

PROJECT – TECHNICAL SUBMITTAL



Revision date: 23/1/23

COMBI-SEAL

Gas-Resistant Waterproof Membrane

DESCRIPTION

COMBI-SEAL is a cross-laminated, lightweight, pre-applied membrane which will resist ground gases and water. The membrane utilizes PREMCRETE APAN™ technology which comprises a non-woven geotextile, cross laminated, with a HDPE membrane to produce a membrane which will effectively resist water pressure and gases from within the ground. The membrane will restrict gas vapour transmission to less than 40ml/day/m² in accordance with BS 8485:2015 + A1:2019. The active nature of the membrane secures the integrity of the membrane whilst the textured profile of the membrane ensures an integral bond to the structure to which it is applied. COMBI-SEAL fully complies with BS 8485:2015 + A1:2019 for the protection against ground gases including carbon dioxide, radon and methane. It also complies with BS 8102:2022 for the protection of substructures against ground water.

USES

COMBI-SEAL is used as a pre-applied gas-resistant waterproofing membrane for basement construction, lift pits, concrete retaining walls and other structures which extend below ground where resistance to both ground gas and water is required. COMBI-SEAL may also be used to protect ground floor slabs particularly where a good mechanical bond is required to the underside of the concrete slab or where a clay heave-board has been installed. COMBI-SEAL achieves 2 points when correctly installed in accordance with Table 7 of BS 8485:2015 + A1:2019.

COMPLIANCE

COMBI-SEAL is certified BDA

ADVANTAGES

- Lightweight but robust membrane provides an ease of handling
- Unique APAN™ technology forms strong adhesion to concrete

PROCEDURE

Surface Preparation: The substrate should be well compacted hardcore or blinded with lean-mix concrete with surface free from excessive undulation or sharp projections which may puncture the membrane. Irregularities in the surface should be repaired with a suitable PREMCRETE repair mortar. If the membrane is to be installed to concrete foundation piles, then the piles should be prepared removing all loose soil and ensuring that the concrete is relatively flat. The surface should be prepared so that there are no voids which the membrane would have to span as this would render the active element of the membrane ineffective. The membrane must be fully encapsulated against a consistent surface for maximum performance.

Application to vertical surfaces: COMBI-SEAL should be pre-applied to the inside face of the shuttering to be subsequently filled with concrete. The sheets should be installed with the white active fleece in contact with the freshly placed concrete and aligned vertically ensuring that all lap joints face down away from the concrete pour. Lap joints should be sealed using the COMBI-SEAL TAPE or the seldedge strip should be used by folding back the white fleece before removing the release paper from the tape before positioning the adjacent sheet of membrane. The lap joint should be rolled with a seam roller before folding the fleece back into place, this will provide two-fold protection at the lap joint. The membrane should be fixed mechanically through the seldedge or other taped zones using PREMCRETE METAL WASHER FIXINGS at 500mm centres. This will ensure the integrity of the gas barrier remains intact. Once the concrete has been placed the shutter may be removed, and the COMBI-SEAL will remain adhered to the concrete. The membrane should be protected using PREMCRETE PROTECTION BOARD 600 prior to backfill to ensure the membrane remains un-punctured. COMBI-SEAL should not be installed above the final ground level.

Application to Horizontal Surfaces: COMBI-SEAL should be laid with the white fleece facing the installer and in direct contact with the concrete. Adjoining lapse should be a minimum of 150mm and tapped using COMBI-SEAL



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TAPE or by making use of the selvedge (refer to above methodology) it is recommended to stagger the lap joints by 300mm to avoid 4 sheets lapping at one location. The membrane should be fixed mechanically through the selvedge or other taped zones using PREMCRETE METAL WASHER FIXINGS at 500mm centres. Typically, reinforcement spacer blocks should be placed along the length of the lap joint to ensure that the membrane is effectively loaded to prevent concrete displacement. Surface penetrations and pipes should be sealed using HYDROPRUFE TOPHAT which is tapped to the underside of the COMBI-SEAL using HCR BUTYL TAPE, additionally a fillet of TWINSEAL COMPOUND should be applied around the circumference of the penetration to ensure the integrity of the joint. TWINSEAL COMPOUND may also be used to assist with the detailing of difficult junctions.

HEALTH & SAFETY

See separate material safety datasheet.

Property	Test Method	Value
Weight	EN 1849-2	850 g/M2
Thickness (20 kPa)	EN 1849-2	3mm
Maximum Tensile MD	EN ISO 12311-1	805N/5cm
Maximum Tensile CD	EN ISO 12311-1	1308N/5cm
Elongation at break MD	EN ISO 12311-2	88%
Elongation at break CD	EN ISO 12311-2	80%
Tear Resistance MD (nail shank)	EN 12310-1	710N
Tear Resistance CD (nail shank)	EN 12310-1	745N
Water Tightness	EN 1928 B	PASS
Resistance to Impact	EN 12691	>350mm
Moisture/Vapour Transmission Rate	ISO 15106	0.003g/M ₂ /24Hr
Methane Permeability	ISO 15105-1	14ml/M ₂ /24Hr
Carbon Dioxide Permeability	ISO 15105-1	18ml/M ₂ /24Hr
Static Load Resistance	EN 12730 - B	20Kg
Shear Resistance at Joints	EN 12317-2	325N

PACKAGING & COVERAGE

Pack Size: 2 x 25m Roll

Roll Weight: 50kg

Pallet Quantity: 12 Rolls

STORAGE & SHELF LIFE

Store in cool, dry, frost-free conditions. The membrane should be protected against UV.

HYDROPRUFE HCR TAPES

DESCRIPTION

HYDROPRUFE HCR BUTYL TAPE is a double-sided tape which is used for the effective sealing of damp-proof and gas-proof membranes. It is applied as a 30mm wide tape with a release paper on one side.

HYDROPRUFE HCR GIRTH TAPE is a single-sided reinforced tape supplied as 75mm wide roll for the effective sealing of lap joints to prevent displacement during concrete pours.

HYDROPRUFE DETAIL STRIP is a tape which is used to ensure the continuity of gas and damp-proof membranes, particularly at complex junctions and when terminating the membrane.

HYDROPRUFE HCR FOIL GIRTH TAPE is a single-sided, Gas Resistant, reinforced tape supplied as 100mm wide roll for the effective sealing of lap joints to prevent displacement during concrete pours.

USES

HYDROPRUFE HCR TAPES are suitable for use in conjunction with HYDROPRUFE 9000, HYDROPRUFE 7000 and HYDROPRUFE DPM for the effective sealing of adjacent sheets of membrane.

ADVANTAGES

Good adhesion to all membranes.

- Long lasting seal achieved.
- Butyl component provides effective barrier to ground gas.

PROCEDURE

HCR BUTYL TAPE: HYDROPRUFE HCR BUTYL TAPE should be applied 50mm from the edge of the membrane. The release paper should be left in place until the adjacent sheet has been positioned. The release paper can then be removed and the membrane should be firmly joined together by applying pressure preferably by using a lap joint roller.

HYDROPRUFE HCR GIRTH TAPE: Once the adjacent

sheets have been sealed using HCR BUTYL TAPE then the lap should be over-taped using HCR GIRTH TAPE ensuring an effective seal to prevent displacement of the lap joint during concrete pour.

PACKAGING & COVERAGE

Pack Size:

HCR BUTYL TAPE: 30mm x 30m - 10 rolls per box

HCR GIRTH TAPE: 75mm x 50m - 8 rolls per box

DETAIL STRIP: 200mm x 15m - 4 rolls per box

FOIL GIRTH TAPE: 100mm x 15m - 8 rolls per box

STORAGE & SHELF LIFE

HYDROPRUFE HCR TAPE should be stored in clean dry conditions at temperature between 10°C and 30°C.

HEALTH & SAFETY

See separate material safety datasheet.



PROTECTION BOARD 600

HEAVY DUTY PROTECTION BOARD

DESCRIPTION

PROTECTION BOARD 600 is a tough bituminous polyester reinforced protection board. It is designed for use in conjunction with PREMCRETE waterproof and gas resistant membranes to protect against puncture. It is a particularly robust board which will not puncture even in extreme conditions.

USES

PROTECTION BOARD 600 should be installed against the waterproof or gasproof membrane before back filling takes place. The boards should be adhered to the installed membrane using PREMCRETE DOUBLE SIDED TAPE. It can be easily cut and shaped to provide impact resistance to any surface.

ADVANTAGES

- Weather and rot proof.
- Tough yet flexible sheet.
- Excellent puncture resistance.
- Good resistance to chemicals.

Property	Value
Length	2 M
Width	1 M
Thickness	3mm
Water Permeability	Impermeable

PROCEDURE

Application: Where PROTECTION BOARD 600 is to be used for the protection of vertically applied membranes then PREMCRETE DOUBLE SIDED TAPE should be used to adhere the PROTECTION BOARD 600 to the installed waterproof membrane. Lap joints should be tapped with PREMCRETE HCR GIRTH TAPE to prevent displacement during backfill. For installation to horizontally applied membranes then the boards should be laid on to the membrane and the joints should be taped with PREMCRETE HYDROPRUFE HCR GIRTH TAPE to prevent displacement during concrete pour.

