

Raw Material

High Density Polyethylene

ATARFIL TM-TMT^(K1) is a structured geomembrane manufactured from maximum quality high density polyethylene resins.

ATARFIL TM-TMT^(K1) contains 97,5% of pure polymer, and approximately 2,5% of Carbon Black, antioxidants and thermal stabilizers. The product does not contain plasticizers or fillers that can migrate over time.

The geomembrane ATARFIL TM-TMT^(K1) is manufactured under permanent quality controls.

Surface	TM Structured 1 side TMT Structured 2 sides	Colour	Black
		RAL Code	-

	Tested Property	Unit	Test Method	Value
Raw Material Identification	Density of Raw Material	g/cm ³	ASTM D 792	0,932
	Density of Geomembrane	g/cm ³	ASTM D 792	0,946 ± 0.004
	Melt Flow Index	g/10 min	ASTM D 1238 (190°C/2,16 Kg)	0,40
	Carbon Black Content	%	ASTM D 4218	2,0 - 2,5
	Carbon Black Dispersion	-	ASTM D 5596	note (4)

Durability	Oxidative Induction Time Std O.I.T	min	ASTM D 3895 (200°C)	100
	HP O.I.T		ASTM D 5885	400
	Stress Crack Resistance/ SP-NCTL ⁽¹⁾	h	ASTM D 5397	3000
	Oven aging at 85°C HP O.I.T, % retained after 90 days	%	ASTM D 5721 ASTM D 5885	80
	UV Resistance. HP O.I.T, % retained after 1600 hrs	%	ASTM D 7238 ASTM D 5885	75

	Tested Property	Unit	Test Method	Value
Functional Properties	Low Temperature Brittleness (t ^a : -40°C)	-	UNE EN 495-5	No cracks
	Water Permeability	m ³ /m ² -day	UNE EN 14150	< 1·10 ⁻⁶
	Coefficient of Linear Thermal Expansion	1/°K	ASTM D 696	2,15·10 ⁻⁴
	Water Absorption	%	ASTM D 570 (24h)	0,2
			ASTM D 570 (6 days)	1
Asperity Height ⁽⁵⁾	mm	ASTM D 7466	0.70	

⁽¹⁾ is conducted on representative smooth membrane samples

	Tested Property	Unit	Test Method	Value					
Strength Characteristics Quality of Final Product	Thickness	mm	ASTM D 5994	1.00	1.50	2.00	2.50	3.00	
	Thickness (min. ave)	%		nom (-5%)					
	Lowest individual for 8 out of 10 values	%		-10%					
	Lowest individual for any of the 10 values	%		-15%					
	Mechanical Properties⁽¹⁾								
	Tensile strength at Yield	kN/m	ASTM D 6693 (Type IV) lo 33mm (yield elongation) lo 50mm (break elongation)	18 (15)	26 (22)	35 (29)	44 (37)	53 (44)	
	Elongation at Yield	%		13 ⁽²⁾					
	Tensile strength at Break	kN/m		12 (10)	18 (16)	23 (21)	28 (26)	34 (32)	
	Elongation at Break	%		100					
	Tear Resistance	N	ASTM D 1004	135 (125)	205 (187)	273 (249)	342 (311)	410 (374)	
Puncture Resistance	N	ASTM D 4833	267	400	534	667	800		
Exploding Resistance	%	pr EN 14151	> 15						
Dimensional Stability	%	ASTM D 1204 (100°C, 1h)	± 1,5						

180716	PRESENTATION (Standard Sizes)	Parameter	Units	1,00	1,50	2,00	2,50	3,00
				TM-TMT	TM-TMT	TM-TMT	TM-TMT	TM-TMT
	Roll width	m		7.5	7.5	7.5	7.5	7.5
	Roll Length	m		130	100	80	65	60
	Surface	m ²		975	750	600	488	450

⁽¹⁾ Values indicated are MEDIUM. In brackets minimum values.

⁽²⁾ Certificates belonging to the Environmental and Quality Integrated System of Atarfil.

⁽³⁾ The medium value is 18%.

⁽⁴⁾ Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3.

⁽⁵⁾ The value indicated is medium. Minimum value 0.50mm.

This information is provided for reference purposes. ATARFIL assumes no liability in connection with the use of this information or the final use of the product. It may be revised at any time or at least every two years, so it is subject to change permanently.