

# Medalist® MD-12170 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

## General Information

### Product Description

The Medalist MD-12100 series are high performance thermoplastic elastomers designed for medical and healthcare applications requiring high elasticity and excellent moldability. Medalist MD-12170 is a medium hardness, low density, translucent grade, available in NAT and colors, which can be sterilized and exhibits excellent adhesion to polypropylene.

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Autoclave Sterilizable • Chemical Resistant • Ethylene Oxide Sterilizable • Good Adhesion • Good Moldability • Good Sterilizability	• Good Toughness • Halogen Free • Low Density • Low Specific Gravity • Lubricated • Medium Flow	• Medium Hardness • Radiation Sterilizable • Resilient • Slip • Without Fillers
Uses	• Bushings • Closures • Disposable Hospital Goods • Flexible Grips	• Grommets • Knobs • Medical/Healthcare Applications • Pharmaceuticals	• Plugs • Rubber Replacement
Agency Ratings	• ISO 10993-5	• ISO 13485	
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Natural Color	• Translucent
Forms	• Pellets		
Processing Method	• Injection Molding	• Multi Injection Molding	

## ASTM & ISO Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.889	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	9.0	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>2</sup> (50% Strain)	2.90	MPa	ASTM D412
Tensile Stress <sup>2</sup> (100% Strain)	3.34	MPa	ASTM D412
Tensile Stress <sup>2</sup> (300% Strain)	4.41	MPa	ASTM D412
Tensile Strength <sup>2</sup> (Break)	9.03	MPa	ASTM D412
Tensile Elongation <sup>2</sup> (Break)	680	%	ASTM D412
Tear Strength <sup>2</sup>	38.5	kN/m	ASTM D624
Compression Set <sup>3</sup>			ASTM D395
23°C, 22 hr	21	%	
70°C, 22 hr	37	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	72		
Shore A, 5 sec	70		

Revision Date: 6/6/2019

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### Processing Information

Injection	Nominal Value	Unit
Rear Temperature	160 to 177	°C
Middle Temperature	182 to 204	°C
Front Temperature	193 to 216	°C
Nozzle Temperature	182 to 227	°C
Processing (Melt) Temp	182 to 227	°C
Mold Temperature	27 to 49	°C
Injection Rate	Moderate-Fast	
Back Pressure	0.172 to 0.689	MPa
Screw Speed	50 to 100	rpm
Cushion	3.81 to 12.7	mm

### 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).

For applications where adhesion or overmolding to polypropylene (PP) is required, a higher processing temperature (up to 480 °F) is recommended.

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> Die C, 510 mm/min

<sup>3</sup> Type 1

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