TPO ROOFING MEMBRANE

ROOFING AND WATERPROOFING MEMBRANE WITH CENTRALLY EMBEDDED GLASS FLEECE



TPO ROOFING 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. **TPO ROOFING MEMBRANES** can be used for the waterproofing of wet rooms and tanks.

FEATURES

- 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 (<+ -50oC).
- UV stable.
- High SRI value of 106 (Solar Reflective Index).
- 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.

PACKAGING

2.0m x 1.5m x 20m

APPLICATION

Please refer to the installation instructions for correct application of **TPO ROOFING MEMBRANES**.



DN EN 13966: 2012 Waterprotroit and sloped roots. Application by lose laying with ballast or mechanical fastening. DN EN 13967: 2012 Vapor Barner Type T by lose laying with ballast or mechanical fastening. DN EN 13967: 2012 Vapor Barner Type T by lose laying with ballast or mechanical fastening. DN EN 15967: 2012 Light Grey DE/E1-FPC-BV-E-GV-2,0 Light Grey Straightness according to DIN EN 1848-2 ≤ 50 mm ≤ 50 mm ≤ 50 mm ≤ 50 mm SN Grey Part Part Part Part Part Part Part Part	Technical Data		
Color Light Grey Light Grey Visible defects according to DIN EN 1850-2 Free from visible defects Free from visible defects Straightness according to DIN EN 1848-2 ≤ 50 mm ≤ 50 mm Flatness according to DIN EN 1848-2 ≤ 10 mm 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1848-2 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1928 (Method B) 10 kPa/24h watertight 400 kPa/72h watertight Exposure to liquid chemicals, including water according to DIN EN 1847 Passed (Method B) Watertight (Method A) Exposure to severanal fire according to DIN EN 1850-1 B _m (t1); B _m (t4)1) Class E Class E Reaction to fire according to DIN EN 1350-1 DIS 60 se E Class E Class E Resistance to hall according to DIN EN 13583 Exposure to external fire according to DIN EN 12316-2 ≥ 25 m/s - - Shear resistance of the overlap according to DIN EN 12316-2 ≥ 800 N/50mm - - - Shear resistance of the overlap according to DIN EN 12316-2 ≥ 100 M/50mm > - - - - - - - -		Waterproofing of flat and sloped roofs. Application	
Visible defects according to DIN EN 1850-2 Free from visible defects Free from visible defects Straightness according to DIN EN 1848-2 ≤ 50 mm ≤ 50 mm Flatness according to DIN EN 1848-2 ≤ 100 mm Mass per unit area according to DIN EN 1849-2 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1849-1 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1849-2 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1849-1 10 k Pa/24 watertight 400 k Pa/72h watertight Exposure to liquid chemicals, including water according to DIN EN 1847 2 k g (Hthod B) Watertight (Method A) Exposure to external fire according to DIN EN 1350-1 Class E Class E Reaction to fire according to EN 1350-1 Class E Class E Resistance to hail according to DIN EN 13583 2 k g (Hth) 2 k g (Hth) 2 k g (Hth) Resistance of the overlap according to DIN EN 12316-2 2 500 N/50mm 2 k g (Hth) 2 k g (Hth) Shear resistance of the overlap according to DIN EN 12316-2 2 k g (Hth)	Designation according DIN V 20000-201 and DIN V 20000-202	DE/E1-FPO-BV-E-GV-2,0	BA-FPO-BV-E-GV-2,0
Straightness according to DIN EN 1848-2 ≤ 50 mm ≤ 50 mm Flatness according to DIN EN 1848-2 ≤ 10 mm 1330 g /m² Water tightness according to DIN EN 1849-2 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1926 (Method B) 10 kPa/24h watertight 400 kPa/72h watertight Exposure to liquid chemicals, including water according to DIN EN 1847 Passed (Method B) Watertight (Method A) Exposure to external fire according to DIN EN 1350-1 Class E Class E Reaction to fire according to DIN EN 1350-1 Class E Class E Resistance to hall according to DIN EN 1358-3 E. Class E Registance of the overlap according to DIN EN 12316-2 ≥ 50 m/s - Shear resistance of the overlap according to DIN EN 12317-2 Fallure beyond the overlap pa 85,000 Water vapor diffusion resistance according to DIN EN 12311-2 Fallure beyond the overlap ≥ 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) Elongation at break ≥ 750 mm ≥ 750 mm ≥ 750 mm Resistance to shock loads according to DIN EN 12730 ≥ 20 kg ≥ 20 kg Method A ≥ 20 kg ≥ 20 kg Metho	Color	Light Grey	Light Grey
Flatness according to DIN EN 1848-2 ≤ 10 mm Mass per unit area according to DIN EN 1849-2 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1928 (Method B) 10 kPar/24h watertight 400 kPar/27h watertight Exposure to liquid chemicals, including water according to DIN EN 1847 Passed (Method B) Watertight (Method A) Exposure to external fire according to DIN CENTS 1187; DIN 4102-7; DIN EN 13501-5 B _{ew} (H); B _{ew} (H)1) - Exposure to external fire according to DIN EN 1350-1 Class E Class E Resistance to hail according to DIN EN 13503 - - Resistance to hail according to DIN EN 13583 - - Resistance of the overlap according to DIN EN 12316-2 ≥ 500 M/50mm - Shear resistance of the overlap according to DIN EN 12317-2 Fallure beyond the overlap Fallure beyond the overlap Beast resistance of the overlap according to DIN EN 12311-2 - 2 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) Fensile characteristics according to DIN EN 12311-2 - > 2 7 N/mm² (Method B) ≥ 75 0 mm Resistance to shock loads according to DIN EN 12730 - > 2 00 kg ≥ 20 kg Resistance to static loading accordin	Visible defects according to DIN EN 1850-2	Free from visible defects	Free from visible defects
