

IROGRAN® A 92 K 4107

Thermoplastic Polyurethane Elastomer (Polycaprolactone)
Huntsman Corporation

Message:

IROGRAN A92K 4107 is a caprolactone-based thermoplastic polyurethane. The material has been developed for injection molding applications requiring exceptional performance in terms of compression set, wear resistance and hydrolysis resistance over conventional polyester-based TPUs. IROGRAN A92K 4107 is part of the High Performance Injection Molding product range and offers a specially designed, flexible material suitable for the production of seals, wheels and rollers, coupling halves and o-rings.

PERFORMANCE FEATURES

- High wear resistance
- Low compression set
- Short cycle times
- Excellent hydrolysis resistance
- Resistant to high dynamic loads

General Information			
Features	Fast Molding Cycle		
	Good Flexibility		
	Good Wear Resistance		
	Hydrolysis Resistant		
	Low Compression Set		
Uses	Gaskets		
	Rollers		
	Seals		
	Wheels		
RoHS Compliance	Contact Manufacturer		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity ¹	1.18	g/cm ³	ASTM D792, DIN 53479
Melt Volume-Flow Rate (MVR) (210°C/2.16 kg)	6.00	cm ³ /10min	
Molding Shrinkage - Flow (Injection Molded)	0.74	%	ASTM D972
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			
Shore A, Injection Molded	90		ASTM D2240, DIN 53505
Shore D, Injection Molded	41		DIN 53505
Mechanical	Nominal Value	Unit	Test Method
Abrasion ²			
--	31	mm ³	ASTM D395
--	25	mm ³	DIN 53516

Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ³			DIN 53504
100% Strain	8.10	MPa	
300% Strain	16.9	MPa	
Tensile Stress ⁴ (Break)	55.0	MPa	DIN 53504
Tensile Elongation ⁵ (Break)	570	%	DIN 53504
Tear Strength ⁶			
--	107	kN/m	ASTM D624
--	75	kN/m	DIN 53515
Compression Set ⁷			ASTM D395, DIN 53517
23°C, 70 hr	13	%	
70°C, 24 hr	25	%	
100°C, 24 hr	30	%	
100°C, 70 hr	34	%	
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature ⁸	164	°C	DIN 53372
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	205	°C	
Middle Temperature	210	°C	
Front Temperature	210	°C	
Nozzle Temperature	205	°C	
Mold Temperature	25.0 to 70.0	°C	
NOTE			
1.	Injection Molded		
2.	Injection Molded		
3.	Injection Molded		
4.	Injection Molded		
5.	Injection Molded		
6.	Injection Molded		
7.	Injection Molded		
8.	Injection Molded		

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