FCSC SHIELD 3S

TECHNICAL DATA SHEET

Atactic Poly Propylene(APP) membrane with Sand

Description

FCSC SHIELD 3S is an APP modified bituminous waterproofing membrane with a thickness of 3 mm. It is reinforced with a non-woven polyester fabric and is flexible at -2 °C. The top surface is coated with sand, which ensures the bond of the overlying layer. The underside of the product has a burn-off film for easy torch-application.

Uses

The product is used as a waterproofing membrane for: Balconies and terraces under a heavy protection layer such as tiles or gravel. ▪ Flat and sloping roofs under protective layers or ballast ▪ Car park decks ▪ Bridge decks under asphalt wearing layer ▪ Underpass and subways ▪ Basements and other below ground structures Horizontal reinforced concrete slabs, decks, podiums and protrusions ▪ Vertical reinforced concrete walls .The product is used as a: ▪ Top sheet in multi-layer systems Please note: The product is not suitable for roofs permanently exposed to UV radiation. Protect membrane with a suitable protection layer

Advantages

▪ Fully bonded ▪ Long term flexibility ▪ Excellent water tightness ▪ Good abrasion resistance Very good mechanical properties (tensile, tear, shear) ▪ ▪ Can be handled in warmer temperatures easily ▪ Low water absorption ▪ Easy to install by torching method Capable of withstanding thermal and structural stresses ▪ Good durability and performance under long term ageing ▪ Sand surfacing creates strong bond with screed or structural concrete

Technical Data

Composition /Reinforcing material Non-woven polyester fabric	APP modified bitumen/ Non-woven polyester fabric
Appearance	Top surface -Sand / Grey & Bottom surface - Polyethylene film / Black
Thickness	3mm
Resistance to Impact	≥ 600 mm (EN 12691)
Resistance to Static load	≥ 10 kg (EN 12730)
Flexibility at low temperature	≤ -2 °C (EN 1109)
Softening point	≥ 150 °C (ASTM D36)

Technical Data

Tensile Strength N/5cm Longitudinal Transverse	EN 12311-1 (650 ± 150) (450 ± 150)
Elongation Longitudinal Transverse	EN 12311-1 (40 ± 10) % (40 ± 10) %
Tear Strength Longitudinal Transverse	ASTM D5147 (300 ± 100) N (200 ± 100) N
Joint Shear Resistance Longitudinal Transverse	EN 12317-1 (500 ± 125) N/50mm (300 ± 90) N/50mm
Flow resistance	EN 1110 No flow at +120 °C, 2 h
Ambient air temperature	+10 °C min. / +40 °C max.
Substrate temperature	+10 °C min. / +40 °C max
Substrate moisture content	< 6 %

Application Procedure

Surface Preparation:

New concrete should be cured for at least 28 days and should have a pull off strength ≥ 1.5 N/mm2. Cementitious or mineral based substrates must be prepared mechanically to remove cement laitance and to achieve an open textured surface. Loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed. The concrete must be carefully assessed for moisture content, air entrapment, and surface finish prior to any primer application.

Primer selection

Note: For information on selecting the appropriate primer, contact FCSC Technical Service. Apply the appropriate primer with the required consumption onto the prepared dry surface.

Note: Refer to the individual Product Data Sheet of the primer. 1. Allow the primer to dry before membrane installation.

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Unrolling at low temperatures:

At low temperatures, the membrane becomes less flexible. Be careful when unrolling to avoid damaging the membrane.1] Damage through footwear with spikes or sharp protrusions may puncture the membrane. Use footwear with a flat profile when walking over the membrane. 2] Damage through overheating the polyester reinforcement melts at +260 °C. If it is damaged through overheating, the membrane becomes unusable. Keep moving the flame while torching to avoid overheating the membrane.

Make sure to heat the membrane sufficiently. If it is not sufficiently heated, the adhesion to the substrate, between layers or on the overlaps will be reduced. If the membrane does not adhere to other elements, lift and re-torch the unbonded areas. When laying the membrane at high temperatures, the integral adhesive will become 'tacky' and may restrict laying operations.

Avoid coinciding joints:

To avoid coinciding joints, lay the membranes parallel to one another with staggering. When applying on another bituminous membrane, make sure to stagger the overlaps of the previous layer. 1. Unroll the membrane. 2. Align the membrane. 3. Re-roll the membrane before application.

MEMBRANE OVERLAPS:

- Overlap the membranes by a minimum of 80-100 mm on the sides and 150 mm on each end.
- At the end overlap, cut off a corner measuring 80- 100 mm per side at an angle of 45°.
- Weld the overlaps with great care until you see a trickle of melted mixture about 10 mm wide coming out along the line of the overlap.

TORCHING:

Heat the substrate and the backing film on the underside of the membrane with a gas burner. When the backing film starts to melt, the membrane is ready to stick. Roll the heated membrane forward and press it firmly against the substrate to bond it. Make sure a bead of melted bitumen is visible along the full length of the overlap sides and ends when laying.

Suitable substrates for torching: ▪ Concrete ▪ Bituminous membranes with a smooth surface ▪ Coatings (check the compatibility) ▪ Brick masonry ▪ Cementitious screeds

Detailing:

Use a sharp knife to cut in all details such as internal and external corners, upstands, vent pipes, drains, support metalwork etc.

Packaging

Roll Size: 10X1m; length-10M, Width-1M

Storage & shelf life

The product must be stored in original unopened and undamaged packaging in dry conditions and temperatures between +5 °C and +35 °C. Store in a vertical position. Do not stack pallets of the rolls on top of each other, or under pallets of any other materials during transport or storage.

Safety precautions

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

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Limitation

Do not apply during rains or extreme temperatures. Avoid abuses which may lead to puncturing of membrane. Ensure that the product is applied at least 6 inches inside the drain pipe. Apply parapet to parapet to envelope the entire building for long term performance.

Note

All Technical Data Sheets of FIRSTCHOICE SPECIALITY CHEMICALS are updated on regular basis; it is the user's responsibility, to obtain the most recent issue. Field services where provided, does not constitute supervisory responsibility, for additional information contact our local representative.

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