PACKAGING & COVERAGE

Pack Size: PROTECTION BOARD 600 is supplied in a 2M x 1M sheet.

Coverage: 1 sheet of PROTECTION BOARD 600 will cover 2M²

STORAGE & SHELF LIFE

PROTECTION BOARD 600 should be stored away from direct sunlight, in clean conditions, when stored in correct conditions the product will have a shelf life in excess of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.



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HYDROPRUFE LG

Liquid Gas Membrane

DESCRIPTION

HYDROPRUFE LG is an epoxy based liquid gas membrane which is suitable for application to porous substrates to provide resistance to ground gases including methane and carbon dioxide. It is supplied as two-component pack, consisting of a base component and a curing agent suitable for mixing on site. When applied to the substrate it will also act as an adhesion promoter. The liquid applied membrane cures to form a resilient gas and VOC barrier, which is also resistant to water and ground moisture.

USES

HYDROPRUFE LG is suitable for application to structures including concrete and masonry to provide a seamless gas resistant membrane. It is particularly suitable for applications where it is not practicable to install a sheet gas membrane system, for example pile cap applications.

ADVANTAGES

- Excellent resistance to methane and carbon dioxide and VOC contaminants.
- Excellent adhesion to damp concrete.
- Low viscosity for easy application.
- Ease of application to complex structures.
- Solvent free and low odour.
- Test data confirming acceptability for use with pile caps.

Property	Value
Colour	Red
Pot Life	50 mins @ 20°C
Adhesive Bond to Damp Concrete	>3.5MPa (Concrete Failure)
Viscosity	480 CPS @ 20°C
Flexural Strength	60 MPa
Water Absorption	<0.3% after 7 days
Methane Transmission Rate (OTR)/ml.mm/m². Day.atm	2.4
Carbon Dioxide Transmission Rate (OTR)/ml.mm/m². day.atm	1.4

PROCEDURE

Surface Preparation: Substrates to which the HYDROPRUFE LG is to be applied should be thoroughly cleaned and free from all loose material. Surface laitance should be removed by high-pressure jet-washing or mechanical abrasion where required. This will ensure that an adequate key is provided for the applied coating. All standing water must be removed prior to application. Whilst the coating is suitable for application to damp substrates the concrete should be given 2-3 hours to dry following jet-washing preparation. Any excessive substrate defects should be repaired using a suitable PREMCRETE repair product. The concrete sub-base should have a minimum compressive strength of 25 MPa. The prepared substrate should be free from any live water ingress and if the substrate is very porous, such as concrete blockwork, a light dampening is recommended. A fine spray misting of water or a flick over with a slurry brush will be sufficient.



Mixing: The contents of the curing agent components should be poured into the base component tin and mixed thoroughly using a slow speed drill and paddle mixer until a homogeneous mix is achieved, which is uniform in colour and consistency. Special care should be taken to ensure that packs are not part mixed.

Application: Horizontal substrates, such as pile caps, require a single 1 coat application at a minimum WFT (Wet Film Thickness) of 1mm. Vertical substrates should have two coats applied. Hydroprufe LG should be applied using a suitable brush, roller, or airless spray equipment and where a mechanical key is required to promote adhesion to subsequently cast concrete, then a quartz aggregate should be broadcast into the wet coating. Once the coating has dried, then the excess aggregate should be swept or blown from the surface.

Curing: Hydroprufe LG will be touch dry after 6 hrs at 20°C and hard dry after 16 hrs at 20°C.

Equipment Cleaning: Tools and equipment should be cleaned immediately using water.

PACKAGING & COVERAGE

Pack Size: HYDROPRUFE LG is supplied in 5Ltr and 15Ltr units.

Coverage: Coverage will vary depending on substrate quality, therefore, consideration for decreased coverage on pile cap applications should be made. Based on a standard quality and porosity of concrete, coverage rates at 1mm thickness are as follows:

5Ltr- 5M2

15Ltr- 15M2

STORAGE & SHELF LIFE

HYDROPRUFE LG should be stored in dry conditions at temperatures between 10°C and 30°C. When stored in unopened containers the product will have a shelf life of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.



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TWINSEAL COMPOUND GR

GAS-RESISTANT WATERPROOF SEALING COMPOUND

DESCRIPTION

TWINSEAL COMPOUND GR is an epoxy-based, waterproof sealing compound formulated to provide enhanced gas resistance to structures. It is designed for a variety of surface preparation and waterproofing sealing details for use with PREMCRETE Waterproof Membranes. Once applied, the TWINSEAL COMPOUND GR will form an impermeable chemical-cured connection to a wide variety of substrates. Its thixotropic consistency ensures ease of application to most substrates.

Property	Value
Consistency	Paste-like
Colour	Blue
Specific Gravity	1.4

USES

TWINSEAL COMPOUND GR is suitable for use on structural concrete and masonry. It is used for creating a waterproof seal around penetrations through PREMCRETE WATERPROOF MEMBRANES and other difficult junctions, where it is important to maintain the integrity of the membrane. It is particularly suitable for sealing membranes to waterproof and gas resistant coatings where the use of a lap tape is not suitable.

ADVANTAGES

- Provides effective watertight seal at difficult junctions.
- Resistant to Gas and VOC vapours.
- Produces effective seal between otherwise incompatible membranes.
- Easily applied by brush or trowel.

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TWINSEAL COMPOUND GR

GAS-RESISTANT WATERPROOF SEALING COMPOUND.

PROCEDURE

Surface Preparation: Surfaces to receive TWINSEAL COMPOUND GR should be dry and free from dust, dirt, grease and other deleterious materials. All loose material should be removed. If TWINSEAL COMPOUND GR is to be applied to a waterproof coating, then the coating should be hardened before application of the TWINSEAL COMPOUND GR.

Mixing: The contents of the curing agent component should be poured into the base component tin and mixed thoroughly using a slow speed drill and paddle mixer until a homogeneous mix is achieved, which is uniform in colour and consistency. Special care should be taken to ensure that packs are not part mixed.

Application: When sealing between PREMCRETE Waterproof Membranes and a protruding pile head or pile cap interface, the membrane should be cut tightly to the profile of the concrete with TWINSEAL COMPOUND GR applied by brush as a 3 x 100mm application with 50mm connection onto the geotextile fleece of the membrane and 50mm onto the pile interface. When sealing PREMCRETE Waterproof Membranes onto a pile cap which is cast flush with the blinding level, TWINSEAL COMPOUND GR should be brush applied as a 1mm thick coating to the perimeter of the pile cap before lapping the Waterproof Membrane onto the pile cap perimeter, securing with the METAL WASHER FIXINGS and then sealing over with a further 2mm thick application of TWINSEAL COMPOUND GR.

Trowel finishing of the TWINSEAL COMPOUND GR is also acceptable.

Equipment Cleaning: Equipment should be cleaned using Premcrete Cleaning Solvent.

PACKAGING & COVERAGE

Pack Size: 5Kg

Yield: 3.5 ltrs

Coverage: Coverage will be 10M when applied as a typical 3 x 100mm.

STORAGE & SHELF LIFE

TWINSEAL COMPOUND GR should be stored in dry conditions at temperatures between 8°C and 30°C. Unopened containers have a shelf life in excess of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.



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HYDROPRUFE 8000

GAS RESISTANT SELF-ADHESIVE MEMBRANE

DESCRIPTION

HYDROPRUFE 8000 is a high performance, cold applied waterproof and gas resistant self-adhesive membrane manufactured from an aluminium/polyethylene laminate coated on one surface with a layer of polymer modified Bitumen adhesive. It is suitable for application to masonry concrete and other substrates to provide an effective barrier to both water and ground gases.

USES

HYDROPRUFE 8000 is used as a self-adhesive membrane for application to substructures where resistance to both groundwater and ground gases is required. HYDROPRUFE 8000 provides adequate resistance to methane, carbon dioxide and radon gas. It is designed for application to basements, underground car parks, tunnels, lift pits and other substructures, where full protection is required.

ADVANTAGES

- Rapid and easy cold application to substrates.
- Aluminium laminate provides superior resistance to ground gas.
- Conforms to BS 8485:2015-A1:2019
- Effective resistance to a 6 M head of water when fully supported.
- Excellent adhesion to a wide variety of substrates.

PROCEDURE

Surface Preparation: The substrate to which the membrane is to be applied, should be smooth and free from excessive undulation and sharp projections, which may puncture the membrane. Concrete substrate should be dry and free from dust and other deleterious materials. A mortar corner fillet should be formed at any internal corner junctions to allow ease of application of the membrane. Allow the mortar fillet to harden before application of the membrane.

Priming: Apply HYDROPRUFE PRIMER by roller, brush or spray application at a nominal rate of 6-8 M2 per ltr and allow to completely dry before the application of the membrane commences.

