

Isocor™ 4011

Polyamide 6/69 Copolymer

Shakespeare Monofilaments and Specialty Polymers

Message:

Isocor™ 4011 is a high viscosity PA-6/69. This resin is specifically suited for applications requiring superior toughness and abrasion resistance. Isocor™ 4011 is also used in applications requiring good electrical insulation properties. This resin can be processed using conventional techniques.

Typical applications for 4011 include:

cable jacketing

film extrusions

monofilaments / bristles

impact modifier

electrical connectors

trimmer line

General Information	
Additive	Impact modifier
Features	Ultra high toughness
	Impact modification
	Insulation
	Good wear resistance
	Viscosity, High
Uses	monofilament
	Cable sheath
	Electronic insulation
	Connector
Forms	Particle
Processing Method	Film extrusion
	Injection molding

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.12	--	g/cm ³	ASTM D792
Molding Shrinkage - Flow (3.18 mm)	1.4	--	%	ASTM D955
Water Absorption (24 hr)	3.7	--	%	ASTM D570
Hardness	Dry	Conditioned	Unit	Test Method
Durometer Hardness (Shore D)	79	--		ASTM D2240
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Strength	39.3	33.1	MPa	ASTM D638
Tensile Elongation (Break)	300	390	%	ASTM D638
Flexural Modulus	634	407	MPa	ASTM D790

Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact	160 J/m	No Break		ASTM D256
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ASTM D648
0.45 MPa, not annealed	141	--	°C	ASTM D648
1.8 MPa, not annealed	42.2	--	°C	ASTM D648
Melting Temperature	200	--	°C	DSC
Injection	Dry	Unit		
Dew Point	< -17.8		°C	
Suggested Max Moisture	0.20		%	
Hopper Temperature	79.4		°C	
Rear Temperature	216 - 238		°C	
Middle Temperature	221 - 254		°C	
Front Temperature	232 - 266		°C	
Nozzle Temperature	232 - 266		°C	
Processing (Melt) Temp	232 - 266		°C	
Mold Temperature	-6.67 - 93.3		°C	
Injection Pressure	3.45 - 13.8		MPa	
Injection Rate	Fast			
Back Pressure	0.689		MPa	
Extrusion	Dry	Unit		
Suggested Max Moisture	0.10		%	
Hopper Temperature	79.4		°C	
Cylinder Zone 1 Temp.	263		°C	
Cylinder Zone 2 Temp.	263		°C	
Cylinder Zone 3 Temp.	268		°C	
Cylinder Zone 4 Temp.	268		°C	
Die Temperature	254		°C	
Extrusion instructions				

Flange: 500°F (260°C) Air Dew Point (max): 0°F (-18°C) Neck: 500°F (260°C) Head: 500°F (260°C) Pump: 500°F (260°C) L/D Ratio: 24 to 30:1 Compression Ratio: 3.5:1 Polymer @ Die: 450°F (232°C) Screw Pressure: 2000 psi

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