Mass per unit area according to DIN EN 1849-2 1930 g /m² 1930 g /m² Water tightness according to DIN EN 1928 (Method B) 10 kPa/24h waterlight 400 kPa/72h waterlight Exposure to liquid chemicals, including water according to DIN EN 1847 Passed (Method B) Waterlight (Method A) Exposure to external fire according to DIN EN 1850-1 Baw(t1); B _m (t4)1) - Reaction to fire according to DIN EN 1350-1 Class E Class E Resistance to hail according to DIN EN 13583 Feel resistance of the overlap according to DIN EN 12316-2 25 m/s - Soft substrate 2 5 m/s - - Shear resistance of the overlap according to DIN EN 12311-2 Fealure beyond the overlap = Tensile characteristics according to DIN EN 12311-2 Fealure beyond the overlap 2 7 N/mm² (Method B) > 7 N/mm² (Method B) Every stance to shock loads according to DIN EN 12691 2 7 S m 2 750 mm >	Straightness according to DIN EN 1848-2	≤ 50 mm	≤ 50 mm
Water tightness according to DIN EN 1928 (Method B) 10 kPa/24h watertight 400 kPa/72h watertight Exposure to liquid chemicals, including water according to DIN EN 1847 Passed (Method B) Watertight (Method A) Exposure to external fire according to DIN CEVITS 1187; DIN 4102-7; DIN EN 13501-5 B _{mi} (t1); B _{mi} (t4)1) Class E Class E Resistance to hail according to EN 1350-1 Class E Class E Class E Resistance to hail according to DIN EN 13583 Rigid substrate 2.5 m/s - - Soft substrate 2.25 m/s - - - Soft substrate 2.25 m/s - - - Peet resistance of the overlap according to DIN EN 12316-2 2.500 N/50mm - - - Shear resistance of the overlap according to DIN EN 12317-2 Fallure beyond the overlap Fallure beyond the overlap 2.7 N/mm² (Method B) 2.20 N/m 2.20 N/m 2.20 N/m 2.20 N/m <t< td=""><td>Flatness according to DIN EN 1848-2</td><td>≤ 10 mm</td><td></td></t<>	Flatness according to DIN EN 1848-2	≤ 10 mm	
Exposure to liquid chemicals, including water according to DIN EN 1847 Passed (Method B) Waterlight (Method A) Exposure to external fire according to DIN CEN/TS 1187; DIN 4102-7; DIN EN 13501-5 B _{mil} (11); B _{mil} (4)1) - Reaction to fire according to EN 1350-1 Class E Class E Resistance to hall according to DIN EN 13583 Rigid substrate 2 25 m/s - Soft substrate 2 40 m/s - Peel resistance of the overlap according to DIN EN 12316-2 2500 N/50mm Failure beyond the overlap Water vapor diffusion resistance according to DIN EN 12311-2 Failure beyond the overlap Failure beyond the overlap Tensile characteristics according to DIN EN 12311-2 2 7 N/mm² (Method B) 2 7 N/mm² (Method B) 2 7 N/mm² (Method B) Existance to shock loads according to DIN EN 12691 2 750 mm 2 750 mm 2 750 mm Method B 2 20 kg 2 20 kg 2 20 kg Resistance to static loading according to DIN EN 12730 2 20 kg 2 20 kg 2 20 kg Method B 2 20 kg 2 20 kg 2 20 kg Tear continuation resistance according to DIN EN 12310-2 2 20 kg 2 -0 2 kg Facility at low temperature	Mass per unit area according to DIN EN 1849-2	1930 g /m²	1930 g /m²
Exposure to external fire according to DIN EN 1887 (DIN 4102-7; DIN EN 13501-5 Beautifut (1) Feautiful	Water tightness according to DIN EN 1928 (Method B)	10 kPa/24h watertight	400 kPa/72h watertight
according to DIN CEN/TS 1187; DIN 4102-7; DIN EN 1350-1 Class E Class E Resistance to hail according to DIN EN 1350-1 Class E Class E Resistance to hail according to DIN EN 13583 Figligid substrate ≥ 25 m/s - Soft substrate ≥ 40 m/s - Peel resistance of the overlap according to DIN EN 12316-2 ≥ 500 N/50mm - Shear resistance of the overlap according to DIN EN 12317-2 Failure beyond the overlap Failure beyond the overlap Water vapor diffusion resistance according to DIN EN 12311-2 Tensile characteristics according to DIN EN 12311-2 Tensile characteristics according to DIN EN 12311-2 ≥ 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) ≥ 750 mm ≥ 500 % (Method B) ≥ 500 mm ≥ 1250 mm ≥ 200 kg ≥ 200 k		Passed (Method B)	Watertight (Method A)
Resistance to hail according to DIN EN 13583 Rigid substrate Soft substrate Soft substrate Soft substrate Soft substrate Sel resistance of the overlap according to DIN EN 12316-2 Shear resistance of the overlap according to DIN EN 12317-2 Failure beyond the overlap Water vapor diffusion resistance according to DIN EN 1931 Pensile characteristics according to DIN EN 1931 Tensile characteristics according to DIN EN 12311-2 Tensile strength Soft substrate Soft with the strength Soft substrate Soft with the strength Soft w		B _{roof} (t1); B _{roof} (t4)1)	-
Rigid substrate \$ 25 m/s \$ 40 m/s \$ 7 Peel resistance of the overlap according to DIN EN 12316-2 \$ 500 N/50mm \$ 7 Shear resistance of the overlap according to DIN EN 12317-2 Failure beyond the overlap	Reaction to fire according to EN 1350-1	Class E	Class E
Shear resistance of the overlap according to DIN EN 12317-2 Failure beyond the overlap Water vapor diffusion resistance according to DIN EN 1931 μ = 85,000 μ = 85,000 Tensile characteristics according to DIN EN 12311-2 2 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) Elongation at break ≥ 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) ≥ 500 % (Method B) Resistance to shock loads according to DIN EN 12691 2750 mm ≥ 750 mm Method A ≥ 750 mm ≥ 1250 mm Method B ≥ 20 kg ≥ 20 kg Method B ≥ 20 kg ≥ 20 kg Method B ≥ 20 kg ≥ 20 kg Tear continuation resistance according to DIN EN 12310-2 ≥ 200 N ≥ 200 N Root penetration resistance Given - Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ -50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Passed: Level 0 - Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1928 (Method A) Watertight Waterti	Rigid substrate		-
