Medalist® MD-12180 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

General Information

Product Description

The Medalist MD-12100 Series are high performance thermoplastic elastomers designed for medical and healthcare applications requiring high elasticity and excellent moldability. Medalist MD-12180 is a higher hardness, low density, translucent 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 Moldability • Good Sterilizability	• Good Toughness • Halogen Free • High Hardness • Low Density • Low Specific Gravity • Lubricated	• Medium Flow • Radiation Sterilizable • Resilient • Slip • Without Fillers
Uses	• Bushings • Closures • Disposable Hospital Goods • Flexible Grips	• Grommets • Knobs • Medical/Healthcare Applications • Pharmaceuticals	• Plugs • Rubber Replacement
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 Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.891	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	9.0	g/10 min	ASTM D1238
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress [2] (50% Strain)	3.79	MPa	ASTM D412
Tensile Stress [2] (100% Strain)	4.27	MPa	ASTM D412
Tensile Stress [2] (300% Strain)	5.45	MPa	ASTM D412
Tensile Strength [2] (Break)	12.0	MPa	ASTM D412
Tensile Elongation [2] (Break)	720	%	ASTM D412
Tear Strength [2]	50.3	kN/m	ASTM D624
Compression Set [3]			ASTM D395
23°C, 22 hr	25	%	
70°C, 22 hr	44	%	
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A, 1 sec	82		
Shore A, 5 sec	80		

Revision Date: 11/6/2019

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Legal Statement

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

Teknor Apex Company
Corporate Headquarters

In U.S. for Vinyls, TPEs, Colorants,

Engineered Thermoplastics (Chem Polymer)
505 Central Avenue
Pawtucket, Rhode Island 02861 U.S.

Phone: 401-725-8000
Fax: 401-725-8095
Toll Free (U.S. only) 800-556-3864

www.teknorapex.com
info@teknorapex.com

Teknor Apex B.V.

Brightlands Chemelot Campus Umonderbaan 22
6167 RD Geleen, Netherlands

Phone: +31 46 7020 950
Fax: +31 46 7020 990

www.teknorapex.com
tpe@teknorapex.com

Teknor Apex (Suzhou) Advanced Polymer Compounds Co. Pte. Ltd.

No. 78 Ping Sheng Road

Suzhou Industrial Park
Jiangsu, China 215126

Phone: (86) 512-6287-1550
Fax: (86) 512-6288-8371

www.teknorapex.com
infotaap@teknoapex.com

Teknor Apex Asia Pacific PTE. LTD.

41 Shipyard Road

Singapore 628134

Phone: (65) 6265-2544
Fax: (65) 6265-1821

www.teknorapex.com
infotaap@teknorapex.com

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