

# Safrene® M 5010NAT100

High Density Polyethylene

Safripol (PTY) LTD

## Message:

Safrene™ M 5010NAT100 High Density Polyethylene Resin is a high molecular mass grade developed for pressure pipe applications. It has good impact strength, abrasion and chemical resistance properties.

Safrene™ M 5010NAT100 High Density Polyethylene Resin is a suitable for small and large diameter pressure pipe applications. It is also recommended for sheet extrusion.

General Information			
Features	High molecular weight		
	Impact resistance, good		
	Good wear resistance		
	Good chemical resistance		
	Compliance of Food Exposure		
Uses	Piping system		
	Sheet		
Agency Ratings	FDA 21 CFR 177.1520(c) 3.2a		
	European 2002/72/EC		
Appearance	Natural color		
Processing Method	Pipeline extrusion molding		
	Sheet extrusion molding		
Physical	Nominal Value	Unit	Test Method
Density	0.948	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
190°C/21.6 kg	9.0	g/10 min	ISO 1133
190°C/5.0 kg	0.25	g/10 min	ISO 1133
Viscosity Number (Reduced Viscosity)	340.0	ml/g	ISO 1628
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D, Compression Molded)	61		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			ISO 527-2/50
Yield, molding	24.0	MPa	ISO 527-2/50
Fracture, molding	35.0	MPa	ISO 527-2/50
Tensile Strain (Break, Compression Molded)	> 600	%	ISO 527-2/50

Flexural Stress (3.5% Strain,Compression Molded)	19.0	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-30°C, molded	4.0	kJ/m <sup>2</sup>	ISO 179
23°C, molded	12	kJ/m <sup>2</sup>	ISO 179
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	67.0	°C	ISO 306/B
Melting Temperature (DSC)	130 - 133	°C	ISO 3146
Extrusion	Nominal Value	Unit	
Cylinder Zone 1 Temp.	180 - 200	°C	
Cylinder Zone 2 Temp.	190 - 220	°C	
Cylinder Zone 3 Temp.	190 - 210	°C	
Melt Temperature	190 - 220	°C	
Extrusion instructions			
Feed Zone: 160 to 170°C			

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#### Recommended distributors for this material

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