Medalist® MD-50278 AP NAT (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Wednesday, April 1, 2026

General Information

Product Description

The Medalist MD-50200 Series is a high performance thermoplastic elastomer series, designed to be a sustainable alternative to flexible PVC for medical tubing and film. Medalist MD-50278 is a low density, medium hardness, clear 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 Processing Stability	• Halogen Free • High Clarity • High Purity • Kink Resistant • Low Density	• Low Specific Gravity • Medium Hardness • No Animal Derived Components • Radiation (Gamma) Resistant
Uses	• Clear Sheet • Film	• Hose • Medical/Healthcare Applications	• Pharmaceuticals • 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

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.890		ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	7.0	g/10 min	ASTM D1238
Films	**Nominal Value**	**Unit**	**Test Method**
Oxygen Permeability			ASTM D3985
73°F, 40 mil, 35% RH	1200	cm³·mil/100in²/atm/24 hr	
73°F, 40 mil, 90% RH	1100	cm³·mil/100in²/atm/24 hr	
Oxygen Transmission Rate (Wet)			ASTM F1927
73°F, 40 mil, 35% RH	29.5	cm³/100 in²/24 hr	
73°F, 40 mil, 90% RH	27.4	cm³/100 in²/24 hr	
Water Vapor Transmission Rate			ASTM F1249
100°F, 100% RH, 1.0 mil	2.5	g/100 in²/24 hr	
Elastomers	**Nominal Value**	**Unit**	**Test Method**
Tensile Stress (50% Strain)	645	psi	ASTM D412
Tensile Stress (100% Strain)	695	psi	ASTM D412
Tensile Stress (300% Strain)	980	psi	ASTM D412
Tensile Strength (Break)	2170	psi	ASTM D412
Tensile Elongation (Break)	620	%	ASTM D412
Tear Strength	367	lbf/in	ASTM D624
Compression Set			ASTM D395
73°F, 22 hr	23	%	
158°F, 22 hr	83	%	

Revision Date: 12/14/2021

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Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shore A, 1 sec	81		
Shore A, 5 sec	79		

Legal Statement

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Processing Information

Injection	Nominal Value	Unit
Rear Temperature	300 to 340	°F
Middle Temperature	340 to 380	°F
Front Temperature	380 to 440	°F
Nozzle Temperature	380 to 440	°F
Processing (Melt) Temp	380 to 440	°F
Mold Temperature	70 to 125	°F
Back Pressure	50.0 to 150	psi
Screw Speed	50 to 100	rpm
Cushion	0.140 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.	320 to 370	°F
Cylinder Zone 2 Temp.	360 to 385	°F
Cylinder Zone 3 Temp.	360 to 400	°F
Cylinder Zone 5 Temp.	360 to 400	°F
Die Temperature	350 to 420	°F

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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