

# INEOS HDPE G50-100

High Density (HMW) Polyethylene  
**INEOS Olefins & Polymers USA**

## Technical Data

### Product Description

G50-100 is a high molecular weight, high density polyethylene copolymer developed for sheet extrusion, thermoforming and large part blow molding where the finished product demands outstanding physical performance. This material meets the Food and Drug Administration requirements of 21CFR 177.1520.

### General

|                             |                                                                                                               |                         |                 |
|-----------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------|-----------------|
| Material Status             | • Commercial: Active                                                                                          |                         |                 |
| Literature <sup>1</sup>     | • <a href="#">Processing - Injection Molding (English)</a><br>• <a href="#">Technical Datasheet (English)</a> |                         |                 |
| UL Yellow Card <sup>2</sup> | • <a href="#">E31830-100062232</a>                                                                            |                         |                 |
| Search for UL Yellow Card   | • <a href="#">INEOS Olefins &amp; Polymers USA</a>                                                            |                         |                 |
| Availability                | • North America                                                                                               |                         |                 |
| Features                    | • Copolymer                                                                                                   | • High Density          |                 |
|                             | • Food Contact Acceptable                                                                                     | • High Molecular Weight |                 |
| Uses                        | • Blow Molding Applications                                                                                   | • Sheet                 |                 |
| Agency Ratings              | • FDA 21 CFR 177.1520                                                                                         |                         |                 |
| RoHS Compliance             | • Contact Manufacturer                                                                                        |                         |                 |
| Forms                       | • Pellets                                                                                                     |                         |                 |
| Processing Method           | • Blow Molding                                                                                                | • Sheet Extrusion       | • Thermoforming |

| Physical                                  | Nominal Value Unit      | Test Method |
|-------------------------------------------|-------------------------|-------------|
| Density                                   | 0.950 g/cm <sup>3</sup> | ASTM D4883  |
| Melt Mass-Flow Rate (MFR) (190°C/21.6 kg) | 10 g/10 min             | ASTM D1238  |
| Mechanical                                | Nominal Value Unit      | Test Method |
| Tensile Modulus - Tangent                 | 1240 MPa                | ASTM D638   |
| Tensile Strength <sup>4</sup>             |                         | ASTM D638   |
| Yield                                     | 26.2 MPa                |             |
| Break                                     | 30.3 MPa                |             |
| Tensile Elongation <sup>4</sup> (Break)   | > 800 %                 | ASTM D638   |
| Flexural Modulus - Tangent                | 1210 MPa                | ASTM D790   |
| Impact                                    | Nominal Value Unit      | Test Method |
| Tensile Impact Strength <sup>5</sup>      | 525 kJ/m <sup>2</sup>   | ASTM D1822  |
| Hardness                                  | Nominal Value Unit      | Test Method |
| Durometer Hardness (Shore D)              | 65                      | ASTM D2240  |
| Thermal                                   | Nominal Value Unit      | Test Method |
| Deflection Temperature Under Load         |                         | ASTM D648   |
| 0.45 MPa, Unannealed                      | 70.0 °C                 |             |
| Brittleness Temperature                   | < -75.0 °C              | ASTM D746   |
| Vicat Softening Temperature               | 130 °C                  | ASTM D1525  |
| CLTE - Flow                               | 0.00013 cm/cm/°C        | ASTM D696   |

### Notes

<sup>1</sup> These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

<sup>2</sup> A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL IDES continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

<sup>3</sup> Typical properties: these are not to be construed as specifications.

<sup>4</sup> 51 mm/min

<sup>5</sup> Type L