Application: The release paper should be removed from the first 500 mm of the HYDROPRUFE 8000 membrane before being pressed firmly into position to ensure no air pockets are formed. Application of the roll is then completed by continuing to remove the release paper and applying pressure to ensure the membrane is well bonded to the substrate. Adjacent sheets of membrane should lap by a minimum of 50 mm, this lap is an addition to any over-lap onto the selvedge. Prior to lapping onto an adjacent sheet, the release strip protecting the selvedge should be removed. Joints should be firmly rolled to ensure a watertight seal between the 2 sheets. The membrane should be immediately protected using PREMCRETE PROTECTION BOARD 600 to prevent damage during backfill or by following trades.



HARMONISED TECHNICAL SPECIFICATION

EN 13967:2013 PRODUCT TYPE T

PROPERTIES

Property	Test Method	Value
Water tightness to liquid water	EN 1928	Pass
Resistance to Static Load	EN 12730	20kg Pass
Tensile Properties, Maximum Tensile Stress CD	EN 12311-2	$\geq 2\text{N/mm}^2$
Tensile Properties, Maximum Tensile Stress MD	EN 12311-2	$\geq 2\text{N/mm}^2$
Tensile Properties, Elongation at Break CD	EN 12311-2	$\geq 120\%$
Tensile Properties, Elongation at Break MD	EN 12311-2	$\geq 120\%$
Durability of Watertightness against ageing	EN 13967:2012+A1:2017	Pass
Durability of Watertightness against Chemicals	EN 13967:2012+A1:2017	Pass
Resistance to Impact	EN 12691	$\geq 500\text{m}$
Resistance to tear (Nail Shank) CD	EN 12301 -1	$\geq 100\text{N}$
Resistance to tear (Nail Shank) MD	EN 12310 -1	$\geq 100\text{N}$
Reaction to Fire	EN 13501	Class F (Euro Class)
Joint Strength	EN 12317-2	$\geq 30\text{N}$
Water Vapour Transmission (Density Flow rate)	EN 1931	$0.013 \text{ g}/(\text{day} \bullet \text{m}^2)$
Water Vapour Transmission (Resistance factor, μ)	EN 1931	$2380000 \text{ g } \mu$
Thickness	EN 1849-2	1.00mm
Mass	EN 1849-2	1100 g/M^2
Methane GTR	ISO 15105-1	$<10 \text{ ml/m}^2 \cdot \text{day}$
Carbon dioxide GTR	ISO 15105-1	$<10 \text{ ml/m}^2 \cdot \text{day}$
Radon Diffusion		$5.0 \times 10^{-14} \text{ m}^2 / \text{s}$
Roll Weight		33kg

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HYDROPRUFE 8000

GAS RESISTANT SELF-ADHESIVE MEMBRANE

PACKAGING & COVERAGE

Pack Size: HYDROPRUFE 8000: 1.05 M x 28.6 M roll.

HYDROPRUFE PRIMER: 5Ltr and 25Ltr cans.

ANCILLARY PRODUCTS

PROTECTION BOARD 600

HYDROPRUFE PRIMER

HYDROPRUFE TOPHAT

HYDROPRUFE PRE-FORMED CORNER PIECE

HYDROPRUFE DETAIL STRIP

STORAGE & SHELF LIFE

The membrane must be stacked vertically and in dry well-ventilated buildings, away from direct sunlight.

HEALTH & SAFETY

See separate material safety datasheet.



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Product code: 05007 Revision date: 20/12/22

HYDROPRUFE PRIMER

BITUMINOUS PRIMER

DESCRIPTION

HYDROPRUFE PRIMER is a moisture tolerant primer for application to porous substrates where a high level of adhesion is required. The primer contains a moisture displacing component enabling application to be made where necessarily to damp or green concrete.

USES

HYDROPRUFE PRIMER is suitable for priming concrete and masonry substrates prior to the application of PREMCRETE self-adhesive waterproof membranes it is also suitable for application to porous substrates to increase adhesion of HYDROPRUFE BUTYL TAPES.

ADVANTAGES

- Strengthens bond between substrate and membrane adhesive.
- Binds friable concrete to provide stable surface for membrane application.
- Moisture tolerant

PROCEDURE

Surface Preparation: Substrate should be swept clean and be free from dust and other deleterious materials. The substrate should be free from presence of surface water and should feel dry to touch. The substrate should be relatively smooth to enable maximum adhesion of the subsequently applied membrane. Wherever possible new concrete should ideally be allowed to cure for up to 28 days.

Application: HYDROPRUFE PRIMER should be applied by roller, brush or spray application. It should be applied until the substrate is thoroughly wetted out. Exceptionally porous substrate may require two coats of primer.

Equipment Cleaning: Tools and equipment should be cleaned immediately using PREMCRETE CLEANING SOLVENT.

PACKAGING & COVERAGE

Pack Size: 5l and 25l packs.

Coverage: A 25l pack will cover approximately 150 M2 depending on substrate porosity and profile.

STORAGE & SHELF LIFE

HYDROPRUFE PRIMER should be stored in sealed containers in a well ventilated building away from direct sunlight. HYDROPRUFE PRIMER gives off a flammable vapour and should be stored in accordance with local hazard requirements.

HEALTH & SAFETY

See separate material safety datasheet



Product code: 05400 Revision date: 27/07/23

HYDROCRETE

Combined Crystalline & Pore-Blocking Waterproof Concrete Admixture

DESCRIPTION

HYDROCRETE is established on Dual-AC Technology providing a unique crystalline waterproof concrete admixture, which also incorporates a hydrophobic pore-blocking component to provide the ultimate waterproofing admixture. Initially the pore-blocking component reduces the water absorption in the matrix. The next phase of action commences upon contact with water and produces nano-scale crystals which are formed in the micro-capillaries. These crystals remain active for the lifetime of the structure. It is supplied in powder form, in pre-weighed water-soluble bags, suitable for addition to the concrete at the batching plant.

USES

HYDROCRETE is used as an integral waterproof admixture which will produce watertight concrete when used as part of the HYDROCRETE watertight concrete system. Applications include waterproofing of basements, swimming pools, lift pits, tunnels, culverts and other structures which require resistance to water ingress.

ADVANTAGES

- Reduces permeability of concrete
- Innovative Dual-AC Technology provides two-fold protection
- Pre-weighed powder component supplied in water
- soluble bags for ease of dispensing
- Consistent performance through accurate addition at concrete batching plant
- 0% Cement Content, unlike other conventional admixtures.

Property	Value
Appearance	Fine white powder
Density	1.18g/cm ³
EN 934-2 Compressive Strength	Pass
EN934-2 Air Content	Pass
EN934-2 Capillary Absorption	Pass

COMPLIANCE

- Complies with EN 934-2 table 9 as a water-resisting admixture.
- Type B waterproof additive as defined in BS 8102/2009 Table 1.





Product code: 05400 Revision date: 27/07/23

PROCEDURE

Dispensing: The HYDROCRETE dosage is 1.75kg / m³ of concrete. The HYDROCRETE admixture should be added to the concrete at the same time or after the addition of the cement. Care should be taken to ensure forced action and truck mixes are free from all contaminants prior to the batching of concrete. The concrete mix should be mixed at full revolutions for a minimum of 3 minutes to ensure optimum dispersion of the admixture. It is the responsibility of the concrete batching plant to control the consistency of the mix and the water/cement ratio.

PACKAGING & COVERAGE

Pack size: 4 x 1.75 kg Water-Soluble Bags per Container

STORAGE & SHELF LIFE

HYDROCRETE has a shelf life of 12 months and should be stored in dry conditions between 5°C to 30°C. The bags must be stored in sealed containers to prevent water ingress.

HEALTH & SAFETY

See separate material safety datasheet.

Curing: Concrete containing the HYDROCRETE admixture should be cured in line with good concrete practice using PREMCRETE curing agents in line with BS 7542.

COMPATIBILITY

HYDROCRETE is compatible with all Portland cement mixes including GGBS, PFA and limestone blends. HYDROCRETE is compatible with most superplasticisers but should be added to the mix separately.

CONCRETE MIX DESIGN

HYDROCRETE is guaranteed for use within reinforced concrete structures designed to 0.3mm maximum crack width and has been formulated for use in concrete with a minimum cement content of 350 kg/m³ and a maximum water/cement ratio of 0.43. If the addition of a high range water reducer/ superplasticiser is required, then consult PREMCRETE Technical Department for specific advice.

CEMFLEX VB

Active Metal Waterstop

DESCRIPTION

CEMFLEX VB comprises of a galvanized steel plate which is encapsulated with a unique coating that will react with the cement in the concrete to seal construction joints in reinforced concrete. When fresh concrete is placed around CEMFLEX VB the alkalinity of the concrete activates the coating causing it to activate and crystallise to gain an intimate, active bond with the concrete. Once the concrete is hardened around the waterstop the crystalline coating will remain active for the lifespan of the structure.

USES

CEMFLEX VB is used to provide an integral seal in both horizontal and vertical construction joints in concrete it is particularly suitable for sealing kicker joints in reinforced concrete wall construction. It may be used in areas where it is not possible to protect a hydrophilic waterstop from coming into contact with water before it is encased in concrete.

