



## TECHNICAL SPECIFICATION

### SBS Bitumen Membrane

#### Product Description

**SBS Bitumen Membrane** is a high-performance elastomeric waterproofing membrane manufactured from bitumen modified with **Styrene-Butadiene-Styrene (SBS)** polymer. It is reinforced with non-woven polyester and designed to provide high flexibility, elongation, tensile strength and waterproofing performance, particularly at low temperatures. The membrane is suitable for torch-applied waterproofing systems on roofs, foundations, basements, retaining walls, tunnels, bridges and other concrete structures.

#### Technical Specifications

| Property                           | Typical Value                     | Test Method             |
|------------------------------------|-----------------------------------|-------------------------|
| Modifier                           | SBS (Styrene-Butadiene-Styrene)   | —                       |
| Reinforcement                      | Non-woven Polyester               | —                       |
| Polyester Reinforcement            | 180–200 g/m <sup>2</sup>          | EN 29073-1 / ASTM D5147 |
| Nominal Thickness                  | 4.0 mm ± 0.2 mm                   | EN 1849-1 / ASTM D5147  |
| Mass per Unit Area                 | Approx. 4.0–4.5 kg/m <sup>2</sup> | EN 1849-1               |
| Roll Length                        | 10 m ± 1%                         | ASTM D5147              |
| Roll Width                         | 1 m ± 1%                          | ASTM D5147              |
| Coverage per Roll                  | Approx. 10 m <sup>2</sup>         | —                       |
| Tensile Strength – Longitudinal    | ≥ 800 N/50 mm                     | EN 12311-1 / ASTM D5147 |
| Tensile Strength – Transverse      | ≥ 600 N/50 mm                     | EN 12311-1 / ASTM D5147 |
| Elongation at Break – Longitudinal | ≥ 40%                             | EN 12311-1              |
| Elongation at Break – Transverse   | ≥ 45%                             | EN 12311-1              |
| Tear Resistance – Longitudinal     | ≥ 400 N                           | ASTM D5147              |
| Tear Resistance – Transverse       | ≥ 300 N                           | ASTM D5147              |
| Low Temperature Flexibility        | ≤ -20°C                           | ASTM D5147              |
| Softening Point (R&B)              | ≥ 110°C                           | ASTM D36                |
| Water Absorption                   | ≤ 0.5%                            | ASTM D5147              |
| Watertightness                     | Pass / Impermeable                | EN 1928 / ASTM D5385    |
| Dimensional Stability              | ≤ 1%                              | ASTM D5147              |



| Property           | Typical Value                     | Test Method |
|--------------------|-----------------------------------|-------------|
| Surface Finish     | PE Film / Sand / Mineral Granules | —           |
| Bottom Surface     | Torchable Polyethylene Film       | —           |
| Application Method | Torch Applied                     | —           |
| Colour             | Black / Mineral Finished          | —           |

*Values are typical specifications and can be adjusted according to membrane grade, thickness and reinforcement.*

#### Available Thicknesses

SBS Bitumen Membrane can typically be supplied in:

- 3 mm
- 4 mm
- 5 mm

The **4 mm polyester-reinforced membrane** is one of the common configurations for heavy-duty waterproofing. Commercial SBS products are also available with 180–200 g/m<sup>2</sup> polyester reinforcement.

#### Reinforcement

The membrane is reinforced with high-strength **non-woven polyester fabric**, providing:

- High tensile strength
- High elongation
- Excellent tear resistance
- Dimensional stability
- Resistance to puncture
- Ability to accommodate structural movement

Typical reinforcement weights include **180 g/m<sup>2</sup> and 200 g/m<sup>2</sup>**.

#### Surface Finish

Depending on application requirements, the SBS Bitumen Membrane can be supplied with:

##### Upper Surface:

Polyethylene film, fine sand or mineral granules.

##### Lower Surface:

Torchable polyethylene film.

Mineral-finished membranes are particularly suitable as exposed cap sheets, while PE-film-finished membranes are commonly used within protected or multilayer waterproofing systems.

#### Main Characteristics

- Excellent waterproofing performance
- High flexibility at low temperatures
- Excellent elasticity and elongation
- High tensile and tear strength



- Good dimensional stability
- Good puncture resistance
- Resistant to ageing
- Good resistance to mechanical impact
- Accommodates normal structural movement
- Strong adhesion when correctly torch applied
- Suitable for horizontal and vertical applications

SBS-modified membranes are specifically valued for their low-temperature flexibility and mechanical performance. For example, commercial 4 mm SBS membranes report flexibility around  $-20^{\circ}\text{C}$ , with tensile strengths ranging roughly from 700–900 N/50 mm longitudinally depending on reinforcement and formulation.

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### Applications

SBS Bitumen Membrane is suitable for waterproofing:

- Flat and pitched roofs
- Basements
- Foundations and footings
- Retaining walls
- Terraces and balconies
- Wet areas
- Underground structures
- Tunnels
- Bridges
- Concrete structures
- Water-retaining structures where approved
- Parking decks
- Civil engineering structures

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### Standard Roll Dimensions

**Width:** 1 meter

**Length:** 10 meters

**Nominal Coverage:** 10 m<sup>2</sup> per roll before allowance for overlaps.

The 1 m × 10 m roll format is widely used for commercial SBS waterproofing membranes.

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### Application

The substrate should be:

- Clean
- Dry
- Smooth
- Structurally sound
- Free from dust
- Free from oil and grease
- Free from loose particles and sharp projections



A suitable bituminous primer should be applied where required.

For torch-on membranes, the underside polyethylene film is heated using an appropriate gas torch until the SBS-modified bituminous compound reaches the correct bonding condition. The membrane is then progressively rolled onto the prepared substrate.

Side and end laps must be properly heat-welded to provide continuous waterproofing.

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### Storage

Store rolls:

- Vertically
- In original packaging
- In a cool and dry area
- Away from direct sunlight
- Away from rain and moisture
- Away from flames and ignition sources
- Protected against physical damage

Typical manufacturer guidance specifies a **12-month shelf life** under appropriate unopened storage conditions, although the actual shelf life should be stated according to the manufacturer's product formulation.

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### Packaging

**Standard Roll:** 1 m × 10 m

**Standard Coverage:** 10 m<sup>2</sup>/roll

**Thickness:** 3 mm / 4 mm / 5 mm

**Reinforcement:** Polyester 180–200 g/m<sup>2</sup>

**Packing:** Rolls palletized and shrink-wrapped for transportation.

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### Important Note

The above values represent a **commercial-grade SBS Bitumen Membrane specification** based on typical industry products. The final Technical Data Sheet should use the actual laboratory results of your membrane, particularly for tensile strength, elongation, reinforcement weight, softening point, low-temperature flexibility and watertightness.