

# BITUPLUS E 4270

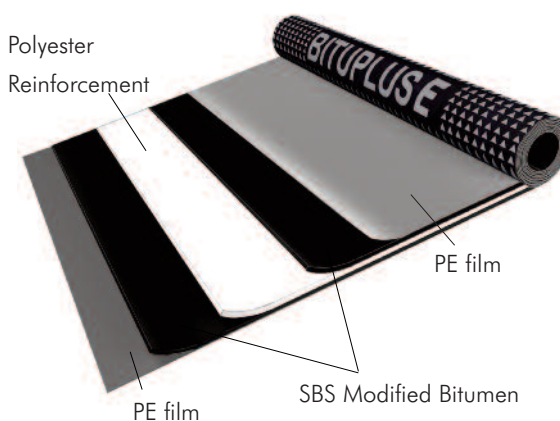
## SBS modified bituminous waterproofing membrane

BITUPLUS E 4270 is a bituminous waterproofing membrane manufactured by blending a mixture of bitumen and SBS (Styrene Butadiene Styrene) polymers to obtain excellent waterproofing and low temperature flexibility properties. The polymerized bitumen is coated onto a dimensionally stable reinforcement core of non woven spun bond polyester rot-proof fabric. The membrane has excellent tensile & tear strengths and is highly resistant to puncture. It is flexible and is suitable for applications where high structural movement is expected.

TDS\_Bituplus-E4270\_GCC\_0216

### CHARACTERISTICS

- ▶ Excellent resistance to positive water & vapor pressure
- ▶ Good dimensional stability under tension
- ▶ Excellent flexibility. Can accommodate high structural movements
- ▶ High puncture and fatigue resistance
- ▶ Excellent tensile and tear strengths
- ▶ High resistance against water borne chemicals
- ▶ Exhibits good low temperature flexibility with no physical strain



For illustration Purpose only

### FIELDS OF APPLICATION

BITUPLUS E 4270 membrane is typically used for waterproofing / damp proofing of the following areas:

- ▶ Concrete foundations & footings
- ▶ Basements
- ▶ Pile heads
- ▶ Swimming pools & water retaining structures (externally)
- ▶ Tunnels
- ▶ Wet areas (Kitchens & bathrooms)

### APPLICATION

The application temperature should be between 4°C to 45°C. Application procedures may vary slightly depending upon site conditions. The general recommended guidelines for the application of the waterproofing system is as follows:

#### Surface preparation

The surface shall be cleaned thoroughly of all con-

taminants like dust, traces of curing compound, oil and grease. All surface imperfections, protrusions, structurally unsound and friable concrete must be removed and repaired with a suitable POLYCRETE\* concrete repair mortar.

#### Priming

Apply POLYPRIME SB\* (Solvent based primer) @4-6 m<sup>2</sup>/lt 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. The primer promotes the adhesion between the membrane and the concrete surface. In addition to that, the primer also acts as a binder for the dust particles which gets accumulated on the concrete surface even after cleaning.

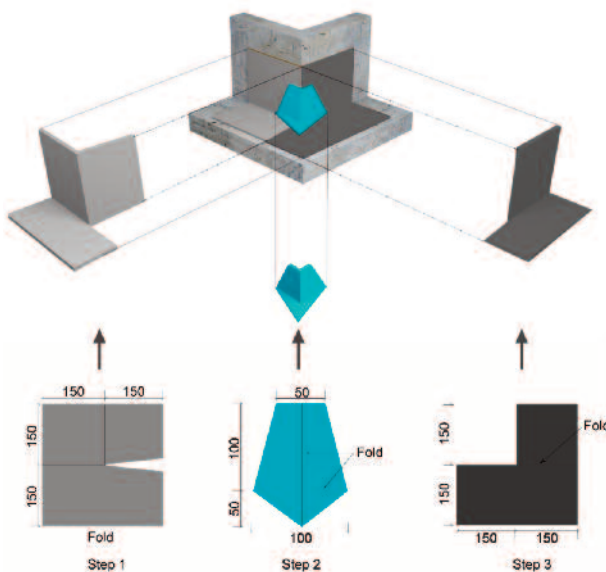
### Alignment

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 E 4270** membrane and aligning the side laps. Re-roll the roll halfway and stand on the unrolled portion to prevent shifting. Side overlaps should be a minimum of 100 mm and the end overlaps 150mm.

