4000 (DMS 950). This quality hose has minimal recoil memory and is super flexible even when under maximum pressure.

DMS 952    16m



REPLACEMENT HOSE KIT

High quality hose with end fittings. Each assembly features one end fitting (which eliminates an incorrectly matched insert and sleeve) and matching hoses. Suitable for the 2-Component Injection Pump 1:1 model.

DMS 962



GEKA COUPLING FIXABLE (DIA 25)

The GEKA Hose Tail 25mm (1") is a professional quality hose and tail. The hose tail features a striking barbed profile that offers maximum protection of the hose pipe and guarantees a strong and secure hose fit.

DMS 970    1" x 10m



AIR HOSE

High quality flexible hose with quick coupling end fittings. Each assembly features one piece end fitting (which eliminates an incorrectly matched insert and sleeve) and matching hoses

DMS 972    Length 11m



### INJECTION BALL TAP

Injection Ball Tap with 4 jaw grip. A great tool to complement the Hand Lever Piston Pump HD 250 (DMS 954).

DMS 956 30cm Hose



### TRAPEZOID MIXING HEAD

High quality stainless steel Trapezoid Static Mixing Head is suitable for use with the 2-Component Injection Pump 1:1 (DMS 960).

DMS 961



### HP GUN FOR A4000

A uniquely designed, lightweight, easy to use Airless Spray Gun that delivers the performance you want. This excellent value airless spray gun that is ideal for use with the A4000 Eco Sprayer (DMS 950).

DMS 951



### 6 LTR HOPPER FOR A4000

This 6 ltr hopper attachment attaches to the airless sprayer A4000. Supplied with filter and cover. Thread M36x2 with return flow hose.

DMS 953



### PLASTIC STATIC MIXER FOR HD 2K

Plastic Static Mixer for HD 2K Hand Lever Piston Pump (DMS 957).

DMS 958



### PERISTALTIC PUMP MAINTENANCE KIT

Fitting GEKA. Kit contains spray lance 210mm cpl set with five nozzles. Set includes 4.5, 6.5, 8.5 & 10.5mm nozzles. Cleaning tools and sponge ball dia 19mm.

DMS 374



### CLEANING BALL FOR PERISTALTIC PUMP

Essential for thorough cleaning of hose and pipes, these spongy rubber balls have a rough texture and are pumped along flexible hoses with either water or cleaning compounds to remove stubborn dirt which rinsing alone will not remove.

DMS 396 DN 25 1 3/4"

# ROUGH GUIDE FOR ESTIMATING ANCILLARY PRODUCTS

MEMBRANE		TAPE 28MM X 22.5M	PLUGS/FIXING
Walls Delta MS 500 Clear - 8mm Stud 2.4m x 20m	Working m <sup>2</sup> 46.6 m <sup>2</sup>	1 x Roll	3 x Boxes Delta Plugs or Qwik-Seal Plugs Fixed at 600mm Centres (5 plugs per m <sup>2</sup> )
Walls Delta MS 500 Clear - 8mm Stud 2m x 20m	Working m <sup>2</sup> 38.6 m <sup>2</sup>	1 x Roll	2 x Boxes Delta Plugs or Qwik-Seal Plugs Fixed at 600mm Centres (5 plugs per m <sup>2</sup> )
Walls Delta - PT Clear/Mesh - 8mm Stud 1.5m x 10m	Working m <sup>2</sup> 14 m <sup>2</sup>	1 x Roll	1 x Boxes PT Plugs or PT Plugs with Grommets Fixed at 250mm Centres (18 plugs per m <sup>2</sup> )
Walls Delta PT Clear/Mesh - 8mm Stud 2m x 20m	Working m <sup>2</sup> 36 m <sup>2</sup>	1 x Roll	3 x Boxes PT Plugs or PT Plugs with Grommets Fixed at 250mm Centres (18 plugs per m <sup>2</sup> )
Floors Delta MS 500 Clear - 8mm Stud 2.4m x 20m	Working m <sup>2</sup> 46.6 m <sup>2</sup>	1 x Roll	N/A
Floors Delta MS 20 Brown - 20mm Stud 2m x 20m	Working m <sup>2</sup> 38 m <sup>2</sup>	1 x Roll	N/A
Floors Delta FM Brown - 4mm Stud 2m x 20m	Working m <sup>2</sup> 38.6 m <sup>2</sup>	1 x Roll	N/A
DualProof Clear/Fleece 1.08m x 20m	Allow for 10% wastage	2 x Rolls	N/A



## PER ROLL OF MEMBRANE

ROPE 10MM X 4.75M	CORNER STRIP 150MM X 20M	PROFILE 2M STRIPS	OTHER PRODUCTS
3 x Rolls required for Delta Plugs.  Not required for Qwik-Seal Plugs	N/A	N/A	N/A
2 x Rolls required for Delta Plugs.  Not required for Qwik-Seal Plugs	N/A	N/A	N/A
3 x Rolls required for PT Plugs.  Not required for PT Plugs with Grommets.	N/A	N/A if ventilated via a passive vent externally. Or 9 x strips of vented top & bottom	* On above ground application Delta Mastic can be used instead of Tape for joint. 5 tubes = 1 x Tape
6 x Rolls required for PT Plugs. Not required for PT Plugs with Grommets.	N/A	N/A if ventilated via a passive vent externally. Or 16 x Strips of vented top & bottom	* On above ground application Delta Mastic can be used instead of Tape for joint. 5 tubes = 1 x Tape
Floor/wall Rope Joint Liner Metres ÷ 4.75 = Number of rolls	3 x Rolls	N/A	Floor/Wall joint L.M. ÷ 5 = Number of tubes. Only on sealed system when Delta PT is used on the walls
N/A	** A - used as over seal joint = 1 x Roll	N/A	N/A
N/A	** B - wall to floor junction - 3 x Rolls	N/A	N/A
N/A	N/A	N/A	3 tubes of CEM 805 Adhesive 290ml per roll.

# 2



## BASEMENT DRAINAGE

One of the main design considerations when designing a waterproofing solution is the collection and discharge of ground and/or foul water.

Whether you want a bespoke specialist design or an all-rounder for your basement, explore our innovative and highly effective, Basement Drainage range to find the perfect solution.

SUMP PUMPS



DELTA SINGLE V3

The standard Single V3 (DMS 047) packaged pump station is designed to collect ground water from a Delta Cavity Drainage System. This pump station should be selected where no running water is present or expected and therefore is for protection only, i.e., for non-perishable areas. The Single V3 sump with inlets (DMS 107) allows for one or two 110mm pipes to be connected into the side of the chamber.

DMS 047	Single V3 Sump Pump
DMS 107	Single V3 with Inlets



DELTA FOUL V3

Our Foul V3 sump has been designed to collect foul water and/or grey water from basements and ground floor extensions. The Foul package pump station is not suitable for collecting ground water from a Cavity Drainage System.

DMS 165-1	
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DELTA DUAL V3.1

The Dual V3.1 package pump station has been specifically designed for areas where space is limited or for jobs where 1 or less 110mm inlet/spigot is required.

DMS 166	
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DELTA DUAL V3

The Dual V3 pump station is suitable for collecting ground water from a 150m<sup>2</sup> basements and surface water from a 12m<sup>2</sup> light well

DMS 164	
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SUMP PUMPS



DELTA DUAL V4

The Dual V4 pump station is suitable to collect ground water from a 150m<sup>2</sup> basement that requires a head height over 3m. The Dual V4 is capable of pumping 12m<sup>2</sup> of surface area in addition to ground water. The Dual V4 is suitable for typical double storey basements (with a pumping height of up to 7m).

DMS 217



DELTA DUAL V6

The Dual V6 has the capabilities to discharge water ingress from surface areas over 150m<sup>2</sup> or basements that require a head height above 3m. For deeper basements the Dual V6 has a full pumping height of up to 10m.

DMS 079

GROUND & SURFACE WATER

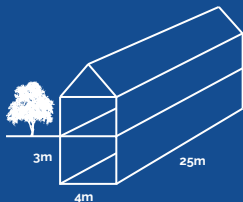
CALCULATING FLOW RATES (GROUND WATER)

It is virtually impossible to calculate water ingress through a structure, however, we need to make some assumptions and based on our experience we allow 0.001L/s/m<sup>2</sup> of basement slab and walls and then allow a safety factor of 5. However, if the basement pumps are monitored by AlertMaxx2 EC & SideWinder we can build up a dataset for water ingress and make recommendations if and when necessary.

CALCULATING GROUND WATER INGRESS

It is very difficult to obtain data for water ingress, we need to assume...

- For basements above the water table, assume 0.1L/s per 100m<sup>3</sup> basement wall and floor area (or 0.001L/s/m<sup>2</sup>). Multiply by a factor of safety of 5.
- For basements below the water table assume 0.2L/s per 100m<sup>3</sup> basement wall and floor area (or 0.002L/s/m<sup>2</sup>). Multiply by a factor of safety of 5.



Slab = 25m x 4m = 100m<sup>2</sup>  
 Wall 1 = 25m x 3m x 2no = 150m<sup>2</sup>  
 Wall 2 = 3m x 4m x 2no = 24m<sup>2</sup>  
 Total area = 274m<sup>2</sup>

Multiply total area by flow rate and factor of safety  
 = 274m<sup>2</sup> x 0.001L/s/m<sup>2</sup> x 5 = 1.37L/s

CALCULATING FLOW RATES (SURFACE WATER)

When selecting a pump station for collecting & discharging surface water we take into account a 5 minute storm event and the storage required for 24 hours, we always use a 500 year return period for basement applications and 24 hour storage as they are considered critical. Battery backups can be used instead of physical storage.

Example : 25m<sup>2</sup> surface water application i.e. patio or small rear roof elevation

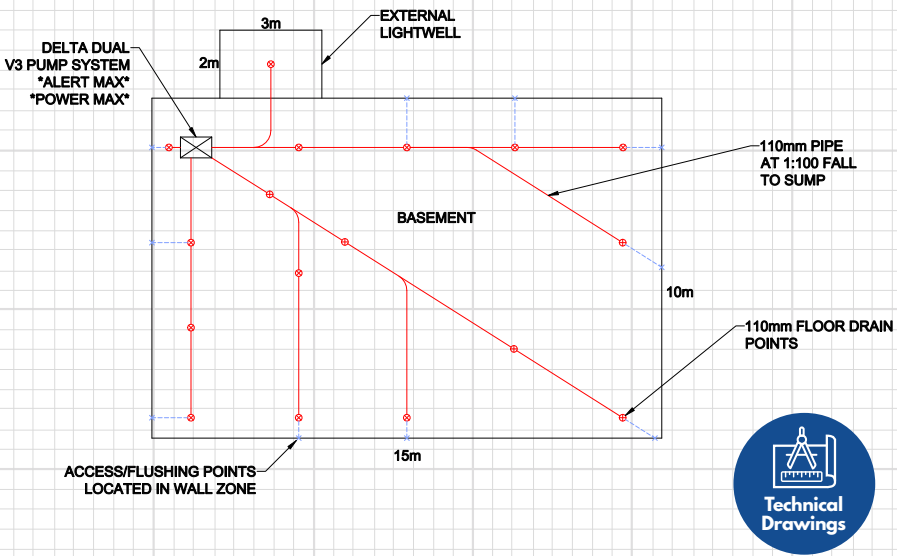
Flow rate: Area x L/s/m<sup>2</sup> = 1.6L/s  
 5 minute storage: Area x L/s/m<sup>2</sup> x 5 minutes  
 24 hour storage: Area x 0.11

CALCULATING SURFACE WATER FLOW RATES & STORAGE

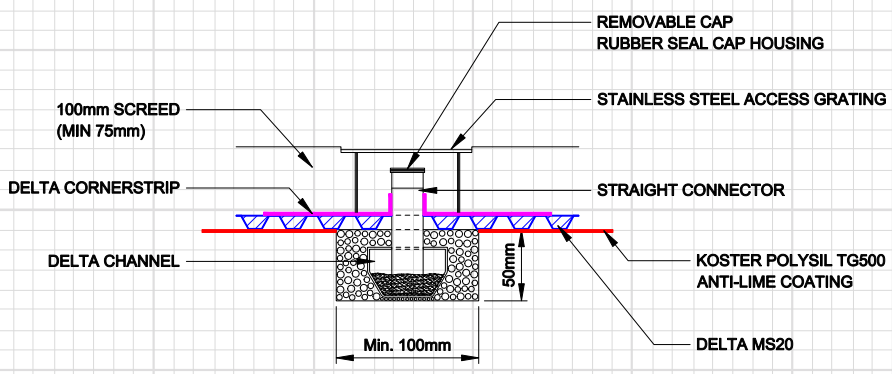
Design intensity for London based on BS EN 752 (2008)

Return period	L/s/m <sup>2</sup>	mm/hour
1 year	0.016	57.6
5 years	0.024	86.4
50 years	0.040	144.0
500 years	0.064	230.4

INDICATIVE MODULAR DRAINAGE LAYOUT



MID FLOOR DELTA CHANNEL ACCESS POINT





## ALARMS & BATTERY BACKUPS

A key design consideration, when designing a Type C, Cavity Drainage System is to consider managing the collection and discharge of ground and/or foul water. Most projects will require a basement drainage system to automatically manage the evacuation of water ingress. As a first line of defence, battery backups and high-water level alarms are essential.

Unrivalled technology, Delta's high-level water alarms are a firm favourite with waterproofing professionals.

Designed exclusively for sump pumps (submersible pumps) the Delta PowerMaxx2 Battery Backup range offer interruptible power supply in the event of mains power failure.



### ALERTMAXX2 EC

The AlertMaxx2 EC High Water Level Alarm and Monitoring System has been designed to detect high water levels within sump pump chambers, and forms part of a basement drainage system, enabling smarter maintenance and reducing mechanical failure, utilising data-driven technical support to monitor the health of the sump pump system. Available for Ground and Foul sump pumps, the AlertMaxx2 EC is suitable for single or twin pump systems where no control panel is installed.

DMS 598	Ground Water
DMS 599	Foul Water

### DELTA HLA

The Delta HLA is an independent pump station high water level alarm, powered by 240V with a 6V battery backup in case of mains power failure. The alarm offers simple installation, requiring 4 fixings and connection of mains power, pump/s and a float switch. Status for 'All OK', high water alarm, and mains failure are clearly displayed on the front fascia via a green and red LED.

DMS 190	Ground Water
DMS 191	Foul Water



## POWERMAXX2

The PowerMaxx2 will provide power to one or two V3 pumps if power failure occurs. Simple to use and easy to install – the PowerMaxx2’s digital display clearly shows status and comprehensive fault codes. Once mains power is restored the PowerMaxx2 will fully recharge automatically.

DMS 280-1



## HI-POWERMAXX2

The Hi-PowerMaxx2 battery backup is specifically designed for basement submersible pumps (sump pumps) when there is a loss of mains power. The Hi-PowerMaxx2 battery backup is specifically designed to run one or two V4, V6, Foul and Bespoke V3 basement pumps without mains power (not simultaneously) in the event of loss of mains power. The Hi-PowerMaxx2 will automatically recharge when mains power returns.

DMS 364-1



## HI-POWERMAXX2 XL

The Hi-PowerMaxx2 XL will provide power to one or two foul V3 pumps if power failure occurs. Simple to use and easy to install – the Hi-PowerMaxx2 XL’s digital display clearly shows status and comprehensive fault codes. Once mains power is restored the Hi-PowerMaxx2 XL will fully recharge automatically.

DMS 236

# DELTA 800 SERIES



Please contact  
01992 523523



## DELTA 800 SERIES

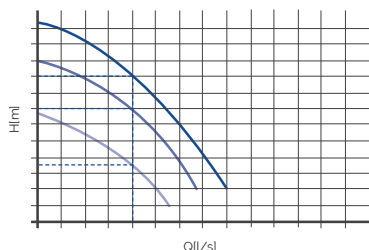
The Delta 800 series ground & surface water pump stations are available in depths from 800mm - 2000mm. Applications include collecting ground water from a Type C Cavity Drainage System or surface water from roofs and patios subject to selection criteria.

This product is specifically designed for below ground applications where hydrostatic water pressure may be present. However, they should be surrounded with concrete to prevent movement. A manhole cover is not supplied as these are generally site specific and installed in the final finish. However, if required the chamber will accept a standard 450mm x 600mm cover and frame. A kit is provided so inlets can be easily drilled and sealed on site in the positions, making this product very simple to install.

The Delta 800 series pump chambers are compatible with a range of free standing and guide rail mounted pumps.

50Hz - 1 ~ 230V Discharge 1.25" BSP Female					
Model	P1 kW	P2 kW	In A	Part No.	Weight Kg
V3	0.43	0.18	1.9	116	5.64
V4	0.75	0.36	4.0	216	7.17
V6	1.05	0.50	4.9	084	7.40

Available Depths	
800mm	1000mm
1300mm	1500mm
1800mm	2000mm



For all Special Orders please contact 01992 523523



Please contact  
01992 523523



## DELTA FOUL 800 SERIES

The Delta 800 series foul water pump stations are available in depths from 800mm - 2000mm. Applications include collecting foul and grey water from WC's, wash handbasins, showers, sinks and dishwashers subject to selection criteria, typically for larger self-contained basements or where inverts are low due to site conditions. When the 800 series is collecting grey water from a kitchen, we recommend fitting a grease trap prior to the chamber to optimize the reliability of the pump station.

This product is specifically designed for below ground applications where hydrostatic water pressure may be present. However, they should be surrounded with concrete to prevent movement. A manhole cover is not supplied as these are generally site specific and installed in the final finish. However, if required the chamber will accept a standard 450mm x 600mm cover and frame.

The Delta 800 series pump chambers are compatible with a range of free standing and guide rail mounted pumps.

