Versaflex™ HC 2110-35N EU

Thermoplastic Elastomer

Key Characteristics

Product Description

Versaflex™ HC 2110-35N EU is a thermoplastic elastomer developed as an alternative to traditional isoprene rubber solutions for infusion stoppers & septums that require multiple needle penetration with good resealing performance. Versaflex™ HC 2110-35N EU addresses needs such as low piercing force and good spike retention.

- Overmolds to PP and PE.
- Good Compression Set
- Good Reseal Characteristics

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Colorability • Good Flow	• Good Mold Release • Good Moldability	• Good Processing Stability • Good Sterilizability
Uses	• Medical/Healthcare Applications • Membranes	• Overmolding • Plugs	• Sealing Devices • Seals
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.902	0.902	ISO 1183
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress (100% Strain)	174 psi	1.20 MPa	DIN 53504-S2
Tensile Stress (300% Strain)	319 psi	2.20 MPa	DIN 53504-S2
Tensile Strength (Break, 73°F (23°C))	580 psi	4.00 MPa	DIN 53504-S2
Tensile Elongation (Break, 73°F (23°C))	640 %	640 %	DIN 53504-S2
Tear Strength	97.1 lbf/in	17.0 kN/m	ISO 34-1
Compression Set			ISO 815
73°F (23°C), 72 hr	23 %	23 %	
158°F (70°C), 22 hr	35 %	35 %	
212°F (100°C), 22 hr	54 %	54 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A)	35	35	ISO 48-4
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ISO 11443
392°F (200°C), 11200 sec^-1	10.2 Pa·s	10.2 Pa·s	

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	356 to 392 °F	180 to 200 °C
Middle Temperature	392 to 428 °F	200 to 220 °C
Front Temperature	428 to 482 °F	220 to 250 °C
Nozzle Temperature	464 to 482 °F	240 to 250 °C
Processing (Melt) Temp	446 to 482 °F	230 to 250 °C
Mold Temperature	68 to 104 °F	20 to 40 °C
Back Pressure	290 to 1450 psi	2.00 to 10.0 MPa
Screw Speed	80 to 200 rpm	80 to 200 rpm

Injection Notes

Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or polyethylene (PE) carriers are most suitable for coloring Versaflex™ HC 2110-35N EU. Improved color dispersion can be achieved by using higher melt flow concentrates (with a melt flow from 25 - 40 g/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).

Versaflex™ HC 2110-35N EU has excellent melt stability. Maximum residence times may vary, depending on the size of the barrel. Generally, the barrel should be emptied if it is idle for periods of 8 - 10 minutes or longer.

Drying is not Required

Injection Speed: 1 to 3 in/sec
1st Stage - Boost Pressure: 800 to 1200 psi
2nd Stage - Hold Pressure: 40-70% of Boost
Hold Time (Thick Part): 2 to 5 sec
Hold Time (Thin Part): 1 to 4 sec

Notes

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

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