

Medalist® MD-441

Thermoplastic Elastomer

Teknor Apex Company

Message:

Medalist™MD-441 is a thermoplastic elastomer (TPE) material. This product is available in North America, Africa and the Middle East, Latin America, Europe or Asia Pacific. The processing method is extrusion or injection molding.

Typical application areas include:

medical/health care

safety equipment

General Information	
Uses	Safety equipment Drug Medical/nursing supplies
Appearance	Translucent
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)	2.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 1 sec)	75		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
100% strain	2.76	MPa	ASTM D412
200% strain	3.79	MPa	ASTM D412
300% strain	4.83	MPa	ASTM D412
Tensile Strength (Break)	13.8	MPa	ASTM D412
Tensile Elongation (Break)	700	%	ASTM D412
Tear Strength - Flow			ASTM D624
23°C ¹	41.2	kN/m	ASTM D624
23°C ²	53.4	kN/m	ASTM D624
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< 60.0	°C	ISO 812
Injection	Nominal Value	Unit	
Rear Temperature	127 - 149	°C	
Middle Temperature	138 - 160	°C	
Front Temperature	149 - 171	°C	

Nozzle Temperature	171 - 193	°C
Processing (Melt) Temp	171 - 193	°C
Mold Temperature	21.1 - 37.8	°C
Injection Pressure	1.38 - 5.52	MPa
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.	138 - 149	°C
Cylinder Zone 2 Temp.	149 - 160	°C
Cylinder Zone 3 Temp.	160 - 182	°C
Cylinder Zone 5 Temp.	171 - 193	°C
Die Temperature	182 - 204	°C

Extrusion instructions

Screw Speed: 30 to 100 rpm

NOTE

1. B mold, 510mm/min
2. C mold, 510mm/min

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