Versaflex™ HC 2110-35N

Thermoplastic Elastomer

PolyOne Corporation

Message:

Versaflex™ HC 2110-35N 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 addresses needs such as low piercing force and good spike retention.

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Overmolds to PP and PE

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Approved to ISO 10993-4 & -5

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Approved to USP VI

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Approved to USP 381: Elastomeric closures for injection.

General Information	
Features	Good disinfection
	Good formability
	Good processing stability
	Good liquidity
	Good coloring
	Good demoulding performance
Uses	overmolding
	Plug
	Seals
	Sealing device
	Membrane
	Medical/nursing supplies
Agency Ratings	ISO 10993 Part 4 2
	ISO 10993 Part 5
	USP Class VI
RoHS Compliance	RoHS compliance
Appearance	Natural color
Forms	Particle
Processing Method	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	0.898	g/cm³	ASTM D792

Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 10 sec)	34		ASTM D2240

Elastomers	Nominal Value	Unit	Test Method
Tensile Stress (100% Strain, 23°C)	0.689	MPa	ASTM D412
Tensile Strength (Break, 23°C)	2.76	MPa	ASTM D412
Tensile Elongation (Break, 23°C)	620	%	ASTM D412
Tear Strength	17	kN/m	ISO 34-1
Compression Set			ISO 815
23°C, 72 hr	19	%	ISO 815
70°C, 22 hr	33	%	ISO 815
100°C, 22 hr	47	%	ISO 815

Fill Analysis	Nominal Value	Unit	Test Method
Apparent Viscosity (200°C, 11200 sec^-1)	11.0	Pa·s	ASTM D3835

Injection	Nominal Value	Unit
Suggested Max Regrind	20	%
Rear Temperature	182 - 193	°C
Middle Temperature	221 - 238	°C
Front Temperature	238 - 249	°C
Nozzle Temperature	238 - 249	°C
Processing (Melt) Temp	232 - 249	°C
Mold Temperature	15.6 - 32.2	°C
Back Pressure	0.00 - 0.552	MPa
Screw Speed	80 - 200	rpm

Injection instructions

Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or polyethylene (PE) carriers are most suitable for coloring Versaflex™ HC 2110-35N. 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).Regrind levels up to 20% can be used with Versaflex™ HC 2110-35N with minimal property loss, provided that the regrind is free of contamination. To minimize losses during molding, the melt temperature should remain as low as possible. The final determination of regrind effectiveness should be determined by the customer.Versaflex™ HC 2110-35N 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 RequiredInjection Speed: 1 to 3 in/sec1st Stage - Boost Pressure: 800 to 1200 psi2nd Stage - Hold Pressure: 40-70% of BoostHold Time (Thick Part): 2 to 5 secHold Time (Thin Part): 1 to 4 sec

Recommended distributors for this material

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