



## KÖSTER TPO 1.4

Technical Data Sheet RT 814

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EPD-KBC-20160014-IBC1-DE Environmental Product Declaration according to the ISO 14025 and EN 15804

Official Test Report according to 1200/057/15 DIN EN 13956 MPA Braunschweig, Official Test Report according to 5278/015/14 DIN EN 13967 MPA Braunschweig, Certificate of conformity of the factory production control 0761-CPR-0422 MPA Braunschweig, Fish test A14-02548 BMG Zürich, Official Test Report according to ETAG 006 4/2015 I.F.J. Aachen

## TPO Roofing and Waterproofing membrane with central glass fleece insert

### Features

- Plastic waterproofing membrane made of high quality thermoplastic polyolefins based on polyethylene
- central glass fleece insert
- uniform material quality (no difference between upper and lower side)
- homogeneous seam bonding with hot air welding
- temperature and weather resistant
- aging and rot resistant
- high cold flexibility ( $\leq -50^\circ\text{C}$ )
- UV-stable
- root resistant
- compatible with bitumen
- compatible with polystyrene
- suitable for all types of insulation
- resistant against normal mechanical stresses
- resistant to microorganisms and rodent attack
- environmentally friendly
- free of softeners and chlorine
- safe for health, water, soil, and plants
- recyclable

### Technical Data

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### Fields of Application

KÖSTER TPO Roofing and Waterproofing Membranes are used to waterproof unventilated and ventilated flat roofs, pitched roofs, green roofs, terraces, balconies, roof gardens and underground garages with ballast and in cases of direct exposure to weathering. KÖSTER TPO Roofing and Waterproofing Membranes can be used for the waterproofing of basements, wet rooms and tanks.

### Application

Please refer to the TPO Installation Instructions and the Technical Manual for TPO of KÖSTER BAUCHEMIE AG for correct application of KÖSTER TPO Roofing and Waterproofing Membranes.

The information contained in this technical data sheet is based on the results of our research and on our practical experience in the field. All given test data are average values which have been obtained under defined conditions. The proper and thereby effective and successful application of our products is not subject to our control. The installer is responsible for the correct application under consideration of the specific conditions of the construction site and for the final results of the construction process. This may require adjustments to the recommendations given here for standard cases. Specifications made by our employees or representatives which exceed the specifications contained in this technical guideline require written confirmation. The valid standards for testing and installation, technical guidelines, and acknowledged rules of technology have to be adhered to at all times. The warranty can and is therefore only applied to the quality of our products within the scope of our terms and conditions, not however, for their effective and successful application. This guideline has been technically revised; all previous versions are invalid.

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	KÖSTER BAUCHEMIE AG Dieselstraße 1-10, 26607 Aurich	
	KÖSTER TPO 1.4 TPO roofing and waterproofing membrane with central glass fleece insert	
Length according to DIN EN 1848-2	20 m <sup>1)</sup>	
Width according to DIN EN 1848-2	2.10; 1.50; 1.05; 0.75; 0.525; 0.35; 0.25 m	
Effective thickness according to DIN EN 1849-2	1.4 mm	
	<b>DIN EN 13956: 2012</b> waterproofing of flat and sloped roofs. Application by loose laying with ballast or mechanical fastening	<b>DIN EN 13967:2012</b> Vapor Barrier Type T
<b>Designation</b> according to SPEC 20000-201 and SPEC 20000-202	DE/E1-FPO-BV-E-GV-1,4	BA-FPO-BV-E-GV-1,4
<b>Color</b>	Standard: light grey <sup>2)</sup>	light grey
<b>Visible Defects</b> according to DIN EN 1850-2	free from visible defects	free from visible defects
<b>Straightness</b> according to DIN EN 1848-2	≤ 50 mm	≤ 50 mm
<b>Flatness</b> according to DIN EN 1848-2	≤ 10 mm	
<b>Mass per unit area</b> according to DIN EN 1849-2	1400 g /m <sup>2</sup>	1400 g /m <sup>2</sup>
<b>Water tightness</b> according to DIN EN 1928 (Method B)	400 kPa/24h watertight passed (Method B)	400 kPa/72h watertight watertight (Method A)
<b>Exposure to liquid chemicals, including water</b> according to DIN EN 1847		
<b>Exposure to external fire</b> according to DIN EN 13501-5	Broof(t1) <sup>3)</sup>	-
<b>Reaction to fire</b> according to EN 13501-1	Class E	Class E
<b>Resistance to hail</b> according to DIN EN 13583		
Rigid substrate	≥ 25 m/s	-
Soft substrate	≥ 38 m/s	-
<b>Peel resistance of the overlap</b> according to DIN EN 12316-2	≥ 500 N/50 mm	-
<b>Shear resistance of the overlap</b> according to DIN EN 12317-2	Failure beyond the overlap	Failure beyond the overlap
<b>Water vapor diffusion resistance</b> according to DIN EN 1931	μ = 85,000	μ = 85,000
<b>Tensile characteristics</b> according to DIN EN 12311-2		
Tensile strength	≥ 7 N/mm <sup>2</sup> (Method B)	≥ 7 N/mm <sup>2</sup> (Method B)
Elongation at break	≥ 500 % (Method B)	≥ 500 % (Method B)
<b>Resistance to shock loads</b> according to DIN EN 12691		
Method A	≥ 500 mm	≥ 500 mm
Method B	≥ 1000 mm	≥ 1000 mm
<b>Resistance to static loading</b> according to DIN EN 12730		
Method A	≥ 20 kg	≥ 20 kg
Method B	≥ 20 kg	≥ 20 kg
<b>Tear continuation resistance</b> according to DIN EN 12310-2	≥ 200 N	≥ 200 N
<b>Root penetration resistance</b> <sup>4)</sup>	given	-
<b>Dimensional stability</b> according to DIN EN 1107-2	≤ -0.2 %	≤ -0.2 %
<b>Folding at low temperatures</b>	≤ - 50 °C	-
according to DIN EN 495-5		
<b>Behavior under UV irradiation, elevated temperatures, and water</b> according to DIN EN 1297 (1000 h)	passed: Level 0	-
<b>Ozone resistance</b> according to DIN EN 1844	passed	-
<b>Exposure to bitumen</b> according to DIN EN 1548	passed	watertight
<b>Durability against heat storage</b>	watertight	watertight
according to DIN EN 1296, DIN EN 1928 (Method A)		
<b>Tear resistance (nail shank)</b> according to DIN EN 12310-1	≥ 500 N	≥ 500 N

1) Special lengths available on request 2) Other colors available on request 3) Requirements are met for roofs tested by KÖSTER in Germany. Further information can be requested from KÖSTER. 4) Applies only to green roofs

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