PREPRUFE® 250

Pre-applied waterproofing integrally bonded membrane for foundation slabs and below ground single sided walls.

CE 0063

Product Description

PREPRUFE® 250 is a composite sheet comprised of an HDPE film, an aggressive pressure sensitive adhesive and a weather resistant protective coating. Using GCP's unique ADVANCED BOND TECHNOLOGY™, PREPRUFE® 250 provides a continuous seal to cured concrete, prevents lateral water migration and provides long-term waterproofing performance.

The PREPRUFE® 250 system includes:

- PREPRUFE® 250—Waterproofing membrane for horizontal use below concrete slabs or vertically against soil retention systems. Intended for cast-in-place concrete.
- PREPRUFE® Tape LT— self-adhesive 100mm wide strip for covering cut edges, roll ends, penetrations and detailing. LT grade intended for use between -4°C and +30°C.
- BITUTHENE® Liquid Membrane—for sealing around penetrations, etc.

PREPRUFE® 250 is applied either horizontally to smooth prepared concrete, or vertically to permanent formwork or adjoining structures. Concrete is then cast directly against the adhesive side of the membrane. The specially developed PREPRUFE® adhesive forms a continuous and integral seal to the poured concrete.

PREPRUFE® 250 is intended for use with cast-in-place concrete.

Product Advantages

- Cold applied: safe, no need for specialist equipment, no hot works permit needed
- Prevents lateral water migration
- Fast and easy installation
- Helps to avoid project delays
- Excellent gas and vapor barrier
- Inherently waterproof, non-reactive system
- Chemical resistant - durable
- Self-protecting: no protection board or protection screed required after installation of membrane & prior to concrete pour
- UV resistant: can be left exposed for 40 days
- Higher coverage per roll: less number of over laps, less logistics

Advantages

- Prevents lateral water migration—GCP's ADVANCED BOND TECHNOLOGY™ forms a continuous, adhesive and integral seal to concrete poured against it
- Fast and easy installation—primerless adhesive laps
- Excellent gas and vapor barrier—protects the structure from the harmful effects of moisture
- Inherently waterproof, non-reactive system—
  - – Cannot activate prematurely or be washed away
  - – Not reliant on confining pressures or hydration
  - – Unaffected by freeze/thaw, wet/dry cycling
  - – Protects against salt, sulfate and a wide range of contaminants
- Self protecting—ready for immediate placement of reinforcing steel and concrete without costly protective layers

Applications

PREPRUFE® 250 is intended for use as an economical waterproofing solution for low risk basements and other less critical structures below ground. For critical projects (i.e. occupied space and sensitive environments), GCP recommends the use of PREPRUFE® Plus with dual adhesive ZIPLAP™ technology. See separate data sheet.

Limitations

PREPRUFE® 250 membrane can be turned up the inside face of slab formwork but is not recommended for conventional twinsided formwork on walls, etc. Use BITUTHENE® self-adhesive membrane for walls after removal of formwork for a fully-bonded system to all structural surfaces.

Use

PREPRUFE® 250 is supplied in rolls 1.2 m wide, interwound with a disposable plastic release liner which must be removed before placing reinforcement and concrete.

Substrate Preparation

All surfaces—It is essential to create a sound and solid substrate to eliminate movement during the concrete pour. Substrates must be regular and smooth, with no gaps or voids greater than 12 mm. Grout around all penetrations such as utility conduits, etc. for stability.

Horizontal—The substrate must be free of loose aggregate and sharp protrusions. An angular profiled blinding is recommended rather than a sloping or rounded substrate. The surface does not need to be dry but standing water must be removed.

Vertical—Use concrete, plywood, insulation or other approved facing to sheet piling to provide support to the membrane. Board systems such as timber lagging must be close butted to provide support and not more than 12 mm out of alignment.

Membrane Installation

PREPRUFE® 250 membrane can be applied at temperatures of +5°C and above. Below +13°C all PREPRUFE® 250 laps should be secured with PREPRUFE® Tape LT.

Horizontal substrates—Place the membrane HDPE film side to the substrate with the clear plastic release liner facing towards the concrete pour. End laps should be staggered to avoid a build up of layers. Leave plastic release liner in position until overlap procedure is completed.
Accurately position succeeding sheets to overlap the previous sheet 75 mm along the marked selvedge. Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Peel back the plastic release liner from between the overlaps as the two layers are bonded together.
Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. Completely remove the plastic liner to expose the protective coating. Any initial tack will quickly disappear.
On completion of the intallation, ensure complete removal of the plastic liner from all membrane and tape.

Vertical substrates—Mechanically fasten the membrane vertically using fasteners appropriate to the substrate with the clear plastic release liner facing towards the concrete pour. The membrane may be installed in any convenient length. Fastening can be made through the selvedge using a small and low profile head fastener so that the membrane lays flat and allows firmly rolled overlaps. Any exposed fixing should be patched with PREPRUFE® Tape LT. Immediately remove the plastic release liner.

