

Monprene® IN-12991

Thermoplastic Elastomer

Teknor Apex Company

Message:

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 Information			
Features	Low Specific Gravity		
	Without Fillers		
	Low density		
	High strength		
	Light stabilization		
	Good formability		
	Good strength		
	Good melt strength		
	Low liquidity		
	Lubrication		
	Good demoulding performance		
	Extended tensile rate		
	High hardness		
Uses	Handle		
	Washer		
	Industrial application		
	Pipe fittings		
	Outdoor application		
	Sporting goods		
RoHS Compliance	RoHS compliance		
Appearance	Available colors		
	Clear/transparent		
	Natural color		
Forms	Particle		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.888	g/cm ³	ASTM D792

Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	1.5	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 second, injection molding	92		ASTM D2240
Shore A, 5 seconds, injection molding	90		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ¹			ASTM D412
Transverse flow: 100% strain	4.27	MPa	ASTM D412
Flow: 100% strain	5.34	MPa	ASTM D412
Transverse flow: 300% strain	5.54	MPa	ASTM D412
Flow: 300% strain	6.96	MPa	ASTM D412
Tensile Strength ²			ASTM D412
Transverse flow: Fracture	20.7	MPa	ASTM D412
Flow: Fracture	13.2	MPa	ASTM D412
Tensile Elongation ³			ASTM D412
Transverse flow: Fracture	830	%	ASTM D412
Flow: Fracture	670	%	ASTM D412
Tear Strength ⁴			ASTM D624
Transverse flow	63.4	kN/m	ASTM D624
Flow	59.5	kN/m	ASTM D624
Compression Set ⁵			ASTM D395B
23°C, 22 hr	30	%	ASTM D395B
70°C, 22 hr	63	%	ASTM D395B
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature	65.0	°C	ASTM D1525

Legal statement

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Injection	Nominal Value	Unit
Rear Temperature	182 - 232	°C
Middle Temperature	188 - 238	°C
Front Temperature	193 - 243	°C
Nozzle Temperature	199 - 249	°C
Processing (Melt) Temp	199 - 249	°C
Mold Temperature	35 - 49	°C
Injection Pressure	1.38 - 5.52	MPa
Injection Rate	Fast	
Back Pressure	0.172 - 0.689	MPa

Screw Speed	50 - 100	rpm
Cushion	3.81 - 25.4	mm
Injection instructions		
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.	182 - 232	°C
Cylinder Zone 2 Temp.	188 - 238	°C
Cylinder Zone 3 Temp.	193 - 243	°C
Cylinder Zone 4 Temp.	193 - 243	°C
Cylinder Zone 5 Temp.	199 - 249	°C
Die Temperature	199 - 249	°C
Extrusion instructions		
Screw Speed: 30 to 100 rpm		
NOTE		
1.	C mold, 510mm/min	
2.	C mold, 510mm/min	
3.	C mold, 510mm/min	
4.	C mold, 510mm/min	
5.	Type 1	

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