



Formolene® HL3812

Formosa Plastics Corporation, U.S.A. - Medium Density Polyethylene

Tuesday, November 5, 2019

General Information

Product Description

Formolene® HL3812 is a high molecular weight hexene copolymer resin that is tailored specifically for geomembrane applications. The resin provides an excellent balance of ESCR properties, broad fusion range, excellent melt strength and good overall processability.

General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• Good Melt Strength • Good Processability	• Hexene Comonomer • High ESCR (Stress Crack Resist.)	• High Molecular Weight
Uses	• Geo Membranes	• Liners	
Agency Ratings	• EC 1907/2006 (REACH)		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	0.938	g/cm ³	ASTM D1505
Melt Mass-Flow Rate			ASTM D1238
190°C/2.16 kg	0.080	g/10 min	
190°C/21.6 kg	12	g/10 min	
Environmental Stress-Cracking Resistance (ESCR)			
10% Igepal, F50	> 1500	hr	ASTM D1693B
100% Igepal, F50	> 1500	hr	ASTM D1693C
SP-NCTL	> 1.4	month	ASTM D5397
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield)	2600	psi	ASTM D638
Tensile Elongation ² (Break)	850	%	ASTM D638
Flexural Modulus - Tangent ³ (Compression Molded)	120000	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Tensile Impact Strength ⁴	240	ft-lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	65		ASTM D2240
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	138	°F	ASTM D648
Brittleness Temperature	< -103	°F	ASTM D746A
Vicat Softening Temperature	243	°F	ASTM D1525 ⁵

Notes

¹ Typical properties: these are not to be construed as specifications.

² Type IV, 2.0 in/min

³ 0.50 in/min

⁴ Type S

⁵ Rate A (50°C/h), Loading 1 (10 N)