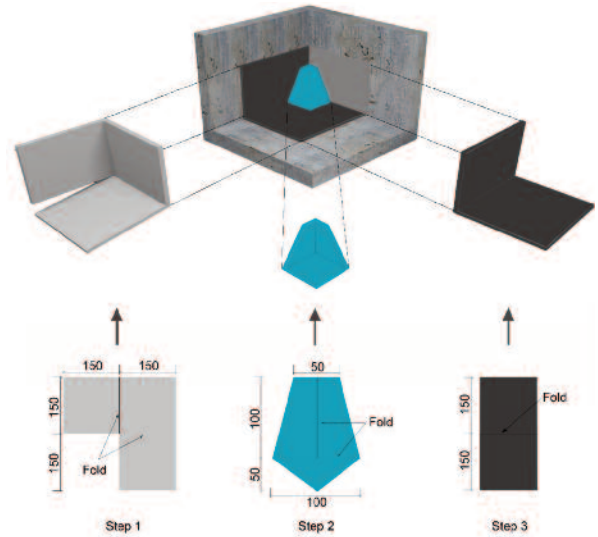
### Torching

**BITUPLUS E 4270** 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. If multiple burner torching machines are utilized, care must be taken to ensure the application of uniform heat and avoid overheating of the membrane. Begin torching the embossed polyethylene side of the rolled portion of the membrane. Proper torching procedure involves passing the torch flame in an "L" pattern applying about 75 percent of the heat across the coiled portion of the roll and 25 percent across the substrate, including the lap area of the previously installed 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. Subsequent shift of the roll shall be avoided after heating has begun. When complete, the remaining un-torched membrane shall be re-rolled and installed in the same manner. When one end is complete, re-roll the opposite end not yet torched, and install in the same manner.



External Corner Details



### Internal Corner Details

For illustration Purpose only

As subsequent rolls are installed, heat is applied to both the roll and the exposed laps of the membrane being overlapped onto. Be sure to heat the entire roll evenly and not just the lap areas, with extra concentration at the laps.

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. Do not attempt to reseal by torching the top surface of the membrane.

