

Total HP 401 MDPE, pipe, cable, sheet

Category : Polymer , Thermoplastic , Polyethylene (PE) , HDPE , High Density Polyethylene (HDPE), Pipe Grade

Material Notes:

FINATHENE® HP 401 is a polyethylene copolymer based on C6 hexene as co-monomer and is produced by a continuous low-pressure slurry polymerization process. FINATHENE® HP 401 is a black high density polyethylene specially developed for applications where excellent properties and high stiffness and creep resistance are required (e.g. sewage and drainage pipes, industrial pipes, sheet for chemical storage vessels,)FINATHENE® HP 401 is a black high density polyethylene developed for cable sheathing applications and is designed to meet the requirements for communication power cables (medium and high voltage cable applications).Information provided provided by Total Petrochemicals.Total Petrochemicals acquired former Fina and Atofina plastics product lines.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Total-HP-401-MDPE-pipe-cable-sheet.php

Physical Properties	Metric	English	Comments
Density	0.955 g/cc	0.0345 lb/in ³	ISO 1183
Environmental Stress Crack Resistance	>= 700 hour	>= 700 hour	ASTM D1693
Oxidative Induction Time (OIT)	>= 20 min	>= 20 min	210°C; EN 728
	>= 30 min	>= 30 min	200°C; EN 728
Carbon Black Loading	2.0 - 2.5 %	2.0 - 2.5 %	ISO 6964
Melt Flow	0.10 g/10 min	0.10 g/10 min	ISO 1133
	@Load 2.16 kg	@Load 4.76 lb	
High Load Melt Index	0.52 g/10 min	0.52 g/10 min	ISO 1133
	@Load 5.00 kg	@Load 11.0 lb	
High Load Melt Index	10 g/10 min	10 g/10 min	ISO 1133
	@Load 21.6 kg	@Load 47.6 lb	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	63	63	DIN 53505
Tensile Strength at Break	34.0 MPa	4930 psi	ISO 527
Tensile Strength, Yield	24.0 MPa	3480 psi	ISO 527
Elongation at Break	>= 700 %	>= 700 %	ISO 527
Elongation at Yield	9.0 %	9.0 %	ISO 527
Modulus of Elasticity	1.05 GPa	152 ksi	ISO 178

Thermal Properties	Metric	English	Comments
Heat of Fusion	175 J/g	75.3 BTU/lb	DSC
CTE, linear	160 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	88.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
Specific Heat Capacity	2.00 J/g- $^{\circ}\text{C}$	0.478 BTU/lb- $^{\circ}\text{F}$	DSC
	2.60 J/g- $^{\circ}\text{C}$	0.621 BTU/lb- $^{\circ}\text{F}$	DSC
	@Temperature 150 $^{\circ}\text{C}$	@Temperature 302 $^{\circ}\text{F}$	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft 2 - $^{\circ}\text{F}$	DIN 52612
	@Temperature 150 $^{\circ}\text{C}$	@Temperature 302 $^{\circ}\text{F}$	
Vicat Softening Point	127 $^{\circ}\text{C}$	261 $^{\circ}\text{F}$	ISO 306
Brittleness Temperature	-100 $^{\circ}\text{C}$	-148 $^{\circ}\text{F}$	ASTM D 746

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00\text{e}+16$ ohm-cm	$\geq 1.00\text{e}+16$ ohm-cm	IEC 93
Surface Resistance	$\geq 1.00\text{e}+16$ ohm	$\geq 1.00\text{e}+16$ ohm	IEC 93
Dielectric Constant	2.35	2.35	IEC 250
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	17.0 kV/mm	432 kV/in	IEC 243
Dissipation Factor	0.00020	0.00020	IEC 250
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.00030	0.00030	IEC 250
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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