

# COLPHENE BSW H

**COLPHENE BSW H** is a high-performance waterproofing membrane composed of SBS modified elastomeric bitumen and a non-woven polyester reinforcement. The topside is coated with specially engineered silicon dioxide crystals and the underside is covered by a thermofusible film.

Thanks to its special formulation and composition **COLPHENE BSW H** has excellent, continuous and homogenous bond to poured structural concrete to increase resistance to hydrostatic pressure with superior mechanical properties.

Its unique design, including the **DUO SELVEDGE** technology, allows welding of side laps using a torch or a hot-air welder.

## User application

**COLPHENE BSW H** is a pre-applied membrane designed for horizontal blindside waterproofing applications (below grade and tanking works).

All the applications are described in **SOPREMA's** Technical Guidelines in force.

## Composition

	<b>COLPHENE BSW H</b>
Reinforcement	Non-woven polyester
Binder	Elastomeric bitumen: blend of selected bitumen and SBS* thermoplastic polymers
Thickness (EN 1849-1)	3.5 mm (±5%)
Weight (EN 1849-1)	4.3 kg/m <sup>2</sup>
Topside	Specially engineered silicon dioxide crystals
Underside	Thermofusible film
Overlap (DUO technology)	100 mm covered with a release film (55 mm sticky bitumen + 45 mm thermofusible film)
*According to UEAtc directives concerning the normalization of waterproof elastomeric SBS bitumen coverings	

## Packaging

	<b>COLPHENE BSW H</b>
Dimensions of the roll	10 m x 1 m
Weight of the roll	about 43 kg
Storage	Rolls must be stored upright, with the selvedge side on top If the product is stored outdoors, cover them with an opaque protective cover after removal of the delivery packaging
Roll lengths are given with a tolerance of < 1 %. Width of roll is given with a tolerance of 1% (UEAtc). Rolls must be stored upright on flat ground. During storage, protect the rolls against moisture. In cold weather, we recommend that the rolls be kept at a minimum temperature of + 2°C (+ 36 °F) for at least 5 hours before installation.	

## Characteristics (outside CE marking)

Properties	Test method	COLPHENE BSW H
Tensile strength at peak load, MD/XD	ASTM D5147	≥ 17 kN/m / 11.5 kN/m
Elongation at break, MD/XD	ASTM D5147	60 % / 65 %
Tear strength, MD/XD	ASTM D5147	≥ 600 N / 400 N
Low temperature flexibility	ASTM D5147	Unaffected at -18 °C
Resistance to puncture	ASTM E154	≥ 1210 N
Water vapour transmission	ASTM E96 method B	< 2.5 ng / (Pa·s·m <sup>2</sup> ) (<0.04 perm)
Water absorption	ASTM D570	< 0.9 %
Peel strength Adhesion to poured structural concrete	ASTM D903	≥ 3400 N / m
Resistance to hydrostatic head	ASTM D5385	≥ 110 m (≥360 ft)
Lateral water migration	ASTM D5385 modified	≥ 110 m (≥360 ft)
Gas permeability (methane) - cm <sup>2</sup> /s.Pa - cm <sup>2</sup> /atm	ASTM D1434	< 15 (E <sup>-12</sup> ) < 15 (E <sup>-07</sup> )
Radon gas diffusion coefficient D including joint	K124/02/95	6.6 (±0.3) x 10 <sup>-12</sup> m <sup>2</sup> /s 2.2 (±0.1) x 10 <sup>-12</sup> m <sup>2</sup> /s

(values are subject to variation not exceeding 15 %)

## Installation

**COLPHENE BSW H** is installed loose laid on the concrete slab or compacted soil.

To prevent overly thick membranes, stagger the end laps by a minimum of 300 mm.

Side lap joints must be a minimum of 100 mm and end lap joints must be a minimum of 150 mm.

Membranes overlaps are sealed, by heat-welding, with a gas torch or using an electric hot-air welder.