50Hz - 1 ~ 230V Discharge 2" BSP Female

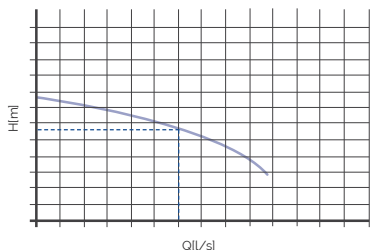
Model	P1 kW	P2 kW	In A	Part No.	Weight Kg
D10SA	1.14	0.75	5.84	DMS120	13.4
D10SM	1.14	0.75	5.84	PU-101	13.4

### Available Depths

800mm	1000mm
1300mm	1500mm
1800mm	2000mm

### Flow Rates from Dwellings

Number of Dwellings	Flow Rate (litres/sec)
1	2.5
5	3.6
10	4.1
15	4.6
20	5.1
25	5.4



**D10**

# DELTA 1000 SERIES



Please contact  
01992 523523



## DELTA 1000 SERIES

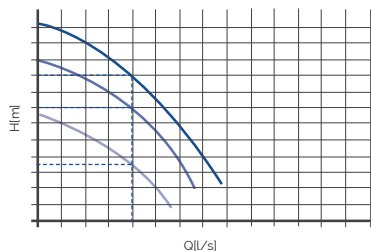
The Delta 1000 series ground & surface water pump stations are available in depths from 1250mm - 3000mm. Applications include collecting ground water from a Type C Cavity Drainage System and larger surface water applications from roofs and patios subject to selection criteria.

This product is specifically designed for below ground applications where hydrostatic water pressure may be present. However, they should be surrounded with concrete to prevent movement. The chamber will accept a standard 750mm x 600mm cover and frame to suit floor build. A kit is provided so inlets can be easily drilled and sealed on site in the positions, making this product very simple to install.

The Delta 1000 series pump chambers are compatible with a range guide rail mounted pumps.

50Hz - 1 ~ 230V Discharge 1.25" BSP Female					
Model	P <sub>1</sub> kW	P <sub>2</sub> kW	In A	Part No.	Weight Kg
V3	0.43	0.18	1.9	116	5.64
V4	0.75	0.36	4.0	216	7.17
V6	1.05	0.50	4.9	084	7.40

Available Depths	
1250mm	1500mm
1750mm	2000mm
2250mm	2500mm
2750mm	3000mm



V3 - Free Standing  
V4 - Free Standing  
V6 - Free Standing

**For all Special Orders  
please contact  
01992 523523**



For all Special Orders please contact 01992 523523



Please contact  
01992 523523



### DELTA FOUL 1000 SERIES

The Delta 1000 series foul water pump stations are available in depths from 1250mm - 3000mm. Applications include collecting foul and grey water from WC's, wash hand basins, showers, sinks and dishwashers subject to selection criteria, typically for larger basements or where inverts are low due to site conditions. When the 1000 series is collecting grey water from a kitchen, we recommend fitting a grease trap prior to the chamber to optimize the reliability of the pump station.

This product is specifically designed for below ground applications where hydrostatic water pressure may be present. However, they should be surrounded with concrete to prevent movement. A manhole cover is not supplied as these are generally site specific and installed in the final finish. However, if required the chamber will accept a standard 450mm x 600mm cover and frame.

The Delta 1000 series pump chambers are compatible with a range of free standing and guide rail mounted pumps.

50Hz - 1 ~ 230V Discharge 2" BSP Female

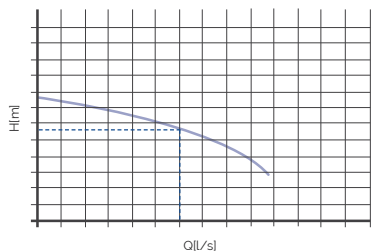
Model	P <sub>1</sub> kW	P <sub>2</sub> kW	In A	Part No.	Weight Kg
D10SA	1.14	0.75	5.84	DMS120	13.4
D10SM	1.14	0.75	5.84	PU-101	13.4

#### Available Depths

1250mm	1500mm
1750mm	2000mm
2250mm	2500mm
2750mm	3000mm

#### Flow Rates from Dwellings

Number of Dwellings	Flow Rate (litres/sec)
1	2.5
5	3.6
10	4.1
15	4.6
20	5.1
25	5.4
30	5.8



**D10**

DRAINAGE CHANNELS & ACCESSORIES



DELTA CHANNEL WITH UPSTAND

Delta Perimeter Drainage Channel is a component part used within a Type C Cavity Drainage System. Delta Channel is a distinctive yellow, PVC drainage conduit designed to manage water ingress and hydrostatic water pressure in basements and below ground structures. Channel with upstand keeps the channel stable when abutting the Delta membrane on a perimeter wall.

DMS 207



DELTA CHANNEL WITHOUT UPSTAND

Delta Perimeter Drainage Channel is a component part used within a Type C Cavity Drainage System. Delta Channel is a distinctive yellow, PVC drainage conduit designed to manage water ingress and hydrostatic water pressure in basements and below ground structures. Channel without upstand is used where cross channels sit over construction joints in the middle of the floor, when Delta Channel is to be offset from the wall or to join two perimeter channels together across a floor.

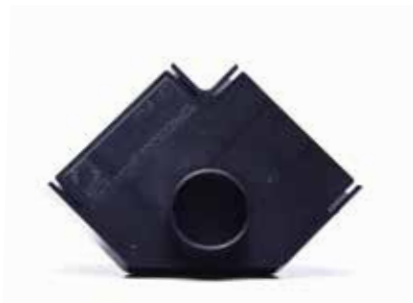
DMS 208



STRAIGHT CONNECTORS

Straight connectors for connecting Delta channel (with or without upstand). Also known as Delta "in line". The range of Delta drainage channel ancillary components make installation more efficient and quicker.

DMS 310



### CORNER PIECES

Delta "90 degree" Corner Connector with "Push Out" feature for inspection port. Can be used to join lengths of Delta channel on both internal and external corner sections.

DMS 182



### T PIECES

T Pieces, also known as "Tee Connectors", facilitates crossing 3 channels together to dissect the floor or to discharge to a centrally located sump pump. The T Pieces include a "Push Out" feature for inspection port to service the system.

DMS 183



### END CAPS

End Caps have a dual role and can work as either a blanking plate (at the far end of a channel run) or can be converted easily (with their "Push Out" feature) for easy fit of drainage pipe outlet (connector) to join with the sump pump station.

DMS 184



### 110MM DRAINAGE OUTLET

110mm Drainage Outlet is designed to join the channel to 110mm standard underground pipe. The 110mm Drainage Outlet consists of a 90° PVC bend and a PVC male coupling which is fitted to the base of Delta Channel to allow water to travel from the conduit to the water collection point (sump pump). The 110mm Drainage Outlet can also accept an inspection port and has the ability cross floor channels.

DMS 128

## DRAINAGE CHANNELS & ACCESSORIES



### MS 20 FLUSHING / ACCESS PORT

The MS20 access port enables the 20mm cavity to be inspected and flushed through should the need arise, thus making the whole cavity drain system maintainable and further reducing the risks in the long term.

**DMS 124**



### INSPECTION PORT (JETTING EYE)

Inspection Ports are designed for use with perimeter drainage channel (with or without upstand DMS 207/DMS 208). Inspection ports allow for maintenance and future cleaning/flushing of the drainage system (with a suitable anti-lime solution (if required)).

**DMS 094**



### ACCESS PORT UNIT

Preformed unit of Delta perimeter drainage channel with inspection port. Used to provide cleaning, inspection, and maintenance access to the Delta drainage channel system.

**DMS 117**

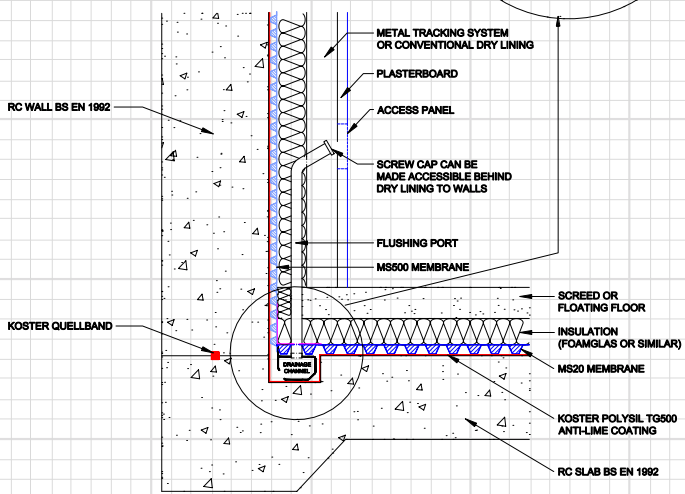
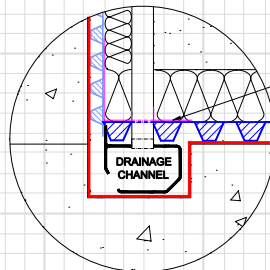


### DRAINAGE CONNECTOR

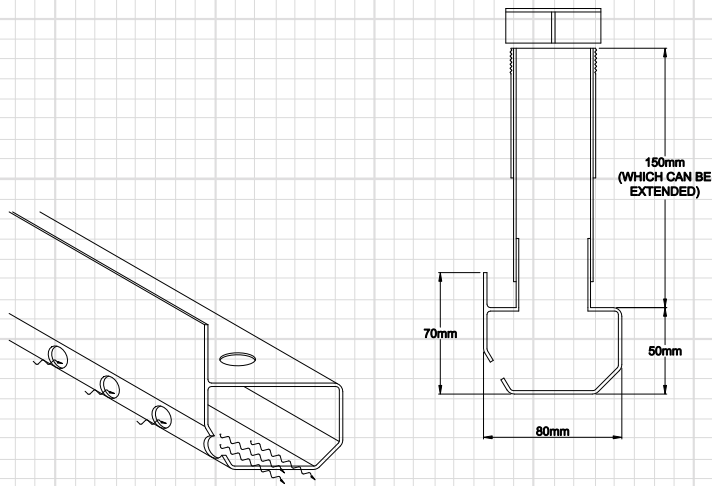
Drainage Connector (outlet) is used for connection underneath/underside of Delta perimeter drainage channel, ideal for continuous waterproofing at level changes. Connects to 40mm pipe enabling drainage channel connection from below.

**DMS 118**

**FLUSHING PORT ACCESS PANEL**

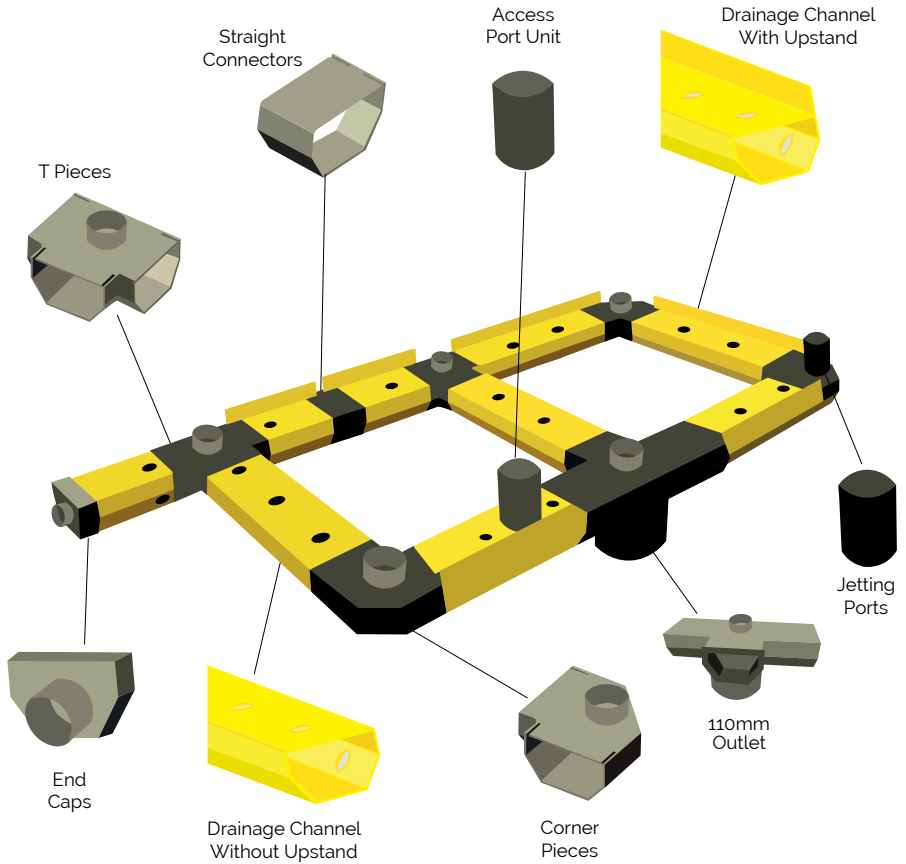


**DRAINAGE CHANNEL & FLUSHING PORT DETAIL**





## DRAINAGE CONFIGURATION



### STRAIGHT CONNECTORS

Straight connectors for connecting Delta channel (with or without upstand). Also known as Delta "in line". The range of Delta drainage channel ancillary components make installation more efficient and quicker.

DMS 310

### T PIECES

T Pieces, also known as "Tee Connectors", facilitates crossing 3 channels together to dissect the floor or to discharge to a centrally located sump pump. The T Pieces include a "Push Out" feature for inspection port, to service the system.

DMS 183

## END CAPS

End Caps have a dual role and can work as either a blanking plate (at the far end of a channel run) or can be converted easily (with their "Push Out" feature) for easy fit of drainage pipe outlet (connector) to join with the sump pump station.

**DMS 184**

## DRAINAGE CHANNEL WITHOUT UPSTAND

Delta Perimeter Drainage Channel is a component part used within a Type C Cavity Drainage System. Delta Channel is a distinctive yellow, PVC drainage conduit designed to manage water ingress and hydrostatic water pressure in basements and below ground structures. Channel without upstand is used where cross channels sit over construction joints in the middle of the floor, when Delta Channel is to be offset from the wall or to join two perimeter channels together across a floor.

**DMS 208**

## DRAINAGE CHANNEL WITH UPSTAND

Delta Perimeter Drainage Channel is a component part used within a Type C Cavity Drainage System. Delta Channel is a distinctive yellow, PVC drainage conduit designed to manage water ingress and hydrostatic water pressure in basements and below ground structures. Channel with upstand keeps the channel stable when abutting the Delta membrane on a perimeter wall.

**DMS 207**

## CORNER PIECES

Delta "90 degree" Corner Connector with "Push Out" feature for inspection port. Can be used to join lengths of Delta channels on both internal and external corner sections.

**DMS 182**

## INSPECTION PORT (JETTING EYES)

Inspection Ports are designed for use with perimeter drainage channel (with or without upstand DMS 207/ DMS 208). Inspection ports allow for maintenance and future cleaning/flushing of the drainage system (with a suitable anti-lime solution (if required)).

**DMS 094**

## 110MM DRAINAGE OUTLET

110mm Drainage Outlet is designed to join the channel to 110mm standard underground pipe. The 110mm Drainage Outlet consists of a 90° PVC bend and a PVC male coupling which is fitted to the base of Delta Channel to allow water to travel from the conduit to the water collection point (sump pump). The 110mm Drainage Outlet can also accept an inspection port and has the ability cross floor channels.

**DMS 128**

## DRAINAGE CONNECTOR

Drainage Connector (outlet) is used for connection underneath/underside of Delta perimeter drainage channel, ideal for continuous waterproofing at level changes. Connects to 40mm pipe enabling drainage channel connection from below.

**DMS 118**

## DRAINAGE CHANNELS & ACCESSORIES

	90° BEND	1.25"	2.0"	2.5"	3.0"
		DMS 145	DMS 155	DMS 315	DMS-SP-S1
	PLAIN SOCKET	1.25"	2.0"	2.5"	3.0"
		DMS 0147	DMS 0157	DMS 317	DMS-SP-S1
	THREADED SOCKET	1.25"	2.0"	2.5"	3.0"
		DMS 331	DMS 339	NA	NA
	T PIECE	1.25"	2.0"	2.5"	3.0"
		DMS 318	DMS 212	DMS-SP-S1	DMS-SP-S1
	PIPE	1.25"	2.0"	2.5"	3.0"
		DMS 0144	DMS 0154	DMS 313	DMS-SP-S1
	45° BEND	1.25"	2.0"	2.5"	3.0"
		DMS 0146	DMS 0156	DMS 316	DMS-SP-S1
	PLAIN THREADED SOCKET	1.25"	2.0"	2.5"	3.0"
		DMS 358	DMS 359	NA	NA
	UNION	1.25"	2.0"	2.5"	3.0"
		DMS 0148	DMS 0160	DMS 353	DMS-SP-S1
	HIGH PRESSURE SOLVENT CEMENT	500ml			
		DMS 0158			
	110MM ADAPTOR	1.25"	2.0"	2.5"	3.0"
		DMS 340	DMS 341	DMS 342	NA



HOSE TAIL

1.25"	2.0"	2.5"	3.0"
DMS 062	NA	NA	NA



CLIP (FOR HOSE TAIL)

1.25"	2.0"	2.5"	3.0"
DMS 063			



SEMI RIGID HOSE

1.25"	2.0"	2.5"	3.0"
DMS 065	NA	NA	NA



NON-RETURN SWING CHECK VALVES

1.25"	2.0"	2.5"	3.0"
NA	DMS 327	DMS-SP-S1	DMS-SP-S1



NON-RETURN BALL VALVES

1.25"	2.0"	2.5"	3.0"
DMS 328	DMS-SP-S1	DMS-SP-S1	DMS-SP-S1



BRASS GATE VALVE

1.25"	2.0"	2.5"	3.0"
DMS 329	DMS-SP-S1	DMS-SP-S1	DMS-SP-S1



100MM SADDLE CLAMP

1.25"	2.0"	2.5"	3.0"
DMS 0141	DMS 0151	NA	NA



150MM SADDLE CLAMP

1.25"	2.0"	2.5"	3.0"
DMS 0142	DMS 0152	NA	NA



PIPE WALL CLIP

1.25"	2.0"	2.5"	3.0"
DMS 0149	DMS 0159	NA	NA

# DELTA DUAL V3 SUMP PUMP



## BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

## SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

## PACKAGE

- Delta Dual V3 Sump Pump
- PowerMaxx2
- Delta HLA

**DMS 580**

## DELTA DUAL V4 SUMP PUMP



### BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

### SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

### PACKAGE

- Delta Dual V4 Sump Pump
- Hi-PowerMaxx2
- Delta HLA

DMS 581



## DELTA DUAL V6 SUMP PUMP



### BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

### SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

### PACKAGE

- Delta Dual V6 Sump Pump
- Hi-PowerMaxx2
- Delta HLA

**DMS 582**

## DELTA FOUL V3 SUMP PUMP



### BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

### SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

### PACKAGE

- Delta Foul V3 Sump Pump
- Hi-PowerMaxx2 XL
- Delta HLA

DMS 584

# DELTA DUAL V3 800 SERIES SUMP PUMP



## BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

## SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

## PACKAGE

- Delta Dual V3 800 Series Sump Pump
- PowerMaxx2
- Delta HLA

**DMS 585**

**Dual V3 800 Series Sump Pump (800 x 1300 deep)**

## DELTA DUAL V4 800 SERIES SUMP PUMP



### BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

### SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

### PACKAGE

- Delta Dual V4 800 Series Sump Pump
- Hi-PowerMaxx2
- Delta HLA

**DMS 586**

**Dual V4 800 Series Sump Pump (800 x 1300 deep)**

## DELTA DUAL V6 800 SERIES SUMP PUMP



### BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

### SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

### PACKAGE

- Delta Dual V6 800 Series Sump Pump
- Hi-PowerMaxx2
- Delta HLA

**DMS 587**

**Dual V6 800 Series Sump Pump (800 x 1300 deep)**

# DELTA SINGLE FOUL 800 SERIES SUMP PUMP



## BENEFITS

- Cost effect - saving money when purchased as a complete package
- Perfect match of basement drainage equipment
- Smart features
- Ready for immediate and simple installation
- Suitable for new, existing and retrofit basement projects
- Suitable for residential, commercial and heritage buildings
- Suitable for flood resilience
- Robust and reliable
- Selected by industry experts

## SPECIFICATION

- NBS Specification R18 (Clause 310) Pumping Stations and Pressure Pipelines
- BS 8102:2022 Type C Drained Protection

## PACKAGE

- Delta Single Foul 800 Series Sump Pump
- Hi-PowerMaxx2 XL
- Delta HLA

**DMS 588**

Single Foul 800 Series Sump Pump (800 x 1300 deep)





DELTA DUAL V3



DELTA DUAL V4



DELTA BESPOKE 1000 SERIES



DELTA BESPOKE 800 SERIES



DELTA PERIMETER CHANNEL



DELTA SUMP PUMP

## BASEMENT DRAINAGE



RESIDENTIAL BASEMENT DRAINAGE



INSTALLATION OF DELTA SUMP PUMP



**COMMERCIAL BASEMENT DRAINAGE**



**BESPOKE DESIGN TO PROJECT REQUIREMENTS**



**COMMERCIAL BASEMENT DRAINAGE**



**DELTA SUMP PUMP / CHANNEL CONFIGURATION**



**BASEMENT DRAINAGE**



**DELTA DUAL V6 INSTALLATION ON SITE**

# 3

## GROUND GAS PROTECTION

Gas protection systems are critical in projects constructed on land affected by permanent ground gas and/or volatile organic compound (VOC) contamination.