Water vapor diffusion resistance according to DIN EN 1931 μ = 85,000 μ = 85,000 Tensile characteristics according to DIN EN 12311-2 Tensile strength ≥ 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) Elongation at break ≥ 70 Mm² (Method B) ≥ 500 % (Method B) Resistance to shock loads according to DIN EN 12691 ★ 750 mm ≥ 750 mm Method B ≥ 750 mm ≥ 750 mm Resistance to static loading according to DIN EN 12730 ★ 20 kg ≥ 20 kg Method A ≥ 20 kg ≥ 20 kg Method B ≥ 20 kg ≥ 20 kg Tear continuation resistance according to DIN EN 12310-2 ≥ 200 N ≥ 200 N Root penetration resistance Given - Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ -50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Passed: Level 0 - Ozone resistance according to DIN EN 1548 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A) Watertight	Peel resistance of the overlap according to DIN EN 12316-2	≥ 500 N/50mm	-
Tensile characteristics according to DIN EN 12311-2 Tensile strength ≥ 7 N/mm² (Method B) ≥ 7 N/mm² (Method B) Elongation at break ≥ 500 % (Method B) ≥ 500 % (Method B) Resistance to shock loads according to DIN EN 12691 Method A ≥ 750 mm ≥ 750 mm Method B ≥ 1250 mm ≥ 1250 mm Resistance to static loading according to DIN EN 12730 Method A ≥ 20 kg Method B ≥ 20 kg ≥ 20 kg Method B ≥ 20 kg ≥ 20 kg Tear continuation resistance according to DIN EN 12310-2 ≥ 200 N ≥ 200 N Root penetration resistance Given − Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ -50°C − Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Ozone resistance according to DIN EN 1844 Passed − Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A)	Shear resistance of the overlap according to DIN EN 12317-2	Failure beyond the overlap	Failure beyond the overlap
Tensile strength ≥ 7 N/mm² (Method B) ≥ 500 % (Method B) ≥ 750 mm ≥ 750 mm ≥ 750 mm ≥ 1250 mm ≥ 1	Water vapor diffusion resistance according to DIN EN 1931	$\mu = 85,000$	$\mu = 85,000$
Method A Method B ≥ 750 mm ≥ 1250 mm ≥ 750 mm Resistance to static loading according to DIN EN 12730 Method A Method B ≥ 20 kg ≥ 20 kg Year continuation resistance according to DIN EN 12310-2 ≥ 20 kg ≥ 20 kg Tear continuation resistance according to DIN EN 12310-2 ≥ 200 N ≥ 200 N Root penetration resistance Given - Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ -50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Passed: Level 0 - Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A) Watertight Watertight	Tensile strength		
Method A Method B ≥ 20 kg ≥ 20 kg Tear continuation resistance according to DIN EN 12310-2 ≥ 200 N ≥ 200 N Root penetration resistance Given - Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ - 50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Passed: Level 0 - Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A) Watertight Watertight	Method A		
Root penetration resistance Given - Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ - 50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Passed: Level 0 - Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A) Watertight Watertight	Method A	· · · · · · · · · · · · · · · · · · ·	· ·
Dimensional stability according to DIN EN 1107-2 ≤ -0.2 % ≤ -0.2 % Folding at low temperatures according to DIN EN 495-5 ≤ - 50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Passed: Level 0 - Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A) Watertight Watertight	Tear continuation resistance according to DIN EN 12310-2	≥ 200 N	≥ 200 N
Folding at low temperatures according to DIN EN 495-5 ≤ - 50°C - Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage Watertight Output Durability against heat storage Watertight Watertight	Root penetration resistance	Given	-
Behavior under UV irradiation, elevated temperatures, and water according to DIN EN 1297 (1000 h) Ozone resistance according to DIN EN 1844 Passed - Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1928 (Method A)	Dimensional stability according to DIN EN 1107-2	≤ -0.2 %	≤ -0.2 %
and water according to DIN EN 1297 (1000 h) Ozone resistance according to DIN EN 1844 Passed Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage according to DIN EN 1296, DIN EN 1928 (Method A) Watertight	Folding at low temperatures according to DIN EN 495-5	≤ - 50°C	-
Exposure to bitumen according to DIN EN 1548 Passed Watertight Durability against heat storage Watertight according to DIN EN 1296, DIN EN 1928 (Method A) Watertight		Passed: Level 0	-
Durability against heat storage Watertight according to DIN EN 1296, DIN EN 1928 (Method A) Watertight	Ozone resistance according to DIN EN 1844	Passed	-
according to DIN EN 1296, DIN EN 1928 (Method A)	Exposure to bitumen according to DIN EN 1548	Passed	Watertight
Tear resistance (nail shank) according to DIN EN 12310-1 \leq 600 N \leq 600 N		Watertight	Watertight
	Tear resistance (nail shank) according to DIN EN 12310-1	≤ 600 N	≤ 600 N

