

GEO LL - LLDPE Smooth Geomembrane

Technical Data Sheet



HYMA PLASTIC
SINCE 1975

Hyma GEO LL is a smooth high quality sheet, manufactured from pure LLDPE virgin polymer, made for flexible Geomembrane applications where increased friction resistance is needed. GEO LL contains 97-97.5% Polyethylene, 2-2.5% Carbon Black, and traces of antioxidants and heat stabilizers.

This product is double-sided smooth.

The product's specifications meet GRI GM17.

Test Property	Unit	Test Method	Value (*)		
Thickness (1)	mm	ASTM D-5199	0.5	0.75	1
Density	g/cm ³	ASTM D-792	≤ 0.939	≤ 0.939	≤ 0.939
Strength at Break (Both directions)	N/mm	ASTMD-638/6693 Type IV 50mm/min lo = 50mm For Break	13	20	27
Elongation at Break (Both directions)	%		800	800	800
Tear Resistance	N	ASTM D-1004	50	70	100
Puncture Resistance	N	ASTM D-4833	120	190	250
Carbon Black Content	%	ASTM D-1603	2-3	2-3	2-3
Carbon Black Dispersion (2)	Category	ASTM D-5596	Note (2)		
Oxidative Induction Time (OIT)	Min.	ASTM D-3895	≥ 100	≥ 100	≥ 100
High Pressure Oxidative induction Time (HPOIT)	Min.	ASTM D-5885	≥ 400	≥ 400	≥ 400
Oven Aging Standard OIT % retained after 90 Days	%	ASTM D-5721/ D3895 @ 85°C	≥ 35	≥ 35	≥ 35
UV Resistance HPOIT (3) Retained after 1600 Hours	%	ASTM D-7238 ASTM D-5885	≥ 35	≥ 35	≥ 35
Roll Width (approx.) (4)	m	----	5.8 – 6 – 7		
Roll Length (approx.) (4)	m	----	50 – 75 – 100 – 125 – 150		
Surface	----	----	Double-sided Smooth		

(*) All Values unless stated otherwise are nominal values.

(1) Tolerance ±10% of the nominal thickness.

(2) Dispersion only applies to near spherical agglomerates. 9 of 10 views shall be category 1 or 2. No more than 1 view from category 3.

(3) Test-Conditions: 20 hours UV cycle at 75°C followed by 4 hours condensation at 60°C.

(4) Roll Width and Lengths have a tolerance of ±1%.



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Test Property	Unit	Test Method	Value (*)		
Thickness (1)	mm	ASTM D-5199	1.25	1.5	2
Density	g/cm ³	ASTM D-792	≤ 0.939	≤ 0.939	≤ 0.939
Strength at Break (Both directions)	N/mm	ASTMD-638/6693 Type IV 50mm/min lo = 50mm For Break	33	40	53
Elongation at Break (Both directions)	%		800	800	800
Tear Resistance	N	ASTM D-1004	120	150	200
Puncture Resistance	N	ASTM D-4833	310	370	500
Carbon Black Content	%	ASTM D-1603	2-3	2-3	2-3
Carbon Black Dispersion (2)	Category	ASTM D-5596	Note (2)		
Oxidative Induction Time (OIT)	Min.	ASTM D-3895	≥ 100	≥ 100	≥ 100
High Pressure Oxidative induction Time (HPOIT)	Min.	ASTM D-5885	≥ 400	≥ 400	≥ 400
Oven Aging Standard OIT % retained after 90 Days	%	ASTM D-5721/ D3895 @ 85°C	≥ 35	≥ 35	≥ 35
UV Resistance HPOIT (3) Retained after 1600 Hours	%	ASTM D-7238 ASTM D-5885	≥ 35	≥ 35	≥ 35
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