

# IROGRAN® A 92 E 5670 FCM

Thermoplastic Polyurethane Elastomer (Polyester)

Huntsman Corporation

Message:

IROGRAN A 92 E 5670 FCM is a thermoplastic polyester polyurethane for melt calendering.  
IROGRAN is part of the HUNTSMAN technical extrusion/injection molding product range and offers a specially designed, flexible material with a broad processing window.  
IROGRAN A 92 E 5670 FCM is a food contact material.

PERFORMANCE FEATURES

- High oil resistance
- High production rate
- Good melt flow
- Easy coloring
- Complies with FDA CFR 175.105 / 177.2600

APPLICATION

- Cable jacketing
- Tubing
- Technical extrusion

General Information			
Features	Food Contact Acceptable		
	Good Colorability		
	Good Flexibility		
	Good Flow		
	Oil Resistant		
Uses	Cable Jacketing		
	Tubing		
Agency Ratings	FDA 21 CFR 175.105		
	FDA 21 CFR 177.2600		
Forms	Pellets		
Processing Method	Calendering		
	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity <sup>1</sup>	1.20	g/cm <sup>3</sup>	ASTM D792, DIN 53479
Melt Mass-Flow Rate (MFR) (190°C/10.0 kg)	62	g/10 min	
Molding Shrinkage - Flow (Injection Molded)	0.40	%	ASTM D955
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, DIN 53505

Shore A, Injection Molded	91		
Shore D, Injection Molded	37		
Mechanical	Nominal Value	Unit	Test Method
Abrasion <sup>2</sup>			
--	20	mm <sup>3</sup>	DIN 53516
--	20	mm <sup>3</sup>	
TMA <sup>3</sup>			
High	170	°C	Internal Method
Low	124	°C	
Calendar Temperature Profile <sup>4</sup>			
Front Roll (32rpm)	170 to 190	°C	
Rear Roll (27rpm)	170 to 190	°C	
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>5</sup> (Break, 0.635 mm)	36.0	MPa	DIN 53504
Tensile Elongation <sup>6</sup> (Break, 0.635 mm)	580	%	DIN 53504
Tear Strength <sup>7</sup> (0.635 mm)	83	kN/m	DIN 53515
Compression Set <sup>8</sup>			
23°C, 24 hr	25	%	ASTM D395, DIN 53517
70°C, 24 hr	40	%	
Extrusion	Nominal Value	Unit	
Drying Temperature	85.0 to 90.0	°C	
Drying Time	3.0	hr	
Hopper Temperature	25.0 to 40.0	°C	
Cylinder Zone 1 Temp.	195	°C	
Cylinder Zone 2 Temp.	195	°C	
Cylinder Zone 3 Temp.	195	°C	
Cylinder Zone 4 Temp.	195	°C	
Cylinder Zone 5 Temp.	195	°C	
Adapter Temperature	210	°C	
Die Temperature	210	°C	
NOTE			
1.	Injection Molded		
2.	Injection Molded		
3.	Injection Molded		
4.	2 Roll Mill		
5.	Extruded Film		
6.	Extruded Film		
7.	Extruded Film		
8.	Injection Molded		

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