GLS AF4-664

Thermoplastic Elastomer

Key Characteristics

Product Description
GLS AF4-664 is targeted for wet grip applications with excellent abrasion resistance and wet slip resistance, good processing performance and chemical resistance. GLS AF4-664 can also overmold to a variety of substrates including PC, ABS, PC/ABS, TPU, and Copolyester. It is highly suitable for application on shoe outsoles and wheels.

General			
Material Status	• Commercial: Active		
Regional Availability	• Asia Pacific	• Europe	• North America
Features	• Specialty Grade		
Uses	• Consumer Applications	• Overmolding	• Sporting Goods
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	1.14	1.14	ASTM D792
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [2, 3] (300% Strain, 73°F (23°C))	661 psi	4.56 MPa	ASTM D412
Tensile Strength [2, 3] (Break, 73°F (23°C))	3580 psi	24.7 MPa	ASTM D412
Tensile Elongation [2, 3] (Break, 73°F (23°C))	650 %	650 %	ASTM D412
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	70	70	ASTM D2240
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 11200 sec^-1	27.2 Pa·s	27.2 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	158 to 185 °F	70 to 85 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Suggested Max Moisture	0.020 to 0.030 %	0.020 to 0.030 %
Rear Temperature	347 to 365 °F	175 to 185 °C
Middle Temperature	360 to 437 °F	182 to 225 °C
Front Temperature	370 to 455 °F	188 to 235 °C
Nozzle Temperature	380 to 455 °F	193 to 235 °C
Processing (Melt) Temp	380 to 446 °F	193 to 230 °C
Mold Temperature	59 to 95 °F	15 to 35 °C
Back Pressure	0.00 to 50.0 psi	0.00 to 0.345 MPa
Screw Speed	50 to 100 rpm	50 to 100 rpm

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Injection Notes

Typical colorant letdown ratios are 50:1 to 25:1 - loading levels should be as low as possible to minimize the effect on adhesion. A high color match consistency can be obtained by the use of precolored compounds available from GLS. Concentrates based on PVC should not be used. The final determination of color concentrate suitability should be determined by customer trials. Contact GLS for more information on appropriate color concentrate base resins.

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

GLS AF4-664 should not be left in the barrel for extended idle periods (greater than 5 minutes).

Suggested Dewpoint: -40°F

Hot Runners: 380°F-440°F
Hot Tip: 380°F-450°F

Injection Speed: 0.5 to 2 in/sec
1st Stage - Boost Pressure: 500 to 1,000 psi
2nd Stage - Hold Pressure: 20-60% of Boost
Hold Time (Thick Part): 2 to 4 sec
Hold Time (Thin Part): 1 to 2 sec

Notes

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

[2] Die C

[3] 2 hr

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