Medalist® MD-84368

Teknor Apex Company - Thermoplastic Elastomer

Saturday, September 14, 2024

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-84368 is a medium hardness, low density grade with good electrical properties and can be sterilized by autoclave, ETO, or gamma radiation.

General			
Material Status	• Commercial: Active		
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 Flow	• Low Specific Gravity • Medium Hardness • Radiation Sterilizable • Slip
Uses	• Flexible Jacketing • Medical/Healthcare Applications	• Pharmaceuticals • Rubber Replacement	• Wire & Cable Applications
Agency Ratings	• ISO 13485		
RoHS Compliance	• RoHS Compliant		
Appearance	• Colors Available	• Natural Color	• Opaque
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.918	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	3.0	g/10 min	ASTM D1238
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (100% Strain)	2.62	MPa	ASTM D412
Tensile Stress (300% Strain)	4.55	MPa	ASTM D412
Tensile Strength (Break)	18.3	MPa	ASTM D412
Tensile Elongation (Break)	700	%	ASTM D412
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A, 1 sec	70		
Shore A, 5 sec	68		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Brittleness Temperature	< -60.0	°C	ASTM D746
Aging	**Nominal Value**	**Unit**	**Test Method**
Change in Tensile Strength in Air (136°C, 168 hr)	26	%	ASTM D573
Change in Ultimate Elongation in Air (136°C, 168 hr)	-1.0	%	ASTM D573
Change in Tensile Strength			ASTM D471
60°C, 168 hr, in IRM 902 Oil	-31	%	
Change in Ultimate Elongation			ASTM D471
60°C, 168 hr, in IRM 902 Oil	-7.0	%	

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Electrical	Nominal Value	Unit	Test Method
Volume Resistivity			ASTM D257
23°C	4.3E+16	ohms·cm	
50°C	3.9E+15	ohms·cm	
Dielectric Strength	48	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	2.29		ASTM D150
Dissipation Factor (1 kHz)	8.6E-4		ASTM D150

Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.5 mm, NT)	HB		UL 94
Oxygen Index	19	%	ASTM D2863

Legal Statement

Processing Information

Injection	Nominal Value	Unit
Rear Temperature	199 to 216	°C
Middle Temperature	213 to 221	°C
Front Temperature	221 to 227	°C
Nozzle Temperature	221 to 229	°C
Processing (Melt) Temp	221 to 229	°C
Mold Temperature	25 to 66	°C
Injection Pressure	1.38 to 6.89	MPa
Back Pressure	0.172 to 0.345	MPa
Screw Speed	50 to 100	rpm
Cushion	3.81 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.	193 to 210	°C
Cylinder Zone 2 Temp.	199 to 216	°C
Cylinder Zone 3 Temp.	213 to 221	°C
Cylinder Zone 4 Temp.	213 to 221	°C
Cylinder Zone 5 Temp.	221 to 229	°C
Die Temperature	221 to 229	°C

Extrusion Notes

Screw Speed: 30 to 100 rpm

Notes

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

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