

Medalist® MD-53278 (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-53278 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 ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.888	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	7.0	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (50% Strain)	4.45	MPa	ASTM D412
Tensile Stress (100% Strain)	4.79	MPa	ASTM D412
Tensile Stress (300% Strain)	6.76	MPa	ASTM D412
Tensile Strength (Break)	14.9	MPa	ASTM D412
Tensile Elongation (Break)	620	%	ASTM D412
Tear Strength	64.3	kN/m	ASTM D624
Compression Set			ASTM D395
23°C, 22 hr	23	%	
70°C, 22 hr	83	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	81		
Shore A, 5 sec	79		

Revision Date: 7/20/2018

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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

¹ Typical properties: these are not to be construed as specifications.

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