



Dynalloy™ 8900-30

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 | • Soft Touch Applications • 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 | 9.0E-3 to 0.014 in/in | 0.90 to 1.4 % | ASTM D955 |
| Elastomers | Typical Value (English) | Typical Value (SI) | Test Method |
| Tensile Stress ^{3,4} (100% Strain, 73°F (23°C)) | 150 psi | 1.03 MPa | ASTM D412 |
| Tensile Stress ^{3,4} (300% Strain, 73°F (23°C)) | 225 psi | 1.55 MPa | ASTM D412 |
| Tensile Strength ^{3,4} (Break, 73°F (23°C)) | 300 psi | 2.07 MPa | ASTM D412 |
| Tensile Elongation ^{3,4} (Break, 73°F (23°C)) | 800 % | 800 % | ASTM D412 |
| Tear Strength | 80.0 lbf/in | 14.0 kN/m | ASTM D624 |
| Compression Set ⁵ | | | ASTM D395B |
| 73°F (23°C), 22 hr | 17 % | 17 % | |
| 158°F (70°C), 22 hr | 40 % | 40 % | |
| Hardness | Typical Value (English) | Typical Value (SI) | Test Method |
| Durometer Hardness (Shore A, 10 sec) | 30 | 30 | ASTM D2240 |
| Fill Analysis | Typical Value (English) | Typical Value (SI) | Test Method |
| Apparent Viscosity | | | ASTM D3835 |
| 392°F (200°C), 1340 sec ⁻¹ | 39.7 Pa·s | 39.7 Pa·s | |
| 392°F (200°C), 11200 sec ⁻¹ | 8.90 Pa·s | 8.90 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

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|--|--|---|
| Americas | Asia | Europe |
| United States - Avon Lake +1 440 930 1000 | China - Guangzhou +86 20 8732 7260 | Germany - Gaggenau +49 7225 6802 0 |
| United States - McHenry +1 815 385 8500 | China - Shenzhen +86 755 2969 2888 | Spain - Barbastro (Huesca) +34 974 310 314 |
| | 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 | |



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|---|---|---|
| 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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