

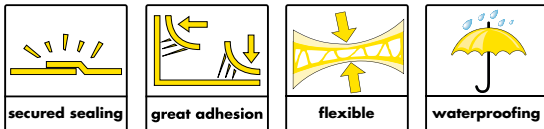
# Bituplus ULTRA E4180

## SBS modified bituminous waterproofing membrane

Bituminous waterproofing membrane, modified with SBS polymers for excellent waterproofing and low temperature flexibility properties

### CHARACTERISTICS

- ▶ Polymer rich compound. Easy and strong seal on overlaps.
- ▶ High flexibility even in low temperature. Easy application on corner details.
- ▶ High resistance against hydrostatic pressure. Suitable for deep basement applications.
- ▶ Good dimensional stability under tension.
- ▶ Excellent adhesion on vertical surfaces. Can be left with protection board for up to 4 weeks before backfilling.
- ▶ User friendly printed films with stick timer aids easy and correct application.
- ▶ High mechanical strengths and fatigue resistance properties.



### DESCRIPTION

Bituplus ULTRA E4180 is an elastomeric 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.

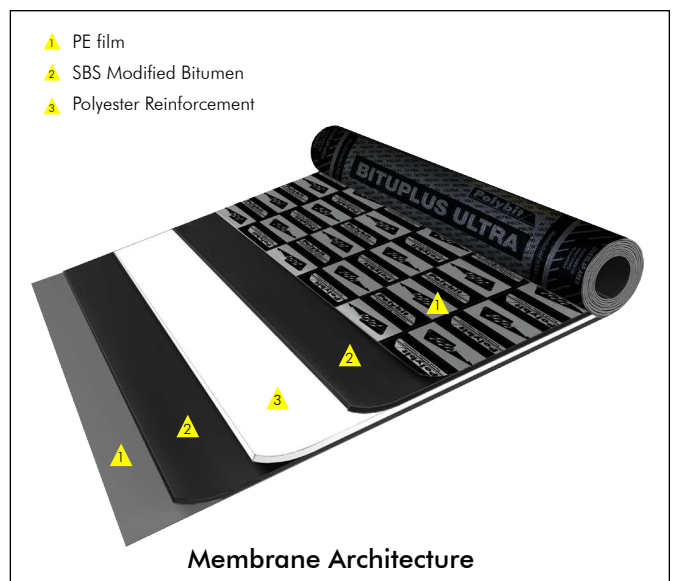
In order to offer a superior sealing of the overlap joints, the polyester used as the carrier is positioned in a carefully chosen position, while the innovative enhanced thermofusible film applied on the membrane has clear demarcation lines for proper alignment of the membranes with the recommended overlap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

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 close-



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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.



Membrane Architecture

For illustration Purpose only

## FIELDS OF APPLICATION

Bituplus ULTRA E4180 membrane is typically used for waterproofing / damp proofing of the following areas:

- Building basements
- Pileheads
- Concrete foundations
- Building Footings
- Bridge piers
- Bridge Viaducts
- Underpasses
- Box culverts
- Retaining 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 m<sup>2</sup>/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 that the flow of water is over or parallel

to the plies, but never against the laps. All overlaps at the membrane seams shall be installed so as to have «up» slope laps over «down» slope laps. Begin membrane application by unrolling the roll of Bituplus ULTRA E4180 membrane and aligning the side laps. Side overlaps should be a minimum of 100 mm and the end overlaps 150mm.

### Torching

Bituplus ULTRA E4180 membrane is 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 underlying surface.

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

### Sealing

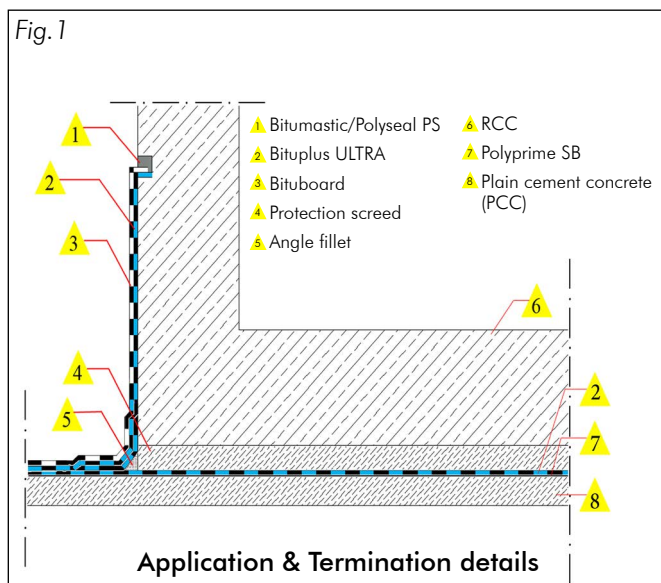
Heat both the overlaps and use round tipped trowel to seal the overlap. Adequate heat is confirmed when a uniform flow of melted bitumen compound flows evenly in a bead that oozes from the applied membrane's edges. Excess compound should be pressed into the seam using a heated trowel. Any un-bonded areas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

