

TOPKRETE TPO

Flexible Thermoplastic Polyolefin (TPO) Waterproofing Membrane

(Polyester Reinforced – TPO)

Product Description

Topkrete TPO is a high-performance, single-ply **thermoplastic polyolefin (TPO)** waterproofing membrane reinforced with high-strength polyester fabric.

It is engineered for **long-term exposed roofing applications**, offering:

- Excellent UV and weather resistance
- Superior mechanical strength
- High reflectivity (cool roof performance)
- Durable heat-welded seam integrity

Typical Application

- Flat & low-slope roofs
- Mechanically fastened roofing systems
- Fully adhered systems
- Metal roof refurbishment
- Concrete roof slabs
- Green roofs & landscape decks
- Industrial & commercial buildings

Features & Benefits

- UV resistant & weather durable
- Heat-weldable seams (homogeneous bonding)
- High tensile & tear strength
- Flexible at low temperature (-40°C)
- Excellent dimensional stability
- Root resistant (suitable for green roof)
- High solar reflectance (energy saving)
- Resistant to microbial growth

Technical Data

Physical & Mechanical Properties

Property	Standard	Value
Thickness	EN 1849-2	1.2 / 1.5 / 2.0 mm
Mass per unit area	EN 1849-2	≥ 1.2 – 2.0 kg /m ²
Tensile strength (L/T)	EN 12311-2	≥ 38 / 40 N /mm

Elongation at break (L/T)	EN 12311-2	≥ 58% / 62%
Tear resistance (L/T)	EN 12310-2	≥ 570 / 630 N
Dimensional stability	EN 1107-2	≤ 0.5%
Flexibility at low temp	EN 495-5	Pass at -40°C

Waterproofing & Joint Performance

Property	Standard	Value
Watertightness	EN 1928 (Method B)	Pass (≥ 60 kPa)
Shear resistance of joints	EN 12317-2	≥ 600 N /50mm
Peel resistance of joints	EN 12316-2	≥ 400 N /50mm
Resistance to impact	EN 12691	≥ 1000 mm
Static load resistance	EN 12730	≥ 20 kg

Durability & Environmental Resistance

Property	Standard	Value
UV resistance	EN 1297	≥ 7000 h (≥90% retention)
Artificial weathering	EN 1297	Pass
Root resistance	EN 13948	Pass
Resistance to chemicals	EN 1847	Good
Water vapor transmission	EN 1931	μ ≈ 150,000
Resistance to ozone	EN 1844	Pass

Thermal & Reflectivity Properties

Property	Standard	Value
Solar Reflectance Index (SRI)	ASTM E1980	≥ 98 (White)
Service temperature	—	-40°C to +80°C

System Installation

Methods:

- Mechanically fastened system.
- Fully adhered system.
- Ballasted system.

Joining:

- Hot-air welding (automatic or hand welding)
- Seam overlap: min. 50 – 80 mm

Substrate Requirements

- Clean, dry, and free of contamination
- Concrete must be fully cured
- Compatible insulation boards allowed
- Separation layer recommended where required

Packaging

- Roll size: typically, 2.0 m X 20 m
- Thickness: 1.2 / 1.5 / 2.0 mm
- Color: White / Grey / Custom

Storage & Shelf Life

- Store in dry, shaded conditions
- Avoid direct sunlight before installation
- Shelf life: 12 months

Compliance & Standards

Manufactured and tested in accordance with:

- EN 13956 (Roof waterproof membranes)
- EN 12311-2 (Tensile properties)
- EN 1928 (Water tightness)
- EN 12316 / 12317 (Joint strength)
- ASTM E1980 (SRI)

Advantages Over Standard TPO

- Higher tear resistance
- Superior UV aging performance
- Stronger seam integrity
- Optimized for tropical climate

Health & Safety

It is recommended to use PPE and avoid contact with skin and eyes and take precaution for handling the product.

Technical Support

Topkrete offers a technical support package to specifies, end-users and contractors, as well as on site technical assistance.

Additional Information

Topkrete manufacturers and offers a wide range of complementary products which includes waterstop, waterproofing, products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spelled concrete are available.

Warranty

Topkrete Sdn Bhd warrants that the products manufactured by it shall be free from material defects and will conform to formulation standards and contain all components in their proper proportion. Should any of the products be proven defective, the liability to TOPKRETE SDN BHD shall be limited to replacement of the material proven to be defective, and TOPKRETE SDN BHD shall in no case be liable otherwise or for incidental or consequential damages. **TOPKRETE SDN BHD MAKES NO WARRANTY AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED.** User shall determine the suitability of the product for its intended use and assume all risks and liability in connection therewith.

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