PROCEDURE

CEMFLEX VB is a pliable metal waterstop which may be easily shaped by hand to the desired profile. It should be cut using a suitable saw for cutting metal. The waterstop may be tied to the reinforcement prior to the concrete pour using CEMFLEX OMEGA holders ensuring that 30mm of the plate is embedded into the first pour of concrete. Alternatively, the CEMFLEX VB may be embedded into freshly placed concrete, once again ensuring that there is at least 30mm embedment. Adjacent lengths of the waterstop should be overlapped by a minimum of 150mm and the laps should be held together using CEMFLEX CLIPS. Two clips should be used to secure each lap. It is important to ensure that concrete placed around the waterstop is thoroughly compacted.

Property	Value
Dimensions	150mm x 1.25mm
Installation temperature	-10°C up to 40°C
Resistance to water pressure	Tested to resist 5 bar
Colour	Black

PACKAGING & COVERAGE

Pack Size: CEMFLEX VB is supplied in 2m lengths. There are 50 lengths per box.

STORAGE & SHELF LIFE

CEMFLEX VB should be stored in original packaging in cool dry conditions which are free from frost.

HEALTH & SAFETY

See separate material safety datasheet.



HYDROSTOP BR

Hydrophilic Rubber Waterstop

DESCRIPTION

HYDROSTOP BR is a hydrophilic synthetic rubber waterstop with a sodium bentonite component. It is designed to swell when in contact with water to provide an effective watertight seal in construction joints in concrete. Expansion of the waterstop creates a positive pressure against the faces of the construction joint in cast in-situ concrete, creating a joint which is resistant to hydraulic pressure. HYDROSTOP BR has a swelling capacity in excess of 400% of its original size. The sodium bentonite component provides extra protection. The expansive clay will penetrate and effectively seal any shrinkage cracks that may form in concrete.

USES

HYDROSTOP BR is used for the integral sealing of both horizontal and vertical construction joints in cast in-situ concrete. It is also suitable for sealing around pipe penetrations and other components where an active seal against water ingress is required. It may be used in the place of conventional PVC water bars as an effective method of preventing the passage of water at construction joints, however it should not be used for the sealing of movement or expansion joints. Structures include, basements, tunnels, culverts, swimming pools, lift pits, retaining walls and other structures which require resistance to water.

COMPLIANCE

HYDROSTOP BR is approved by the British Board of Agrément.

ADVANTAGES

- Provides an active seal to construction joints for the lifetime of the structure.
- Swells by 400% when in contact with water.
- Sodium bentonite component will fill small cracks and fissures.
- Easy installed by semi-skilled labour.
- Easily installed to form complex joint shapes.
- Design life at least equal to that of the structure where it is incorporated.

Property	Value
Colour	Black
Swelling Ratio	> 400%
Density	1.58kg/dm ³
Weight	0.79kg/m
Installation Temperature	-10°C to 50°C
Dimensions	25mm x 20mm

PROCEDURE

Surface Preparation: The substrate to which the HYDROSTOP BR is to be applied, should be clean, dry and free from deleterious materials. The surface should be smooth and free from excessive surface undulation. Installation during heavy rain is not recommended as this may cause premature activation of the waterstop. The surface of the joint should be scabbled prior to the application of the waterstop.

Application: HYDROSTOP BR should be applied to the substrate using HYDROSTOP WSM as an adhesive. Apply HYDROSTOP WSM as a sufficient size bead to the concrete to achieve a 3 x 25mm application under the HYDROSTOP BR and ensure complete contact with the adhesive. Based on this coverage each unit of



HYDROSTOP WSM will cover 8 metres. HYDROSTOP BR should be nailed at 300mm centres using HYDROSTOP RETAINING PINS.

Adjacent strips of HYDROSTOP BR should be parallel lapped by 100mm to ensure a complete seal is achieved. Internal and external corners should be formed by cutting the HYDROSTOP BR and butt jointing. Do not bend the HYDROSTOP BR around corners, as this will affect the integrity of the seal achieved. Allow the HYDROSTOP WSM adhesive to cure overnight before subsequent concrete pour.

It is important to ensure that the HYDROSTOP BR is positioned so that there is at least 75mm concrete cover. The installed HYDROSTOP BR should be protected from rain damage until the concrete is placed. It is extremely important that when the concrete is placed it is well compacted around the waterstop, as any voids will allow the water to track around the installed waterstop.

PACKAGING & COVERAGE

Pack Size: 6 rolls of 5m per box

STORAGE & SHELF LIFE

HYDROSTOP BR should be stored in dry cool conditions.

When stored in good conditions the product has a shelf life in excess of 24 months.

HEALTH & SAFETY

See separate Material Safety Datasheet



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HYDROSTOP WSM

HYDROPHILIC MASTIC SEALANT

DESCRIPTION

HYDROSTOP WSM is a gun-applied mastic sealant for application where a swellable mastic is required to provide an effective watertight seal in confined applications. The hydrophilic properties of HYDROSTOP WSM display good consistency in swell rate during repeated wet/dry cycles. When it is confined by concrete it will create a positive pressure against the face of the concrete joint which will prevent the passage of water.

USES

HYDROSTOP WSM is used as an adhesive for bonding HYDROSTOP BR to concrete substrate. It is also used as a hydrophilic sealant for providing an effective seal in difficult areas which preclude the use of the hydrophilic water stop. It is used for sealing around pre-cast segments, metal beams, service penetrations and as an effective mastic for the bonding of HYDROSTOP BR to HYDROBAR PVC WATERSTOPS.

ADVANTAGES

- Provides an effective seal to a variety of substrates.
- Swells in excess of 200 % to produce a water tight seal.
- Durable performance for the life time of the structure.
- Fast curing enabling concrete to be placed within 24 hr.
- Good adhesion to a variety of substrates.
- Design life at least equal to that of the structure where it is incorporated.

Property	Value
Colour	Grey
Hardness Shore A	30
Cure Rate	3mm / 24 hr
Swell Ratio	200%

PROCEDURE

Surface Preparation: The surface to which the HYDROSTOP WSM is to be applied should be free from all loose material. The substrate should be relatively smooth. HYDROSTOP WSM may be applied to damp concrete however no surface water should be present.

Application: HYDROSTOP WSM is applied in a foil sachet which may be fitted into a bulk sealant gun. The foil sachet should be cut before applying as a traditional sealant. Where the HYDROSTOP WSM is to be used as an adhesive for the HYDRSTOP BR a minimum 10mm bead should be applied to embed the water bar into. Where the HYDROSTOP WSM is to be used to provide an effective seal in its own right, then a 15mm diameter bead should be extruded onto the substrate, ensuring there is no break in the bead.

LIMITATIONS

HYDROSTOP WSM should not be used for expansion joints or joints where significant repetitive movement is expected. HYDROSTOP WSM should only be used where there is more than 75mm concrete cover. HYDROSTOP WSM should not be used as a sealant in general building applications.



PACKAGING & COVERAGE

Pack Size: 600ml

Coverage: A 600ml sachet will extrude a 2.7m bead at 15mm diameter.

STORAGE & SHELF LIFE

HYDROSTOP WSM should be stored in clean dry conditions at temperatures between 8°C and 25°C.

HEALTH & SAFETY

See separate material safety datasheet.



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HYDROSTOP WS10

HYDROPHILIC RUBBER WATERSTOP

DESCRIPTION

HYDROSTOP WS10 is swellable hydrophilic waterstop which will swell upon contact with water. When installed into a confined joint the expansion of the waterstop exerts a positive pressure against both faces of the concrete to achieve a watertight seal which is resistant to hydraulic pressure. HYDROSTOP WS10 will swell up to 200% which makes it particularly suitable for sealing smaller sections of concrete. The installed waterstop has a delayed initial swell which prevents premature swell.

USES

HYDROSTOP WS10 is designed for use in both horizontal and vertical construction joints in cast in-situ concrete. It may also be used for the sealing of joints between pre-cast elements however care should be taken to ensure that the waterstop is in proper contact with the concrete elements. HYDROSTOP WS10 is used for sealing construction joints where resistance to hydrostatic water pressure is required to achieve a watertight structure. Such applications include, basement construction, culverts, tunnels, retaining walls, lift pits and other water resisting structures.

ADVANTAGES

- Easy application to complex shapes, due to small dimension.
- Good swell capacity upon contact with water.
- Delayed swell composition.
- Suitable for use in conjunction with HYDROBAR PVC waterstops.
- Design life at least equal to that of the structure where it is incorporated.

Property	Value
Application Temperature	6°C to 30°C
Working life	50 mins @ 20°C
Application Thickness	10 to 80mm
Compressive Strength	21MPa @ 1 day 40MPa @ 7 days 48MPa @ 28 days
Water Permeability Coefficient	5.98×10^{-15} m/sec
Oxygen Diffusion Coefficient	2.65×10^{-4} cm ² /sec

HYDROSTOP WS10

HYDROPHILIC RUBBER WATERSTOP

PROCEDURE

Surface Preparation: The substrate to which the HYDROSTOP WS10 is to be applied, should be clean, dry and free from deleterious materials. The surface should be smooth and free from excessive surface undulation. Installation during heavy rain is not recommended as this may cause premature activation of the waterstop. The surface of the joint should be scabbled prior to the application of the waterstop.

