

IROGRAN® A 78 E 4506

Thermoplastic Polyurethane Elastomer (Polyester)

Huntsman Corporation

Message:

IROGRAN A 78 E 4506 is a thermoplastic polyester-polyurethane for injection moulding and extrusion applications. Additional characteristics of the product are excellent mechanical properties and high tear strength.

PERFORMANCE FEATURES

- High production rates
- Good melt flow
- Softener-free
- High oil resistance
- Dynamically highly loadable

APPLICATIONS

For the production of profiles, spiral hoses, jackets for high pressure hoses.

General Information			
Features	Good Flow		
	Good Tear Strength		
	Oil Resistant		
Uses	Hose		
	Profiles		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.17	g/cm ³	
Melt Volume-Flow Rate (MVR) (190°C/21.6 kg)	25.0	cm ³ /10min	
Molding Shrinkage - Flow (Injection Molded)	0.90	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shore A, Injection Molded	80		
Shore D, Injection Molded	30		
Mechanical	Nominal Value	Unit	Test Method
Abrasion ²	25	mm ³	ISO 4649
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ³			DIN 53504
100% Strain	4.40	MPa	
300% Strain	8.00	MPa	
Tensile Stress ⁴ (Break)	50.0	MPa	DIN 53504

Tensile Elongation ⁵ (Break)	700	%	DIN 53504
Tear Strength ⁶	60	kN/m	ISO 34-1
Compression Set ⁷			ASTM D395, ISO 815
23°C, 24 hr	25	%	
70°C, 24 hr	40	%	
Injection	Nominal Value	Unit	
Drying Temperature			
--	100 to 110	°C	
Hot Air Dryer	80.0 to 90.0	°C	
Drying Time			
--	3.0	hr	
Hot Air Dryer	3.0	hr	
Rear Temperature	175 to 195	°C	
Middle Temperature	175 to 195	°C	
Front Temperature	175 to 195	°C	
Nozzle Temperature	180 to 200	°C	
Processing (Melt) Temp	170 to 190	°C	
Mold Temperature	20.0 to 70.0	°C	
Extrusion	Nominal Value	Unit	
Drying Temperature	100 to 110	°C	
Drying Time	3.0	hr	
Hopper Temperature	25.0 to 40.0	°C	
Cylinder Zone 1 Temp.	165 to 190	°C	
Cylinder Zone 2 Temp.	165 to 190	°C	
Cylinder Zone 3 Temp.	165 to 190	°C	
Cylinder Zone 4 Temp.	165 to 190	°C	
Cylinder Zone 5 Temp.	165 to 190	°C	
Adapter Temperature	175 to 195	°C	
Die Temperature	175 to 200	°C	
NOTE			
1.	Injection Molded		
2.	Injection Molded		
3.	Injection Molded		
4.	Injection Molded		
5.	Injection Molded		
6.	Injection Molded		
7.	Injection Molded		

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