

IROGRAN® A 85 P 4441

Thermoplastic Polyurethane Elastomer (Polyether)

Huntsman Corporation

Message:

IROGRAN A 85 P 4441 is a polyether based thermoplastic polyurethane intended for injection moulding and extrusion applications.

IROGRAN A 85 P 4441 is part of the HUNTSMAN technical extrusion product range and offers high extrudability and low-adhesion surfaces.

PERFORMANCE FEATURES

High microbial resistance

Excellent hydrolysis resistance

High stability of melt

High production rate

Low adhesion surfaces

APPLICATIONS

Cables

Profiles

Hoses

Jackets for high pressure hoses

General Information	
Features	High Melt Stability
	Hydrolysis Resistant
	Microbe Resistant
Uses	Cable Jacketing
	Hose
	Profiles
Forms	Pellets
Processing Method	Extrusion
	Injection Molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.12	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/21.6 kg)	65.0	cm ³ /10min	
Molding Shrinkage - Flow (Injection Molded)	0.80	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shore A, Injection Molded	87		
Shore D, Injection Molded	38		
Mechanical	Nominal Value	Unit	Test Method
Abrasion ²	35	mm ³	ISO 4649
TMA ³			Internal Method
High : 635.0 µm	175	°C	

Low : 635.0 µm	155	°C	
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ⁴			
100% Strain	8.27	MPa	ASTM D412
100% Strain	7.00	MPa	DIN 53504
300% Strain	12.4	MPa	ASTM D412
300% Strain	11.0	MPa	DIN 53504
Tensile Strength ⁵			
Break	30.3	MPa	ASTM D412
Break	40.0	MPa	DIN 53504
Tensile Elongation ⁶			
Break	550	%	ASTM D412
Break	650	%	DIN 53504
Tear Strength ⁷			
--	98.1	kN/m	ASTM D624
--	60	kN/m	ISO 34-1
Compression Set ⁸			ASTM D395, ISO 815
23°C, 24 hr	25	%	
70°C, 24 hr	45	%	
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	
Hopper Temperature	25.0 to 35.0	°C	
Rear Temperature	185 to 195	°C	
Middle Temperature	185 to 195	°C	
Front Temperature	185 to 195	°C	
Nozzle Temperature	185 to 200	°C	
Mold Temperature	20.0 to 50.0	°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.	175 to 185	°C	
Cylinder Zone 2 Temp.	175 to 185	°C	
Cylinder Zone 3 Temp.	175 to 185	°C	
Cylinder Zone 4 Temp.	175 to 185	°C	
Cylinder Zone 5 Temp.	175 to 185	°C	

Adapter Temperature	185 to 195	°C
Die Temperature	185 to 195	°C

NOTE

1.	Injection Molded
2.	Injection Molded
3.	Extruded Film
4.	Injection Molded
5.	Injection Molded
6.	Injection Molded
7.	Injection Molded
8.	Injection Molded

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