Application: HYDROSTOP WS10 should be applied to the substrate using HYDROSTOP WSM as an adhesive. Apply a 10mm bead to the concrete and press the waterstop firmly into the HYDROSTOP WSM ensuring complete contact with the adhesive. HYDROSTOP WS10 should be nailed at 300mm centres using HYDROSTOP RETAINING PINS. Adjacent strips of HYDROSTOP WS10 should be parallel lapped by 100mm to ensure a complete seal is achieved. Internal and external corners should be formed by cutting the HYDROSTOP WS10 and butt jointing. Do not bend the HYDROSTOP WS10 around corners, as this will affect the integrity of the seal achieved. Allow the HYDROSTOP WSM adhesive to cure overnight before subsequent concrete pour.

It is important to ensure that the HYDROSTOP WS10 is positioned so that there is at least 50mm concrete cover. The installed HYDROSTOP WS10 should be protected from rain damage until the concrete is placed. It is extremely important that when the concrete is placed it is well compacted around the waterstop, as any voids will allow the water to track around the installed waterstop.

LIMITATIONS

HYDROSTOP WS10 should not be installed in movement or expansion joints.

PACKAGING & COVERAGE

Pack Size:

HYDROSTOP WS10 is supplied in a 3mm x 20mm x 12m roll.

STORAGE & SHELF LIFE

It is important to ensure that HYDROSTOP WS10 is protected from wet conditions when stored in unopened containers. It will have a shelf life in excess of 1 year.

HEALTH & SAFETY

See separate material safety datasheet.



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TEKNOCEM LA

High Strength Micro-Concrete

DESCRIPTION

TEKNOCEM LA is a low-alkali highly fluid micro-concrete which has been specially formulated with non-ASR reactive aggregates to produce a high-quality fluid repair concrete. The product is mixed with clean water to produce a non-shrink repair concrete which is volume stable and does not segregate or bleed. TEKNOCEM LA is highly fluid and self-compacting making it particularly suitable for the repair of concrete where a high density of steel reinforcement is present. TEKNOCEM LA is suitable for use in thicknesses from 20mm – 200mm where a free-flowing self-compacting concrete is required. The product is easily mixed and may be placed by hand or pumped. The use of specially formulated blast furnace slag cement ensures that the pre-bagged mix has an equivalent sodium oxide level of less than 3 Kg per M3 which reduces the risk of ASR (Alkali-Silica Reaction). The TEKNOCEM LA exhibits mid-range resistivity making it suitable for use in conjunction with cathodic protection systems.

USES

TEKNOCEM LA is a highly fluid micro concrete making it suitable for use in repairing large sections of concrete where compaction by vibration is not possible. It is particularly suitable for repairing sections of concrete where access is restricted. TEKNOCEM LA is also ideal for thick section grouting where high strength is also required. Typical Applications include the reinstatement of structural sections on bridge abatements, soffits, concrete columns and other large structural elements. Once hardened the TEKNOCEM LA exhibits excellent resistance to carbon dioxide and chloride ions.

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Property	Test Method	Value
Compressive Strength @ 20°C	EN12190	1 day @ 20MPa 3 days @ 30MPa 7 days @ 50MPa 28 days @ 60MPa
Flexural Strength	EN1015-11	28 days @ 6MPa
Adhesion Bond	EN1542	28 days @ 2.1MPa
Density	EN12390-7	2300 kg/m ³
Electrical Resistivity		11000 Ohm.cm
Coefficient of Thermal Expansion		12 x 10 ⁻⁶ /°c
Air Content	EN12350-7	4%
Chloride Content	EN1015-17	< 0.003%
Flow Ability	EN13395-2	700mm in 10 sec
Reaction to Fire		Class A1
Elastic Modulus	EN13412	28 GPa
Carbonation	EN13295	Complies

PROCEDURE

Surface Preparation: Defective concrete should be removed by mechanical means and all loose friable material should be removed to produce a sound substrate which has been roughened to provide a good mechanical key. The surface should be free from contamination with oil and grease. Form work should be constructed around the repair area. A head should be constructed in the formwork if necessary, to ensure that the repair concrete flows effectively. It may be necessary to introduce tell-tale outlets to indagate the effectiveness of the concrete placement.

Substrate Priming: Substrates do not normally



require the use of a substrate primer. The substrate should just be thoroughly saturated with clean water, taking care to ensure that any surface water is removed prior to the application of the repair concrete.

Mixing: TEKNOCEM LA should be mixed with 3 Litres of clean water per bag. The water should be added to a suitable mixing vessel and then the powder should be slowly added whilst mixing using a slow speed, forced action mixing paddle. The concrete should be mixed until a uniform consistency is achieved.

Application: TEKNOCEM LA should be placed as a continuous pour to ensure maximum integrity of the repair. TEKNOCEM LA should be poured from one side of the shutter only so as to ensure that no voids occur as a result of air entrapment. If a tremie pipe is used to place the concrete, then the pipe should be placed at the bottom of the section that is to be repaired and slowly lifted upwards as the placement continues.

Curing: TEKNOCEM LA should be cured using CUREAID 1000 which is applied immediately after the form work is removed. It may be necessary to cover the freshly placed concrete with polyethene to protect from strong winds or direct sunlight.

PACKAGING & COVERAGE

Pack Size: 25kg

Yield: 16.5ltrs per 25kg pack.

Coverage: A 25kg bag will cover 1.65m²
@ 10mm thickness.

STORAGE & SHELF LIFE

TEKNOCEM LA should be stored in unopened bags in dry conditions at temperatures above 8°C.

HEALTH & SAFETY

See separate material safety datasheet.



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TIE HOLE SEALER

Rapid-Set Waterproof Mortar

DESCRIPTION

TIE HOLE SEALER is a single component polymer enhanced cementitious mortar which exhibits excellent adhesive properties to concrete. Once cured it provides an effective barrier to water under hydrostatic pressure. It possesses rapid hardening properties, making it particularly suitable for applications where down-time must be kept to a minimum.

USES

TIE HOLE SEALER is used for the filling of tie bolt holes that are commonly found in reinforced concrete wall constructions. It may be used as a waterproof mortar for basement and substructure constructions. It may also be used for filling voids and fixing holes in precast concrete elements.

ADVANTAGES

- Polymer modified to provide enhanced bond to the substrate.
- Dense matrix when cured to provide effective barrier to hydrostatic water pressure.
- Rapid setting to provide a high strength mortar.
- Non-shrink to ensure maximum integrity.
- Single component requiring only the addition of clean water.

COMPLIANCE

TIE HOLE SEALER complies with highways agency standard BD27/86.

Property	Value
Colour	Light grey
Pot life @ 20°C	20 minutes
Application temperature	5°C to 25°C
Density	2160kg/m ³
Compressive strength	1 day - 11N/mm ² 7 days - 28 N/mm ² 28 days - 33N/mm ²
Compliance	EN1504 pt 3, Class R2
Water to powder ratio	18% W/P 0.18 Use maximum 1.4ltrs per 8kg unit

PROCEDURE

Surface Preparation: The substrate must be free of surface laitance and dust and other deleterious substances. Surface should be abraded mechanically to ensure a good key is achieved between the TIE HOLE SEALER and the substrate. Before sealing tie bolt holes, the plastic tube should be drilled out to a depth of 50mm before applying the mortar. For water tight construction then TIE HOLE SEALER should be used in conjunction with PREMCRETE HYDROSTOP BR for maximum integrity.

Substrate Priming: TIE HOLE SEALER does not normally require a substrate primer. However, the surface should be thoroughly saturated with water taking care to ensure that no standing water is present immediately before application of the mortar commences.



Revision date: 23/1/23

Mixing: TIE HOLE SEALER should be mixed with water to the desired consistency. Typically, 1.4ltrs of water should be mixed with one 8kg pack of powder. The powder should be added to the water mixing thoroughly until a uniform consistency is achieved. Care should be taken to ensure that only sufficient material is mixed that can be applied within the 20 minute pot life. Should larger quantities be required then the mortar should be mixed using a slow speed paddle mixer to ensure the mortar is sufficiently mixed to produce a mortar with thixotropic properties.

Application: TIE HOLE SEALER should be applied to the substrate using a trowel, ensuring that a good initial contact coat with the substrate is achieved. The mortar may need to be built up in layers, depending on the thickness that is to be achieved. Care should be taken to ensure that the mortar is well compacted with no voids.

Curing: TIE HOLE SEALER when used for small repairs or for sealing tie bolt wholes does not normally require the use of a curing agent. However, for large repairs or in conditions of extreme direct heat then CURE AID AC should be immediately applied to the mortar once placements has completed.

PACKAGING & COVERAGE

Pack Size: 8kg Bucket

Yield: An 8kg pack will yield approximately 5 litres of mortar.

STORAGE & SHELF LIFE

TIE HOLE SEALER should be stored in its original container in dry conditions with temperatures between 5°C and 30°C.

HEALTH & SAFETY

See separate material safety datasheet



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HYDROPLUG

PENETRATION SEALING SYSTEM

DESCRIPTION

HYDROPLUG is a unique tri-component system which consists of a polyester fibre reinforced polyurethane foam component, a hybrid putty component and a waterproof mortar component. The three components work together to provide an effective integral seal around surface penetrations, through concrete structures.

