

# IROGRAN® PS455-200

Thermoplastic Polyurethane Elastomer (Polyester)

Huntsman Corporation

Message:

IROGRAN PS455-200 is a polyester based thermoplastic polyurethane intended for extrusion applications. IROGRAN PS455-200 is part of the HUNTSMAN film and sheet product range and offers a specially designed, flexible material with a broad processing window particularly suitable for film and sheet, textile laminations, and compounding.

PERFORMANCE FEATURES

FDA grade (21 CFR 175.105, 177.2600)

- Soft
- High elongation
- Tough
- Good low temperature properties
- Wide processing window

APPLICATIONS

- Textile lamination
- Compounding

General Information			
Features	Workability, good		
	Good chemical resistance		
	Good toughness		
	Soft		
	Extended tensile rate		
Uses	Films		
	Laminate		
	Textile applications		
	Composite		
	Sheet		
Agency Ratings	FDA 21 CFR 175.105		
	FDA 21 CFR 177.2600		
RoHS Compliance	Contact manufacturer		
Forms	Particle		
Processing Method	Film extrusion		
	Composite		
	Sheet extrusion molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity <sup>1</sup>	1.19	g/cm <sup>3</sup>	ASTM D792, DIN 53478
Melt Volume-Flow Rate (MVR) (177°C/2.16 kg)	8.00	cm <sup>3</sup> /10min	

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, Injection Molded)	78		ASTM D2240, DIN 53505
Mechanical	Nominal Value	Unit	Test Method
Abrasion <sup>2</sup>			
--	51	mm <sup>3</sup>	ASTM D395
--	50	mm <sup>3</sup>	DIN 53516
TMA <sup>3</sup>			
High : 635.0 µm	130	°C	Internal method
Low : 635.0 µm	110	°C	Internal method
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>4</sup>			
100% strain, 0.635mm	2.34	MPa	ASTM D412
100% strain, 0.635mm	2.00	MPa	DIN 53504
300% strain, 0.635mm	4.83	MPa	ASTM D412
300% strain, 0.635mm	5.00	MPa	DIN 53504
Tensile Strength <sup>5</sup>			
Fracture, 0.635mm	41.4	MPa	ASTM D412
Fracture, 0.635mm	42.0	MPa	DIN 53504
Tensile Elongation <sup>6</sup> (Break, 0.635 mm)	700	%	ASTM D412, DIN 53504
Tear Strength <sup>7</sup>			
0.635 mm	66.5	kN/m	ASTM D624
0.635 mm	72	kN/m	DIN 53515
Compression Set <sup>8</sup>			
23°C, 70 hr	40	%	ASTM D395, DIN 53517
70°C, 24 hr	90	%	ASTM D395, DIN 53517
Bayshore Resilience <sup>9</sup>	50	%	ASTM D2632
Extrusion	Nominal Value	Unit	
Drying Temperature	50.0 - 60.0	°C	
Drying Time	3.0	hr	
Hopper Temperature	140	°C	
Cylinder Zone 1 Temp.	150	°C	
Cylinder Zone 2 Temp.	150	°C	
Cylinder Zone 3 Temp.	150	°C	
Cylinder Zone 4 Temp.	150	°C	
Cylinder Zone 5 Temp.	150	°C	
Adapter Temperature	150	°C	
Die Temperature	150	°C	
Extrusion instructions			
Dew Point: -22°F			
NOTE			
1.	Injection Molded		

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

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519  
Phone: +86 13424755533  
Email: sales@su-jiao.com  
No. 215, Lianhe North Road, Fengxian District, Shanghai, China

