

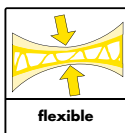
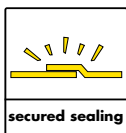
Bituplus ULTRA P4180

APP modified bituminous waterproofing membrane

Plastomeric membrane with excellent heat & UV resistance and waterproofing properties

CHARACTERISTICS

- ▶ Polymer rich compound. Easy and strong seal on overlaps.
- ▶ High flexibility. Easy application on corner profiles and detailings.
- ▶ High softening point. Does not leave shoe imprints or makes the bitumen sticky during high temperature applications.
- ▶ High resistance against hydrostatic pressure.
- ▶ Good dimensional stability under tension.
- ▶ User friendly printed films with stick timer aids easy and correct application.
- ▶ High mechanical strengths and fatigue resistance properties.



DESCRIPTION

Bituplus ULTRA P4180 is a plastomeric high performance bitumen based torch applied waterproofing membrane. The Bituplus ULTRA range of waterproofing membranes has been developed with special selected components and advanced technologies, in order to offer premium quality and superior features and performance, even under extreme conditions.

The right blend of the high quality bitumen and polymers, coupled with various reinforcements, provides excellent resistance to high hydrostatic pressure and better flexibility, strength and heat resistance.

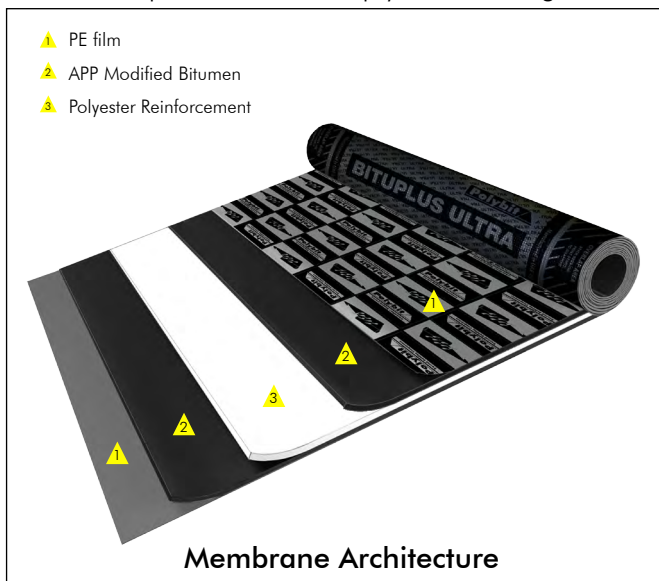
In order to offer a superior sealing of the overlap joints, the polyester used as the carrier is positioned in a carefully chosen position, while the innovative enhanced thermofusible film applied on the membrane has clear demarcation lines for proper alignment of the membranes with the recommended overlap area.



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With the state-of-the art homogenizing facility, the bitumen compound is enriched on its cohesive links at microscopic level. This simply means a high level



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close-knit interlocking between cells and uniform distribution of polymers that result in excellent adhesion of the molten bitumen compound during application, even on vertical surfaces.

FIELDS OF APPLICATION

Bituplus ULTRA P4180 is used as a waterproofing membrane on the following structures:

- Inverted roofs & podiums
- Terraces & balconies
- Sunken slabs
- Bridge Piers
- Bridge Viaducts
- Underpasses
- Box culverts
- Concrete foundations
- Building footings
- Retailing walls
- Holding tanks & reservoirs

APPLICATION INSTRUCTIONS

The application temperature should be between 5°C to 55°C. Application procedures may vary slightly depending upon site conditions.

Surface preparation

The surface shall be cleaned thoroughly of all contaminants like dust, traces of curing compound, oil and grease. All surface imperfections, protrusions, structurally unsound and friable concrete must be removed and repaired.

Priming

Apply Polyprime SB* (Solvent based primer) @ 4- 6 m²/L to a clean smooth and dry surface by brush, roller or spray. Allow the primer to dry prior to the

application of the membrane. As the viscosity of the primer is low, it easily penetrates into the concrete pores which promotes the adhesion between the membrane and the concrete surface. In addition to that the primer also acts as a binder for the dust which gets accumulated on the concrete surface even after cleaning.

