Dynalloy™ 8900-80

Thermoplastic Elastomer

Key Characteristics

Product Description

Dynalloy™ 8900-series is an innovative thermoplastic elastomer selection formulated to provide the injection molder with a product capable of overmolding and bonding to both low-density polyethylene (LDPE) and polypropylene (PP) with efficient cycle times.

- Adhesion to Low-Density Polyethylene and Polypropylene
- Flexible
- Colorable

General			
Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Good Colorability • Good Processability	• Good Processing Stability • High Flow	
Uses	• Consumer Applications • Flexible Grips • General Purpose	• Household Goods • Non-specific Food Applications • Overmolding	• Sporting Goods • Thin-walled Parts
Agency Ratings	• BfR XXI, section 2.1.3.1.1 [1]	• FDA 21 CFR 177.1210 [1]	
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties [2]

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	0.880	0.880	ASTM D792
Molding Shrinkage - Flow	7.0E-3 to 0.012 in/in	0.70 to 1.2 %	ASTM D955
Elastomers	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Tensile Stress [3, 4] (100% Strain, 73°F (23°C))	630 psi	4.34 MPa	ASTM D412
Tensile Stress [3, 4] (300% Strain, 73°F (23°C))	725 psi	5.00 MPa	ASTM D412
Tensile Strength [3, 4] (Break, 73°F (23°C))	800 psi	5.52 MPa	ASTM D412
Tensile Elongation [3, 4] (Break, 73°F (23°C))	550 %	550 %	ASTM D412
Tear Strength	265 lbf/in	46.4 kN/m	ASTM D624
Compression Set [5]			ASTM D395B
73°F (23°C), 22 hr	22 %	22 %	
158°F (70°C), 22 hr	37 %	37 %	
Hardness	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Durometer Hardness (Shore A, 10 sec)	80	80	ASTM D2240
Fill Analysis	**Typical Value (English)**	**Typical Value (SI)**	**Test Method**
Apparent Viscosity			ASTM D3835
392°F (200°C), 1340 sec^-1	40.0 Pa·s	40.0 Pa·s	
392°F (200°C), 11200 sec^-1	10.3 Pa·s	10.3 Pa·s	

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Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	320 to 360 °F	160 to 182 °C
Middle Temperature	340 to 380 °F	171 to 193 °C
Front Temperature	360 to 400 °F	182 to 204 °C
Nozzle Temperature	360 to 400 °F	182 to 204 °C
Mold Temperature	60 to 80 °F	16 to 27 °C
Back Pressure	0.00 to 100 psi	0.00 to 0.689 MPa
Screw Speed	25 to 100 rpm	25 to 100 rpm

Injection Notes

Color concentrates with polypropylene (PP), ethylene vinyl acetate (EVA), or low density polyethylene (PE) carriers are most suitable for coloring Dynalloy™ 8900-series. 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. 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) polyethylene (PE) or polypropylene (PP).

The Dynalloy™ 8900-series 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: 175 to 800 psi
2nd Stage - Hold Pressure: 30% of Boost
Hold Time (Thick Part): 3 to 10 sec
Hold Time (Thin Part): 1 to 3 sec

Notes

[1] Please contact manufacturer for compliance letters.

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

[3] Die C

[4] 2 hr

[5] 25% deflection

CONTACT INFORMATION

North America
Avon Lake, United States
33587 Walker Road
Avon Lake, OH, United States , 44012
+1 440 930 1000
+1 844 4AVIENT

South America
Sao Paulo, Brazil
Av. Francisco Nakasato, 1700
13295-000 Itupeva
Sao Paulo, Brazil
+55 11 4593 9200

Asia
Shanghai, China
2F, Block C
200 Jinsu Road
Pudong, 201206
Shanghai, China
+86 (0) 21 6028 4888

Europe
Pommerloch, Luxembourg
19 Route de Bastogne
Pommerloch, Luxembourg , L-9638
+352 269 050 35

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