Delta Membrane Systems Limited supplies a comprehensive range of gas barrier membranes and ventilation systems designed to protect against permanent ground gases and VOCs.





## PRO R1

Pro R1 is a flexible, loose laid propriety gas barrier for use on sites with Radon (RN) ground gas.

- Three-layer, low density polyethylene
- BRE 211:2015 Radon
- Will protect against damp in accordance with CP: 102:1973, Section 2 and BS 8000-4:1989
- Can be tape jointed or heat welded

DMS 401

3m x 50m



## PRO M1

Pro M1 is a flexible, loose laid ground gas barrier membrane made from low-density polythene with polypropylene reinforcement grid and aluminium foil core layer.

- For use on sites with Radon, Carbon Dioxide and Methane
- Gas and damp proof membrane
- BS 8485:2015+A1:2019 Table 7 Compliant
- Can be tape jointed or heat welded

DMS 402

2m x 50m

GROUND GAS BARRIERS



PRO TITAN VOC

PRO Titan VOC complies with the latest codes of practice as published by BRE, CIRIA (748) and BS 8485:2015+A1:2019. PRO Titan is suitable for use as ground gas/hydrocarbon protection for NHBC Green, Amber1, Amber2 and Red sites.

- VOC/Hydrocarbon/Methane/CO<sub>2</sub> & Radon Barrier
- Suitable for new build & refurbishment projects
- High resistance to puncturing
- Multi-layered unique core component

DMS 403 | 2m x 50m

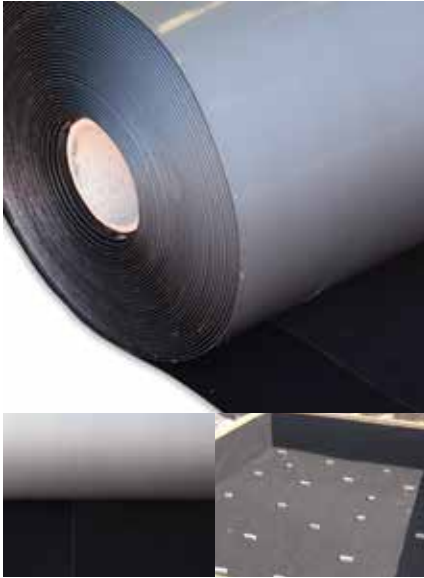


PRO LIQUID GAS BARRIER

Pro LGB is a ready for use specialist styrene butadiene latex-based liquid applied gas membrane. Simple, continuous passive gas prevention barrier against the ingress of Methane, Carbon Dioxide, Radon, Ground Gas, VOC, air & moisture into buildings.

- Liquid applied by brush, roller, or airless spray
- Can be used for providing damp proofing, gas proofing or waterproofing
- Suitable for new build & refurbishment projects
- Suitable for Hydrocarbons, Methane (CH<sub>4</sub>), Carbon Dioxide (CO<sub>2</sub>), Radon (Rn), Volatile Organic Compound (VOCs)

DMS 405 | 15kg



## PRO TITAN BOND

Pro Titan Bond hydrocarbon barrier offers a safe solution for the protection of occupiers against all levels of Hydrocarbon, Methane, Carbon Dioxide and Radon gas ingress. Complies with the latest codes of practice as published by BRE, CIRIA (748) and BS 8485:2015+A1:2019 and BS 8102:2022.

- Suitable for use as ground gas/hydrocarbon protection for NHBC Green, Amber1, Amber2 and Red sites
- Ground Gas protection and waterproofing in one product
- Bonds fully with concrete

DMS 437

1.9m x 25m



## PRO TITAN TANK

Pro Titan Tank is a post applied waterproof and ground gas membrane offering a safe solution for the protection of buildings, structures, and occupiers against all levels of Hydrocarbon, VOCs, Methane, Carbon Dioxide and Radon gas ingress.

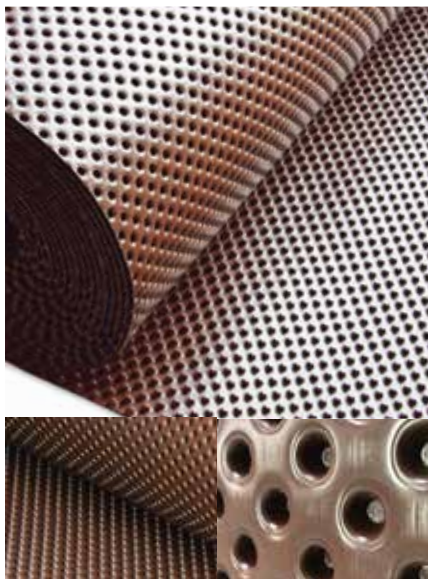
- Suitable for new build basements, tunnels, and concrete structures below ground
- Exceptional chemical resistance
- High resistance to puncturing
- Can be used for providing damp proofing, gas proofing or waterproofing

DMS 438

0.9m x 20m



GROUND GAS BARRIERS



DELTA AT 800

Delta AT 800 is an innovative Type C Drainage Membrane which conforms to BS 8102:2022 and BS 8485:2015+A1:2019, Table 7 achieving waterproofing and ground gas protection simultaneously.

- Compatible with all types of construction
- Suitable for high volumes of water penetration
- Reversible system
- Durable for 100 years in natural soil with  $4 \leq \text{pH} \leq 9$  and soil temperature  $\leq 25^\circ\text{C}$

DMS 026

2m x 20m



DELTA LM 800

Delta LM 800 is an innovative liquid membrane which conforms to BS 8102:2022 and BS 8485:2015+A1:2019, Table 7 achieving damp proofing, waterproofing and ground gas protection simultaneously.

Delta LM 800 is robust and flexible liquid membrane which performs excellent under high compressive loads and offers maximum protection in just one application.

- Multiple physical properties, including resistance to Methane, Carbon Dioxide and Radon
- Ideal for complex detailing and difficult to reach areas
- Fully bonded system - continuous application - no sealing required at construction joints/laps
- Can be applied to damp surfaces or newly poured concrete

DMS 035

10kg

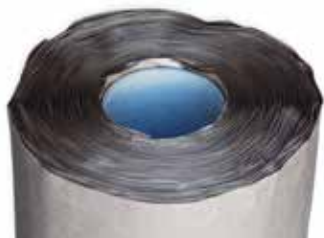


## PRO TITAN TAPE

A highly flexible, double sided butyl tape. Pro Titan Tape is designed with a layer of release film on both sides to assist during installation. This multipurpose tape prevents water, water vapor, air and gas when used in conjunction with gas barriers, vapor control layers and damp proof membranes. The tapes flexibility enables installation on irregular surfaces accurately with little to no waste. Pro Titan Tape can adhere to all our gas barriers and an extensive variety of substrates.

DMS 439

100mm X 15m



## DETAILING STRIP

Detailing Strip is a superior 300mm wide, self-adhesive gas membrane designed specifically to aid detailing and sealing around pipe penetrations and internal and external corners. Detailing Strip can also be used for repairing tears and other damage to ground gas membranes.

DMS 413

300mm X 20m



## GAS TAPE 50

Gas Tape 50 is a specialist butyl double sided sealing tape. This strong and durable tape is ideal for sealing between overlapping sheets of gas membrane.

DMS 411

50mm X 10m

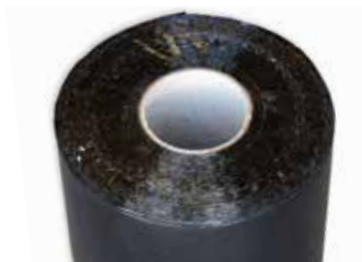


## GAS OVER TAPE 150

Gas Over Tape 150 is a durable butyl single sided tape. Gas Over Tape is designed with an aluminium foil backing. This unique foil provides a secondary seal to gas membrane joints and for detailing around service penetrations.

DMS 412

150mm X 30m



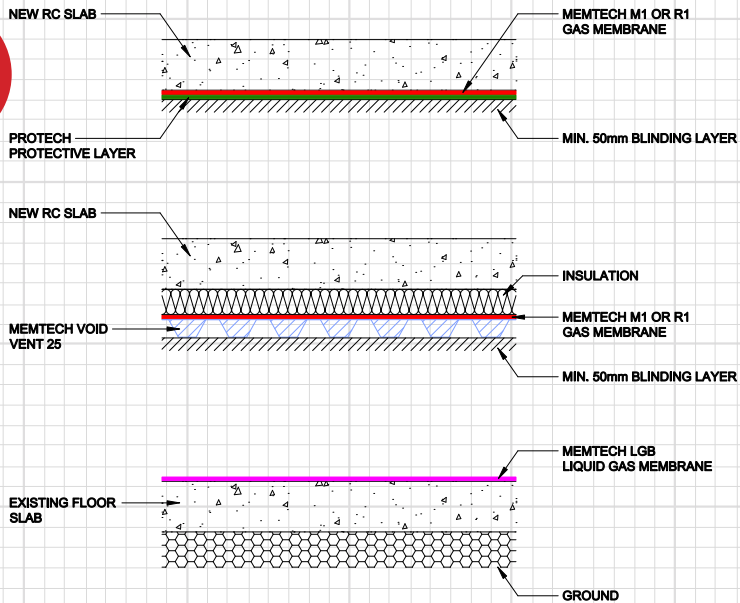
## PRO TITAN EXTERNAL TAPE

A 300mm wide by 20m long single-sided self-adhesive tape. Used as an under-tape for forming lap joints with Pro Titan Bond. Note that wherever possible, plastic membranes should be welded when used as primary protection against ingress of Hydrocarbons and VOC's, in accordance with CIRIA C748. Guidance on the use of plastic membranes as VOC barriers.

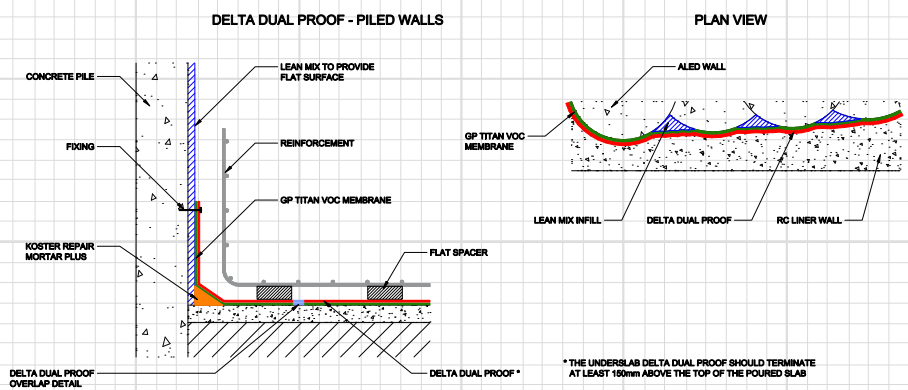
DMS 440

300mm x 20m

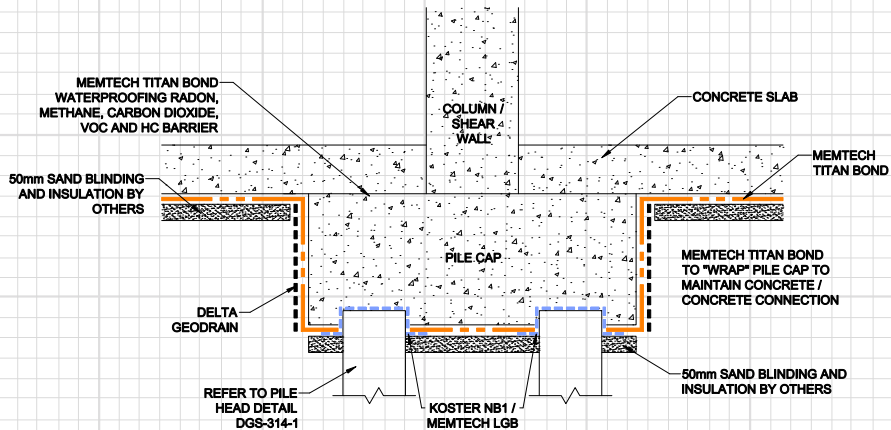
GROUND GAS PROTECTION TO FLOORS



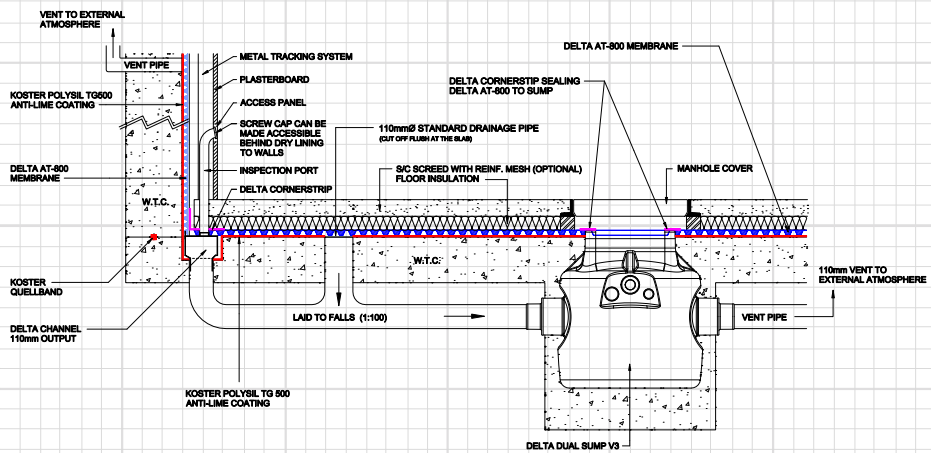
PRO TITAN VOC/DELTA DUALPROOF - PILED WALLS



GAS AND WATERPROOFING PROTECTION MEASURES TYPICAL COLUMN / PILE CAP DETAIL



COMBINED CHANNEL + MODULAR DRAINAGE OPTION USING DELTA AT 800



# 3

## VENTILATION

A passive ventilation system when connected to air inlets and outlets allows for a passive venting solution to facilitate safe dilution and dispersal of dangerous ground gases allowing for maximum flexibility to design.

Delta's passive ventilation system works beneath the footprint of the structure to dilute hazardous gases to a safe level and then to disperse them into the atmosphere.

## VENTILATION



## PRO VOID VENT 25

Pro Void Vent 25 offers a passive venting solution which facilitates the dispersal and dilution of dangerous gases. Pro Void Vent 25 has been specially designed to provide for high levels of air and/or gas flow.

- Creates a de-pressurisation zone for collection of ground gases
- Tough, durable design
- Quick & easy application
- High gas flow capacity

DMS 404

0.9m x 50m



## GROUND GAS MITIGATION

Gas protection is a technical solution to prevent or to control gas penetration into properties. The control of gas migration is normally achieved by blocking the pathway or removing the source of gas generation. A passive ventilation system when connected to air inlets and outlets allows for passive venting solution to facilitate safe dilution and dispersal of dangerous ground gases allowing for maximum flexibility to design. A Ground Gas Protection System Design Specialist will be able to interpret the requirements of BS8485:2015+A1:2019 to produce a design which incorporates a suitable gas protection system. Pro Void Vent 25 systems can be designed, supplied and installed by our highly skilled Delta Registered Installers.



## VENTILATION



## MITIGATION FAN

All RadonAway® fans are specifically designed for Radon mitigation. RPi Series Fans provide superb performance, run ultra-quiet and are attractive. They are ideal for most sub-slab Radon mitigation systems.

- Stay-White™ housing
- Energy efficient, ultra-quiet operation
- Seams sealed to inhibit Radon leakage (RP145i double snap sealed)
- ETL Listed - for indoor or outdoor use

DMS 700

145i

DMS 701

265i



## RADON SUMP

A Radon Sump is a rotationally moulded plastic unit designed to act as a collection point for Radon gas prior to it being ventilated away when connected to a mitigation fan.

- 4 Spigots for 110mm pipe connections
- Designed to collect Radon gas so that it can be safely ventilated away
- Manufactured from medium density polyethylene plastic
- Works effectively under solid floors and under suspended floors

DMS 045





## ADJUSTABLE PERISCOPE RECTANGULAR VENT UNIT

Adjustable Periscope Vent is designed to provide a clear airflow passage to a void beneath block and beam and timber floors. The adjustable periscope vent allows for adjustment between brick courses. 9 x 3 inches airbrick attached to vent equates ventilation space of approx 6,000mm<sup>2</sup>.

