CE
1213-CPR-014
06
EN 13361, EN 13362, EN 13491, EN 13492, EN 13493, EN 15382

ATARFIL geomembranes

ISO 9001
ISO 14001
BUREAU VERITAS Certification
(2)

ATARFIL HD (GM13)

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 rigurous 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^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 (190ºC/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 HP O.I.T	min	ASTM D 3895 (200ºC) ASTM D 5885	≥ 100 ≥ 400
	Stress Crack Resistance/SP-NCTL	h	ASTM D 5397	≥ 3000
	Oven aging at 85ºC HP O.I.T, % retained after 90 days	%	ASTM D 5721 ASTM D 5885	≥ 80
	UV Resistance. HP OIT, % retained after 1600 hrs	%	ASTM D 7238 ASTM D 5885	≥ 75

	Tested Property	Unit	Test Method	Value
Functional Properties	Low Temperature Brittleness (tª: -40ºC)	-	ASTM D 746	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

	Tested Property	Unit	Test Method	Value					
Strength Characteristics Quality of Final Product	Thickness	mm	ASTM D 5199	0.75	1.00	1.50	2.00	2.50	3.00
	Thickness (min. ave)	mm		nom	nom	nom	nom	nom	nom
	Lowest Individual of 10 values	%		-10					
	Mechanical Properties(4)								
	Tensile strength at Yield	kN/m	ASTM D 6693 (Type IV) lo 33mm (yield elongation) lo 50mm (break elongation)	13 (11)	18 (15)	26 (22)	35 (29)	44 (37)	53 (44)
	Elongation at Yield	%		≥ 13(3)					
	Tensile strength at Break	kN/m		23 (20)	31 (27)	47 (40)	62 (53)	78 (67)	94 (80)
	Elongation at Break	%		800 (700)					
	Tear Resistance	N	ASTM D 1004	101 (93)	135 (125)	205 (187)	273 (249)	342 (311)	410 (374)
	Puncture Resistance	N	ASTM D 4833	≥ 240	≥ 320	≥ 480	≥ 640	≥ 800	≥ 960
	Exploding Resistance	%	pr EN 14151	> 15					
	Dimensional Stability	%	ASTM D 1204 (100ºC, 1h)	± 1,5					

	Parameter	Units	0.75	1,00	1,50	2,00	2,50	3,00
PRESENTATION (Standard Sizes)	Roll width	m	6 / 6,30/ 7.50*	6 / 6,30/ 7.50*	6 / 6,30/ 7.50*	6 / 6,30/ 7.50*	6 / 6,30/ 7.50*	6 / 6,30/ 7.50*
	Roll Length	m	280	210	140	105	84	70
	Surface	m^2	1680/1764/2100	1260/1323/1575	840/882/1050	630/661/787	504/529/630	420/441/525

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(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.
(*) Geomembrane manufactured in Dubai Plant.

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