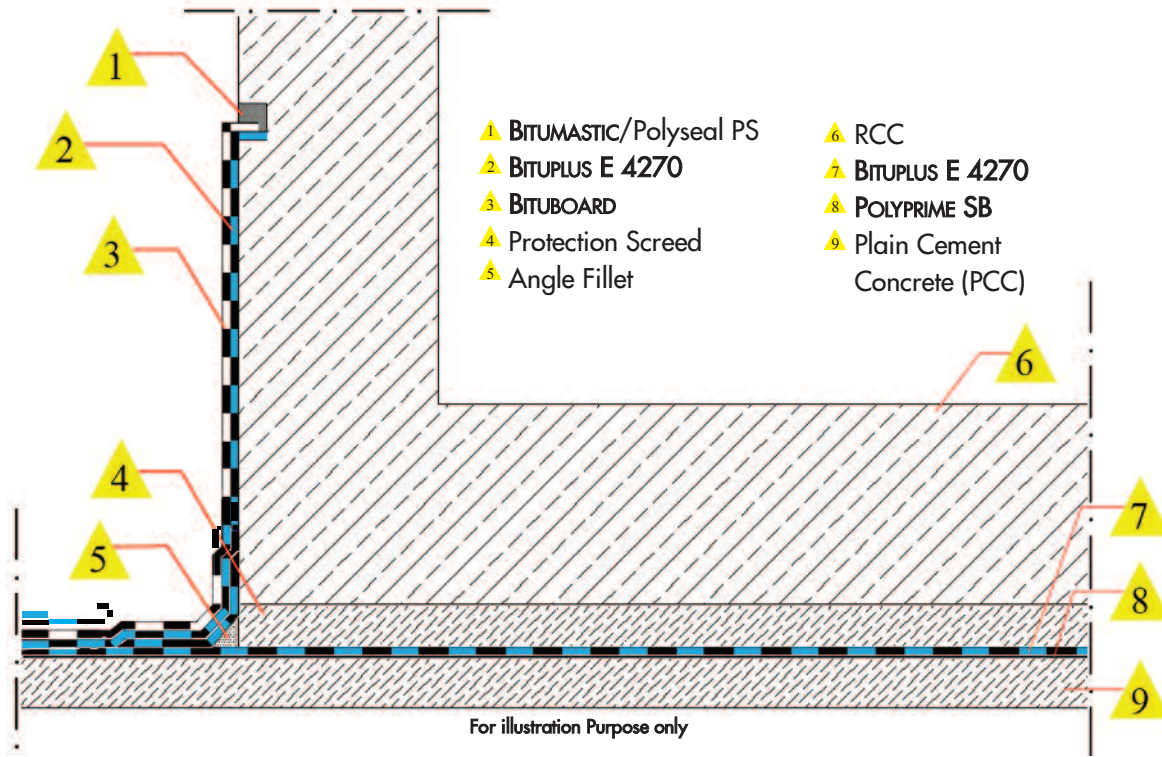
### Protection

**BITUPLUS E 4270** should be protected from getting damaged due to the ongoing site activities and during backfilling. Membranes laid on horizontal surfaces can be protected either by a cement sand screed (50mm thick) or by an asphaltic protection board (**BITUBOARD**)\*. 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, or with a double sided bitumen adhesive tape (**WATERTITE TS 15**)\*.

## STANDARDS

**BITUPLUS E** membranes are tested and conform to the requirements of ASTM and UEAtc 2001.



### STORAGE & SHELF LIFE

3

BITUPLUS E 4270 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.

### SAFETY PRECAUTIONS

Any naked flame should be kept well away from the gas cylinders. When ignited the torch should be watched at all times. The torch should not be rested on finished roofing. Extreme care should be taken when working near combustible materials or items which might be scorched by the gas flame.

### HEALTH & SAFETY

BITUPLUS E 4270 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 E 4270		1m x 10m,	wt 41kg <sup>#</sup>
POLYPRIME SB		20 lt pail & 200 lt drum	
BITUBOARD	3.2mm	2m x 0.95m,	wt 6.65kg <sup>#</sup>
	6.0mm	2m x 1m,	wt 12.5kg <sup>#</sup>
WATERTITE TS 15		10m x 50mm,	wt 0.60kg

\*Refer to website for TDS

<sup>#</sup> Approximate weight

## TECHNICAL SPECIFICATION

PROPERTIES	VALUES	TEST STANDARDS
Product		4270
Thickness, [mm]	4.0	DIN EN 1849-1
Mass per unit area, 4mm [kg/m <sup>2</sup> ]	4.0-4.3	DIN EN 1849-1
Reinforcement (polyester), [g/m <sup>2</sup> ]	270	EN 29073-1
Coating asphalt Softening Point (R&B), [°C] Penetration @25°C, [0.1mm]	Styrene Butadiene Styrene Polymer Modified Asphalt >110 20-35	ASTM D 36 ASTM D 5
Tensile Strength (L/T), [N/5cm]	1100/800	DIN EN 12311-1
Elongation at Break (L/T), [%]	40/50	DIN EN 12311-1
Shear Resistance at joints (L/T), [N/5cm]	>1100/800	DIN EN 12317-1
Tear Resistance (L/T), [N]	220/240	DIN EN 12310-1
	>700/600	ASTM D 5147
Puncture Resistance, [N]	>1000	ASTM E 154
Resistance to Static loading	Static : L <sub>25</sub>	DIN EN 12730
Hydrostatic pressure @ 5 bar (50m)	No Leakage	BS EN 12390 (Part 8)
Water Absorption (BSP), [%]	< 0.2	ASTM D 5147
Heat Resistance @100°C	No Flow	DIN EN 52 123
Low temperature flexibility	-3°C to -10°C	ASTM D 5147
Resistance to Ageing	No Deterioration	ASTM G 154
Dimensional Stability, [%]	<1	ASTM D 6164
VOC [g/L]	<50	ASTM D3960 / D2369

All values given are subject to 5-20% tolerance

TDS\_Bituplus-E4270\_GCC\_0216

4

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.

Manufactured in G.C.C.



**Henkel Polybit Industries Ltd.**  
P.O. Box 293, Umm Al Quwain, UAE  
Tel: +971 6 7670777, Fax: +971 6 7670197  
henkelpolybit@henkelpolybit.com

**Henkel Polybit Industries Ltd.**  
P.O. Box 2230, Al Khobar 31952, KSA  
Tel: +966 13 808 4061/62, Fax: +966 13 812 1164  
dammm@henkelpolybit.com