Ensure the underside of the succeeding sheet is clean, dry and free from contamination before attempting to overlap. Roll firmly to ensure a watertight seal.

Roll ends and cut edges—Overlap all roll ends and cut edges by a minimum 75 mm and ensure the area is clean and free from contamination, wiping with a damp cloth if necessary. Allow to dry and apply PREPRUFE® Tape LT centered over the lap edges and roll firmly. Immediately remove the tinted plastic release liner from the tape.

Details

Detail drawings - Consult you local GCP Technical Services staff.

Membrane Repair

Inspect the membrane before installation of reinforcement steel, formwork and final placement of concrete. The membrane can be easily cleaned by power washing with water if required. Repair damage by wiping the area with a damp cloth to ensure that the area is clean and free from dust, allow to dry. Repair small punctures (12 mm or less) and slices by applying PREPRUFE® Tape LT centered over the damaged area. Repair holes and large punctures by applying a patch of PREPRUFE® 250 membrane, which extends 150 mm beyond the damaged area. Seal all edges of the patch with PREPRUFE® Tape LT.

Any areas of damaged adhesive should be covered with PREPRUFE ® Tape LT.
Where the selvedge has been exposed or laps have not been sealed, ensure that the area is clean and dry and cover with PREPRUFE® Tape LT.
All PREPRUFE® Tape LT must be rolled firmly and the tinted release liner removed.

Pouring of Concrete

Ensure the plastic release liner is removed from all areas of PREPRUFE® 250 membrane and PREPRUFE® Tape LT.

It is recommended that concrete be poured within 40 days of application of the membrane. Concrete must be placed and compacted carefully to avoid damage to the membrane. Never use a sharp object to consolidate the concrete.

Removal of Formwork

PREPRUFE® 250 membrane can be applied to removable formwork, such as slab perimeters, elevator and lift pits, etc. Once the concrete is poured the formwork must remain in place until the concrete has gained sufficient compressive strength to develop the surface bond. PREPRUFE® 250 Membrane is not recommended for conventional twin-sided wall forming systems.

A minimum concrete compressive strength of 20 N/mm^2 is recommended prior to stripping formwork supporting PREPRUFE® 250. Premature stripping* may result in displacement of the membrane and/or spalling of the concrete.

* As a guide, to reach the minimum compressive strength stated above, a structural concrete mix with an ultimate strength of 40 N/mm2 will typically require a cure time of approximately six days at an average ambient temperature of -4ºC, or two days at 21ºC. Please contact your local GCP representative for more details.

Supply

Dimensions (Nominal)	PREPRUFE® 250 Membrane	PREPRUFE® Tape LT
Thickness	0.8 mm	
Roll size	1.2 m x 35 m	100 mm x 15 m
Roll area	42 m^2	
Roll weight	42 kg	2 kg
Minimum side/end laps	75 mm	75 mm
* LT denotes Low Temperature between -4°C and +30°C.		
Ancillary Products		
BITUTHENE® Liquid Membrane (LM)		

Declared values according to EN 13967

Property	Declared Value	Test Method
Visible defects - MDV	None	EN 1850-2
Straightness - MDV	Pass	EN 1848-2
Length (m) - MDV	35.15 ± 0.25	EN 1848-2
Thickness (mm) - MDV	0.80 ± 0.07	EN 1849-2
Width Carrier Sheet (m) - MDV	1.206 ± 0.010	EN 1848-2
Water tightness to liquid water (at 60 kPa)	Pass	EN 1928
Resistance to impact (Al-board (mm) - MLV)	≥ 250	EN 12691
Resistance to tearing (Nail Shank)- unreinforced sheets (N) - MLV	≥ 375	EN 12310-1
Joint strength (N/50mm) - MLV	≥ 450	EN 12317-2
Water vapour transmission (μ= sD/d) - MDV	750,000 ± 30%	EN 1931 Method B
Durability of water tightness against ageing/degradation (at 60 kPa)	Pass	EN 1296 EN 1928 Method B
Durability of water tightness against chemicals (at 60 kPa)	Pass	EN 1847 Method B EN 1928 Method B
Compatibility with bitumen	Pass	EN 1548
Resistance to static loading	≥ 20 - Pass	EN 12730
Tensile properties - unreinforced sheets (N/50mm) - MLV	Long[1] ≥ 500 Trans[2] ≥ 500	EN 12311-2 Method A
Tensile properties - unreinforced sheets (Elongation %) - MLV	Long[1] > 4 Trans[2] > 4	EN 12311-2 Method A
Reaction to fire (Class; test conditions)	E	EN 13501-1

Footnotes: 1. Longitudinal - related to the roll direction 2. Transversal - related to the roll direction 3. MDV: Manufacturer Declared Value 4. MLV: Manufactured Limiting Value All declared values shown in this data sheet are based on test results determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.

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PREPRUFE® 250 EN-0621
Materiały drukowane przeznaczone wyłącznie do użytku w Polsce.

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gcpat.pl/solutions/products/preprufe-pre-applied-waterproofing-solutions/preprufe-250