

# Medalist® MD-84383 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Thursday, June 29, 2017

## General Information

### Product Description

Medalist MD-84300 series are high performance thermoplastic elastomers designed specifically for extrusion and injection molded electrical applications in the medical and healthcare industry. The Medalist MD-84300 series are a better alternative to traditional TPVs used in such applications. Medalist MD-84383 is a higher hardness, low density grade with good electrical properties and can be sterilized by autoclave, ETO, or gamma radiation. Please contact your Teknor Apex rep for a regulatory compliance letter as required.

### General

Material Status	• Preliminary Data		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Autoclave Sterilizable • Electrically Insulating • Ethylene Oxide Sterilizable • Good Color Stability • Good Colorability	• Good Sterilizability • Halogen Free • High Tensile Strength • Low Density • Low Specific Gravity	• Medium Flow • Medium Hardness • Radiation Sterilizable • Slip
Uses	• Medical/Healthcare Applications • Pharmaceuticals	• Safety Equipment • Wire & Cable Applications	
Agency Ratings	• ISO 13485		
RoHS Compliance	• RoHS Compliant		
Appearance	• Opaque		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

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

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.00		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	19	g/10 min	ASTM D1238
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain)	590	psi	ASTM D412
Tensile Stress (300% Strain)	820	psi	ASTM D412
Tensile Strength (Break)	2200	psi	ASTM D412
Tensile Elongation (Break)	680	%	ASTM D412
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	85		
Shore A, 5 sec	83		
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -76.0	°F	ASTM D746
Aging	Nominal Value	Unit	Test Method
Change in Tensile Strength in Air (277°F, 168 hr)	24	%	ASTM D573
Change in Ultimate Elongation in Air (277°F, 168 hr)	-6.0	%	ASTM D573
Change in Tensile Strength 140°F, 168 hr, in IRM 902 Oil	-6.0	%	ASTM D471
Change in Ultimate Elongation 140°F, 168 hr, in IRM 902 Oil	5.0	%	ASTM D471

上海松翰塑化科技有限公司  
 TEKNOR APEX 特诺尔爱佩斯 一级分销商  
 teknorapex.shsh.com 联系电话: 021-58958585

Revision Date: 6/8/2016

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Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			ASTM D257
73°F	2.0E+16	ohms·cm	
122°F	7.2E+14	ohms·cm	
Dielectric Strength	1200	V/mil	ASTM D149
Dielectric Constant (1 kHz)	2.28		ASTM D150
Dissipation Factor (1 kHz)	6.7E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in, NT)	HB		UL 94
Oxygen Index	19	%	ASTM D2863

### Legal Statement

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### Processing Information

Injection	Nominal Value	Unit
Rear Temperature	390 to 420	°F
Middle Temperature	415 to 430	°F
Front Temperature	430 to 440	°F
Nozzle Temperature	430 to 445	°F
Processing (Melt) Temp	430 to 445	°F
Mold Temperature	77 to 150	°F
Injection Pressure	200 to 1000	psi
Back Pressure	25.0 to 50.0	psi
Screw Speed	50 to 100	rpm
Cushion	0.150 to 1.00	in

### 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.	380 to 410	°F
Cylinder Zone 2 Temp.	390 to 420	°F
Cylinder Zone 3 Temp.	415 to 430	°F
Cylinder Zone 4 Temp.	415 to 430	°F
Cylinder Zone 5 Temp.	430 to 440	°F
Die Temperature	430 to 445	°F

### Extrusion Notes

Screw Speed: 30 to 100 rpm

### Notes

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



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## Teknor Apex Company - Thermoplastic Elastomer

**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

**Teknor Apex U.K. Ltd.**

Tat Bank Road  
Oldbury, West Midlands B69 4NH England

Phone: (44) 121-665-2100  
Fax: (44) 121-544-5530

[etpsales@teknorapex.co.uk](mailto:etpsales@teknorapex.co.uk)

[info@teknorapex.com](mailto:info@teknorapex.com)

上海松翰塑化科技有限公司  
TEKNOR APEX 特诺尔爱佩斯 一级分销商  
[teknorapex.shshsj.com](http://teknorapex.shshsj.com) 联系电话: 021-58958519

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