All angle changes (inside and outside corners) and other details must be reinforced by heat-welding an additional 300 mm piece of **COLPHENE BSW H** centered on the angle.

It is recommended to install **COLPHENE BSW PROTECT'R**, as a protection layer, over the **COLPHENE BSW H** prior to placement of the reinforcement steel bars and pouring of the concrete slab.

### DUO SELVEDGE

Over the entire width of **DUO SELVEDGE**, 55 mm of the surface is covered with exposed sticky bitumen. The remaining surface of the selvedge 45 mm is covered by a thermofusible film to seal overlap by heat-welding with a gas torch or an electric hot-air welder.

**FOR COMPLETE INFORMATION ON PRODUCT INSTALLATION, PLEASE CONSULT YOUR SOPREMA REPRESENTATIVE.**

## Special indications

### Hygiene, health and environment:

The product does not contain any substance likely to be detrimental to health or to environment and complies with generally admitted Health and Safety Requirements. For further information, please refer to relevant Safety Data Sheet.

### Traceability:

Product traceability is ensured through a manufacturing code present on the packaging.

### Quality control:

**SOPREMA** has always attached the highest importance to the quality of its products, to the respect of environment and people. For this reason, we apply an integrated management of the Quality and Environment certified **ISO 9001** and **ISO 14001**.

## CE marking

 <b>1119</b> <b>COLPHENE BSW H</b>
<b>SOPREMA</b> 14 rue de Saint-Nazaire – CS 60121 67025 STRASBOURG cedex  <b>14</b> Construction Product Regulation (CPR) Declaration of Performance: DoP n° WPBEX250 Certificate of Factory Production Control: 1119-CPR-13136, 13137, 13138 (EN 13969)
<b>EN 13969</b> Membrane composed of modified elastomeric bitumen and non-woven polyester reinforcement. Topside is coated with specially engineered silicon dioxide crystals and the underside is covered with a thermofusible film. Dimensions 10 m x 1 m x 3.5 mm. Must be loose laid. For below grade and tanking works.

Essential characteristics	Performances	Harmonised Technical Specification
Reaction to fire (EN 13501-1)	<b>E</b>	<b>EN 13969:2004 + A1:2006</b>
Root resistance (EN 13948)	<b>NPD</b>	
Peel resistance of joints (N / 50 mm) (EN 12316-1)	<b>≥ 100</b>	
Watertightness – Method B (EN 1928)	<b>Conform</b>	
Resistance to impact – Method A (mm) (EN 12691) Method A is on rigid substrate (aluminium)	<b>≥ 1000</b>	
Shear resistance of joints (N / 50 mm) (EN 12317-1)	<b>≥ 700</b>	
Flexibility at low temperature (°C) (EN 1109)	<b>≤ -16</b>	
Tensile properties: (EN 12311-1) Tensile strength L x T (N / 50 mm) Elongation L x T (%)	<b>1100 x 800 (±20 %) 55 x 55 (±15 abs.)</b>	
Resistance to static loading (kg) Method B (EN 12730) Method B is on rigid substrate (concrete)	<b>≥ 15</b>	
Resistance to tearing (nail shank) M x C (N) (EN 12310-1)	<b>300 x 300 (±100)</b>	
Durability (EN 1296 / EN 1928) Watertightness after ageing	<b>Conform</b>	
Dangerous substances (Notes 2 and 3)	<b>Complies</b>	

Note 2: This product does not contain asbestos or tar constituents.

Note 3: Since there is no European test method available, no performance declaration for leaching behavior can be made. It must be made according to national rules in force in the place of use.

Additional characteristic	COLPHENE BSW H
Durability (°C) (EN 1296 / EN 1110) Flow resistance at elevated temperature after ageing	<b>≥ 90</b>
Watertightness (kPa) (EN 1928) – Method B New and after ageing test (EN 1296) (6 months at 70±2°C)	<b>≥ 600</b>