DMS 432



## RECTANGULAR VENT UNIT

The Rectangular Vent unit is a strong, robust vent suitable for use with gas ventilation systems. This multipurpose vent allows gas and unwanted odours to be released into the external atmosphere.

DMS 421



## VENT MAT TEE CONNECTOR

Vent Mat Tee Connector, also known as a T Fitting, enables connection of Pro Void Vent 25 mat to ventilation ducting. This Mat Tee Connector has a characteristic 'T' shape with outputs at 90 degree angles.

DMS 430



## VENT MAT CONNECTOR

The Vent Mat Connector is specifically designed to be used to connect the Pro Void Vent mat with the Adjustable Periscope Vent.

DMS 428

## ANCILLARIES



## GAS VENT MAT CONNECTOR

The Gas Vent Mat Connector is specifically designed to be used to connect the Pro Void Vent mat with the 100mm circular outlet enabling connection via 100mm solid pipe to vent box, vent bollard and/or vent gully.

DMS 431



## SOLID CONNECTOR PIPE

Solid Connector Pipe is a strong, robust pipe, with a ribbed outer layer. The ribbed outer layer highly increases the solid pipes strength, enabling the pipe to withstand larger forces.

DMS 436



## SLOTTED CARRIER PIPE

The 100mm Slotted Carrier Pipe has a 25mm slot cut along its length to accommodate the Void Vent Mat. The Void Vent Mat can easily be fitted into the slot which allows the Void Vent Mat to cover the entire footprint of the structure.

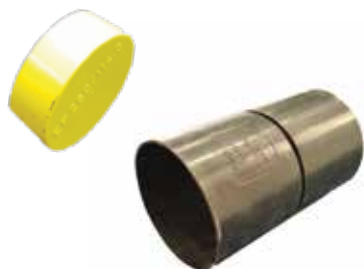
DMS 427



## 90° DEGREE BEND

The 90-degree bend enables two sections of 100mm solid pipe where changes of direction are required. This 90-degree bend is suitable to fit on both internal and external corner sections.

DMS 424



## END CAP / PIPE COUPLING

The End Cap can be fitted to the end of a Solid 100mm Pipe, the 100mm Slotted Pipe and also the 100mm Vent Mat Tee Connector. The End Cap creates a dead end for the flow of ground gas.

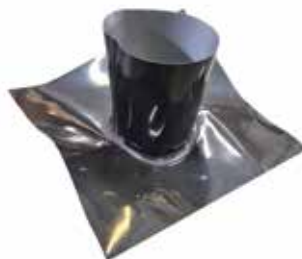
The Pipe Coupling enables simple connection of varying lengths of 100mm pipe.

DMS 426

End Cap

DMS 425

Pipe Coupling



## 110MM PIPE SLEEVE

The pre-formed Pipe Sleeve 110mm is commonly known as a 'top hat' and are designed to offer a professional gas resistant solution for sealing ground gas membranes around service penetrations. Images show M1 membrane (1) and Tital VOC (2) which are suitable to varying ground gas requirements. [Available in any size as we make these to order with a 3-5 day turnaround].

DMS 444



## CIRCULAR VENT ALLOY GRILL

The Circular Vent - Alloy Grill is an alternative to the Rectangular Vent. A strong, robust vent suitable for use with gas ventilation systems. This multi-purpose vent allows gas and unwanted odours to be released into the external atmosphere.

DMS 422



## VENT BOLLARD

Vent Bollard offers an alternative method of ground gas venting to the Vent Box/Circular Vent Gully. The Vent Bollard provides an efficient and economical method for venting ground gases from Vent Mat Systems. For projects where alternative venting methods are required or if there is a higher level of free air flow required.

DMS 435

## ANCILLARIES



## AIR BRICK

Air brick for venting harmful ground gases from a property. The air brick replaces an external masonry brick. It incorporates a front mounted louvered grill to permit airflow while blocking out wind driven rain and prohibiting large insects from gaining access.

DMS 457



## PRO INLET PIPE SECTION T-PIECE

Pro Inlet pipe section T-Piece is a robust pipe connector. Compatible with all Pro Void Vent 25 pipes. This T-Piece is useful if you wish to funnel two points of collection to one point.

DMS 458

## VOID FORM CONNECTORS

Void Form Outlet Connectors are a strong, secure connectors for the Pro Void Vent 25 system. Void Form Connectors are designed to connect the Pro Void Vent 25 membrane to outlets such as bollards or vents. The function of a venting system is to carry harmful ground gases efficiently, safely and quickly from beneath a structure and dispersal of these gases into the atmosphere. Void Vent outlet connectors are an integral part of any ventilation system. The type of venting outlet and fittings to disperse gases is dependent on the structure type and the level of gas flow found at the site. Pro Void Vent 25 is engineered for the geotextile filter side to connect with the ground. Pro Void Vent 25 is laid on a sand or concrete blinding layer under the ground floor slab below the gas barrier membrane to provide passive ventilation in accordance with BS8485:2015+A1:2019. Pro Void Vent 25 can be laid in strips at 6m centres or across the entire footprint of the building depending on CS classification and dimensions of the building to provide the appropriate level of ventilation in accordance with BS 8485:2015+A1:2019.



DETAILING



PRO TITAN INSTALLATION



RESIDENTIAL PROPERTY



HYDROCARBON LAYER FOUND AT RESIDENTIAL PROPERTY



PRO M1 INSTALLATION



PENETRATION DETAILING



GROUND GAS PROTECTION AT COMMERCIAL STRUCTURE

## GROUND GAS PROTECTION

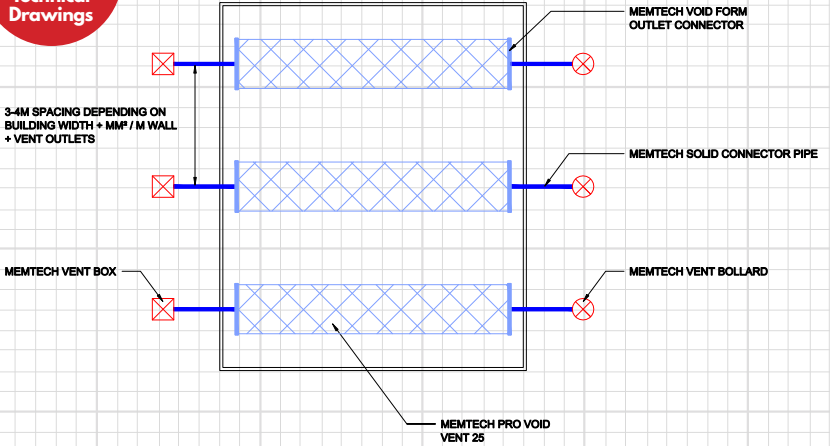


PRO VOID VENT 25

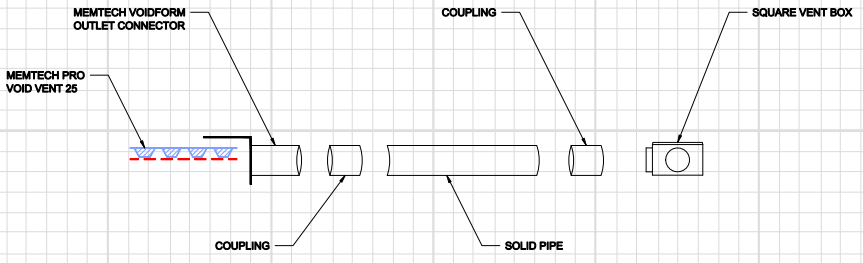


PRO LIQUID GAS BARRIER

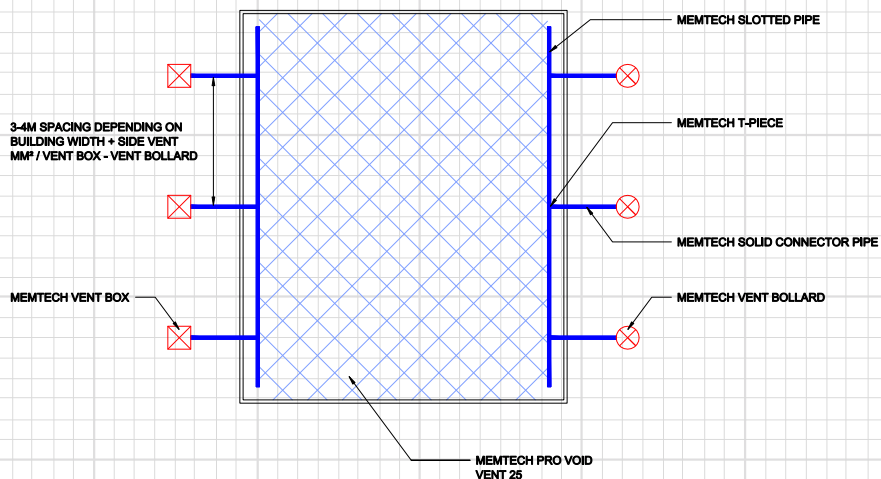
TYPICAL PRO VOID VENT 25 LAYOUT



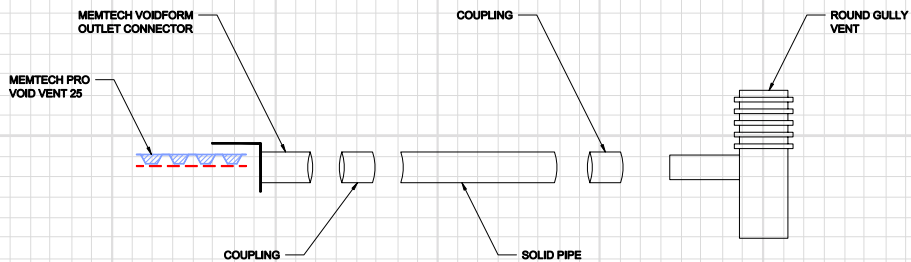
PRO VOID VENT 25 - WITH SQUARE VENT BOX



TYPICAL PRO VOID VENT 25 MATT LAYOUT



PRO VOID VENT 25 - WITH GULLY VENT





# 4



**ROOF(t4)**

## **COLD LIQUID APPLIED WATERPROOFING**

Delta Roof Guard Cold Applied Liquid Waterproofing Systems are engineered to provide a fast curing, flexible, elastomeric solution.

This cost-effective cold liquid water proofer is suitable for new or existing projects without the requirement for mechanical restraint, welding, or torching, negating any fire risk during application.



## DELTA ROOF GUARD QC

A rapid curing one-component, liquid waterproofing membrane which is laid in a 2-layer system, enabling Delta Roof Guard Glass Fibre Reinforcement to be embedded in the base layer. Offering a faster curing time, as the 2-layer system will allow for inspection of the base layer prior to application of the top coat.

- Broof(t4)
- Exceptionally fast curing
- Compatible with a wide range of substrates
- Green Roof Approved

DMS 800

25kg



## DELTA ROOF GUARD CP

Delta Roof Guard CP is a two-part cold applied liquid polyurea waterproof membrane. The membrane cures in a continuous and elastic form, as a totally adhered layer. This waterproofing layer guarantees total water tightness and withstands building movements.

- Broof(t4)
- BBA Approved
- Supplied with 15kg Delta Super-Accelerant
- Seamless applications - no joints or fixings

DMS 801

26.5kg



## DELTA ROOF GUARD SUPER-ACCELERANT

A high performance, single component, moisture instigated polyurethane when added to Delta Roof Guard CP dramatically reduces cure time.

- Broof(t4)
- Dramatically reduces cure time of Delta Roof Guard CP
- Moisture instigated chemical reaction
- Minimises application failure

DMS 808

1.5kg

ROOF GUARD <sup>B</sup>ROOF(t4)



## DELTA ROOF GUARD GENERAL PRIMER

A single component polyurethane resin primer for improving the adhesion of Delta Roof Guard CP and QC systems to various substrates such as dry old: concrete, masonry, bitumen roofing and asphalt.

- Polyurethane primer for re-coating old bituminous layers
- Minimises adhesion failure
- Strengthens & seals ready for application of Delta Roof Guard CP or QC
- Compatible with a wide range of substrates

DMS 803

4kg



## DELTA ROOF GUARD CONCRETE PRIMER

A two-part water based epoxy primer (humidity primer) is a highly effective penetrative resin, which provides a sound, solid base prior to the application of Delta Roof Guard QC or Roof Guard CP. Delta Roof Guard Concrete Primer will improve adhesion to damp: wood and concrete substrates.

- Broof(t4)
- Improve adhesions to damp: wood and concrete substrates
- Effectively blocks residual moisture flow and prevent blistering of the polyurethane coating applied on top
- 2-component, water-based epoxy resin

DMS 802

5kg



## DELTA ROOF GUARD METAL PRIMER / ACTIVATOR

A single component polyurethane resin primer for improving the adhesion of Delta Roof Guard Primers, CP and QC systems to various substrates such as metal, single ply PVC, EDPM and GRP surfaces.

- Broof(t4)
- Flexible coating
- Excellent adhesion for difficult substrates
- Strengthens and seals ready for application of Delta Roof Guard CP or QC

DMS 804

4kg



## DELTA ROOF GUARD COLODUR

A high performance one-component aliphatic isocyanate-based polyurethane resin, that cures upon reaction with atmospheric moisture, giving a hard and flexible coatings with good abrasion, scratch and weather resistance. Colodur is an excellent surface protection for use over Delta Roof Guard membranes.

- Broof(t4)
- Gives protective UV topcoat to Delta Roof Guard CP & QC
- Pigmented colodur does not yellow on exposure to sunlight
- Scratch and weather resistance

**DMS 813**

**4kg**



## DELTA ROOF GUARD FIBRE REINFORCEMENT

Delta Roof Guard Glass Fibre Reinforcement is used to reinforce the Base Coat of the Delta Roof Guard Systems. Delta Roof Guard Glass Fibre Reinforcement improves the mechanical properties of the cured waterproofing membrane. The Glass has a weight of 150gms per sqm with a roll size of 1 x 150m (150sqm per roll) and 0.3m x 100m (30sqm per roll).

- Broof (t4)
- Green Roof Approved
- Compatible with a wide range of substrates
- Suitable for new construction & repair on existing structures

**DMS 810**

**1m x 100m**

**DMS 809**

**0.3m x 100m**



## DELTA ROOF GUARD SOLVENT PU

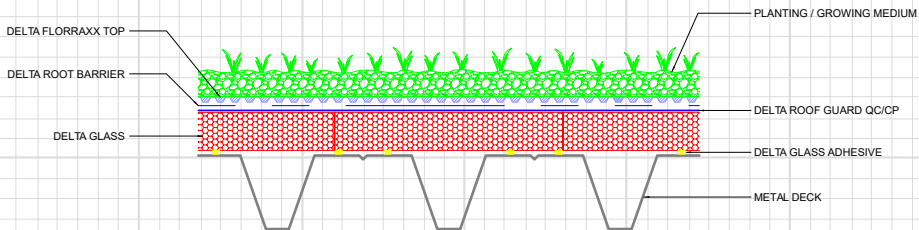
Can require under certain conditions, a faster curing process because of job constraints or low temperature or air humidity.

- Broof(t4)
- Viscosity adjustment
- Tool cleaning solvent
- Compatible with Roof Guard Range

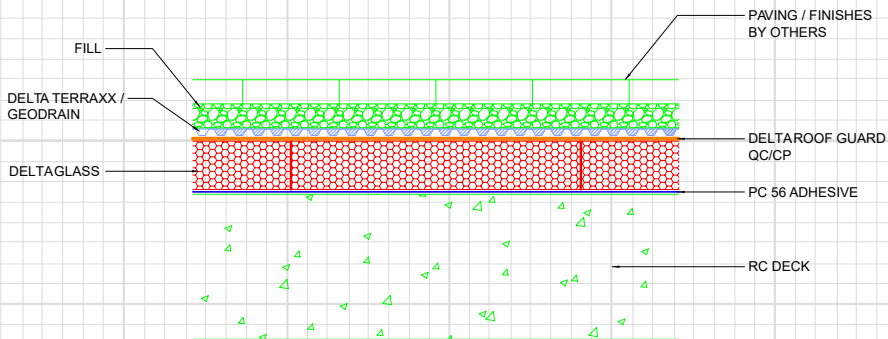
**DMS 807**

**1.5kg**

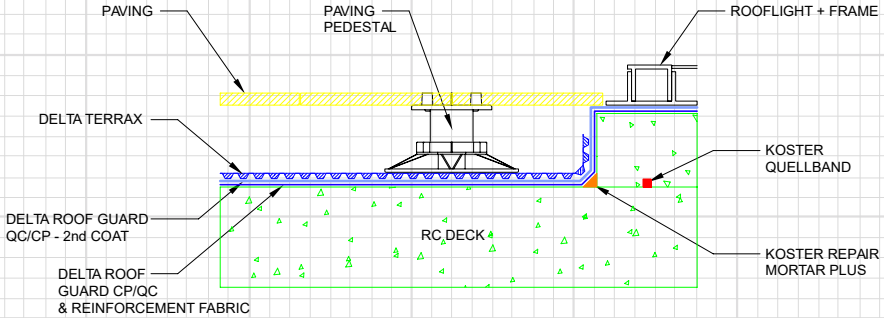
GREEN ROOF: STEEL RIBBED DECK & DELTA GLASS



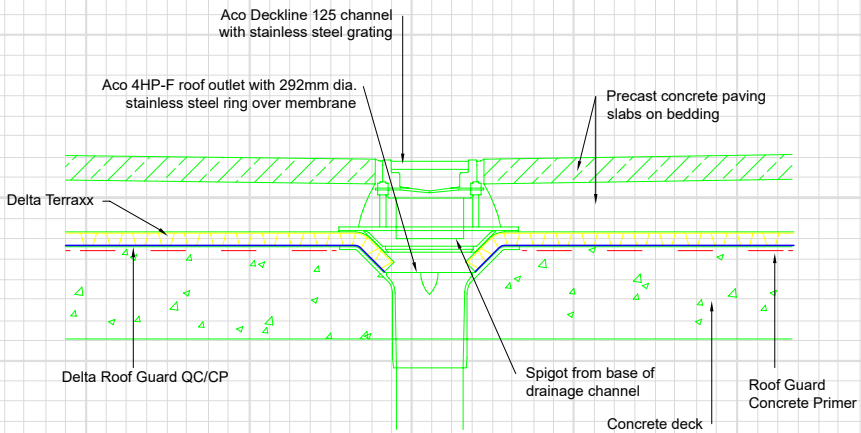
PAVED DECK - RC DECK & DELTA GLASS



ROOFLIGHT / PEDESTAL DECK



ROOF OUTLET DETAIL



# 5



## PRE & POST APPLIED MEMBRANES

Type A Waterproofing Systems are barrier membranes which are applied directly to the building/structure.