USES

HYDROPLUG is used to prevent water ingress through service penetrations, ducts, conduits and cable transits. It is easily installed to provide an effective seal for the lifetime of the structure.

ADVANTAGES

- Non-flammable and solvent free.
- User friendly.
- Impermeable to ground water and gases.
- Tri-component system for greater integrity.

HYDROPLUG FILLER COMPONENT

Property	Value
Swell Index	Up to 5 times of the original volume
Appearance	White fibres Brown Polyurethane Resin

HYDROPLUG PUTTY

Property	Value
Water Resistance	0.3 Bar
Appearance	Green Paste
Application Thickness	100mm
Application Temperature	+20°C to +25°C
Service Temperature	-20°C to + 35°C
Density	1.2 g/ cm ³
Water absorption	5%

HYDROPLUG MORTAR

Property	Value
Mixed Density	1725 kg/ M3
Application thickness	5mm to 80mm
Application Temperature	5°C to 40°C
Working Life	60 mins @ 20°C
Compressive Strength	21 MPa @ 1 day 47 MPa @ 28 days
Water Permeability Coefficient	$5.98 \times 10^{-15} \text{m/sec}$
Oxygen Diffusion Coefficient	$2.65 \times 10^{-4} \text{cm}^2/\text{sec}$

HYDROPLUG

PENETRATION SEALING SYSTEM

PROCEDURE

Application Stage 1 : Prepare the void or cavity to be filled by removing all dust and loose particles with compressed air or water. If possible, insert a stopper at the rear of the void to be filled to contain the expansion of the HYDROPLUG filler component and densify the polyurethane foam. It is extremely important that if there are multiple cables passing through a single duct then the cable should be evenly spaced with a minimum of 20mm gap between cables to ensure the effective sealing around each cable. Firstly, remove the metal can from the kit which is labelled RESIN and pour the contents of the small plastic ACCELERATOR bottle into the can and shake thoroughly. Once the RESIN is mixed then it should be poured into the plastic bag which contains the POLYESTER FIBRES and soak thoroughly by kneading the fibres until a homogenous consistency is achieved. Once the fibres are thoroughly wetted out then the fibre wad should be immersed into a bucket of water to activate the RESIN. The fibre wad should then be removed from the bucket of water and pushed firmly into the rear of the void. The fibre wad should fill in between each cable, pressure should be exerted against the fibre wad until it has cured to ensure a dense closed cell foam is achieved.

Application Stage 2: The hardened HYDROPLUG filler component should be trimmed to 150mm from the face of the concrete. The HYDROPLUG putty component should then ideally be preheated in hot water whilst still in the plastic packaging to make the putty more workable. The putty should then be placed by hand ensuring it is well compacted between each cable. The HYDROPLUG putty should be built up to 50mm from the face of the concrete.

Application Stage 3: The HYDROPLUG mortar component should be mixed with 700ml of clean water to produce a pliable mortar. The mortar should then be placed to fill the remaining 50mm of the void, once again ensuring thorough compaction between each cable. It should then be finished using a trowel or putty knife to achieve a good finish.

PACKAGING & COVERAGE

Pack Size:

3 HYDROPLUG FILLER COMPONENT @ 30g,
3 HYDROPLUG RESIN COMPONENT @ 450g
3 HYDROPLUG ACCELERATOR 23g
3 HYDROPLUG PUTTY COMPONENT @ 2kg
1 HYDROPLUG MORTAR @ 5kg

Coverage: 1 pack will be sufficient to seal approximately 3 x100mm diameter penetrations through a 300mm thick wall.

STORAGE & SHELF LIFE

HYDROPLUG should be stored in dry conditions at temperatures above 60C. When stored in original packaging the product will have a shelf life in excess of 1 year.

HEALTH & SAFETY

See separate material safety datasheet.



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HYDROPRUFE 9000

GAS RESISTANT DAMP-PROOF MEMBRANE

DESCRIPTION

HYDROPRUFE 9000 is a virgin polyethylene, reinforced gas membrane, incorporating an aluminium core, that provides an effective barrier to ground gases including methane, carbon dioxide and radon for the lifetime of the structure to which it has been installed. The polyester reinforcement component of the multi-layered membrane reduces the risk of tearing the membrane during the installation phase. HYDROPRUFE 9000 is suitable for welding using suitable hot air welding equipment or the laps may simply be taped joined.

USES

HYDROPRUFE 9000 is designed to be installed beneath ground floor slab construction to protect the structures from the ingress of ground gas and ground moisture. Typical applications include residential buildings, commercial buildings, industrial units and other structures that require an effective membrane to resist ground gases and moisture.

ADVANTAGES

- Restricts the ingress of ground gas to less than 40ml /M²/24hrs
- Flexible yet robust membrane for ease of installation.
- Conforms to BS 8485:2015
- Joints may be welded, or tape joined
- Reinforcement mesh component provides extra durability and tear resistance.

COMPLIANCE

- HYDROPRUFE 9000 is certified by the British Board of Agrément



Property	Test Method	Value
Weight	EN 1849-2	400 g/M ²
Thickness	EN 1849-2	0.76 mm
Maximum Tensile MD	EN ISO 12311-1	224 N/5cm
Maximum Tensile CD	EN ISO 12311-1	274 N/5cm
Elongation at break MD	EN ISO 12311-2	12%
Elongation at break CD	EN ISO 12311-2	33%
Tear Resistance MD (nail shank)	EN 12310-1	250 N
Tear Resistance CD (nail shank)	EN 12310-1	255 N
Water Tightness	EN 1928 B	PASS
Resistance to Impact	EN 12691	>100mm
Moisture/Vapour Transmission Rate	EN 1932	<0.001g/m ² /24Hr
Methane Permeability	ISO 15105-1	12ml/M ² /24Hr
Shear Resistance at Joints	EN 12317-1	255N

HYDROPRUFE 9000

GAS RESISTANT DAMP-PROOF MEMBRANE

PROCEDURE

Surface Preparation: The sub-base should be well compacted and blinded using sand to provide a soft surface free from sharp protrusions. If the membrane is to be laid directly onto a concrete blinding or floor slab then the concrete should be trowelled to a smooth finish without excessive surface undulations. It may be necessary to install PREMCRETE PROTECTION BOARD 300 to the substrate to provide an effective barrier to minor projections which may result in puncturing the membrane during installation.

Application: HYDROPRUFE 9000 should be loose laid to the prepared sub-base, taking special care to ensure the membrane is not punctured during the installation phase. Adjacent sheets of membrane should be lapped by 150mm and the joints should be sealed using HYDROPRUFE HCR BUTYL TAPE, a double-sided tape which is placed 50mm from the edge of the sheet. The lap joint should have pressure applied to ensure a good quality seal is achieved, preferably by use of a lap roller. The lap should then be over-taped using HYDROPRUFE HCR FOIL GIRTH TAPE, to ensure the integrity of the lap joint during concrete placement. Alternatively, the membrane may be welded using specialist hot air welding equipment. Special care should be taken around penetrations and junctions to ensure the integrity of the seal. HYDROPRUFE TOPHAT pieces should be used to seal pipe penetrations and pre-formed internal and external corners. Corner pieces may be used to provide robust detailing. Once the membrane installation is complete, PREMCRETE PROTECTION BOARD 300 should be used to protect the installed membrane from puncture during the fixing of reinforcement steel.

PACKAGING & COVERAGE

Pack Size: 2M x 50M Roll.

HYDROPRUFE HCR BUTYL TAPE: 30mm x 30M roll.

HYDROPRUFE HCR FOIL GIRTH TAPE: 100mm x 15M roll.

HYDROPRUFE DETAIL TAPE: 150mm x 15M roll.

STORAGE & SHELF LIFE

TEKNOCEM HBR should be kept in clean dry conditions at temperatures between 80C and 300C. When stored in unopened bags, the product will have a shelf life of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.



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HYDROPRUFE HCR TAPES

Elastomeric Waterproof Coating

DESCRIPTION

HYDROPRUFE HCR BUTYL TAPE is a double-sided tape which is used for the effective sealing of damp-proof and gas-proof membranes. It is applied as a 30mm wide tape with a release paper on one side.

HYDROPRUFE HCR GIRTH TAPE is a single-sided reinforced tape supplied as 75mm wide roll for the effective sealing of lap joints to prevent displacement during concrete pours.

HYDROPRUFE DETAIL STRIP is a tape which is used to ensure the continuity of gas and damp-proof membranes, particularly at complex junctions and when terminating the membrane.

HYDROPRUFE HCR FOIL GIRTH TAPE is a single-sided, Gas Resistant, reinforced tape supplied as 100mm wide roll for the effective sealing of lap joints to prevent displacement during concrete pours.

USES

HYDROPRUFE HCR TAPES are suitable for use in conjunction with HYDROPRUFE 9000, HYDROPRUFE 7000 and HYDROPRUFE DPM for the effective sealing of adjacent sheets of membrane.

ADVANTAGES

Good adhesion to all membranes.

- Long lasting seal achieved.
- Butyl component provides effective barrier to ground gas.

