Medalist® MD-53145 AP NAT XRD1 (PRELIMINARY DATA)

Teknor Apex Company - Thermoplastic Elastomer

Wednesday, April 1, 2026

General Information

Product Description

Medalist MD-53145 AP XRD1 is a high performance thermoplastic elastomer specifically designed for healthcare and medical applications. Medalist MD-53145 AP XRD1 is a medium hardness, low density, RoHS compliant grade that can be sterilized and is suitable for injection molding and extrusion.

General			
Material Status	• Preliminary Data		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Autoclave Sterilizable • Bondability • Clean/High Purity • Ethylene Oxide Sterilizable	• Good Processing Stability • Kink Resistant • Low Density • Low Specific Gravity	• Medium Hardness • No Animal Derived Components • Radiation (Gamma) Resistant
Uses	• Medical Devices • Medical/Healthcare Applications	• Pharmaceuticals • Tubing	
Agency Ratings	• ISO 10993-5	• ISO 13485	
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color	• Translucent	
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	0.892		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 Strength (Break)	580	psi	ASTM D412
Tensile Elongation (Break)	400	%	ASTM D412
Hardness	**Nominal Value**	**Unit**	**Test Method**
Durometer Hardness			ASTM D2240
Shore A, 1 sec	46		
Shore A, 5 sec	44		

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 420	°F
Nozzle Temperature	380 to 420	°F
Processing (Melt) Temp	380 to 420	°F

Revision Date: 9/8/2025

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Injection	Nominal Value	Unit
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.	280 to 320	°F
Cylinder Zone 2 Temp.	310 to 350	°F
Cylinder Zone 3 Temp.	320 to 360	°F
Cylinder Zone 4 Temp.	330 to 370	°F
Cylinder Zone 5 Temp.	370 to 410	°F
Adapter Temperature	340 to 360	°F
Melt Temperature	330 to 360	°F
Die Temperature	340 to 410	°F
Screw L/D Ratio	24.0:1.0 to 32.0:1.0	

Extrusion Notes

Minimum 24:1 L/D, preferably 30:1 L/D.

High shear screw preferred, barrier screw with Maddock mixing end is recommended.

Typical Screen Pack: 20/60/150/150/60/20, up to 250 mesh.

Extruder Head Pressure: 1000-1500 psi

Notes

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

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

www.teknorapex.com
info@teknorapex.com

Teknor Apex B.V.

Brightlands Chemelot Campus Umonderbaan 22
6167 RD Geleen, Netherlands

Phone: +31 46 7020 950
Fax: +31 46 7020 990

www.teknorapex.com
tpe@teknorapex.com

Teknor Apex (Suzhou) Advanced Polymer Compounds Co. Pte. Ltd.

No. 78 Ping Sheng Road

Suzhou Industrial Park
Jiangsu, China 215126

Phone: (86) 512-6287-1550
Fax: (86) 512-6288-8371

www.teknorapex.com
infotaap@teknoapex.com

Teknor Apex Asia Pacific PTE. LTD.

41 Shipyard Road

Singapore 628134

Phone: (65) 6265-2544
Fax: (65) 6265-1821

www.teknorapex.com
infotaap@teknorapex.com

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