

MACLINE® Geomembranes
MACLINE® ATARFIL HD
Raw Material
High Density Polyethylene
DESCRIPTION

MACLINE® ATARFIL HD is a geomembrane manufactured from maximum quality high density polyethylene HDPE resins, duly contrasted, that comply with the most rigorous requirements established for their use.

MACLINE® ATARFIL HD 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 **MACLINE® ATARFIL HD** is manufactured under permanent quality controls.

SURFACE	SMOOTH	COLOUR	BLACK
		RAL Code	-

Raw Material Identification					Functional Properties						
Tested Property	Unit	Test Method	Value		Tested Property	Unit	Test Method	Value			
Density of Raw Material	g/cm3	ASTM D 792	≥ 0,932		Low Temperature Brittleness (T ^g : -40°C)	-	UNE EN 495-5	No cracks			
Density of Geomembrane	g/cm3	ASTM D 792	0,946 ± 0.004			Water Permeability	m ³ /m ² -day	UNE EN 14150	< 1·10 ⁻⁶		
Melt Flow Index	g/10 min	ASTM D 1238 (190°C/5 Kg)	≤ 1,30			Coefficient of Linear Thermal Expansion	1/K	ASTM D 696	2,15·10 ⁻⁴		
Carbon Black Content	%	ASTM D 4218	2,0 - 2,5			Water Absorption	%	ASTM D 570 (24h)	0,1		
Carbon Black Dispersion	-	ASTM D 5596	10/10 views in cat. 1 or 2					ASTM D 570 (6 days)	0,1		
Durability	Oxidative Induction Time (OIT)	min	ASTM D 3895 (200°C)	> 100		Thickness of Co-extruded Layer	%	ASTM D 5199	-		
	Stress Crack Resistance/NCTL	h	ASTM D 5397	≥ 600		Asperity Height	mm	ASTM D 7466	-		
	Oven aging at 85°C (min. ave.)	%	ASTM D 3895	≥ 55							
	UV Resistance. High Pressure OIT - % retained after 1600 hrs	%	GM 11 / ASTM D 5885	≥ 70							
	Oxidation	%	UNE EN 14575	≤ 15							

Tested Property	Unit	Test Method	Value					
			0.75	1.00	1.50	2.00	2.50	3.00
Thickness	mm	ASTM D 5199	0.75	1.00	1.50	2.00	2.50	3.00
Medium thickness tolerance			± 5					
Punctual minimum thickness Tolerance	%	-	± 10					
Tensile Properties ⁽¹⁾								
Tensile strength at Yield	N/mm	ASTM D 6693 (Type IV)	13 (11)	18 (16)	26 (24)	35 (32)	44 (40)	53 (48)
Elongation at Yield	%		12					
Tensile strength at Break	N/mm		23 (19)	31 (26)	47 (39)	62 (52)	78 (65)	94 (78)
Elongation at Break	%		800 (700)					
Tear Resistance	N	ASTM D 1004	100	135	202	270	337	405
Puncture Resistance	N	ASTM D 4833	>240	> 320	>480	>640	>800	>960
Exploding Resistance	%	pr EN 14151	> 15					
Dimensional Stability	%	ASTM D 1204 (100°C, 1h)	± 1,5					

190713	PRESENTATION (Standard Sizes)	Parameter	Units	0.75	1,00	1,50	2,00	2,50	3,00
		Roll width	m	7.5	7.5	7.5	7.5	7.5	7.5
Roll Length	m	280	210	140	105	84	70		
Surface	m ²	2100	1575	050	787	630	525		

(1) Values indicated are MEDIUM. In brackets values with 95% confidence level.

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 Quality System AS/NZS ISO 9001:2008

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