

# Medalist® MD-50173 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

## General Information

### Product Description

The Medalist MD-50100 Series of medical-grade TPEs can be used as an alternative to flexible PVC and silicone in face masks used in respiratory therapy. Medalist MD-50173 is a high hardness, low density, RoHS compliant grade that can be sterilized and is suitable for injection molding.

### General

Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Chemical Resistant • Ethylene Oxide Sterilizable • Good Adhesion • Good Colorability • Good Flexibility • Good Moldability	• Good Sterilizability • Good Toughness • Halogen Free • High Flow • High Hardness • Low Density	• Low Specific Gravity • No Animal Derived Components • Radiation (Gamma) Resistant • Resilient • Slip • Without Fillers
Uses	• Disposable Hospital Goods • Handles • Knobs	• Medical Devices • Medical/Healthcare Applications • Pharmaceuticals	• Plugs • Rubber Replacement
Agency Ratings	• ISO 10993-5	• ISO 13485	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Injection Molding		

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

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.890	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	13	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress <sup>2</sup> (50% Strain)	3.23	MPa	ASTM D412
Tensile Stress <sup>2</sup> (100% Strain)	3.62	MPa	ASTM D412
Tensile Stress <sup>2</sup> (300% Strain)	5.17	MPa	ASTM D412
Tensile Strength <sup>2</sup> (Break)	12.0	MPa	ASTM D412
Tensile Elongation <sup>2</sup> (Break)	720	%	ASTM D412
Tear Strength - Flow <sup>2</sup>	58.7	kN/m	ASTM D624
Compression Set <sup>3</sup> (23°C, 22 hr)	26	%	ASTM D395B
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Injection Molded	75		
Shore A, 5 sec, Injection Molded	73		

### Legal Statement

The information and recommendations contained in this bulletin are, to the best of our knowledge, accurate and reliable but no guarantee of their accuracy is made. All products are sold upon condition that purchasers shall make their own tests to determine the suitability of such products for their particular purposes and uses and purchaser assumes all risks and liability for the results of use of the products, including use in accordance with seller's recommendations. Nothing in this bulletin constitutes permission or a recommendation to practice or use any invention covered by any patent owned by this company or others. There is no warranty of merchantability and there are no other warranties for the products described. For detailed Product Stewardship information, please contact us. Any product of Teknor Apex, including product names, shall not be used or tested in medical or food contact applications without the prior written acknowledgement of Teknor Apex as to the intended use. Please note that some products may not be available in one or more countries.

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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).

### 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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