GLS 422-126

Thermoplastic Elastomer

Key Characteristics

Product Description			
GLS 422-126 is designed to pass several fatty food extraction conditions identified in EU Directive 10/2011 and may be appropriate where FDA and EU 10/2011 compliances are required. GLS 422-126 will also overmold and co-extrude to polypropylene.			
General			
Material Status	• Commercial: Active		
Regional Availability	• Europe		
Features	• Food Contact Acceptable		
Uses	• Consumer Applications • Containers	• Gaskets • Kitchenware	• Non-specific Food Applications • Overmolding
Agency Ratings	• EU 10/2011 [1]	• FDA 21 CFR 177.1210 [1]	
RoHS Compliance	• RoHS Compliant		
Appearance	• Translucent		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.900	0.900	ISO 1183
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	218 psi	1.50 MPa	DIN 53504
Tensile Stress [3, 4] (300% Strain, 73°F (23°C))	363 psi	2.50 MPa	DIN 53504
Tensile Strength			DIN 53504
Flow : Break, 73°F (23°C) [3, 4]	870 psi	6.00 MPa	
Across Flow : Break, 73°F (23°C)	1870 psi	12.9 MPa	
Tensile Elongation [3]			DIN 53504
Across Flow : Break, 73°F (23°C)	650 %	650 %	
Flow : Break, 73°F (23°C) [4]	450 %	450 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Shore Hardness (Shore A, 10 sec)	50	50	ISO 48-4
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			Internal Method
392°F (200°C), 11200 sec^-1	40.4 Pa·s	40.4 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Suggested Max Regrind	20 %	20 %
Rear Temperature	380 to 400 °F	193 to 204 °C
Middle Temperature	390 to 420 °F	199 to 216 °C
Front Temperature	400 to 440 °F	204 to 227 °C

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Injection	Typical Value (English)	Typical Value (SI)
Nozzle Temperature	410 to 460 °F	210 to 238 °C
Processing (Melt) Temp	400 to 440 °F	204 to 227 °C
Mold Temperature	55 to 90 °F	13 to 32 °C
Back Pressure	0.00 to 80.0 psi	0.00 to 0.552 MPa
Screw Speed	50 to 100 rpm	50 to 100 rpm

Injection Notes

Color concentrates based on polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (LDPE) are most suitable for coloring GLS 422-126. 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 the use of 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 GLS 422-126 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.

GLS 422-126 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: 500 to 700 psi
2nd Stage - Hold Pressure: 10 to 30% of Boost
Hold Time (Thick Part): 2 to 4 sec
Hold Time (Thin Part): 1 to 2 sec

Extrusion	Typical Value (English)	Typical Value (SI)
Melt Temperature	400 to 440 °F	204 to 227 °C
Die Temperature	420 to 460 °F	216 to 238 °C

Extrusion Notes

Rear: 380-400F
Center: 390-420F
Front: 400-440F
Screw: 100-500rpm

Notes

[1] Product rating may be influenced by end product design and/or conditions of use. Please contact GLS Thermoplastic Elastomers for information addressing EU (EU, 10/2011) and FDA (21 CFR 177.1210) compliance.

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

[3] Die C

[4] 2 hr

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