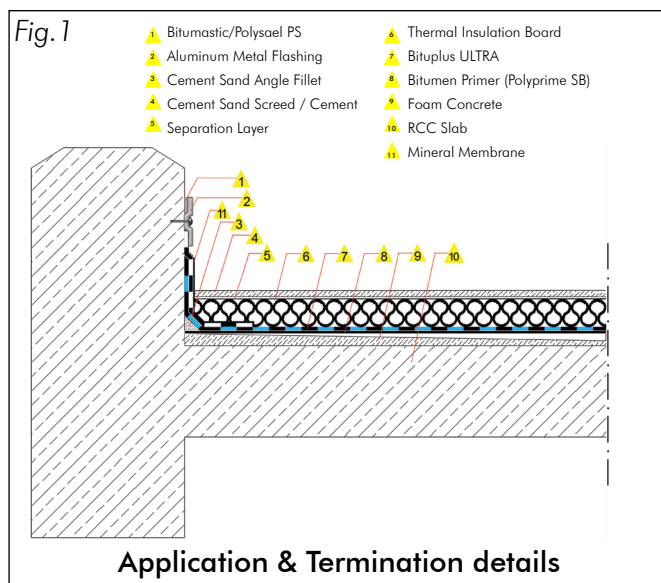
Alignment

Start the installation of all membrane plies from the low point or drains, so the flow of water is over or parallel to the plies, but never against the lap. All overlaps at the membrane seams shall be installed so as to have «up» slope laps over «down» slope lap. Begin membrane application by unrolling the roll of Bituplus ULTRA P4180 membrane and aligning the side laps. Side overlaps should be a minimum of 100 mm and the end overlap 150mm.

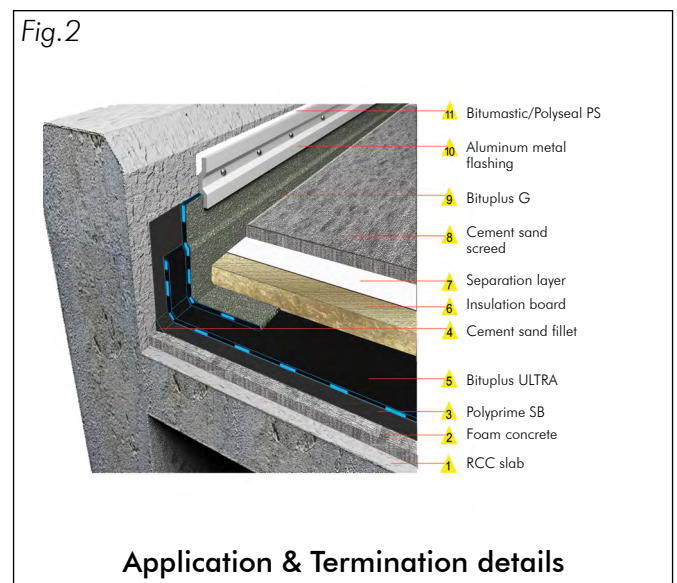
Torching

Bituplus ULTRA P4180 membranes are installed by using a cylinder fed propane gas torch. Use of hand-held roofing torch is recommended as it affords a good control. Begin torching the embossed polyethylene side of the rolled portion of the membrane. As the membrane is heated the embossing starts to melt away exposing a shiny bitumen surface. Roll forward the membrane and press firmly with the boot or roller against the substrate to bond well. The propane flame should be moved from side to side and up the lap edge while the membrane is slowly unrolled and adhered to the surface.

CAUTION: do not over torch the membrane as this will expose the reinforcement and cause damage to it.

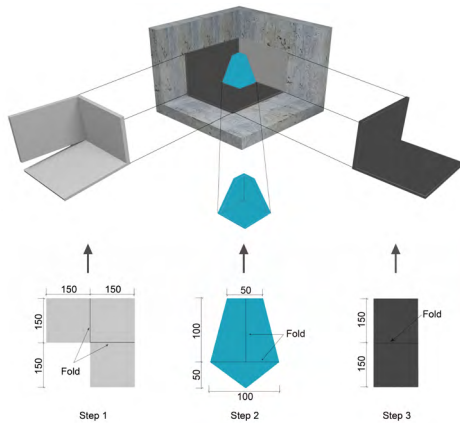


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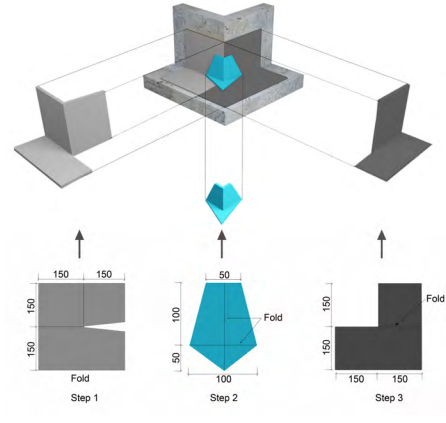
Fig.3



