

GEO HD - HDPE Smooth Geomembrane

Technical Data Sheet



HYMA PLASTIC
SINCE 1975

Hyma GEO HD is a smooth high quality sheet, manufactured from pure HDPE virgin polymer, made for Geomembrane applications. GEO HD 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 or exceed GRI GM13.

Test Property	Unit	Test Method	Value (*)			
Thickness (1)	mil	ASTM D-5199	20	30	40	50
Density	g/cm ³	ASTM D-792	≥0.94	≥0.94	≥0.94	≥0.94
Strength at Yield (Both directions)	lb/in-width	ASTM D 6693 Type IV Dumbbell, 2 ipm G.L. 2.0 in G.L. 1.3 in	40	63	84	102
Elongation at Yield (Both directions)	%		12	12	12	12
Strength at Break (Both directions)	lb/in-width		68	114	152	188
Elongation at Break (Both directions)	%		700	700	700	700
Tear Resistance	lb	ASTM D-1004	14	21	28	35
Puncture Resistance	lb	ASTM D-4833	36	54	72	90
Carbon Black Content	%	ASTM D-1603	2-3	2-3	2-3	2-3
Carbon Black Dispersion (2)	Category	ASTM D-5596	1 or 2	1 or 2	1 or 2	1 or 2
Oxidative Induction Time (OIT)	Min.	ASTM D-3895	≥ 100	≥ 100	≥ 100	≥ 100
High Pressure Oxidative induction Time (HPOIT)	Min.	ASTM D-5885	≥ 400	≥ 400	≥ 400	≥ 400
Oven Aging Standard OIT % retained after 90 Days	%	ASTM D-5721/ D3895 @ 185°F	≥ 55	≥ 55	≥ 55	≥ 55
Stress Crack Resistance (NCTL)	H	ASTM D-5397	≥ 500	≥ 500	≥ 500	≥ 500
UV Resistance HPOIT (3) Retained after 1600 Hours	%	ASTM D-7238 ASTM D-5885	≥ 50	≥ 50	≥ 50	≥ 50
Roll Width (approx.) (4)	ft	----	19 - 23			
Roll Length (approx.) (4)	ft	----	164 -246 - 328			
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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Hyma GEO HD is a smooth high quality sheet, manufactured from pure HDPE virgin polymer, made for Geomembrane applications. GEO HD 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 or exceed GRI GM13.

Test Property	Unit	Test Method	Value (*)			
Thickness (1)	mil	ASTM D-5199	60	80	100	120
Density	g/cm ³	ASTM D-792	≥0.94	≥0.94	≥0.94	≥0.94
Strength at Yield (Both directions)	lb/in-width	ASTM D 6693 Type IV Dumbbell, 2 ipm G.L. 2.0 in G.L. 1.3 in	126	168	210	251
Elongation at Yield (Both directions)	%		12	12	12	12
Strength at Break (Both directions)	lb/in-width		228	304	380	456
Elongation at Break (Both directions)	%		700	700	700	700
Tear Resistance	lb	ASTM D-1004	42	56	70	84
Puncture Resistance	lb	ASTM D-4833	108	144	180	215
Carbon Black Content	%	ASTM D-1603	2-3	2-3	2-3	2-3
Carbon Black Dispersion (2)	Category	ASTM D-5596	1 or 2	1 or 2	1 or 2	1 or 2
Oxidative Induction Time (OIT)	Min.	ASTM D-3895	≥ 100	≥ 100	≥ 100	≥ 100
High Pressure Oxidative induction Time (HPOIT)	Min.	ASTM D-5885	≥ 400	≥ 400	≥ 400	≥ 400
Oven Aging Standard OIT % retained after 90 Days	%	ASTM D-5721/ D3895 @ 185°F	≥ 55	≥ 55	≥ 55	≥ 55
Stress Crack Resistance (NCTL)	H	ASTM D-5397	≥ 500	≥ 500	≥ 500	≥ 500
UV Resistance HPOIT (3) Retained after 1600 Hours	%	ASTM D-7238 ASTM D-5885	≥ 50	≥ 50	≥ 50	≥ 50
Roll Width (approx.) (4)	ft	----	19 - 23			
Roll Length (approx.) (4)	ft	----	164 -246 - 328			
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%.

GEO HD- HDPE Textured Geomembrane

Technical Data Sheet



HYMA PLASTIC
SINCE 1975

Hyma GEO HD Textured Geomembrane is a high quality sheet, manufactured from pure HDPE virgin polymer, made for Geomembrane applications. GEO HD Textured Geomembrane contains 97-97.5% Polyethylene, 2-2.5% Carbon Black, and traces of antioxidants and heat stabilizers. It is available as single textured or double textured liners.

The product's specifications meet GRI GM13.

Test Property	Unit	Test Method	Minimum Average Value (*)			
Thickness (1) (Lowest individual values)	mil	ASTM D-5994	40 -15%	60 -15%	80 -15%	100 -15%
Density	g/cm ³	ASTM D-792	≥0.94	≥0.94	≥0.94	≥0.94
Strength at Yield (Both directions)	lb/in- width	ASTM D 6693 Type IV Dumbbell, 2 ipm G.L. 2.0 in G.L. 1.3 in	84	126	168	210
Elongation at Yield (Both directions)	%		12	12	12	12
Strength at Break (Both directions)	lb/in- width		60	90	120	150
Elongation at Break (Both directions)	%		100	100	100	100
Tear Resistance	lb	ASTM D-1004	28	42	56	70
Puncture Resistance	lb	ASTM D-4833	60	90	120	150
Carbon Black Content	%	ASTM D-1603	2-3	2-3	2-3	2-3
Carbon Black Dispersion (2)	Category	ASTM D-5596	Note (1)			
Oxidative Induction Time (OIT)	Min.	ASTM D-3895	≥ 100	≥ 100	≥ 100	≥ 100
High Pressure Oxidative induction Time (HPOIT)	Min.	ASTM D-5885	≥ 400	≥ 400	≥ 400	≥ 400
Oven Aging Standard OIT % retained after 90 Days	%	ASTM D-5721/ D3895 @ 185°F	≥ 55	≥ 55	≥ 55	≥ 55
Stress Crack Resistance (NCTL)	H	ASTM D-5397	≥ 500	≥ 500	≥ 500	≥ 500
UV Resistance HPOIT (3) Retained after 1600 Hours	%	ASTM D-7238 ASTM D-5885	≥ 50	≥ 50	≥ 50	≥ 50
Roll Width (approx.) (4)	ft	----	19 - 23			
Roll Length (approx.) (4)	ft	----	164 -246 - 328			
Surface	----	----	Single / Double-sided Texture			

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

(1) Tolerance ±10% of the lowest individual reading.

(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%.