GLS AE4-824 Black

Thermoplastic Elastomer

Key Characteristics

Product Description		
GLS AE4-824 Black is designed for overmolding onto PC, ABS, PC/ABS with excellent performance in bonding, abrasion and processability.		
General		
Material Status	• Commercial: Active	
Regional Availability	• Asia Pacific	
Features	• Good Moldability • Good Processability	• Good Processing Stability • Good Surface Finish
Uses	• Consumer Applications • Electrical/Electronic Applications	• Flexible Grips • Overmolding
RoHS Compliance	• RoHS Compliant	
Appearance	• Black	
Forms	• Pellets	
Processing Method	• Injection Molding	

Technical Properties [1]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.00	1.00	ASTM D792
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress (Break, 0.126 in (3.20 mm))	993 psi	6.85 MPa	ASTM D412
Tensile Elongation			ASTM D412
Break, 0.126 in (3.20 mm)	740 %	740 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness [2] (Shore A, 10 sec)	58	58	ASTM D2240
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			Internal Method
392°F (200°C), 11200 sec^-1	25.0 Pa·s	25.0 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Drying Temperature	140 to 176 °F	60 to 80 °C
Drying Time	2.0 to 3.0 hr	2.0 to 3.0 hr
Suggested Max Regrind	20 %	20 %
Rear Temperature	356 to 374 °F	180 to 190 °C
Middle Temperature	374 to 392 °F	190 to 200 °C
Front Temperature	392 to 428 °F	200 to 220 °C
Nozzle Temperature	392 to 446 °F	200 to 230 °C
Mold Temperature	68 to 104 °F	20 to 40 °C
Back Pressure	25.0 to 50.0 psi	0.172 to 0.345 MPa
Screw Speed	75 to 125 rpm	75 to 125 rpm

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Injection Notes

Color concentrates with polyethylene (PE) or EVA carriers are most suitable for coloring GLS AE4-824 Black. Typical 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.

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

Regrind levels up to 10% can be used with GLS AE4-824 Black 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 AE4-824 Black has good 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 5 - 8 minutes or longer.

Injection Speed: 0.5 to 3 in/sec
1st Stage - Boost Pressure: 35 to 65 bars.
2nd Stage - Hold Pressure: 70% of Boost
Hold Time (Thick Part): 4 to 10 sec
Hold Time (Thin Part): 1 to 3 sec

Notes

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

[2] The hardness is tested after 24 hours according to the specific application request from customer.

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