

## Raw Material

## High Density Polyethylene

**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.

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

Surface	Smooth	Colour	Black
		RAL Code	-

	Tested Property	Unit	Test Method	Value
Raw Material Identification	Density of Raw Material	g/cm <sup>3</sup>	UNE EN ISO 1183-1	≥ 0,932
	Density of Geomembrane	g/cm <sup>3</sup>	UNE EN ISO 1183-1	0,946 ± 0,004
	Melt Flow Index	g/10 min	UNE EN ISO 1133 D Condition (190°C/2,16 Kg)	≤ 0,40
			UNE EN ISO 1133 T Condition (190°C/5 Kg)	≤ 1,30
Carbon Black Content	%	ASTM D 4218	2,0 - 2,5	
Durability	Oxidative Induction Time (OIT)	min	UNE EN 728 (200°C)	> 100
	Stress Crack Resistance/NCTL	h	ASTM D 5397	> 300
	Oxidation	%	UNE EN 14575	≤ 15

	Tested Property	Unit	Test Method	Value
Functional Properties	Low Temperature Brittleness (t <sup>-</sup> : -40°C)	-	UNE EN 495-5	No cracks
	Water Permeability	m <sup>3</sup> /m <sup>2</sup> .dia	UNE EN 14150	< 1·10 <sup>-6</sup>
	Coefficient of Linear Thermal Expansion	1/°K	ASTM D 696	2,15·10 <sup>-4</sup>
	Water Absorption	%	UNE EN ISO 62 (24h)	≤ 0,1
			UNE EN ISO 62 (6 days)	≤ 0,1
	Thickness of Coextruded Layer	%	UNE EN 1849-2	-
Asperity Height	mm	ASTM D 7466	-	

	Tested Property	Unit	Test Method	Value					
Strength Characteristics Quality of Final Product	Thickness	mm	UNE EN 1849-2	1.00	1.50	2.00	2.50	3.00	
	Confidence level 95%	%	-	Tolerance: ± 6					
	Confidence level 90%	%	-	Tolerance: ± 4					
	<b>Tensile Properties (*)</b>								
	Tensile strength at Yield	N/mm	UNE-EN ISO 527 (Type V)	18 (17)	27 (25)	36 (34)	45 (42)	54 (51)	
	Elongation at Yield	%		10 (9)					
	Tensile strength at Break	N/mm		32 (26)	48 (39)	64 (52)	80 (65)	96 (78)	
	Elongation at Break	%		800 (700)					
	Tear Resistance	N	ISO 34-1	≥ 140	≥ 210	≥ 280	≥ 350	≥ 420	
	Puncture Resistance	KN	UNE-EN ISO 12236	3,0	4,5	5,50	6,50	6,80	
Exploding Resistance	%	pr EN 14151	< 15						
Dimensional Stability	%	UNE EN ISO 14632 (100°C, 1h)	± 1,5						

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### PRESENTATION (Standard Sizes)

Parameter	Units	1,00	1,50	2,00	2,50	3,00
Roll width	m	6 / 6,30	6 / 6,30	6 / 6,30	6 / 6,30	6 / 6,30
Roll Length	m	210	140	105	84	70
Surface	m <sup>2</sup>	1260 / 1323	840 / 882	630 / 661	504 / 529	420 / 441

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

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