PROCEDURE

HCR BUTYL TAPE: HYDROPRUFE HCR BUTYL TAPE should be applied 50mm from the edge of the membrane. The release paper should be left in place until the adjacent sheet has been positioned. The release paper can then be removed and the membrane

should be firmly joined together by applying pressure preferably by using a lap joint roller.

HYDROPRUFE HCR GIRTH TAPE: Once the adjacent sheets have been sealed using HCR BUTYL TAPE then the lap should be over-taped using HCR GIRTH TAPE ensuring an effective seal to prevent displacement of the lap joint during concrete pour.

PACKAGING & COVERAGE

Pack Size:

HCR BUTYL TAPE: 30mm x 30m - 10 rolls per box
HCR GIRTH TAPE: 75mm x 50m - 8 rolls per box
DETAIL STRIP: 200mm x 15m - 4 rolls per box
FOIL GIRTH TAPE: 100mm x 15m - 8 rolls per box

STORAGE & SHELF LIFE

HYDROPRUFE HCR TAPE should be stored in clean dry conditions at temperature between 10°C and 30°C.

HEALTH & SAFETY

See separate material safety datasheet.



PROTECTION BOARD 300

LIGHTWEIGHT PROTECTION BOARD

DESCRIPTION

PROTECTION BOARD 300 is a 2mm thick fluted polypropylene board which is designed to protect waterproof and gasproof membranes from the risk of puncture.

USES

PROTECTION BOARD 300 may be installed on top of waterproof and gas resistant membranes to protect from the risk of puncture during the construction face. It may also be used for the protection of membranes during back fill.

ADVANTAGES

- Rapid and easy installation.
- Flexible and easily cut.
- Water resistant.
- Cost effective.

Property	Value
Application Temperature	6°C to 30°C
Working life	50 mins @ 20°C
Application Thickness	10 to 80 mm

Application: If the PROTECTION BOARD 300 is to be installed directly against vertically applied membrane, then it should be adhered to the membrane using PREMCRETE DOUBLE SIDED TAPE. Joints should be tapped with a suitable high adhesion tape to prevent displacement during back fill. Where PROTECTION BOARD 600 is to be installed on horizontally applied membranes to protect from damage during steel fixing and the construction face, then the board should be loose laid on top of the installed membrane and the joints should be taped to prevent displacement during concrete placement.

PACKAGING & COVERAGE

Pack Size: PROTECTION BOARD 300 is supplied as a 1.2 x 2.4M sheet.

Coverage: 1 sheet will cover 2.88M².

STORAGE & SHELF LIFE

TEKNOCHEM HBR should be kept in clean dry conditions at temperatures between 80C and 300C. When stored in unopened bags, the product will have a shelf life of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.

PROCEDURE

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HYDROPRUFE LG

Liquid Gas Membrane

DESCRIPTION

HYDROPRUFE LG is an epoxy based liquid gas membrane which is suitable for application to porous substrates to provide resistance to ground gases including methane and carbon dioxide. It is supplied as two-component pack, consisting of a base component and a curing agent suitable for mixing on site. When applied to the substrate it will also act as an adhesion promoter. The liquid applied membrane cures to form a resilient gas and VOC barrier, which is also resistant to water and ground moisture.

USES

HYDROPRUFE LG is suitable for application to structures including concrete and masonry to provide a seamless gas resistant membrane. It is particularly suitable for applications where it is not practicable to install a sheet gas membrane system, for example pile cap applications.

ADVANTAGES

- Excellent resistance to methane and carbon dioxide and VOC contaminants.
- Excellent adhesion to damp concrete.
- Low viscosity for easy application.
- Ease of application to complex structures.
- Solvent free and low odour.
- Test data confirming acceptability for use with pile caps.

Property	Value
Colour	Red
Pot Life	50 mins @ 20°C
Adhesive Bond to Damp Concrete	>3.5MPa (Concrete Failure)
Viscosity	480 CPS @ 20°C
Flexural Strength	60 MPa
Water Absorption	<0.3% after 7 days
Methane Transmission Rate (OTR)/ml.mm/m². Day.atm	2.4
Carbon Dioxide Transmission Rate (OTR)/ml.mm/m². day.atm	1.4

PROCEDURE

Surface Preparation: Substrates to which the HYDROPRUFE LG is to be applied should be thoroughly cleaned and free from all loose material. Surface laitance should be removed by high-pressure jet-washing or mechanical abrasion where required. This will ensure that an adequate key is provided for the applied coating. All standing water must be removed prior to application. Whilst the coating is suitable for application to damp substrates the concrete should be given 2-3 hours to dry following jet-washing preparation. Any excessive substrate defects should be repaired using a suitable PREMCRETE repair product. The concrete sub-base should have a minimum compressive strength of 25 MPa. The prepared substrate should be free from any live water ingress and if the substrate is very porous, such as concrete blockwork, a light dampening is recommended. A fine spray misting of water or a flick over with a slurry brush will be sufficient.



Mixing: The contents of the curing agent components should be poured into the base component tin and mixed thoroughly using a slow speed drill and paddle mixer until a homogeneous mix is achieved, which is uniform in colour and consistency. Special care should be taken to ensure that packs are not part mixed.

Application: Horizontal substrates, such as pile caps, require a single 1 coat application at a minimum WFT (Wet Film Thickness) of 1mm. Vertical substrates should have two coats applied. Hydroprufe LG should be applied using a suitable brush, roller, or airless spray equipment and where a mechanical key is required to promote adhesion to subsequently cast concrete, then a quartz aggregate should be broadcast into the wet coating. Once the coating has dried, then the excess aggregate should be swept or blown from the surface.

Curing: Hydroprufe LG will be touch dry after 6 hrs at 20°C and hard dry after 16 hrs at 20°C.

Equipment Cleaning: Tools and equipment should be cleaned immediately using water.

PACKAGING & COVERAGE

Pack Size: HYDROPRUFE LG is supplied in 5Ltr and 15Ltr units.

Coverage: Coverage will vary depending on substrate quality, therefore, consideration for decreased coverage on pile cap applications should be made. Based on a standard quality and porosity of concrete, coverage rates at 1mm thickness are as follows:

5Ltr- 5M2

15Ltr- 15M2

STORAGE & SHELF LIFE

HYDROPRUFE LG should be stored in dry conditions at temperatures between 10°C and 30°C. When stored in unopened containers the product will have a shelf life of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.



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HYDROPRUFE 8000

GAS RESISTANT SELF-ADHESIVE MEMBRANE

DESCRIPTION

HYDROPRUFE 8000 is a high performance, cold applied waterproof and gas resistant self-adhesive membrane manufactured from an aluminium/polyethylene laminate coated on one surface with a layer of polymer modified Bitumen adhesive. It is suitable for application to masonry concrete and other substrates to provide an effective barrier to both water and ground gases.

USES

HYDROPRUFE 8000 is used as a self-adhesive membrane for application to substructures where resistance to both groundwater and ground gases is required. HYDROPRUFE 8000 provides adequate resistance to methane, carbon dioxide and radon gas. It is designed for application to basements, underground car parks, tunnels, lift pits and other substructures, where full protection is required.

ADVANTAGES

- Rapid and easy cold application to substrates.
- Aluminium laminate provides superior resistance to ground gas.
- Conforms to BS 8485:2015-A1:2019
- Effective resistance to a 6 M head of water when fully supported.
- Excellent adhesion to a wide variety of substrates.

PROCEDURE

Surface Preparation: The substrate to which the membrane is to be applied, should be smooth and free from excessive undulation and sharp projections, which may puncture the membrane. Concrete substrate should be dry and free from dust and other deleterious materials. A mortar corner fillet should be formed at any internal corner junctions to allow ease of application of the membrane. Allow the mortar fillet to harden before application of the membrane.

Priming: Apply HYDROPRUFE PRIMER by roller, brush or spray application at a nominal rate of 6-8 M2 per ltr and allow to completely dry before the application of the membrane commences.

Application: The release paper should be removed from the first 500 mm of the HYDROPRUFE 8000 membrane before being pressed firmly into position to ensure no air pockets are formed. Application of the roll is then completed by continuing to remove the release paper and applying pressure to ensure the membrane is well bonded to the substrate. Adjacent sheets of membrane should lap by a minimum of 50 mm, this lap is an addition to any over-lap onto the selvedge. Prior to lapping onto an adjacent sheet, the release strip protecting the selvedge should be removed. Joints should be firmly rolled to ensure a watertight seal between the 2 sheets. The membrane should be immediately protected using PREMCRETE PROTECTION BOARD 600 to prevent damage during backfill or by following trades.



