

# Medalist® MD-53273 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

## General Information

### Product Description

The Medalist MD-53200 Series is a high performance thermoplastic elastomer series, designed to be a sustainable alternative to flexible PVC for medical tubing and film. Medalist MD-53273 is a low density, medium hardness, clear, lubricated grade, available in Nat and color-matched, intended for use in medical and healthcare applications, with excellent processability and throughput in extruded tubing.

### General

Material Status	• Preliminary Data		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Chemical Resistant • Ethylene Oxide Sterilizable • Good Adhesion • Good Colorability • Good Melt Strength • Good Processability	• Good Toughness • Halogen Free • High Clarity • High Purity • Kink Resistant • Low Density	• Low Specific Gravity • Lubricated • Medium Hardness • No Animal Derived Components • Radiation (Gamma) Resistant
Uses	• Clear Sheet • Film • Hose	• Medical/Healthcare Applications • Pharmaceuticals • Rubber Replacement	• Tubing
Agency Ratings	• ISO 10993-5	• ISO 13485	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent	• Colors Available	
Forms	• Pellets		
Processing Method	• Cast Film	• Extrusion	• Injection Molding

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

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.888	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	6.0	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (50% Strain)	3.10	MPa	ASTM D412
Tensile Stress (100% Strain)	3.45	MPa	ASTM D412
Tensile Stress (300% Strain)	5.14	MPa	ASTM D412
Tensile Strength (Break)	14.3	MPa	ASTM D412
Tensile Elongation (Break)	650	%	ASTM D412
Tear Strength	56.0	kN/m	ASTM D624
Compression Set			ASTM D395
23°C, 22 hr	18	%	
70°C, 22 hr	92	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	76		
Shore A, 5 sec	73		

Revision Date: 5/27/2020

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 purchasers assume 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 by others. There is no warranty of merchantability and there are no other warranties for the products described.

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### Legal Statement

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### Processing Information

Injection	Nominal Value	Unit
Rear Temperature	149 to 171	°C
Middle Temperature	171 to 193	°C
Front Temperature	193 to 227	°C
Nozzle Temperature	193 to 227	°C
Processing (Melt) Temp	193 to 227	°C
Mold Temperature	21 to 52	°C
Back Pressure	0.345 to 1.03	MPa
Screw Speed	50 to 100	rpm
Cushion	3.56 to 25.4	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)

Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	160 to 188	°C
Cylinder Zone 2 Temp.	182 to 196	°C
Cylinder Zone 3 Temp.	182 to 204	°C
Cylinder Zone 4 Temp.	182 to 204	°C
Cylinder Zone 5 Temp.	182 to 210	°C
Die Temperature	177 to 216	°C

### Extrusion Notes

Screw Speed: 30 to 100 rpm.

Screen Pack Recommendation:

60/200/200/60 to 60/200/400/400/200/60 mesh size.

### Notes

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

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