

Medalist® MD-12180 (PRELIMINARY DATA)

Thermoplastic Elastomer

Teknor Apex Company

Message:

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 Information	
Features	Low Specific Gravity
	Without Fillers
	Low density
	Radiation disinfection
	Pressure cooker disinfection
	smoothness
	Good disinfection
	Ethylene oxide disinfection
	Good formability
	Good adhesion
	Medium liquidity
	Good chemical resistance
	Good toughness
	Lubrication
	Halogen-free
	High hardness
	Elastic
Uses	Disposable Hospital Goods
	Plug
	Bushing
	Washer
	Soft handle
	Shell
	Rubber substitution
	Knob
	Drug
	Medical/nursing supplies
Agency Ratings	ISO 10993 Part 5
	ISO 13485

RoHS Compliance	RoHS compliance		
Appearance	Translucent		
	Available colors		
	Natural color		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.891	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	9.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240
Shaw A, 1 sec	82		ASTM D2240
Shaw A, 5 seconds	80		ASTM D2240
Elastomers	Nominal Value	Unit	Test Method
Tensile Stress ¹			ASTM D412
50% strain	3.79	MPa	ASTM D412
100% strain	4.27	MPa	ASTM D412
300% strain	5.45	MPa	ASTM D412
Tensile Strength ² (Break)	12.0	MPa	ASTM D412
Tensile Elongation ³ (Break)	720	%	ASTM D412
Tear Strength ⁴	50.3	kN/m	ASTM D624
Compression Set ⁵			ASTM D395
23°C, 22 hr	25	%	ASTM D395
70°C, 22 hr	44	%	ASTM D395
Legal statement			
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Injection	Nominal Value	Unit	
Rear Temperature	160 - 177	°C	
Middle Temperature	182 - 204	°C	
Front Temperature	193 - 216	°C	
Nozzle Temperature	182 - 227	°C	
Processing (Melt) Temp	182 - 227	°C	
Mold Temperature	27 - 49	°C	
Injection Rate	Moderate-Fast		
Back Pressure	0.172 - 0.689	MPa	
Screw Speed	50 - 100	rpm	

Cushion	3.81 - 12.7	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).		
NOTE		
1.	C mold, 510mm/min	
2.	C mold, 510mm/min	
3.	C mold, 510mm/min	
4.	C mold, 510mm/min	
5.	Type 1	

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