HARMONISED TECHNICAL SPECIFICATION

EN 13967:2013 PRODUCT TYPE T

PROPERTIES

Property	Test Method	Value
Water tightness to liquid water	EN 1928	Pass
Resistance to Static Load	EN 12730	20kg Pass
Tensile Properties, Maximum Tensile Stress CD	EN 12311-2	$\geq 2\text{N/mm}^2$
Tensile Properties, Maximum Tensile Stress MD	EN 12311-2	$\geq 2\text{N/mm}^2$
Tensile Properties, Elongation at Break CD	EN 12311-2	$\geq 120\%$
Tensile Properties, Elongation at Break MD	EN 12311-2	$\geq 120\%$
Durability of Watertightness against ageing	EN 13967:2012+A1:2017	Pass
Durability of Watertightness against Chemicals	EN 13967:2012+A1:2017	Pass
Resistance to Impact	EN 12691	$\geq 500\text{m}$
Resistance to tear (Nail Shank) CD	EN 12301 -1	$\geq 100\text{N}$
Resistance to tear (Nail Shank) MD	EN 12310 -1	$\geq 100\text{N}$
Reaction to Fire	EN 13501	Class F (Euro Class)
Joint Strength	EN 12317-2	$\geq 30\text{N}$
Water Vapour Transmission (Density Flow rate)	EN 1931	$0.013 \text{ g}/(\text{day} \bullet \text{m}^2)$
Water Vapour Transmission (Resistance factor, μ)	EN 1931	$2380000 \text{ g } \mu$
Thickness	EN 1849-2	1.00mm
Mass	EN 1849-2	1100 g/M^2
Methane GTR	ISO 15105-1	$<10 \text{ ml/m}^2 \cdot \text{day}$
Carbon dioxide GTR	ISO 15105-1	$<10 \text{ ml/m}^2 \cdot \text{day}$
Radon Diffusion		$5.0 \times 10^{-14} \text{ m}^2 / \text{s}$
Roll Weight		33kg

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HYDROPRUFE 8000

GAS RESISTANT SELF-ADHESIVE MEMBRANE

PACKAGING & COVERAGE

Pack Size: HYDROPRUFE 8000: 1.05 M x 28.6 M roll.

HYDROPRUFE PRIMER: 5Ltr and 25Ltr cans.

ANCILLARY PRODUCTS

PROTECTION BOARD 600

HYDROPRUFE PRIMER

HYDROPRUFE TOPHAT

HYDROPRUFE PRE-FORMED CORNER PIECE

HYDROPRUFE DETAIL STRIP

STORAGE & SHELF LIFE

The membrane must be stacked vertically and in dry well-ventilated buildings, away from direct sunlight.

HEALTH & SAFETY

See separate material safety datasheet.



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Product code: 05007 Revision date: 20/12/22

HYDROPRUFE PRIMER

BITUMINOUS PRIMER

DESCRIPTION

HYDROPRUFE PRIMER is a moisture tolerant primer for application to porous substrates where a high level of adhesion is required. The primer contains a moisture displacing component enabling application to be made where necessarily to damp or green concrete.

USES

HYDROPRUFE PRIMER is suitable for priming concrete and masonry substrates prior to the application of PREMCRETE self-adhesive waterproof membranes it is also suitable for application to porous substrates to increase adhesion of HYDROPRUFE BUTYL TAPES.

ADVANTAGES

- Strengthens bond between substrate and membrane adhesive.
- Binds friable concrete to provide stable surface for membrane application.
- Moisture tolerant

PROCEDURE

Surface Preparation: Substrate should be swept clean and be free from dust and other deleterious materials. The substrate should be free from presence of surface water and should feel dry to touch. The substrate should be relatively smooth to enable maximum adhesion of the subsequently applied membrane. Wherever possible new concrete should ideally be allowed to cure for up to 28 days.

Application: HYDROPRUFE PRIMER should be applied by roller, brush or spray application. It should be applied until the substrate is thoroughly wetted out. Exceptionally porous substrate may require two coats of primer.

Equipment Cleaning: Tools and equipment should be cleaned immediately using PREMCRETE CLEANING SOLVENT.

PACKAGING & COVERAGE

Pack Size: 5l and 25l packs.

Coverage: A 25l pack will cover approximately 150 M2 depending on substrate porosity and profile.

STORAGE & SHELF LIFE

HYDROPRUFE PRIMER should be stored in sealed containers in a well ventilated building away from direct sunlight. HYDROPRUFE PRIMER gives off a flammable vapour and should be stored in accordance with local hazard requirements.

HEALTH & SAFETY

See separate material safety datasheet



HYDROPRUFE TOPHAT

PREFORMED TOPHAT PIECES

DESCRIPTION

HYDROPRUFE TOPHATS are pre-formed units designed for the effective sealing of pipes and surface penetrations through damp-proof and gas-proof membranes. They are available in a range of standard sizes and specific sizes may be fabricated to order.

USES

HYDROPRUFE TOPHATS should be used to seal around all pipes, ducts and service penetrations through membranes where an effective gas and watertight seal is important.

ADVANTAGES

- Preformed units for ease of detailing around the circumference of penetrations.
- Effective barrier to ground moisture and ground gases.
- Maintains the integrity of the seal around difficult junctions.

PROCEDURE

Surface Preparation: The substrate to which the membrane and TOPHAT piece is to be applied should be blinded with sand or lean mix concrete to provide a regular substrate for the application of the membrane.

Application: The membrane should be cut around the penetration as tight as possible. Once the membrane is in position then the HYDROPRUFE TOPHAT PIECE should be positioned over the penetration using HYDROPRUFE HCR BUTYL TAPE and HCR GIRTH TAPE to provide an effective seal to the membrane. The neck of the TOPHAT should be taped to the pipe or penetration using HCR GIRTH TAPE.

PACKAGING & COVERAGE

Pack Size: Supplied individually.

Available diameters: 110mm and 160mm Other diameters may be manufactured to order.

STORAGE

HYDROPRUFE TOPHATS should be stored in clean dry conditions.

HEALTH & SAFETY

See separate material safety datasheet.



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TEKNOCEM HBR

HIGH-BUILD STRUCTURAL MORTAR

DESCRIPTION

TEKNOCEM HBR is a polymer-modified fibre reinforced cementitious repair mortar. The mortar incorporates shrinkage compensating additives making it suitable for structural repair applications. The mortar can be applied to vertical and overhead substrates and is easily finished using a steel trowel to obtain a fair faced appearance.

The mortar consists of a unique blend of lightweight fillers which enable effective high-build repairs to be carried out on vertical and overhead applications without the freshly placed mortar slumping. TEKNOCEM HBR is chloride free making it suitable for application where steel reinforcement is present. The hardened mortar possesses low absorption properties offering good resistance to the effects of freeze-thaw action.

USES

TEKNOCEM HBR is used for the repair and reinstatement of structural concrete where a high-build mortar is required for application to vertical and overhead substrates. Its high strength properties make it suitable for the repair of structural elements and where high early strengths are required.

Property	Value
Compressive Strength	18 MPa @ 1 Day 30 MPa @ 7 Days 44 MPa @ 28 Days
Tensile Strength	2.8 MPa @ 28 Days
Flexural Strength	6 MPa @ 28 Days
Density	1710Kg/ M ³
Working Life	Approximately 20mins @ 20°C
BS EN 1504-3 Compliant	R3

TEKNOCEM HBR

HIGH-BUILD STRUCTURAL MORTAR

PROCEDURE

Surface Preparation: The perimeter of the repair should be saw cut to a depth of 10mm and all loose and damaged concrete should be carefully removed back to sound substrate. Any steel reinforcement within the repair area should be fully exposed around the full circumference of the bar.

Exposed steel should be cleaned back to clean bright steel by means of grinding or grit blasting. Any surface contaminants should be removed by suitable means to ensure a good quality clean substrate that has a strength in excess of 20 MPa.

Substrate Priming: Typically, substrates do not require the use of a separate substrate primer, the substrate should just be fully saturated with water, taking special care to ensure no standing water is present before application of the mortar. Particularly porous substrates may require the use of TEKNOPRIME 842. Exposed steel reinforcement should be primed using TEKNOPRIME 841.

Mixing: TEKNOCEM HBR should be mixed using a forced action paddle mixer or pan mixer. Clean water should be poured into the mixing vessel at a rate of 3.75 litres depending on the desired consistency. The mortar should be mixed until a uniform homogenous mix is achieved. Once mixing is complete the mortar application should begin immediately to ensure maximum workability of the mortar.

Application: TEKNOCEM HBR can be trowel applied as a render, once a good contact coat has been applied to the substrate. Obtaining a good contact coat to the substrate is essential to ensure the cohesion of the mortar once placed, particularly in vertical and overhead

situations. If repairs are to be carried out around rebar, then it is important to hand place the mortar to ensure good compaction around the rebar without any voids. The mortar can be placed in thicknesses between 10mm and 50mm, without the need for shuttering, however support may be required depending on the exact profile that is to be achieved.

In thicker sections the mortar may be placed in layers, ensuring that each layer is firm and stable, and a keyed surface has been provided before adding the next layer.

Curing: Once placed the TEKNOCEM HBR should be cured in accordance with standard concreting practises. The surface should be cured using CUREAID AC to prevent shrinkage cracking occurring. The freshly applied mortar should be protected from strong, direct sunlight using suitable sheeting.

PACKAGING & COVERAGE

Pack Size: 25Kg

Yield: 14.5ltrs per 25Kg pack.

Coverage: A 25Kg bag will cover 1.4M² @ 10mm thickness.

STORAGE & SHELF LIFE

TEKNOCEM HBR should be kept in clean dry conditions at temperatures between 8°C and 30°C. When stored in unopened bags, the product will have a shelf life of 12 months.

HEALTH & SAFETY

See separate material safety datasheet.



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