Versaflex™ HC MT222

Thermoplastic Elastomer

Key Characteristics

Product Description

Versaflex™ HC MT222 is an exceptionally clear, high performance TPE developed for medical tubing for healthcare. Versaflex™ HC MT222 has been specially formulated without the use of any plasticizers.

- Flexible
- Formulated without plasticizers
- High Clarity

General		
Material Status	• Commercial: Active	
Regional Availability	• Africa & Middle East • Asia Pacific	• Latin America • North America
Features	• Good Flexibility	• High Clarity
Uses	• Medical/Healthcare Applications	• Tubing
Agency Ratings	• FDA • ISO 10993-4	• ISO 10993-5 • USP Class VI [1]
RoHS Compliance	• RoHS Compliant	
Appearance	• Clear/Transparent	
Forms	• Pellets	
Processing Method	• Extrusion	

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.880	0.880	ASTM D792
Molding Shrinkage - Flow	0.014 to 0.020 in/in	1.4 to 2.0 %	ASTM D955
Films	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Oxygen Permeability			ASTM D3985
70°F (21°C), 73 mil (1900 µm)	1500 cm³·mil/100in²/atm/24 hr	590 cm³·mm/m²/atm/24 hr	
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	334 psi	2.30 MPa	ASTM D412
Tensile Stress [3, 4] (300% Strain, 73°F (23°C))	629 psi	4.34 MPa	ASTM D412
Tensile Strength [3, 4] (Break, 73°F (23°C))	898 psi	6.19 MPa	ASTM D412
Tensile Elongation [3, 4] (Break, 73°F (23°C))	430 %	430 %	ASTM D412
Compression Set			ASTM D395B
72°F (22°C), 22 hr	14 %	14 %	
113°F (45°C), 22 hr	55 %	55 %	
158°F (70°C), 22 hr	74 %	74 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	66	66	ASTM D2240

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Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity			ASTM D3835
392°F (200°C), 1340 sec^-1	190 Pa·s	190 Pa·s	
392°F (200°C), 11200 sec^-1	39.0 Pa·s	39.0 Pa·s	

Processing Information

Extrusion	Typical Value (English)	Typical Value (SI)
Melt Temperature	360 to 400 °F	182 to 204 °C
Die Temperature	340 to 390 °F	171 to 199 °C

Extrusion Notes

Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (PE) carriers are most suitable for coloring Versaflex™ HC MT222. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40g/10 min). Typical loadings for color concentrates are 1% to 5% by weight. Liquid color can be used, but mineral oil based carriers may have a significant effect on the final hardness value. Concentrates based on PVC should not be used. A high color match consistency can be obtained by using precolored compounds available from GLS. The final determination of color concentrate suitability should be determined by customer trials.

Purge thoroughly before and after use of this product with a low flow (0.5 - 2.5 MFR) polyethylene (PE) or polypropylene (PP).

Drying is not Required

Rear: 330F-370F
Center: 350F-400F
Front: 360F-420F
Screw: 100-500RPM

Notes

[1] Please contact PolyOne GLS Thermoplastic Elastomers for a complete copy of the GLS Healthcare Policy.
1. The Customer must notify GLS of any FDA Class I and/or European Union Class I medical devices for each specific product and application.
2. The Customer shall not knowingly manufacture, use, sell or otherwise supply, directly or indirectly products or compounds made from GLS products in any of the following without prior written approval by GLS for each specific product or application:
a. Cosmetics
b. Drugs and other Pharmaceuticals
c. Temporary or permanent implantation in the human body, regardless of the intended duration of implantation
d. Class II and Class III Medical Devices as defined in 21 CFR 860.3 ("Medical Devices")
e. Class IIa, IIb and III as defined in Directive 93/42/EEC

[2] Typical values are not to be construed as specifications.

[3] Die C

[4] 2 hr

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