



Formolene® HP3902

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

Tuesday, November 5, 2019

General Information

Product Description

Formolene® HP3902 is a high performance hexene copolymer designed for natural gas piping systems. It has outstanding slow crack growth resistance and good long-term hoop strength. It contains a UV stabilizer.

Formolene® HP3902 meets all requirements of ASTM D4976 - PE 225

When blended with the approved yellow color concentrates, Formolene® HP3902 meets:

- A Cell class of 234373E and 234375E per ASTM D3350
- The Plastic Pipe Institute (PPI) Certification of a PE2708 and PE80 resin per the protocol in TR-3
- The Canadian Standards Association CSA-B137.4 Standard for polyethylene piping systems for gas service
- The National Sanitation Foundation (NSF) Standard 14 for plastic piping systems components and materials

Suggested Applications:

- Gas Distribution Pipe
- Oilfield and Other Industrial Piping Systems

General

Material Status	• Commercial: Active		
Availability	• North America		
Additive	• UV Stabilizer		
Features	• Hexene Comonomer • High ESCR (Stress Crack Resist.)	• Medium Density • UV Stabilized	
Uses	• Fuel Lines • Industrial Applications	• Oil/Gas Applications • Piping	
Agency Ratings	• ASTM D3350 PE234373E • CSA B137.4-02	• EC 1907/2006 (REACH) • NSF STD-14	• PPI PE-2708
Forms	• Pellets		
Processing Method	• Compression Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	0.939	g/cm ³	ASTM D1505
Melt Mass-Flow Rate			ASTM D1238
190°C/2.16 kg	0.20	g/10 min	
190°C/21.6 kg	20	g/10 min	
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield, Compression Molded)	2760	psi	ASTM D638
Tensile Strength ² (Break, Compression Molded)	4790	psi	ASTM D638
Tensile Elongation ² (Break, Compression Molded)	> 500	%	ASTM D638
Flexural Modulus			
Compression Molded	110000	psi	ASTM D790
Compression Molded	89900	psi	ASTM D3350

Formolene® HP3902

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

Mechanical	Nominal Value	Unit	Test Method
Hydrostatic Design Basis ³			
73°F	1247	psi	
140°F	798	psi	
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -130	°F	ASTM D746
Additional Information	Nominal Value	Unit	Test Method
Minimum Required Strength (68°F)	1160	psi	ISO 9080
PENT - slow crack growth	< 1000	hr	ASTM F1473

Notes

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

² Type IV, 2.0 in/min

³ PPI TR3