

# Medalist® MD-53283 (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-53283 is a low density, higher 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 Flexibility • Good Processing Stability	• Good Toughness • Halogen Free • High Clarity • High Hardness • High Purity • Kink Resistant	• Low Density • Low Specific Gravity • Lubricated • 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)	8.0	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (50% Strain)	5.17	MPa	ASTM D412
Tensile Stress (100% Strain)	5.52	MPa	ASTM D412
Tensile Stress (300% Strain)	7.24	MPa	ASTM D412
Tensile Strength (Break)	14.5	MPa	ASTM D412
Tensile Elongation (Break)	650	%	ASTM D412
Tear Strength	77.1	kN/m	ASTM D624
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	86		
Shore A, 5 sec	84		

### 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	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 150F

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
Adapter Temperature	177 to 216	°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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