

Formolene® HP4306

High Density Polyethylene Copolymer

Formosa Plastics Corporation, U.S.A.

Message:

High Density Hexene Copolymer

Formolene HP 4306 is a high performance copolymer that is designed for the most demanding requirements of pressure pipe applications. It is designed specifically for larger diameter and thick wall pipes where excellent melt strength is required, but can be used successfully on all diameters and wall thicknesses. It has good long-term hoop strength performance, very high melt strength, outstanding toughness even at low temperatures.

Formolene HP 4306 meets all requirements of ASTM D4976 - PE 235.

When blended with the approved color concentrates, Formolene HP4306 has a cell class of 345464C per ASTM D3350-05, is listed by PPI as a PE3608 material with HDB's of 1,600 psi @ 73°F and 800 psi @ 140°F and meets the requirements of NSF Standard 14/61 for use with potable water. HP4306 also qualifies as a PE3408 material under the old ASTM D3350-02a and PPI standards. HP4306 also qualifies as a PE80 material per ISO 9080.

General Information			
Features	Copolymer		
	Good Melt Strength		
	Good Toughness		
	Hexene Comonomer		
	High Strength		
	Low Temperature Toughness		
Uses	Fluid Handling		
	Fuel Lines		
	Industrial Applications		
	Mining Applications		
	Piping		
	Potable Water Applications		
Agency Ratings	ASTM D 3350 PE345464C		
	ASTM D 4976-PE235		
	EC 1907/2006 (REACH)		
	ISO 9080 PE 80		
	NSF 14		
	NSF 61		
	PPI PE-3408		
Forms	Pellets		
Physical	Nominal Value	Unit	Test Method
Density			ASTM D1505
-- 1	0.944	g/cm ³	
-- 2	0.955	g/cm ³	

Melt Mass-Flow Rate (MFR)			ASTM D1238
190°C/2.16 kg ³	0.060	g/10 min	
190°C/21.6 kg ⁴	8.0	g/10 min	
Environmental Stress-Cracking Resistance			
100% Igepal, Compression Molded, F50	> 1000	hr	ASTM D1693A
100% Igepal, Compression Molded, F50	> 1000	hr	ASTM D1693B
100% Igepal, Compression Molded, F50	> 1000	hr	ASTM D1693C
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ⁵			ASTM D638
Yield, Compression Molded	22.1	MPa	
Break, Compression Molded	34.5	MPa	
Tensile Elongation ⁶ (Break, Compression Molded)	> 500	%	ASTM D638
Flexural Modulus			
Compression Molded	758	MPa	ASTM D3350
Compression Molded	965	MPa	ASTM D790
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -90.0	°C	ASTM D746
Additional Information	Nominal Value	Unit	Test Method
PENT - slow crack growth	150	hr	ASTM F1473
NOTE			
1.	Natural		
2.	Black		
3.	MI		
4.	HLMI		
5.	Type IV, 51 mm/min		
6.	Type IV, 51 mm/min		

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