The information contained in this 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 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 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 successful applications. This guideline has been technically revised; all previous versions are invalid.

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PRODUCT DATA SHEET: SHEET MEMBRANES: TPO ROOFING MEMBRANES

Field Support

Field support where provided, does not constitute supervisory responsibility. Suggestions made by **ATECH®** either verbally or in writing may be followed, modified or rejected by the owner, engineer or contractor since they and not **ATECH®** are responsible for carrying out procedures appropriate to a specific application.

Customer Responsibility

The technical information and application advice given in this publication is based on the best information available at time of print. As the information herein is of a general nature, no assumption can be made as to the products suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by Commonwealth or State Legislation. The owner, his representative or the contractor is responsible for checking the suitability of products for their intended use.

Safety Precautions

These products may cause allergic reactions through skin contact, goggles, protective gloves and overalls must be worn. Ensure that there is adequate ventilation and avoid breathing the vapour.

Exclusion Clause

- The information contained in this data sheet is based on many years experience and is correct to the best of our knowledge. ATECH® will be under no liability whatsoever whether in:
 - a) Contract or tort (including, without limitation, negligence)
 - b) Breach of statute
 - Any other legal or equitable obligation other than the quality of the product at the time of despatch.
- 2. Any queries about specification use or application should be directed to our technical service department immediately.
- 3. This exclusion clause does not operate to exclude any warranty that by law may not be excluded.

