



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
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	60.0 to 80.0 °F	15.6 to 26.7 °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

Americas

United States - Avon Lake
+1 440 930 1000

United States - McHenry
+1 815 385 8500

Asia

China - Guangzhou
+86 20 8732 7260

China - Shenzhen
+86 755 2969 2888

China - Suzhou
+86 512 6823 24 38

China - Suzhou
+86 512 6265 2600

Hong Kong -
+852 2690 5332

Taiwan - Yonghe City,
+886 9396 99740, +886 2929 1849

Europe

Germany - Gaggenau
+49 7225 6802 0

Spain - Barbastro (Huesca)
+34 974 310 314



Beyond Polymers.

Better Business Solutions. SM

www.polyone.com

PolyOne Americas

33587 Walker Road
Avon Lake, Ohio 44012
United States
+1 440 930 1000
+1 866 POLYONE

PolyOne Asia

No. 88 Guoshoujing Road
Z.J Hi-tech Park, Pudong
Shanghai, 201203, China
+86 21 5080 1188

PolyOne Europe

6 Giällewee
+352 269 050 35

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