Type A membranes can be applied to both the positive (outside) and negative (inside) side(s) of a structure to prevent water ingress.



## PRE APPLIED MEMBRANE PRODUCTS

Pre-Applied waterproofing membranes are a unique system which can easily be applied on blinding concrete for the base slab and to prepared vertical excavation walls (e.g. piled walls, diaphragm walls or similar). Pre-Applied membranes can also be applied directly onto outer interior sides of double-faced formwork in open-cut excavation. Pre-Applied membranes bond to concrete to prevent the ingress or migration of water around a structure. Pre-Applied membranes can be used to waterproof all types of reinforced concrete basements and other below ground structures.



### DUALPROOF

DualProof is a fully and permanently bonded, Pre-Applied membrane. It is applied before the steel reinforcement is fixed and the concrete poured. It consists of a sealed two layer highly flexible PVC membrane laminated with a non-woven PP-fleece. DualProof can be installed without heat or open-flame, overlapped and sealed with butyl tape and special adhesive for detailing. The new PP FiberTex Technology gives the DualProof its unique bond and connection to the concrete. The PP-Fleece integrates into the concrete when poured giving a strong mechanical bond once cured.

DMS 480

1.08m x 20m



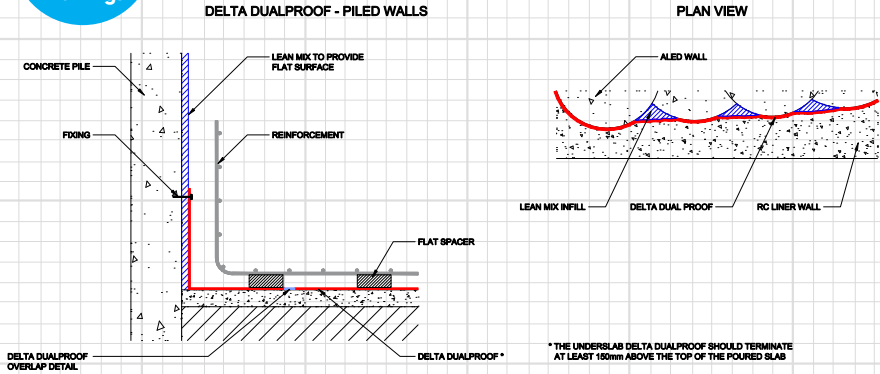
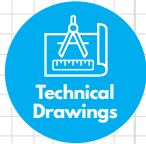
### CEM 805 ADHESIVE

CEM 805 Adhesive is used to permanently seal joints between DualProof membranes. CEM 805 Adhesive can also be used to effectively seal the inside of service penetrations in basements against water ingress and is hydrophilic. Resistant to weathering and reacts with atmospheric moisture to form an elastic seal. Compatible with paints. Excellent chemical resistance for green roof application.

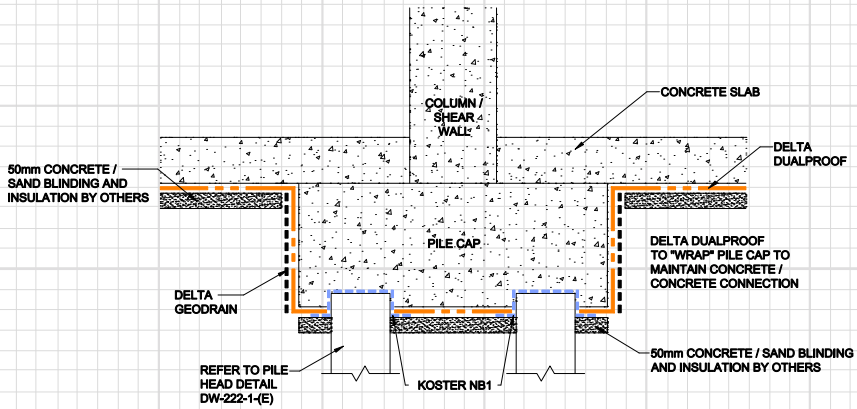
DMS 286

290ml

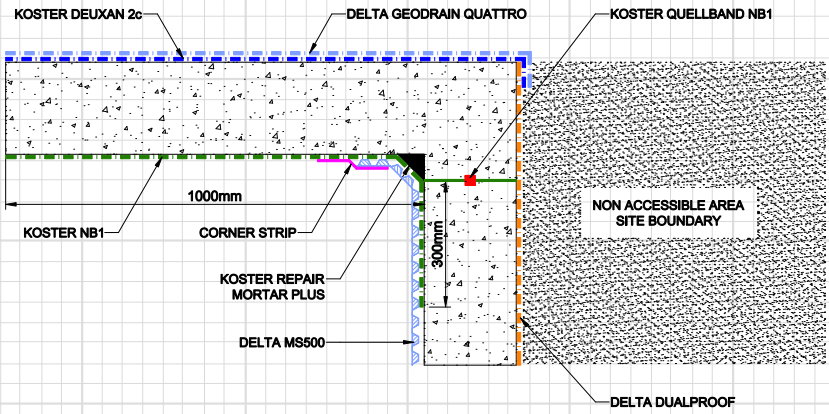
# DUALPROOF PILED WALLS



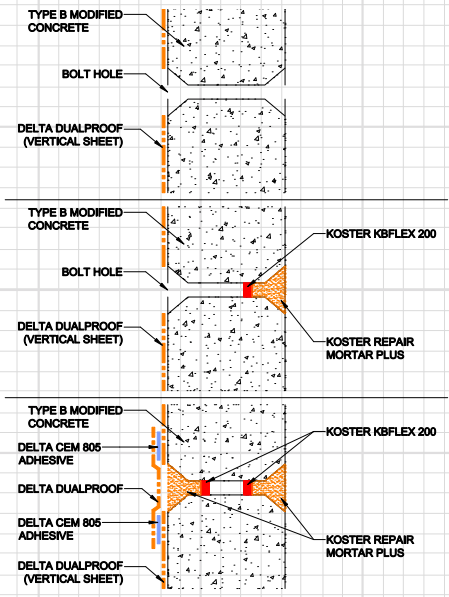
# DUALPROOF - TYPICAL PILE CAP/COLUMN DETAIL



BURIED ROOF / EXTERNAL WALL DUALPROOF



DUALPROOF TIE BOLT DETAILING



## PRE APPLIED MEMBRANE PRODUCTS



### DELTA AMPHIBIA 1.3MM

Delta Amphibia 1.3mm Pre-Applied membrane is a co-extruded multilayer waterproofing membrane. This robust, tough but flexible waterproofing membrane is ideal for all construction applications. Delta Amphibia is an EPDM waterproof membrane that is: reactive when in contact with water, self-repairing self-sealing and self-fastening to concrete.

Delta Amphibia offers differentiated function for total water tightness of underground structures against water seepage. Moreover, it is provided with a calibrated non-woven fabric on the inner face/side in contact with fresh concrete which allows the mechanical adhesion of the membrane to the structure.

**DMS 1035**

**0.9m x 10m**

**DMS 1036**

**1.8m x 20m**



### DELTA AMPHIBIA 1.6MM

Delta Amphibia is a Type A, external Pre-Applied waterproofing membrane system that provides a complete and continuous waterproof barrier to the external surface of any below ground structure. The Flexible nature of Delta Amphibia means that it can easily be formed on site to suit the exact design requirements.

Delta Amphibia 1.6mm Pre-Applied membrane is a co-extruded multilayer waterproofing membrane. This robust, tough but flexible waterproofing membrane is ideal for all construction applications. Delta Amphibia is an EPDM waterproof membrane available in two widths, reactive when in contact with water, self-repairing, self-sealing and self-fastening to concrete.

**DMS 1000**

**0.9m x 10m**

**DMS 1001**

**1.8m x 20m**

## DELTA AMPHIBIA ANCILLARIES



**DELTA AMPHIBIA  
PRESSURE LINE**

Steel straight profile coated on one side with Delta Amphibia membrane.

Length = 1.5m  
Height = 5cm

**DMS 1037**    10 Pcs



**DELTA AMPHIBIA  
PRESSURE CORNER 90°**

Steel corner profile coated on one side with Delta Amphibia membrane.

Length = 1.5m  
Height = 5cm X 10cm

**DMS 1038**    10 Pcs



**DELTA AMPHIBIA  
PRESSURE CORNER 270°**

Steel corner profile coated on one side with Delta Amphibia membrane.

Length = 1.5m  
Height = 5cm X 10cm

**DMS1039**    10 Pcs



**DELTA AMPHIBIA  
SAFETY TAPE**

One-sided sealing tape typically used for connecting and sealing Delta Amphibia membranes together where they join or overlap.

**DMS 1002**    60mm x 25m



**DELTA AMPHIBIA  
LAP SEAL**

Butyl adhesive tape for overlapping joints.

Roll Size = 60mm x 25m

**DMS 1041**    10m roll



**DELTA AMPHIBIA  
STOPPER**

Protective stopper to close formwork holes.

**DMS 1042**    Bag 50 Pcs



**DELTA AMPHIBIA BI  
MASTIC**

High performance deformable adhesive mastic.

600 cc/ml unipack and nozzle (per unit).

**DMS 1028**    10 unipack box



**AMPHIBIA AKTI-VO 201**

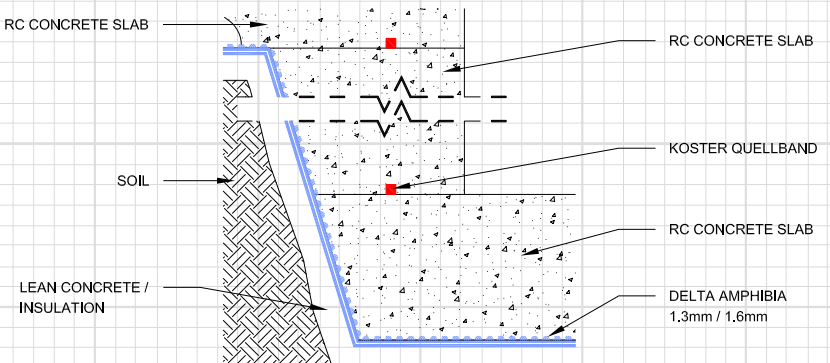
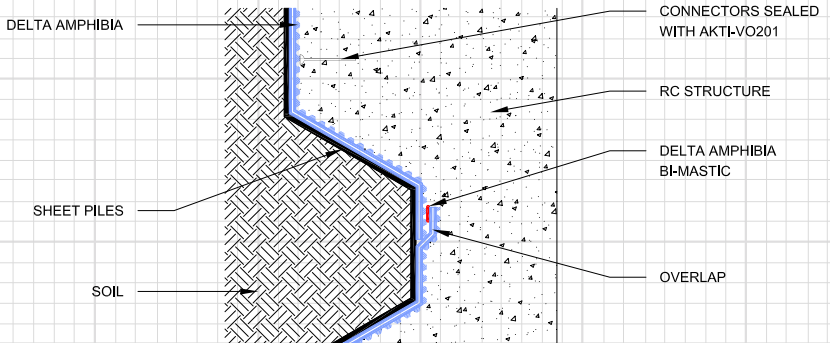
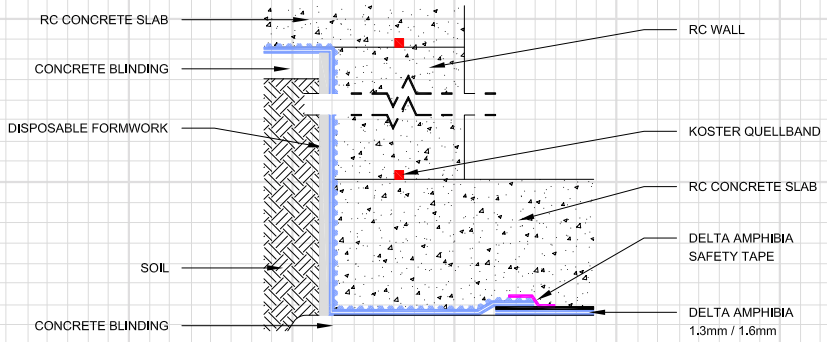
High performing hydro-expansive mastic for sealing through-elements of Delta Amphibia membranes and sealing and waterproofing passing bodies and general cracks in concrete.

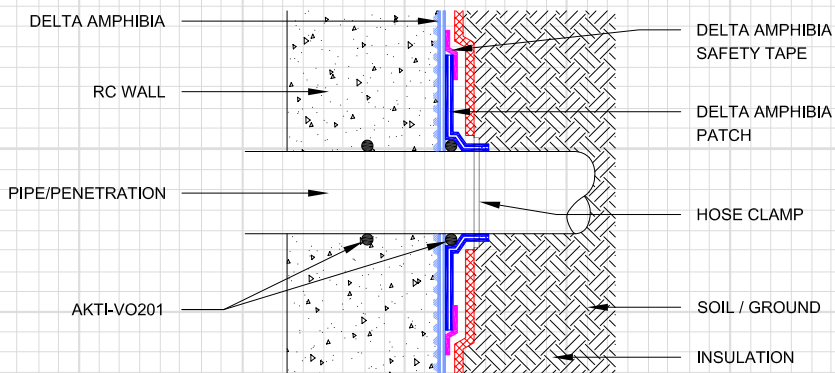
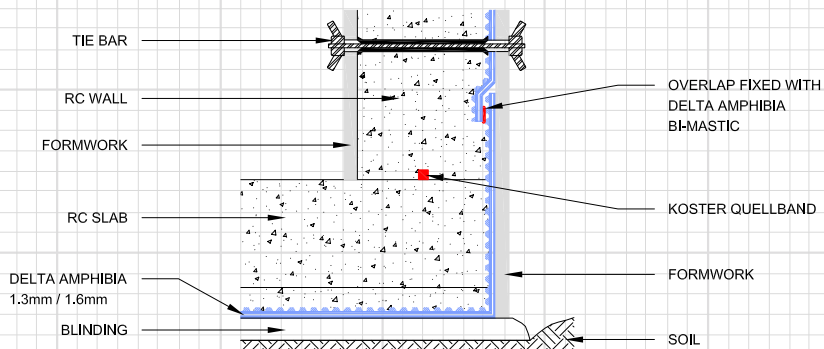
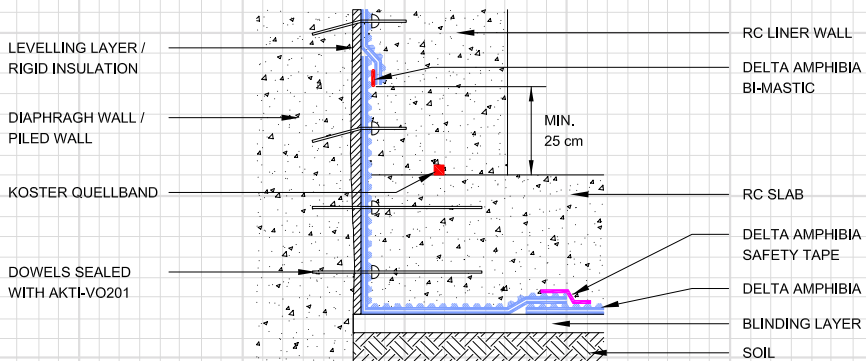
320cc/ml (per unit).

**DMS 1004**    6 unipack box



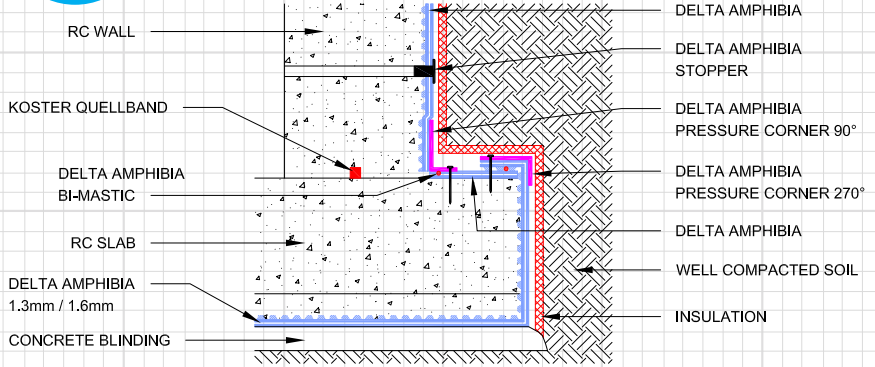
Technical  
Drawings



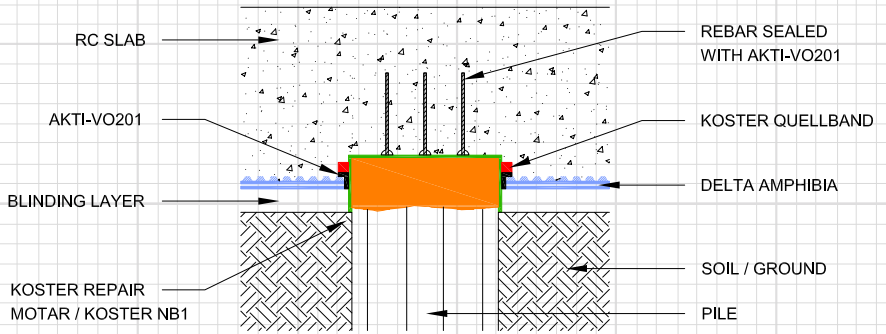




## DELTA AMPHIBIA WALL/SLAB DETAIL



## DELTA AMPHIBIA PILEHEAD DETAILING





DELTA AMPHIBIA INSTALLATION



DELTA DUALPROOF INSTALLATION



DELTA DUALPROOF POST CONCRETE POUR



DELTA DUALPROOF PRE CONCRETE POUR



RESIDENTIAL STRUCTURE



COMMERCIAL STRUCTURE

PRE-POST  
APPLIED



SITE PREPARATION



DELTA AMPHIBIA INSTALLATION

# 6



## KOSTER

Koster Bauchemie AG specialises in high quality structural waterproofing products and systems. Their extensive experience around the world has enabled them to constantly develop new ideas in order to provide the most innovative solutions to the construction industry.

