

Medalist® MD-12180H (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

General Information

Product Description

Medalist MD-12100H series are high performance thermoplastic elastomers designed for use in medical and healthcare applications requiring high flow. Medalist MD-12180H is a low density, higher hardness, resilient 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 Colorability • Good Flexibility	• Good Moldability • Good Sterilizability • Good Toughness • Halogen Free • High Flow • High Hardness	• Low Density • Low Specific Gravity • Radiation (Gamma) Resistant • Resilient • Slip • Without Fillers
Uses	• Bladders • Bushings • Connectors • Disposable Hospital Goods • Flexible Grips	• Grommets • Handles • Knobs • Medical/Healthcare Applications • Pharmaceuticals	• Plugs • Rubber Replacement • Seals
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 Properties¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.887	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	14	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ² (50% Strain)	3.34	MPa	ASTM D412
Tensile Stress ² (100% Strain)	3.69	MPa	ASTM D412
Tensile Stress ² (300% Strain)	4.83	MPa	ASTM D412
Tensile Strength ² (Break)	5.96	MPa	ASTM D412
Tensile Elongation ² (Break)	480	%	ASTM D412
Tear Strength ²	33.3	kN/m	ASTM D624
Compression Set ³			ASTM D395
23°C, 22 hr	28	%	
70°C, 22 hr	77	%	
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec, Injection Molded	82		
Shore A, 5 sec, Injection Molded	80		

Revision Date: 5/24/2024

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	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

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

² Die C, 510 mm/min

³ Type 1

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