

IROGRAN® A 85 E 4607 E

Thermoplastic Polyurethane Elastomer (Polyester)

Huntsman Corporation

Message:

IROGRAN A 85 E 4607 is a thermoplastic polyether-polyurethane intended for extrusion and injection moulding applications. Additional characteristics of the product are excellent mechanical properties and high tear strength.

PERFORMANCE FEATURES

- Good melt flow
- High wear resistance
- High elasticity
- Oil resistance
- Low-temperature flexibility

APPLICATIONS

For the production of spiral hoses, tooth belts round cords, casual shoe soles.

General Information			
Features	Good Flow		
	Good Tear Strength		
	High Elasticity		
	Low Temperature Flexibility		
	Oil Resistant		
Uses	Belts/Belt Repair		
	Footwear		
	Hose		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.20	g/cm ³	
Melt Volume-Flow Rate (MVR) (190°C/21.6 kg)	35.0	cm ³ /10min	
Molding Shrinkage - Flow (Injection Molded)	0.60	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shore A, Injection Molded	85		
Shore D, Injection Molded	34		
Mechanical	Nominal Value	Unit	Test Method
Abrasion ²	25	mm ³	ISO 4649
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ³			

100% Strain	4.90	MPa	ASTM D412
100% Strain	5.00	MPa	DIN 53504
300% Strain	11.0	MPa	ASTM D412
300% Strain	14.0	MPa	DIN 53504
Tensile Strength ⁴			
Break	36.0	MPa	ASTM D412
Break	45.0	MPa	DIN 53504
Tensile Elongation ⁵			
Break	750	%	ASTM D412
Break	650	%	DIN 53504
Tear Strength ⁶			
--	99.8	kN/m	ASTM D624
--	70	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	
Dew Point	-30.0	°C	
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 195	°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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