



Monprene® IN-12991

Teknor Apex Company - Thermoplastic Elastomer

General Information

Product Description

Monprene IN-12991 is a high performance thermoplastic elastomer designed for the industrial market including seals and gaskets. Monprene IN-12991 is a lubricated, high hardness, low density, light stabilized grade suitable for both injection molding or extrusion.

General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Melt Strength • Good Mold Release • Good Moldability • Good Strength • High Elongation	• High Hardness • High Strength • Light Stabilized • Low Density • Low Flow	• Low Specific Gravity • Lubricated • Without Fillers
Uses	• Gaskets • Handles	• Industrial Applications • Outdoor Applications	• Sporting Goods • Tubing
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.890		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	1.5	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ²			ASTM D412
Across Flow : 100% Strain	620	psi	
Flow : 100% Strain	775	psi	
Tensile Stress ²			ASTM D412
Across Flow : 300% Strain	803	psi	
Flow : 300% Strain	1010	psi	
Tensile Strength ²			ASTM D412
Across Flow : Break	3000	psi	
Flow : Break	1920	psi	
Tensile Elongation ²			ASTM D412
Across Flow : Break	830	%	
Flow : Break	670	%	
Tear Strength ²			ASTM D624
Across Flow	362	lbf/in	
Flow	340	lbf/in	
Compression Set ³			ASTM D395B
73°F, 22 hr	30	%	
158°F, 22 hr	63	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Injection Molded	92		
Shore A, 5 sec, Injection Molded	90		

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Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	149	°F	ASTM D1525

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	360 to 450	°F
Middle Temperature	370 to 460	°F
Front Temperature	380 to 470	°F
Nozzle Temperature	390 to 480	°F
Processing (Melt) Temp	390 to 480	°F
Mold Temperature	95 to 120	°F
Injection Pressure	200 to 800	psi
Injection Rate	Fast	
Back Pressure	25.0 to 100	psi
Screw Speed	50 to 100	rpm
Cushion	0.150 to 1.00	in

Injection Notes

Drying is not necessary. However, if moisture is a problem, dry the pellets for 2 to 4 hours at 150°F (65°C).

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	360 to 450	°F
Cylinder Zone 2 Temp.	370 to 460	°F
Cylinder Zone 3 Temp.	380 to 470	°F
Cylinder Zone 4 Temp.	380 to 470	°F
Cylinder Zone 5 Temp.	390 to 480	°F
Die Temperature	390 to 480	°F

Extrusion Notes

Screw Speed: 30 to 100 rpm

Notes

¹ Typical properties: these are not to be construed as specifications.

² Die C, 20 in/min

³ Type 1