Koster systems and products stand out due to their exceptionally easy and user-friendly application.

# WATERPROOFING



## KÖSTER MS FLEX FOIL

Koster MS Flex Foil is an eco-friendly, premium single component, liquid applied, elastic, crack bridging waterproofing material, based on MS Polymer technology. It is characterized by excellent adhesion to a wide variety of building materials and can be applied on dry or slightly moist substrates.

**DMS 228**      **8kg**

**DMS 294**      **25kg**



## KÖSTER 21

Koster 21 is a 2 component, solvent free, liquid applied, elastic and crack bridging, multi-purpose waterproofing product with excellent adhesion to dry and moist substrates. Liquid applied and seamless. UV stable, suitable for indoor and outdoor use.

**DMS 244**      **20kg**



## KÖSTER KD 1 BASE

Fast setting, mineral sealing slurry with high resistance against aggressive ground moisture and pressurized water. Can be used in combination with KD 2 Blitz Powder and KD 3 Sealer.

**DMS 199**      **15kg**



## KÖSTER KD 2 BLITZ POWDER

Highly reactive powder with an extremely short setting time. Active leakages can be stopped within a few seconds simply by using the dry powder. Can be used in combination with KD 1 Base and KD 3 Sealer.

**DMS 185**      **15kg**

WATERPROOFING



KOSTER KD 3 SEALER

A low viscosity silicifying liquid. The active ingredients penetrate deeply into the substrate and form water insoluble compounds. The pores are plugged and permanently waterproofed through continuing crystallization. Used in combination with KD 1 Base and KD 2 Blitz Powder.

DMS 200

6kg



KOSTER KD SYSTEM PACK

System package for the negative side waterproofing of mineral surfaces against pressurized water such as in internal basement waterproofing. The KD System stops flowing water and forms a permanent waterproofing layer on masonry and concrete.

DMS 293

4m<sup>2</sup> coverage



KOSTER NB 1 GREY

NB 1 is a crystallizing mineral waterproofing slurry system for sealing against pressurized water (>13 bar). Suitable for positive side and negative side waterproofing.

DMS 178

25kg



KOSTER NB ELASTIC GREY

Koster NB Elastic Grey is a 2-component system, bridges cracks up to 2 mm and is resistant to pressurized water. It is suitable for the waterproofing of balconies, terraces, and crack bridging waterproofing of concrete elements.

DMS 372

33kg



## KÖSTER NB 4000

NB 4000 is elastic and crack bridging and suitable for waterproofing external basements, masonry, and the repair of defective waterproofing layers. Cures reliable and quickly in difficult ambient conditions (applied from +2°C upwards).

**DMS 167**

**25kg**



## KÖSTER KBE LIQUID FILM

Solvent-free, highly elastic bitumen/rubber-based sealing compound. For high quality external waterproofing of construction members in ground contact. Also suitable for waterproofing under protective screed, crack bridging waterproofing of concrete floors, flat roofs and much more.

**DMS 251**

**6kg**

**DMS 203**

**24kg**



## KÖSTER DEUXAN 2C

Robust, two-component, elastic, polymer modified, fibrated bitumen thick film sealant (PMBC) for the secure waterproofing of buildings in accordance with DIN 18533. Suited for the intermediate waterproofing/external coating.

**DMS 169**

**32kg**



## KÖSTER REPAIR MORTAR PLUS

Koster Repair Mortar Plus is a watertight, fast setting, slightly expanding repair mortar with excellent adhesion even to old building material substrates. With the addition of Koster SB Bonding Emulsion, it can be used as a PCC (polymer modified cement concrete) mortar.

**DMS 171**

**25kg**

## WATERPROOFING



### KOSTER REPAIR MORTAR PLUS NC

Koster Repair Mortar NC is a repair mortar and plaster with excellent workability. It has a high adhesion to old and new mineral building material substrates. Repair Mortar NC is characterised by high chemical and mechanical resistance and Compressive Strength. It is fiber reinforced, ideally suited as substrate preparation for corrosion protection.

DMS 284

25kg



### KOSTER WATERSTOP

A fast curing, expanding plug and repair mortar. Can be used to seal water leakages in concrete, masonry and natural stone structures quickly. Can be used to form fillets which are subject to pressurised water to seal slotted walls, manholes, cable and pipe penetrations and to seal damaged pipe joints.

DMS 172

15kg



### KOSTER SB BONDING EMULSION

Multi-purpose liquid plasticizing dispersion for use with all cement based mortars, plasters and sealing slurries. Solvent free, plasticizer and filler free. Provides a plastifying effect, increases the elasticity and reduces the water absorption of mineral systems.

DMS 173

5 ltrs



### KOSTER KSK SY 15

Cold applied self-adhesive rubber/bitumen waterproofing membrane. Suitable for application from + 5 °C. KSK SY 15 is highly flexible, immediately waterproof, crack bridging and resistant to driving rain. Radonproof. KSK SY 15 is highly ductile and can be applied to difficult structures with ease.

DMS 245

1.05m x 20m





## KÖSTER BITUMEN PRIMER

Koster Bitumen Primer is a cold applied, low odor, solvent containing bitumen primer. Displaying excellent penetration properties. It acts as a dust-binder and as a bonding agent for subsequent hot or cold applied liquid bitumen coatings and self-adhesive membranes.

DMS 037

10 ltrs



## KÖSTER GLASS FIBRE MESH

Koster Glass Fiber Mesh is a reinforcing fabric for reinforcing coatings e.g., made of Koster KBE Liquid Film, Koster NB 4000, Koster 21 and Koster Deuxan 2C. The application of Koster Glass Fiber Mesh is predominantly necessary on areas which are exposed to pressurized water, and which are in danger of cracking as well as on connections, transitions and fillets.

DMS 174

33cm x 100m

DMS 188

1m x 100m



## KÖSTER BE RAINPROOF

Koster BE Rainproof protects fresh bitumen coatings against rain. BE Rainproof is a liquid accelerator which forms a water-resistant film on all fresh bitumen emulsions. Koster BE Rainproof must only be applied to the finished waterproofing – it may not be applied to intermediate layers.

DMS 223

5kg



## KÖSTER FLEX FABRIC

Koster Flex Fabric is a highly flexible, finely woven plastic fabric reinforcing mesh with very high tear resistance. Koster Flex Fabric is mainly applied in areas which are in danger of cracking as well as on feed throughs, connections, and transitions.

DMS 347

1m x 50m



NB1 SPRAY APPLICATION



DEUXAN 2C



NB4000 - COLD APPLICATION



DEUXAN 2C



SPRAY APPLICATION OF NB1



RESIN INJECTION - LONDON UNDERGROUND



KOSTER



KD WATERSTOP



POLYSIL TG 500 - ANTI LIME INHIBITOR



DEUXAN 2C - TWIN WATERPROOFING



COMMERCIAL STRUCTURE



REMEDIAL WATERPROOFING



RESIDENTIAL STRUCTURE



PODIUM DECK



HYBRID BLUE ROOF

## RESIN INJECTION



1C  
INJECTION  
PUMP

### KOSTER 2 IN 1

Koster 2 IN 1 is a water reactive elastic PU-injection resin for single and two stage injection of dry and water bearing cracks and joints. Koster 2 IN 1 stops active leaks and seals cracks and construction joints permanently and elastically.

DMS 346	20kg
DMS 382	5kg



1C  
INJECTION  
PUMP

### KOSTER KB-POX IN

Solvent free, 2 component low viscous epoxy injection resin for crack injection. Koster KB-Pox IN permanently seals and bridges cracks, as well as joints and restores structural integrity. Without pre-injection Koster KB-Pox IN can be used for filling and closing dry, damp and wet cracks, joints and voids.

DMS 383	1kg
DMS 252	6kg



1C  
INJECTION  
PUMP

### KOSTER IN 5

Koster IN 5 is a two-component elastic PU injection resin, specially suitable for hose injection. For permanently and elastically sealing dry, moist and water bearing cracks and joints in concrete. Solvent free, low viscosity for permanently and elastically injecting, filling and sealing cracks, construction joints and corrosion protection.

DMS 264	10kg
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1C  
INJECTION  
PUMP

### KOSTER IN 7

Koster IN 7 is a viscoplastic, water activated PU injection foam. Reacts only when in contact with water and spontaneously forms a compact, viscoplastic, waterproof polyurethane foam which is able to follow crack movements. Volume expansion up to 30 times. Free of solvents and fillers, resistant to hydrolysis. Single step waterproofing of water bearing cracks without the subsequent injection of a solid body resin.

DMS 375	27.5kg Combi Packaging
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**2C GEL  
PUMP**

## KOSTER PUR GEL

Water activated polyurethane gel for area injections as well as for waterproofing expansion and dilation joints. Koster PUR Gel reacts with water and can bind up to ten times its own weight in water. Oakum soaked in Koster PUR Gel can be an elegant method for solving difficult active water ingress problems in pipes, joints, and cavities.

**DMS 323**

**2.5kg**

**DMS 384**

**25kg**



**ACRYLIC  
PUMP**

## KOSTER INJECTION GEL G4

Low viscosity acrylic gel for curtain injection and area injection of masonry. Water based, elastic gel with a very low starting viscosity after initial mixing. It is capable of binding water during gelation. The swelling ability after full curing allows a 40% uptake of additional water into the gel structure. Due to the low starting viscosity it can be injected into fine substrate pores. Drinking water certification.

**DMS 385**

**21.4kg**



**GROUT  
PUMP**

## KOSTER MICRO GROUT 1C

Injection grout for the restoration of structural strength in cracks or voids in masonry and concrete. Koster Micro Grout 1C possesses a high Compressive Strength, is shrink free, and does not show sedimentation during its pot life. Fields of application include crack injection also in overhead areas, filling of voids, as well as the grouting of masonry anchors.

**DMS 569**

**26kg**



## KOSTER PUR CLEANER

A reliable, high quality cleaning agent for unreacted polyurethane resins. Koster PUR Cleaner facilitates the cleaning of unreacted polyurethane. Fully cured polyurethane residues require mechanical removal.

**DMS 241**

**10 litres**



## JOINT SEALING



### KOSTER KB-POX ADHESIVE

Koster KB-Pox Adhesive is a high performance, 2 component, epoxy based, adhesive specially designed for fastening Koster Joint Tapes to mineral, wooden and metal substrates. Koster KB-Pox Adhesive develops a high adhesive early strength to concrete, mortar, metal, wood and many other building materials. Vertical and overhead application is possible.

DMS 267

5kg



### KOSTER FS PRIMER 2C

Koster FS Primer 2C is a fast curing, transparent, solvent free two component bonding agent. It is used as a primer for the subsequent application of Koster Joint Sealant FS-H and FS-V.

DMS 361

200g Combi Package



### KOSTER JOINT SEALANT FS-V

Koster Joint Sealant FS-V is a flexible stiff/creamy polysulphide joint sealant. When fully cured, it is a rubbery elastic sealant with a high mechanical load capacity, good resistance to water, sea water, salt solutions, benzenes, and mineral oils; it is root resistant, does not rot and it has very good retraction capabilities.

DMS 362

Black

4kg Combi Package

DMS 577

Grey

4kg Combi Package



### KOSTER JOINT SEALANT FS-H

Self leveling joint sealant with excellent resistance against mechanical stresses and a high resistance against water, sea water, salt solutions, petroleum and mineral oils. It is rot and root resistant. Fields of application include permanently elastic waterproofing of horizontal joints in below grade construction.

DMS 363

Black

4kg Combi Package

DMS 578

Grey

4kg Combi Package



### KOSTER PU FLEX 25

PU FLEX 25 is one component and cures with moisture to form a flexible sealant which can be overpainted after curing is finished. Highly elastic, low modulus polyurethane sealant, with good UV resistance and excellent adhesion to typical construction materials. The sealant is non sagging, highly thixotropic, easy smoothing and has good workability.

**DMS 370**

**600ml**



### KOSTER QUELLBAND

5m Sodium-bentonite based swellable waterstop. With an alkalinity activated surface coating which stops premature swelling of the waterstop during the construction process.

**DMS 296**

**Box of 6**



### KOSTER JOINT TAPE 20

Thermoplastic tape for sealing expansion and dilatation joints (up to 12cm) and broad, irregular cracks. Koster Joint Tape 20 is UV resistant, highly elastic and can withstand extreme movements in the joint. Suitable for use with Koster KB-Pox Adhesive, for fastening the joint tape to mineral substrates.

**DMS 367**

**20cm x 20m**



### KOSTER JOINT TAPE 30

Koster Joint Tape 30 is UV resistant, highly elastic, thermoplastic tape for sealing expansion and dilatation joints (up to 20cm) and broad, irregular cracks. Suitable for use with KB-Pox Adhesive, for fastening the joint tape to mineral substrates.

**SPECIAL ORDER**

**30cm x 20m**



JOINT SEALING



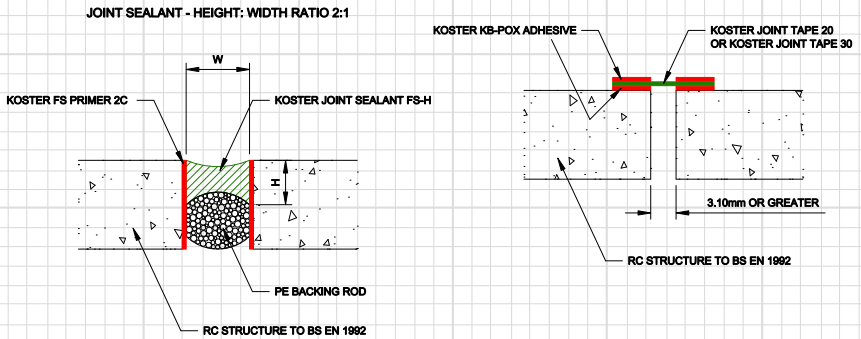
KOSTER KB-FLEX 200

Koster KB-Flex 200 is a 1-component, permanently plastic material that can be directly applied from the cartridge – even in the case of flowing water. Koster KB-Flex 200 is a permanent plastic sealing compound ideal for sealing pipe and cable penetrations, cavities and for custom detail waterproofing solutions against moisture and pressurized water.

DMS 237

310ml

EXPANSION / MOVEMENT JOINT DETAILING



## SELF LEVELLING



## KOSTER VAP | 06

Koster VAP | 06 Primer is a unique, water based, single component material for priming absorbent and non-absorbent substrates. For use as a primer for Koster VAP 2000 prior to installation of floor screeds and underlayments such as Koster SL Premium and SL Protect.

**SPECIAL ORDER** 1.2 lb Bottle



## KOSTER VAP | 2000

The Koster VAP | 2000 is a one-coat moisture vapour reduction system consisting of a unique combination of epoxy resins and other chemical compounds. Koster VAP | 2000 is formulated to prevent floor failures on concrete slabs containing elevated levels of moisture vapour emission.

**SPECIAL ORDER** 25kg



## KOSTER SL PROTECT

Koster SL Protect is a mineral based self-levelling underlayment with high resistance to chemical and mechanical stresses. It is an early loadable, directly useable levelling layer over uneven or coarse concrete and cementitious screeds. Due to its high chemical resistance, it is used to protect against light and medium corrosion and serves as a slowly reacting sacrificial layer in areas of high chemical stress.

**DMS 571** 25kg



## KOSTER SL PREMIUM

Koster SL Premium is a high quality, fast setting underlayment that hardens tension free and provides a smooth, level surface ready to receive subsequent flooring systems. It hardens within hours to a smooth, strong, and multifunctional levelling layer. It may be applied onto a variety of substrates.

**DMS 187** 25kg

## KOSTER FAÇADE



## KOSTER FAÇADE CREAM

Koster Façade Cream is a high-grade façade impregnation for brick, natural stone and mineral renders. Due to its high resistance against alkalinity it is also suited for application to fresh mineral substrates. The creamy, stable consistency and the resulting application with brush or roller reduces the drip or spraying losses to a minimum. Koster Façade Cream protects buildings from driving and normal rain water; it is water vapour permeable, resistant to frost and de-icing salts.

DMS 180

5 ltrs

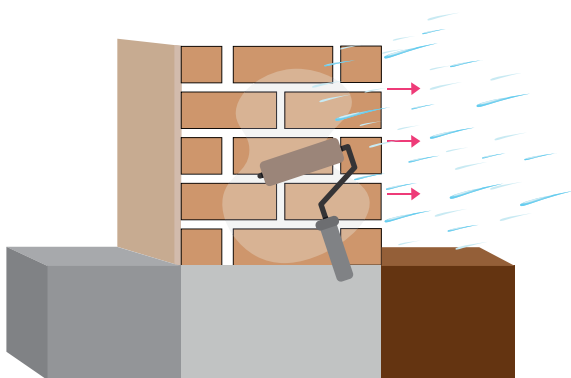


## KOSTER SILICONE WHITE PAINT

Koster Silicone Paint White is a matt, water-soluble, capillary-hydrophobic façade paint based on silicon resins with special bonding enhancers and special non-wetting-surface effect. It dries to a smooth finish and has a highly vapour-permeable surface. It has a high water-repellent effect, high CO<sub>2</sub> and water vapor permeability, very good weather resistance and is resistant to driving rain.

DMS 579

10kg



KOSTER FAÇADE

**CONCRETE REPAIR & PROTECTION**



**KÖSTER Z1**

Koster Z1 is a polymer modified special slurry for the mineral corrosion protection of steel reinforcement.

**DMS 378**

**1kg**



**KÖSTER Z2**

Koster Z2 is a polymer modified special slurry for the mineral corrosion protection of steel reinforcement. Koster Z2 is pigmented red to allow for visual control during application.

**DMS 379**

**1kg**



**KÖSTER BETOMOR MULTI A**

Koster Betomor Multi A is a shrink free, waterproof, fast curing multi-purpose mortar for concrete restoration. Exceptionally low density for repairing and reprofiling concrete, screed surfaces and corrosion protection.

**DMS 380**

**15kg**



**KÖSTER KB-FIX 5**

Waterproof, weatherproof, fast curing mortar with high Compressive Strength (sets after approx. 5 minutes) for fast installations as well as for small repairs of masonry and concrete. Free of soda and chlorides.

**DMS 283**

**15kg**

CONCRETE REPAIR & PROTECTION



**KOSTER TURBO MORTAR M**

Koster Turbo Mortar M is a fiber reinforced repair, concrete replacement, and re-profiling mortar with high chemical and mechanical resistance. Koster Turbo Mortar M can be mechanically stressed after 60 minutes. The consistency can be regulated for vertical or horizontal application.

