



Dynalloy™ OBC 8100-N50

Thermoplastic Elastomer

Key Characteristics

Product Description

Dynalloy™ OBC8100-N50 is a TPE developed utilizing the unique rubber properties of Dow INFUSE™ Olefin Block Copolymers. The 8100 Series has been specifically developed for applications requiring the TPE to be in direct contact with food.

New Product. Commercial specifications have not been established.

- Adhesion to Polypropylene, Low Density Polyethylene
- Direct Food Contact
- Enhanced Flow Properties
- Excellent Colorability

General

Material Status	• Commercial: Active		
Regional Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Food Contact Acceptable	• Good Colorability	• Good Flow
Uses	• Food Service Applications • Household Goods	• Kitchenware • Non-specific Food Applications	• Overmolding • Soft Touch Applications
Agency Ratings	• BfR Food Contact, Unspecified Rating ¹	• EU 2002/72/EC ²	• FDA 21 CFR 177.2600 ³
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Technical Properties ⁴

Physical	Typical Value (English)	Typical Value (SI)	Test Method
Density / Specific Gravity	1.06	1.06	ASTM D792
Elastomers	Typical Value (English)	Typical Value (SI)	Test Method
Tensile Stress ^{5, 6} (100% Strain, 73°F (23°C))	215 psi	1.48 MPa	ASTM D412
Tensile Stress ^{5, 6} (300% Strain, 73°F (23°C))	275 psi	1.90 MPa	ASTM D412
Tensile Strength ^{5, 6} (Break, 73°F (23°C))	480 psi	3.31 MPa	ASTM D412
Tensile Elongation ^{5, 6} (Break, 73°F (23°C))	990 %	990 %	ASTM D412
Tear Strength	100 lbf/in	17.5 kN/m	ASTM D624
Hardness	Typical Value (English)	Typical Value (SI)	Test Method
Durometer Hardness (Shore A, 10 sec)	48	48	ASTM D2240
Fill Analysis	Typical Value (English)	Typical Value (SI)	Test Method
Apparent Viscosity			ASTM D3835
392°F (200°C), 1340 sec ⁻¹	112 Pa·s	112 Pa·s	
392°F (200°C), 11200 sec ⁻¹	22.9 Pa·s	22.9 Pa·s	

Processing Information

Injection	Typical Value (English)	Typical Value (SI)
Rear Temperature	320 to 370 °F	160 to 188 °C
Middle Temperature	350 to 380 °F	177 to 193 °C
Front Temperature	360 to 410 °F	182 to 210 °C
Nozzle Temperature	380 to 420 °F	193 to 216 °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™ OBC 8100-N50. 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™ OBC 8100-N50 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 GLS Thermoplastic Elastomers for a copy of the BfR compliance letter.
- ² Please contact GLS Thermoplastic Elastomers for a copy of the EU compliance letter.
- ³ Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.
- ⁴ Typical values are not to be construed as specifications.
- ⁵ Die C
- ⁶ 2 hr