Internal corner details

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Fig.4



External corner details

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Sealing

Heat both the overlaps and use round tipped trowel to seal the overlap. Adequate heat is confirmed when a uniform flow of melted bitumen compound flows evenly in a bead that oozes from the applied membrane's edges. Excess compound should be smoothed and pressed into the seam using a heated trowel. Any un-bonded areas must be lifted and re-torched.

Corner Detailings

All internal corners shall be provided with an appropriate cement sand angle fillet. Prior to the application of the membrane on all internal and external corners, reinforcement strips shall be laid as per the details provided in Fig.3 & Fig.4.

Up stand

Flashing details are accomplished using cut pieces of Bituplus ULTRA P4180 membrane in combination with appropriate prefabricated flashing components. The same side lap and end lap rules apply to flashing details as to field membrane. An appropriate flashing membrane (mineral surface membrane) shall be lapped with the base membrane and taken up on the parapet wall and tucked into a groove cut into the concrete. The grooves will be sealed with a suitable mastic sealant (Bitumastic)*.

STANDARDS

Bituplus ULTRA P4180 membrane is tested and conform to the requirements of UEAtc 2001 and ASTM.

STORAGE & SHELF LIFE

Bituplus ULTRA P4180 membrane rolls whether loose or on pallets have to be stored vertically in a shaded area neatly covered by a thick fabric and tied securely in a manner that will minimize exposure to sunlight & UV. Do not stack pallets on top of each other. The shelf life is 12 months if stored as per recommendations. Excessive exposure to sunlight, UV and other sources of heat will result in considerable deterioration of the product and reduce its shelf life.

HEALTH & SAFETY

Bituplus ULTRA P4180 membranes contain a tacky bitumen compound which when applied can stick to human skin. Such stains can be removed by using a cloth dipped in a suitable cleaner.

SUPPLY

| | |
|----------------------|----------------------|
| Bituplus ULTRA P4180 | 1m x 10m, wt 40kg# |
| Polyprime SB | 20L pail & 200L drum |
| Bitumastic | 20kg pail |

*Refer to website for TDS # Approximate weight

TECHNICAL SPECIFICATION

| PROPERTIES | VALUES | TEST STANDARDS |
|---|--|----------------|
| Thickness, [mm] | 4.0 | EN 1849-1 |
| Mass, [kg/m ²] | 4.0-4.3 | EN 1849-1 |
| Core reinforcement [polyester], [g/m ²] | 180 | EN 29073-1 |
| Coating asphalt | Atactic poly propylene polymer modified bitumen | |
| Softening point [R&B], [°C] | 150 ± 10 | ASTM D 36 |
| Penetration @25°C, [dmm] | 10-25 | ASTM D 5 |
| Tensile strength [L/T], [N/5cm] | 850/650 | EN 12311-1 |
| Elongation at break [L/T], [%] | 40/50 | EN 12311-1 |
| Tear strength [L/T], [N] | 550/400 | ASTM D 5147 |
| Nail tear strenght [L/T], [N] | 200/220 | EN 12310-1 |
| Resistance to static loading | Static : L ₂₅ | EN 12730 |
| Water absorption, [%] | <0.2 | ASTM D 5147 |
| Hydrostatic pressure @5 bar | No leakage | BS EN 12390 |
| Heat resistance @120°C | No flow | DIN EN 52123 |
| Low temperature flexibility [°C] | 0 | ASTM D 5147 |
| Dimensional stability, [%] | <1 | ASTM D 6164 |
| Resistance to ageing | No deterioration | ASTM G 154 |

All values given are subject to 5-20% tolerance

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.

The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.



Henkel Polybit Industries Ltd.

PO Box: 293, Umm Al Quwain, UAE

Phone: +971 (6) 76 70 777; Fax: +971 (6) 76 70 197

henkelpolybit@henkel.com; www.henkelpolybit.com

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