**DMS 221**

**25kg**



**KOSTER REPAIR MORTAR NC**

Repair Mortar NC is characterized by its high chemical and mechanical resistance and Compressive Strength. Fiber reinforced. Suitable for large reprofiling and repair works, has excellent workability characteristics and adhesion to old and new mineral building substrates.

**DMS 284**

**25kg**



**KOSTER SEWER & SHAFT**

Water tight, fast curing and fast setting restoration mortar specially designed for sewers and shafts. Koster Sewer and Shaft Mortar develops a high Compressive Strength, is fiber reinforced, easy to apply and workable even under flowing water. Approved for drinking water applications.

**DMS 381**

**25kg**



**KOSTER TURBO SUPER PLASTICIZER**

Koster Turbo Super Plasticizer is an additive for the adjustment of the mortar consistency of the Koster Turbo System (M and NC) to suit individual requirements on construction sites.

**DMS 224**

**65g**



## KOSTER BDM

Koster BDM combines three important characteristics – it crystallizes, blocks capillaries and makes the concrete water repellent. This reduces the water absorbency of the concrete, increases its Compressive Strength and resistance against chemical attack. It is free of corrosive ingredients and is non sensitive to mechanical damage to the surface.

<b>DMS 576</b>	<b>30kg</b>
<b>DMS 568</b>	<b>1000kg</b>

## TECHNICAL DATA

Appearance	Milky
Density (20°C)	Approx 1.1g/cm <sup>3</sup>
Viscosity	Approx. 100 – 200 mPa s
Minimum Working Temperature	+ 5°C
Consumption	2% (mass) of cement content

MASONRY



AIRLESS  
SPRAYER

KOSTER POLYSIL TG 500

Koster Polysil TG 500 anti-lime is a low viscous, substrate solidifying, hydrophobizing combination product on a polymer/silicate basis for the protection of mineral substrates. This deeply penetrating primer for damp, salt-containing substrates and an anti-lime treatment for new concrete acting as a liquid hardener for sealing slurries.

DMS 170

10kg



KOSTER RESTORATION  
PLASTER KEY

Fast, coarse plaster key with polymer additives for the substrate preparation of Koster Restoration Plasters. Very good bonding on very moist and highly salt burdened substrates.

DMS 399

25kg



KOSTER CRISIN CREAM

Koster Crisin Cream is a retroactive DPC (Damp Proof Course) resistant to moisture and salt content. Applied from inside and/or from the outside of a structure. It can be applied in cases of high degrees of moisture penetration (95% +/- 5% saturation) and with all degrees of salt contamination.

DMS 570

600ml



KOSTER CRISIN 76 CONCENTRATE

Very low viscosity synthetic resin for waterproofing against rising damp (wicking moisture) even in case of high moisture and salt contents in the masonry. Koster Crisin 76 Concentrate displaces water from the capillaries. After full cure, Crisin 76 Concentrate remains elastic and does not rot. Resistant to all aggressive media (acids, alkalis and salts), during application as well as after full cure.

DMS 289

Concentrate 10 ltrs

DMS 290

Cartridge 200ml





## KOSTER FINE PLASTER

Koster Fine Plaster is hydrophobic, water, weather, and frost resistant. A finely textured thin layer plaster for smooth decorative surfaces on Restoration Plasters and mineral based substrates. It can be applied in layer thicknesses from 2 - 5 mm and is felt-floatable.

DMS 195

25kg



## KOSTER RESTORATION PLASTER WHITE

Koster Restoration Plaster White is a salt and pressure resistant restoration plaster for the restoration of heavily moisture and salt burdened substrates. Due to its high porosity and hydrophobicity, Koster Restoration Plaster White allows for the damage free drying and de-salting of masonry even in the case of high salt contents.

DMS 197

25kg



## KOSTER RESTORATION PLASTER GREY

Diffusion-open, salt-resistant restoration plaster. It can be applied manually or by machine. Very high porosity and hydrophobic properties. Prevents or reduces the formation of condensate. Free of light fillers. CE Certification according to DIN EN 998-1.

DMS 196

25kg



## KOSTER UNIVERSAL CLEANER

Koster Universal Cleaner dissolves and removes soft and partially cured bituminous materials and epoxy resins. Not suitable for cleaning polyurethane based materials.

DMS 198

10 ltrs



### KOSTER BD 50 PRIMER

Penetrates deeply into the substrate creating an excellent bonding bridge for the subsequent waterproofing.

DMS 902

2kg



### KOSTER BD 50 COMPOUND

A solvent free, silicone compatible, sealing membrane and adhesive supplied as a thick paste.

DMS 903

10kg



### KOSTER SUPERFLEECE

A distinctive non-woven, high strength polyester, reinforcing fabric for liquid waterproofing products.

DMS 360

0.1 x 50m

DMS 354

1.05 x 50m



### KOSTER BD FLEXIBLE TILE ADHESIVE

A universally applicable single component mineral flexible adhesive with very good adhesion to all mineral materials.

DMS 901

25kg

Koster BD Wet Room System can be purchased as a kit, with the above products - DMS 900



## KOSTER COVER PLATES (FOR VINYL FINISHES)

We offer a choice of stainless steel or white plastic cover plates.

<b>DMS 922</b>	<b>Polished Steel Cover Plate</b>
<b>DMS 921</b>	<b>White Powder Coated Dust Cap</b>



## KOSTER TILE SETS

Act as floorboard replacements with a pre-formed gradient to a square or linear drainage point which allows for the creation of a level access showering space creation of a level access showering space.

<b>DMS 911</b>	<b>Brushed Stainless Steel Tile Set (95mm deep)</b>
<b>DMS 912</b>	<b>Polished Stainless Steel Tile Set (95mm deep)</b>

Tiled Floor Shower Tray Former	0.8m x 0.8m	Waste 300mm x 400mm	DMS 913
Tiled Floor Shower Tray Former	0.9m x 0.9m	Waste 300mm x 450mm	DMS 914
Tiled Floor Shower Tray Former	1.05m x 1.05m	Waste 300mm x 525mm	DMS 915
Tiled Floor Shower Tray Former	1.2m x 0.9m	Waste 300mm x 600mm	DMS 916
Tiled Floor Shower Tray Former	1.2m x 1.2m	Waste 300mm x 650mm	DMS 917
Tiled Floor Shower Tray Former	1.3m x 0.9m	Waste 300mm x 750mm	DMS 918
Tiled Floor Shower Tray Former	1.5m x 0.9m	Waste 300mm x 850mm	DMS 919
Tiled Floor Shower Tray Former	1.7m x 0.8m	Waste 300mm x 400mm	DMS 920
Vinyl Floor Shower Tray Former	0.8m x 0.8m	Waste 300mm x 400mm	DMS 923
Vinyl Floor Shower Tray Former	0.9m x 0.9m	Waste 300mm x 450mm	DMS 924
Vinyl Floor Shower Tray Former	1.05m x 1.05m	Waste 300mm x 525mm	DMS 925
Vinyl Floor Shower Tray Former	1.2m x 0.9m	Waste 300mm x 600mm	DMS 926
Vinyl Floor Shower Tray Former	1.2m x 1.2m	Waste 300mm x 600mm	DMS 927
Vinyl Floor Shower Tray Former	1.3m x 0.9m	Waste 300mm x 650mm	DMS 928
Vinyl Floor Shower Tray Former	1.5m x 0.9m	Waste 300mm x 750mm	DMS 929
Vinyl Floor Shower Tray Former	1.7m x 0.8m	Waste 300mm x 850mm	DMS 930

## ANCILLARIES



## KOSTER 1C INJECTION PUMP

Electrical 1C injection pump for injecting of cracks and voids. It is suitable for the injection of all Koster PU injection materials (foams and resins). Operating pressure can be adjusted from 0 - 200 bar. The maximum delivery rate is approx. 2.2 l / min.

DMS 278



## KOSTER BALL GUN

One-handed adjustable high-pressure injection gun for Koster Acrylic Gel Pump and Koster 1C Injection Pump. An alternative method to a classic ball valve application. Easy to use and is designed for a pressure of up to 250 bar.

DMS 249



## KOSTER HAND PUMP WITHOUT MANOMETER

For small injection projects or areas which are difficult to access. Operating pressure 10 bar max., output approx. 2 m<sup>3</sup> per pass.

DMS 394



## KOSTER SUPERPACKER

The Koster Superpacker is suitable for pressure injections. The Koster Superpacker provides a very high contact pressure to the borehole due to the cone-shaped center of the tightening mechanism. Four fins and two ridges on the rubber gasket prevent rotation. It has a firmly mounted cone-head fitting for pressure injection.

DMS 376 13mm x 85mm (Conehead)

DMS 388 13mm x 85mm (Pan head)

DMS 389 13mm x 115mm (Conehead)



## KOSTER BALL VALVE

Part with grip head for 1C Injection Pump.

DMS 248



**KOSTER SLIDE COU-**

Slide Coupling

**DMS 392**



**KOSTER GRIP HEAD**

With 4 jaws for cone head fittings.

**DMS 395**



**KOSTER SWIVEL JOINT**

Swivel Joint for panhead fitting on Koster 1C Injection Pump.

**DMS 393**



**KOSTER DEUXAN STIRRER/ANCHOR**

Special stirrer for mixing 2-component polymer modified bitumen thick film sealants, e.g. Koster NB 4000 and Koster Deuxan 2C. Round connector Ø 12 mm for chuck.

**DMS 175**



**KOSTER DISC STIRRER (FOR NB1 GREY)**

Single paddle mixer with ring suitable for the mixing of NB1 and sealing slurries.

**DMS 176**



**KOSTER NB1 BRUSH**

Special brush with waved bristles for the application of materials with a paste-like consistency, e.g. Koster NB Sealing Slurries, Koster KD 1, etc.

**DMS 177**    **400ml**



**KOSTER CAPILLARY RODS**

Koster Capillary Rods are made of a special expanding cellulose, allowing uniform and accurate liquid injection. When using Koster Capillary Rods, bore holes do not have to be filled with Koster Borehole Suspension prior to injection. This saves the applicator the work of re-drilling boreholes.

**DMS 230**    **45cm**



**KOSTER INJECTION LANCE**

Injection lance with pan head fitting for gel injections.

**DMS 390**    **18 x 300mm**

**DMS 391**    **18 x 550mm**

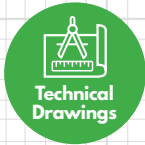


**KOSTER SUCTION ANGLE**

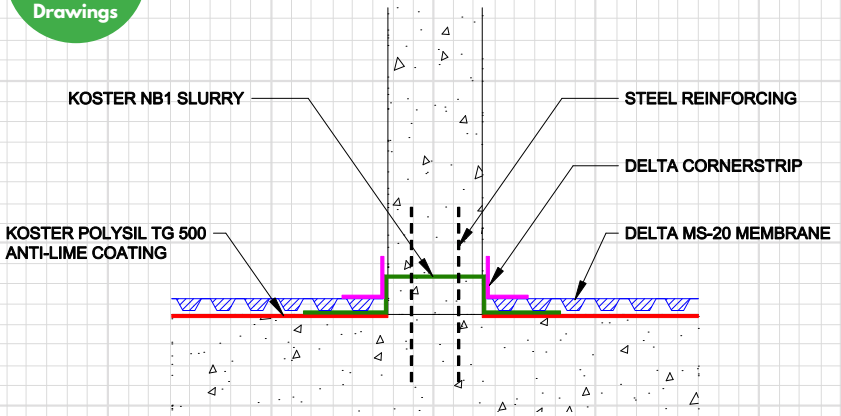
Plastic angle for the pressureless and material saving installation of horizontal barriers against rising damp (wicking moisture) with the Koster Suction Angle System. Re-usable.

**DMS 232**

STRUCTURAL INTERNAL WALL CAPILLARY BREAK

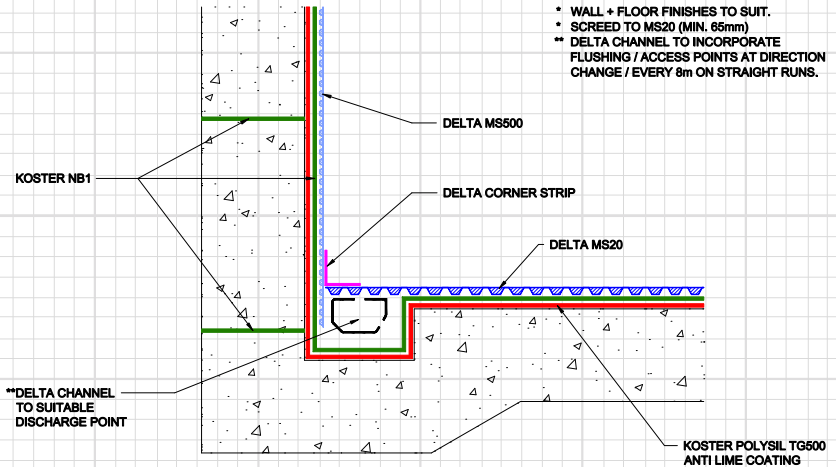


STRUCTURAL INTERNAL WALL CAPILLARY BREAK



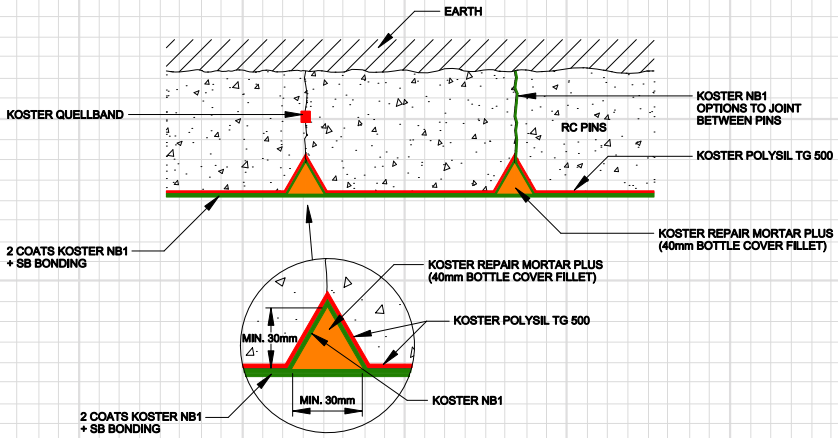
INTERNAL COMBINED SYSTEM - NB1/DELTA MS

COMBINED WATERPROOFING - INTERNAL  
KOSTER NB1 / DELTA CAVITY DRAINAGE

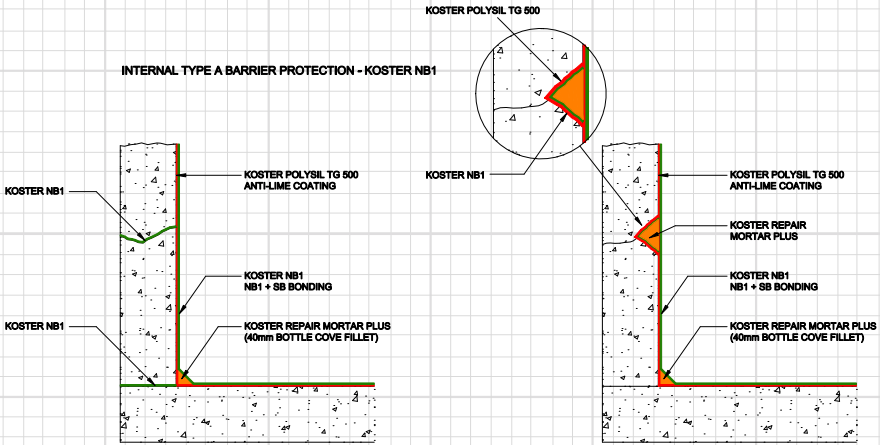


- WALL + FLOOR FINISHES TO SUIT.
- SCREED TO MS20 (MIN. 65mm)
- DELTA CHANNEL TO INCORPORATE FLUSHING / ACCESS POINTS AT DIRECTION CHANGE / EVERY 8m ON STRAIGHT RUNS.

**KOSTER NB1 PRIMARY WATERPROOFING (UNDERPINS)**



**INTERNAL TYPE A BARRIER PROTECTION**





## COVERAGE RATES AND MEASUREMENTS

PRODUCT	SIZE	COVERAGE	APPLICATION
NB 1 Grey	25kg	8m <sup>2</sup>	2 coat application.
Deuxan 2C	32kg	5.1m <sup>2</sup>	2 coat application.
NB 4000	25kg	6m <sup>2</sup>	2 coat application using 6mm notched trowel.
SB Bonding Emulsion	5 litres	1 tub to 2 1/2 bags of NB1 Grey Slurry, 800ml SB to 25kg of Repair Mortar Plus.	x
Bitumen Primer	10 litres	50-60m <sup>2</sup>	1 coat application
Polysil TG 500	10kg	66m <sup>2</sup>	1 coat application. (Use standard sprayer)
21	20kg	7m <sup>2</sup>	2 coat application Tools for application – Block brush, roller or trowel. (Glass fibre mesh embedded in first wet coat)
Repair Mortar Plus	25kg	10 linear meters	40mm curved fillet for 25kg bag
KBE Liquid Film	24kg	Water proofer - 12m <sup>2</sup> (neat) - 24m <sup>2</sup>  Primer (diluted) – 48m <sup>2</sup>	2 coats to be applied if used as a water proofer.
KBE Liquid Film	6kg	If used as a primer (diluted) – 12m <sup>2</sup>	2 coats to be applied if used as a water proofer.
NB Elastic Grey	33kg	6m <sup>2</sup>	2 coat application
SL Premium	25kg	1.5kg/m <sup>2</sup> ; Per mm layer thickness	x
Restoration Plaster Grey & White	25kg	Approx. 12kg/m <sup>2</sup> per cm layer thickness	Each 25kg bag is mixed with 5.0 ltrs to 6.0 ltrs of clean potable water. Put 5 ltrs of water in a clean mixing vessel and add the powder in portions while continually mixing using a slow speed mechanical compulsory mixer (under 400 rpm).

