



# Dynalloy™ OBC8000-T05

## Thermoplastic Elastomer

### Key Characteristics

#### Product Description

Dynalloy™ OBC8000-T05 is an ultra-soft TPE utilizing the unique rubber properties of Dows INFUSE™ Olefin Block Copolymers. This product is designed for injection molding applications where exceptional softness and overmolding to polypropylene is desired

New Product. Commercial specifications have not been established.

- Adhesion to Polypropylene
- Enhanced Flow
- Excellent Colorability
- Tactile Feel
- Ultra Soft

#### General

|                       |   |   |   |
|-----------------------|---|---|---|
| Material Status       | • Commercial: Active                        |   |   |
| Regional Availability | • Africa & Middle East<br>• Asia Pacific    | • Latin America<br>• North America            |   |
| Features              | • Good Colorability<br>• Good Flow          | • Good Processing Stability<br>• Low Hardness | • Soft  |
| Uses                  | • Consumer Applications<br>• Flexible Grips | • Overmolding<br>• Personal Care              | • Seals<br>• Transparent or Translucent Parts |
| Agency Ratings        | • FDA 21 CFR 177.1210 <sup>1</sup>          |   |   |
| RoHS Compliance       | • RoHS Compliant                            |   |   |
| Appearance            | • Translucent                               |   |   |
| Forms                 | • Pellets                                   |   |   |
| Processing Method     | • Injection Molding                         |   |   |

### Technical Properties <sup>2</sup>

| Physical   | Typical Value (English) | Typical Value (SI) | Test Method |
|--|-------------------------|--------------------|-------------|
| Density / Specific Gravity                               | 0.870                   | 0.870              | ASTM D792   |
| Elastomers   | Typical Value (English) | Typical Value (SI) | Test Method |
| Tensile Stress <sup>3,4</sup> (100% Strain, 73°F (23°C)) | 15.0 psi                | 0.103 MPa          | ASTM D412   |
| Tensile Stress <sup>3,4</sup> (300% Strain, 73°F (23°C)) | 30.0 psi                | 0.207 MPa          | ASTM D412   |
| Tensile Strength <sup>3,4</sup> (Break, 73°F (23°C))     | 182 psi                 | 1.25 MPa           | ASTM D412   |
| Tensile Elongation <sup>3,4</sup> (Break, 73°F (23°C))   | 1400 %                  | 1400 %             | ASTM D412   |
| Compression Set  |                         |                    | ASTM D395B  |
| 73°F (23°C), 22 hr                                       | 10 %                    | 10 %               |             |
| 104°F (40°C), 22 hr                                      | 19 %                    | 19 %               |             |
| 158°F (70°C), 22 hr                                      | 35 %                    | 35 %               |             |
| Hardness   | Typical Value (English) | Typical Value (SI) | Test Method |
| Durometer Hardness (Shore OO, 10 sec)                    | 57                      | 57                 | ASTM D2240  |
| Fill Analysis  | Typical Value (English) | Typical Value (SI) | Test Method |
| Apparent Viscosity                                       |                         |                    | ASTM D3835  |
| 392°F (200°C), 1340 sec <sup>-1</sup>                    | 40.0 Pa·s               | 40.0 Pa·s          |             |
| 392°F (200°C), 11200 sec <sup>-1</sup>                   | 7.60 Pa·s               | 7.60 Pa·s          |             |

**Processing Information**

| Injection              | Typical Value (English) | Typical Value (SI) |
|------------------------|-------------------------|--------------------|
| Suggested Max Regrind  | 20 %                    | 20 %               |
| Rear Temperature       | 300 to 340 °F           | 149 to 171 °C      |
| Middle Temperature     | 330 to 370 °F           | 166 to 188 °C      |
| Front Temperature      | 350 to 390 °F           | 177 to 199 °C      |
| Nozzle Temperature     | 360 to 420 °F           | 182 to 216 °C      |
| Processing (Melt) Temp | 360 to 420 °F           | 182 to 216 °C      |
| Mold Temperature       | 60 to 90 °F             | 16 to 32 °C        |
| Back Pressure          | 0.00 to 80.0 psi        | 0.00 to 0.552 MPa  |
| Screw Speed            | 80 to 120 rpm           | 80 to 120 rpm      |

**Injection Notes**

Color concentrates with Dynalloy™ OBC8000-T05 as the carrier are most suitable for coloring this product. If a OBC8000-T05 color concentrate carrier is desired, it is important that the chosen color house have underwater pelletization capabilities. Typical loadings for color concentrates are 1% to 5% by weight. Liquid color (pigment, not dye) can be used; white oil carriers are recommended. A high color match consistency can be obtained by using precolored compounds available from GLS. Polypropylene (PP) based color concentrates are not recommended because they lead to poor dispersion and can significantly change the hardness of the material. 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 20% can be used with Dynalloy™ OBC8000-T05 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.

Dynalloy™ OBC8000-T05 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 8 - 10 minutes or longer.

Drying is not Required

Injection Speed: 0.5 to 3 in/sec  
 1st Stage - Boost Pressure: 200 to 700 psi  
 2nd Stage - Hold Pressure: 20% of Boost  
 Hold Time (Thick Part): 1 to 5 sec  
 Hold Time (Thin Part): 1 to 3 sec

**Notes**

<sup>1</sup> Please contact GLS Thermoplastic Elastomers for a copy of the FDA compliance letter.

<sup>2</sup> Typical values are not to be construed as specifications.

<sup>3</sup> Die C

<sup>4</sup> 2 hr