### Corner Detailings

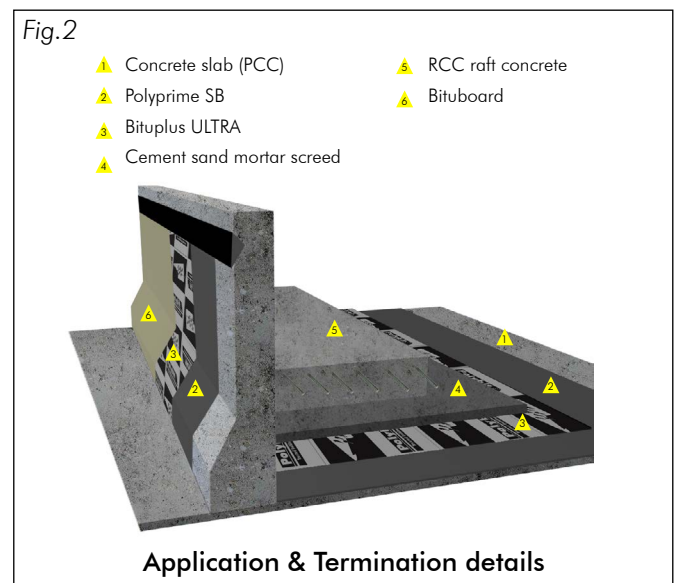
All internal corners shall be provided with an appropriate cement sand angle fillet. External corners shall be chamfered as per the manufacturer's recommendations. Prior to the application of the membrane on all internal and external corners, reinforcement strips shall be laid as per the details provided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

### Protection

Bituplus ULTRA E4180 membrane shall be protected from getting damaged due to the ongoing site activities

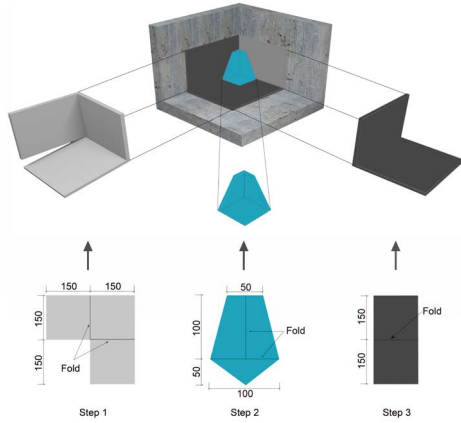


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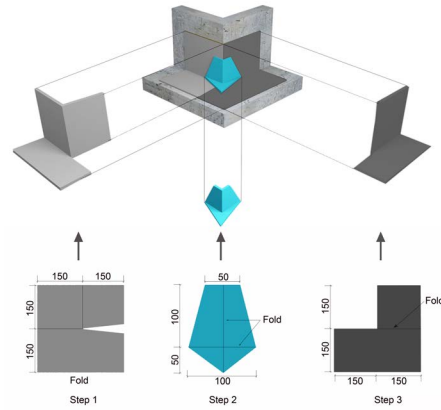
Fig.3



Internal corner details

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Fig.4



External corner details

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and during the backfilling process. Membranes laid on horizontal surfaces can be protected by a cement sand screed (50mm thick). On vertical surfaces the membrane has to be protected with Bituboard. Bituboard can be fixed on the membrane by torching the underside of the board. Please contact our technical service team for specific requirement.

### STANDARDS

Bituplus ULTRA E4180 membrane is tested and confirms to the requirements of ASTM and UEAtc 2001 standards.

### STORAGE & SHELF LIFE

Bituplus ULTRA E4180 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. The membranes shall be protected from all sources of heat and extreme temperatures. 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 E4180 contains a tacky bitumen compound which can stick to human skin during application. Such stains can be removed by using a cloth dipped in a suitable cleaner.

### SUPPLY

Bituplus ULTRA E4180		1m x 10m, wt 41kg#
*Polyprime SB		20L pail & 200L drum
*Bituboard	3.2mm	2m x 1m, wt 7.7kg#
	4.0mm	2m x 1m, wt 9.6#
	6.0mm	2m x 1m, wt 14.0kg#

\*Refer to website for TDS # Approximate weight

## TECHNICAL SPECIFICATION

PROPERTIES	VALUES	TEST STANDARDS
Thickness, [mm]	4.0	EN 1849-1
Mass, [kg/m <sup>2</sup> ]	4.0-4.3	EN 1849-1
Core reinforcement [polyester], [g/m <sup>2</sup> ]	180	EN 29073-1
Coating asphalt	Styrene butadiene styrene polymer modified bitumen	
Softening point [R&B], [°C]	120 ± 10	ASTM D 36
Penetration @25°C, [dmm]	15-30	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 strength [L/T], [N]	200/220	EN 12310-1
Resistance to static loading	Static : L <sub>25</sub>	EN 12730
Water absorption,[%]	<0.2	ASTM D 5147
Hydrostatic pressure @ 5bar	No leakage	BS EN 12390
Low temperature flexibility, [°C]	0 to -10	ASTM D 5147
Heat resistance @100°C	No Flow	EN 52123
Dimensional stability, [%]	<1	ASTM D 6164

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.

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