



### Technical Data Sheet

## DOWLEX™ IP 10 Polyethylene Resin

### Overview

- High Density Polyethylene Resin (HDPE)
- For reusable cases, injection molding, caps and closures
- Excellent processability, easier flow
- Complies with U.S. FDA 21 CFR 177.1520 (c) 3.2a
- Complies with Canadian HPFB No Objection (With Limitations)
- Complies with EU, No 10/2011

Consult the regulations for complete details.

DOWLEX™ IP 10 Polyethylene Resin is an improved processing high density resin specifically designed for reusable case applications including: poultry, fast food, automotive, retail, fresh produce, beverages, food service and chemicals, including plastics. Excellent injection processability is achieved with this resin due to its easy flow at low temperatures. Excellent stiffness in this resin is useful for lightweight caps and closures applications.

### Additive

- Antiblock: No
- Slip: No
- Processing aid: No

### Properties<sup>1</sup>

| Physical                                                                          | Nominal Value<br>(English) | Unit              | Nominal Value (SI) | Unit | Test Method <sup>2</sup> |
|-----------------------------------------------------------------------------------|----------------------------|-------------------|--------------------|------|--------------------------|
| Density                                                                           | 0.960                      | g/cm <sup>3</sup> |                    |      | ASTM D792                |
| Melt Index (190°C/2.16 kg)                                                        | 10                         | g/10 min          |                    |      | ASTM D1238               |
| Environmental Stress-Cracking Resistance (ESCR)<br>122°F (50°C), 100% Igepal, F50 | 8.00                       | hr                |                    |      | ASTM D1693               |
| Mechanical                                                                        | Nominal Value<br>(English) | Unit              | Nominal Value (SI) | Unit | Test Method              |
| Tensile Strength                                                                  |                            |                   |                    |      | ASTM D638                |
| Yield                                                                             | 4200                       | psi               | 29.0               | MPa  |                          |
| Break                                                                             | 2700                       | psi               | 18.6               | MPa  |                          |
| Tensile Elongation                                                                |                            |                   |                    |      | ASTM D638                |
| Yield                                                                             | 7.0                        | %                 |                    |      |                          |
| Break                                                                             | 1200                       | %                 |                    |      |                          |

1. These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials



### Properties (Cont.)

| Mechanical                                                         | Nominal Value<br>(English) | Unit                  | Nominal Value<br>(SI) | Unit              | Test Method |
|--------------------------------------------------------------------|----------------------------|-----------------------|-----------------------|-------------------|-------------|
| Flexural Modulus – 2% Secant                                       | 168000                     | psi                   | 1160                  | MPa               | ASTM D790B  |
| Impact                                                             | Nominal Value<br>(English) | Unit                  | Nominal Value<br>(SI) | Unit              | Test Method |
| Tensile Impact Strength <sup>3</sup>                               | 50.0                       | ft-lb/in <sup>2</sup> | 105                   | kJ/m <sup>2</sup> | ASTM D1822  |
| Hardness                                                           | Nominal Value<br>(English) | Unit                  | Nominal Value<br>(SI) | Unit              | Test Method |
| Durometer Hardness (Shore D)                                       | 55                         |                       | 55                    |                   | ASTM D2240  |
| Thermal                                                            | Nominal Value<br>(English) | Unit                  | Nominal Value<br>(SI) | Unit              | Test Method |
| Deflection Temperature Under Load<br>66 psi (0.45 MPa), Unannealed | 178                        | °F                    | 81.1                  | °C                | ASTM D648   |
| Brittleness Temperature                                            | < -150                     | °F                    | < -101                | °C                | ASTM D746   |
| Vicat Softening Temperature                                        | 266                        | °F                    | 130                   | °C                | ASTM D1525  |
| Melting Temperature (DSC)                                          | 270                        | °F                    | 132                   | °C                | Dow Method  |
| Peak Crystallization Temperature (DSC)                             | 247                        | °F                    | 119                   | °C                | Dow Method  |
| Additional Information                                             |                            |                       |                       |                   |             |
| Plaque molded and tested in accordance with ASTM D4976.            |                            |                       |                       |                   |             |

3. Type S

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- use as a critical component in medical devices that support or sustain human life; or
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