

Medalist® MD-53253

Thermoplastic Elastomer

Teknor Apex Company

Message:

The Medalist MD-53200 Series is a high performance thermoplastic elastomer series, designed to be a sustainable alternative to flexible PVC for medical tubing and film. Medalist MD-53253 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 Information	
Features	Low Specific Gravity
	High purity
	Low density
	Pressure cooker disinfection
	Good disinfection
	Ethylene oxide disinfection
	Anti-gamma radiation
	Workability, good
	Good adhesion
	Good chemical resistance
	Definition, high
	No kinetic components
	Halogen-free
	Medium hardness
Uses	Clear Sheet
	Films
	Pipe
	Pipe fittings
	Rubber substitution
	Drug
	Medical/nursing supplies
Agency Ratings	ISO 10993 Part 5
	ISO 13485
RoHS Compliance	RoHS compliance
Appearance	Available colors
	Clear/transparent
Forms	Particle
Processing Method	Extrusion

cast film
Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.888	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	4.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shaw A, 1 sec	55		ASTM D2240
Shaw A, 5 seconds	53		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress			ASTM D412
50% strain	1.52	MPa	ASTM D412
100% strain	1.86	MPa	ASTM D412
300% strain	2.86	MPa	ASTM D412
Tensile Strength (Break)	9.20	MPa	ASTM D412
Tensile Elongation (Break)	890	%	ASTM D412
Tear Strength	31.0	kN/m	ASTM D624
Compression Set (23°C, 22 hr)	9.1	%	ASTM D395

Legal statement

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Injection	Nominal Value	Unit
Rear Temperature	127 - 149	°C
Middle Temperature	138 - 160	°C
Front Temperature	149 - 171	°C
Nozzle Temperature	171 - 193	°C
Processing (Melt) Temp	171 - 193	°C
Mold Temperature	21 - 38	°C
Injection Pressure	1.38 - 5.52	MPa
Back Pressure	0.172 - 0.689	MPa
Screw Speed	50 - 100	rpm
Cushion	3.81 - 25.4	mm

Injection instructions

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.	171 - 188	°C
Cylinder Zone 2 Temp.	182 - 196	°C

Cylinder Zone 3 Temp.	185 - 204	°C
Cylinder Zone 4 Temp.	185 - 204	°C
Cylinder Zone 5 Temp.	204 - 227	°C
Die Temperature	204 - 227	°C

Extrusion instructions

Screw Speed: 30 to 100 rpm.Screen Pack Recommendation:60/200/200/60 to 60/200/400/400/200/60 mesh size.

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