APPLICATION THICKNESS	CONSUMPTION	MIXING
Using a block brush around 0.75mm per coat, total thickness 1.5mm.	6 part water, 1 to 2 Koster SB Bonding Emulsion.	Use a disc stirrer for mixing
3mm per coat (final thickness once cured 4mm.)	Add powder to the liquid and mix for 3 minutes.	Use anchor paddle for mixing
3mm per coat (final thickness once cure 4mm)	Add powder to liquid and mix for 3 minutes.	Use anchor paddle for mixing
x	x	x
x	Approx. 150 - 200ml/m <sup>2</sup>	x
x	Approx. 0.1 - 0.25kg/m <sup>2</sup> depending on substrate, strongly absorbent substrates may require more.	x
2mm per coat	Add powder to liquid can add up to 1.6 litres of water to every 20kg tub. Mix for 3 minutes.	Use anchor paddle for mixing
x	x	2.5 – 3 litres of water and 1 – 2 SB Bonding. Mix for 3 minutes.
x	1 - 2.5kg / m <sup>2</sup> As primer: approx. 250g / m <sup>2</sup> . Consumption varies depending on absorbency of the substrate. For waterproofing approx. 0.5kg - 1kg per coat. For seam sealing: approx. 1.0kg / (m <sup>2</sup> * mm layer thickness).	Stir well before application
x	1 - 2.5kg / m <sup>2</sup> As primer: approx. 250g / m <sup>2</sup> . Consumption varies depending on absorbency of the substrate. For waterproofing approx. 0.5kg - 1kg per coat. For seam sealing: approx. 1.0kg / (m <sup>2</sup> * mm layer thickness).	Stir well before application
x	Approx. 3.6 - 4.5kg/m	Mix part A with Part B
x	Approx. 1.5kg / m <sup>2</sup> / mm layer thickness	x
x	x	x

## COVERAGE RATES AND MEASUREMENTS CONTINUED

PRODUCT	SIZE	COVERAGE	APPLICATION
KB Pox Adhesive	5kg	Used with Joint Tape 20 – 5meters (x4 tins per roll) Used with Joint Tape 30 – 3,3 meters (x6 tins per roll)	Koster KB-Pox Adhesive should be mixed at a minimum temperature of + 10 °C. Pre-mix each component separately. Add the B to the A component and mix until the material has a uniform, streak free appearance.
Repair Mortar NC	25kg	1,3 m <sup>2</sup> per cm layer thickness	If applying the maximum layer thickness of 5 cm the surface should also receive a scratch coat made from Koster Repair Mortar NC with 5% Koster SB Bonding Emulsion added to the mixing water.
Façade Cream	5 litres	20 – 25m <sup>2</sup>	Applied in one work-step by brushing, rolling or spraying (with an airless spraying device) the material onto the prepared substrate.
Fine Plaster	25kg	1,4kg / m <sup>2</sup> per mm layer thickness	Koster Fine Plaster is applied with a 6 or 8 mm toothed trowel, and is trued using a feather edge, a straight edge, or a long float trowel.
Sewer & Shaft Mortar	25kg	1,5m <sup>2</sup> per cm layer of thickness	Mix 25kg of Koster Sewer and Shaft Mortar with 5,0 – 5,5 l water.
BE Rainproof	5kg	15m <sup>2</sup>	1 coat application
KD System Pack	18kg	4-5m <sup>2</sup>	The three components of the Koster KD System are to be applied according to the data sheets.
Z1 & Z2	1kg	x	Brush applied
MS Flex Foil	8kg 25kg	8kg - 4m <sup>2</sup> 25kg - 12,5m <sup>2</sup>	2 coat application brush, roller, trowel, or other customary mason's tools.
Quellband	6 x 5m lengths	30 liner meters	Koster Quellband can be used in horizontal and vertical joints. Koster Quellband needs to be covered with at least 8 cm of concrete on all sides to reach the necessary expansion pressure.
Delta Water Based Epoxy	2,5 litres 5 litres	8,75m <sup>2</sup> 17,5m <sup>2</sup>	2 coat application brush, roller or airless sprayer
Pro Liquid Gas Barrier	15kg	7,5m <sup>2</sup>	2 coat application brush, roller or airless sprayer

APPLICATION THICKNESS	CONSUMPTION	MIXING
Koster Joint Tape 20 is embedded on each side at least 40mm. Koster Joint Tape 30 is embedded on each side at least 50 mm. The layer thickness of the Koster KB-Pox Adhesive should be approx. 2 mm.	Koster Joint Tape 20: 1kg / m, Koster Joint Tape 30: 1.5kg / m	For mixing use a slow rotating drill with the proper mixer, for example a BEBA type mixer or a box mixer.
x	Approx. 19kg/L void as repair mortar; approx. 19kg/m <sup>2</sup> ; per cm of layer thickness of the plaster	4.2 ltrs water. Place ¾ of the liquid into a mixing vessel of sufficient size and add the powder in portions while continually mixing with a slow rotating double paddle electrical mixer. Add the remaining liquid as needed during mixing to adjust the mortar to the desired consistency. Mix until a homogeneous, lump-free consistency is reached
x	Approx. 0.1 - 0.25 l / m <sup>2</sup> depends on absorbency of the surface.	x
x	x	Each 25kg bag is mixed with 6.0 ltrs to 7.0 ltrs of clean potable water.
The minimum thickness for a water tight coat is 4 mm, maximum thickness is 3 cm per layer	Approx. 1.8kg/L void as repair mortar; Approx. 18kg/m <sup>2</sup> ; per cm layer thickness	Mix until a homogeneous, lump-free consistency is reached. Minimum mixing time is 3 minutes.
x	Approx. 0.2kg/m	x
x	x	x
x	Approx. 800g / m <sup>2</sup> (per coat)	Mix with clean potable water (in a mixing ratio by weight of 2 parts of Koster Z1/Z2 to 1 part of water) to a creamy consistency.
x	Approx. 1.5 - 2.5kg / m <sup>2</sup>	x
x	1 m / m	x
x	Add pack B to pack A and add water to fill line	x
A minimum dry coated thickness of 1.0mm is needed to provide a Gas Barrier.	x	x

## RESIN USAGE CHART

MATERIAL	PACKAGING SIZE	VISCOSITY (MIXED)	REACTION START AND END TIME	POT LIFE	FULL CIRCLE
POLYURETHANE					
KB Pur 2 IN 1	25kg combi unit	250mPa	45 secs - 3 mins	45 mins	24 hrs
KB Pur IN 7	27.5kg combi unit	300mPa	20 secs - 15mins	6 hours (without water contact)	
KB Pur IN 5	10kg combi unit	155mPa	n/a - non foaming	4 hours	
KB Geo Foam	46kg combi unit	500mPa	3 mins - 35 mins	3 mins	35 mins
EPOXY					
KB Pox IN	1kg or 6kg combi unit	170mPa	n/a	80 mins	2 hours
CEMENTITIOUS					
Micro Grout 1C	24kg bag	Mortar based	n/a	100 mins	min 24 hours
ACRYLIC					
Injection Gel G4	21.4kg combi unit	4mPa	4 mins - 15 mins	24 hours	15 mins
Injection Gel S4	21.1kg combi unit	30mPa	from 17 seconds up to 3 mins	12 hours	15 mins
Injection Gel J4	21.4kg combi unit	35mPa	5 mins - 20 mins	12 hours	12 hours

## KOSTER KB PUR 2 IN 1

Single Component Polyurethane that requires a two stage injection. Packers must be re-injected maximum 15 minutes after first injection. When injected into water bearing cracks, the material foams and uses up the water. Upon re-injection the material displaces the foam and leaves a solid body and elastic-permanent seal. Packers are to be spaced between 100-150mm either side of the crack and drilled at an angle to intersect the centre of the crack. Installation advice in the 'Crack Injection Brochure'. If a fast installation is required, use Koster One Day Site Packers for injection purposes as the packer ends can be removed immediately after injection. Mix the two material components together prior to pouring into material hopper. Minimum mixing time - 1 minute.

## KOSTER KB PUR IN 7

Single Component Polyurethane that activates very quickly upon with water. It expands between 20 and 30 times to use up the water within a crack/void and sets to form an elastic foam. Ideal for use where there are voids anticipated within or behind the concrete/pile, etc. also if there is a heavy or fast flow of water observed. Mix the two material components together prior to pouring into material hopper. Minimum mixing time - 1 minute.

## KOSTER KB PUR IN 5

Single Component Polyurethane for sealing dry/moist voids. Ideal for injection hoses or where slight movement is anticipated. A very long curing time coupled with a low viscosity, the material can travel a long distance before cure. Mix the two material components together prior to pouring into material hopper. Minimum mixing time - 1 minute.

## KOSTER GEO FOAM

Twin Component Polyurethane with large expansion rate. Injected through a twin component pump - do not mix the material parts prior to injection! With a twin component pump the material components are processed separately and do not combine until the mixing head. You can also mix the two components together and pour the material into a void. Actual packer placement, blowhole allowance, etc to be determined job per job. You must allow for blowholes in your design when injecting into voids, due to the expansion rate of the material there is a high exotherm which must be exhausted. Ideal for void filling and ground stabilisation.

CONSUMPTION	SUITABLE PUMP	SUITABLE PACKERS	COMMON USES	CLEANER
1.1kg/L void	Koster 1C Injection Pump	Koster Superpackers or One Day Site Packers	Actively weeping cracks and construction joints - wet or/and dry cracks - wall to floor joints	Koster KB Pur cleaner
0.1kg/L void	Koster 1C Injection Pump	Koster Superpackers	Heavily leaking cracks - leaking piles - anticipated waterfilled voids - fast flows	Koster KB Pur cleaner
1.1kg/L void	Koster 1C Injection Pump	Koster Superpackers or One Day Site Packers	Actively weeping cracks and construction joints - wet or/and dry cracks - wall to floor joints	Koster KB Pur cleaner
0.1kg confined/0.1kg unrefined	Twin Component Pump or Mixed & Poured	Koster Lamella Packers	Ground stabilisation - void filling	Koster KB Pur cleaner
1kg/L void	Koster 1C Pump or Vacuum Pump or Mixed & Poured	Koster Superpackers	Structural stabilisation in concrete - structural crack filling - stabilisation	Koster Universal cleaner
1.6kg/L void	Mortar Pump	Koster Lamella Packer	Structural repairs - void filling - ground stabilisation	Water
40kg/m2 - curtain Injection	Koster Acrylic Pump	Koster Injection Gel packer	Curtain/Area Injection ground stabilisation - active leak crack repair	Water
Depends on application	Koster Acrylic Pump	Koster Injection Gel packer	Fast leak sealing - area Injection	Water
Depends on application	Koster Acrylic Pump	Koster Injection Gel packer	Injection into expansion joints	Water

**KOSTER KB POX IN**

Twin Component Epoxy, which can be injected into structural cracks, poured into open cracks (saturation) or drawn into leak concrete using vacuum methods. Very low viscosity and high Compressive Strength and can be used to seal structural cracks down to 7 microns.

**KOSTER MICRO GROUT 1C**

Mortar based injection material. Mix with water and pump using a suitable grout pump. Used for structural cracks and voids - dry or damp areas only. Seal active water leaks first using above polyurathene materials. Good flow rate and strong compression characteristics. Also used for ground stabilisation and anchor grouting.

**KOSTER INJECTION GELS**

These are acrylic based injection resins, contain no VOC's and will not contribute to corrosion of re bar, steels etc. Considered as a 4 component material (Parts - A1, A2, B and the forth being water) the components are mixed to create two parts (A1 + A2, B + water) which are pumped through Koster Acrylic Gel pump. Used for curtain injection, area injection, crack injection and injection into leaking expansion joints (J4). They have a very low viscosity and can be injected at a very low pressure. The material can also be used for consolidating ground - even where flowing is anticipated.

Please read individual and up-to-date material data sheets and/or seek advice prior to specification if unsure. The installation guidance, packer placement material consumption can alter on a job by job basis depending on a wide variety of characteristics including crack width, amount of water, anticipated voidage, material use. The above guidance is not definitive as injection works are never standard, please make contact if you have any questions.

NATIONAL CLASS - COLD LIQUID APPLIED WATERPROOFING

Building Regulations Part B (Fire Safety) part B4 covers the requirement for external walls and roof of a building or structure to adequately resist the spread of fire over the walls and roof of the structure, and between one building to another. Roof coverings can be found within Section 10 which includes layering of material. With reference to flat roofs, expected covering will usually consist of the deck, a vapour control layer, insulation, waterproofing membrane(s), and any other layers and areas.

The principal amendment of the AB D edition is in relation to external fire performance of roofs. This is no longer the national classification system BS 476-3:2004, but the European Classification System BS EN 13501-5. The European Class Ratings comes with five ratings: <sup>B</sup>ROOF(t4), <sup>C</sup>ROOF(t4), <sup>D</sup>ROOF(t4), <sup>E</sup>ROOF(t4) and <sup>F</sup>ROOF(t4).

It should also be noted that classifications are for all types of roof systems.

The classification determines proximity of the roof to boundaries of adjacent buildings. Advantages of the <sup>B</sup>ROOF(t4) classification is using a roofing system which complies to the <sup>B</sup>ROOF(t4) classification no minimum distance is required between structures.

Lower external fire classifications require adjacent buildings and/or structures to be further in proximity. To meet Building Regulations for fire, installers will be required to prove that the system has a valid test certificate. Third party testing facilities such as the BRE have established through extensive fire testing on a worst-case scenario basis (timber decking), resolving the requirement for testing on concrete and steel decks.

National Class	European Class	Minimum distance from any relevant boundary (England)	Minimum distance from any point on relevant boundary (Scotland)
AA, AB, AC	BROOF (t4)	Unrestricted and can be used anywhere on the roof	Low vulnerability (<6m)
BA, BB, BC	CROOF (t4)	At least 6m of the boundary	Medium vulnerability (6-24m)
CA, CB or CC	DROOF (t4)	At least 6, 12 or 20m of the boundary depending on the building type and use	Medium vulnerability (6-24m)
AD, BD or CD	EROOFF (t4)	At least 6, 12 or 20m of the boundary depending on the building type and use	High vulnerability (>24m)
DA, DB, DC or DD	FROOF (t4)	At least 20m of the boundary depending on the building type and use	High vulnerability (>24m)



## FIRE RATINGS TYPE C MEMBRANES

Reaction to fire, often called the Euroclass system gives building products a classification. The 'Reaction to fire' classes test three properties of the building material: spread of fire, smoke intensity and burning droplets. Most building materials sold on the European market must be assigned a file indicating its fire resistance based on a Euroclass rating system. There are 7 Euroclasses of reaction to fire performance for construction products which extend from A1 to F.

Euroclasses and the target safety level	
Euro-class	Target safety level
A1	No contribution to fire even under fully developed fire conditions
A2	Only negligible contribution to fire even under fully developed fire conditions; no spread of fire from the area of the primary fire in the fire development phase
B	In the fire development phase, no spread of fire from the area of the primary and very limited contribution to the fire
C	Under the conditions of a fire in the development phases, very limited spread of fire and limited energy release and ignitability
D	Under the conditions of a fire in the development phases, limited spread of fire and acceptable energy release and ignitability
E	In the case of a very small fire (match flame) acceptable reaction to fire (ignitability, flame spread)
F	No requirements concerning the reaction to fire
Additional assessment classes for smoke development and burning droplets/particles	
Smoke development	s3 (there are no restrictions regarding smoke development) s2 (the fully released amount of smoke, and the rise in smoke development are restricted) s1 (stricter criteria than for s2 must be fulfilled)
Burning droplets/particles	d2 (there are no restrictions) d1 (burning droplets not longer than the defined time) d0 (dripping fire debris is not permitted)

## TRAINING



### We are proud to be able to offer a wide range of Structural Waterproofing Courses

Structural waterproofing is a term used to describe the methods for preventing/and or managing groundwater entering a structure that is below ground. Delta's Structural Waterproofing Training Course(s) are designed specifically for those working in the structural waterproofing, damp proof, flood resilience and ground gas protection sector. We provide specialist training to support your professional development. Courses can be delivered at your own work premises, on-site or at our dedicated training centre in Epping, Essex.

Delta Training Course(s) are suitable for:

- Architects
- Anyone involved in retrofit and new build basements
- Those seeking to refresh product application and knowledge
- New employees (for those already registered as Delta Registered Installers)
- Anyone who works within the environments of design, planning and installation of any structural waterproofing projects below ground
- Anyone wishing to expand their overall knowledge of waterproofing and wish to have a better understanding of BS 8102:2022
- Those wishing to form a better understanding of water management in basements and below ground structures in relation to waterproofing
- Those seeking to begin the path to become a Delta Registered Installer- stage 1, considered high standing in the industry.

### Flexibility with you in mind



1. Book a course delivered by our experts



2. We provide materials and certificates of attendance



3. You develop your skills and knowledge

We work with one aim in mind: to help you understand water ingress, principles of waterproofing design, reducing risk, product specification and correct product installation.

Topics can be run as a short learning lesson (such as a 45-minute CPD) or a more comprehensive full day course. Choose a one-off session to service an immediate need or mix and match subjects to build a long-term training programme to suit your operational needs.

We'll provide all the materials and demonstrations and certificates of attendance.

To enquire about any of our courses simply email [info@deltamembranes.com](mailto:info@deltamembranes.com) or call **01992 523 523**

Course booking forms are available for download on our website

<https://www.deltamembranes.com/training>.

[WWW.DELTAMEMBRANES.COM](http://WWW.DELTAMEMBRANES.COM)

## ON SITE SUPPORT



### Delta's On-Site Assistance/Site Team Services is part of your team!

Delta's On-Site Assistance/Site Team Services (DOSA/DSTA) is a specialist team who provide waterproofing solutions and site support services to you. We add value to our customers through our ability to mobilise experienced and qualified personnel in delivering compliant solutions. Our dedicated team of DOSA/DSTA's compliment Delta's Technical Team in providing you with resources to help you deliver a robust and reliable waterproofing solution throughout the installation process.

Whatever your reason, our knowledgeable and friendly DOSA/DSTA support team are available to help you meet your waterproofing goals. Our experienced support team has a great deal of ability, as well as a multitude of industry accreditations. They are well placed to provide you with the on-site support service that you need to keep your install operational and on track to meet your goals. We know best practice and are in a position to help you implement it.

### How we can help

Our On-Site Assistance/Site Team Service allows your company to get on with the job. We understand what's required in keeping your project running smoothly, efficiently, and productively.

Delta's On-Site Assistance/Site Team Services:

- Correct product mixing
- Correct product application
- Techniques in product application
- Reliable and transparent support
- Quick and effective troubleshooting approaches
- Uncover fresh perspectives
- Ensuring best practice throughout a project.

Sharing skills and experience to make your project a success!

We are dedicated to delivering customer satisfaction and are proud of our reputation for delivering outstanding approaches in the waterproofing industry.



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**DELTA  
PRODUCT  
CATALOGUE**

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