



ELITE™ 5400GS

Enhanced Polyethylene Resin

Overview

ELITE™ 5400GS Enhanced Polyethylene Resin is a copolymer produced via INSITE™ Technology from Dow. It offers extremely high impact resistance, combined with excellent tear, tensile and optical properties for high strength blown film applications. In addition, ELITE 5400GS Enhanced Polyethylene Resin offers a unique combination of low seal initiation, higher modulus, and low blocking tendencies for automated packaging applications.

Applications:

- For food and specially packaging films.
- Extremely high impact resistance.
- Excellent tear, tensile, and optical properties.
- Low seal initiation temperatures and high hot tack strengths for form-fill-seal applications.

Complies with:

- EU, No 10/2011
- U.S. FDA FCN 424
- Consult the regulations for complete details.

Additive

- Antiblock: No
- Slip: No
- Processing Aid: No

| Physical | Nominal Value (English) | Nominal Value (SI) | Test Method |
|---|-------------------------|-------------------------|-------------|
| Density | 0.916 g/cm ³ | 0.916 g/cm ³ | ASTM D792 |
| Melt Index (190°C/2.16 kg) | 1.0 g/10 min | 1.0 g/10 min | ASTM D1238 |
| Films | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Film Thickness - Tested | 2 mil | 51 µm | |
| Film Puncture Energy ¹ (2.0 mil (51 µm)) | 48.7 in·lb | 5.50 J | Dow Method |
| Film Puncture Force ¹ (2.0 mil (51 µm)) | 24.1 lbf | 107 N | Dow Method |
| Secant Modulus ¹ | | | ASTM D882 |
| 1% Secant, MD : 2.0 mil (51 µm) | 24800 psi | 171 MPa | |
| 1% Secant, TD : 2.0 mil (51 µm) | 28100 psi | 194 MPa | |
| Tensile Strength ¹ | | | ASTM D882 |
| MD : Yield, 2.0 mil (51 µm) | 1640 psi | 11.3 MPa | |
| TD : Yield, 2.0 mil (51 µm) | 1620 psi | 11.2 MPa | |
| MD : Break, 2.0 mil (51 µm) | 7830 psi | 54.0 MPa | |
| TD : Break, 2.0 mil (51 µm) | 7540 psi | 52.0 MPa | |
| Tensile Elongation ¹ | | | ASTM D882 |
| MD : Break, 2.0 mil (51 µm) | 640 % | 640 % | |
| TD : Break, 2.0 mil (51 µm) | 660 % | 660 % | |
| Dart Drop Impact ¹ (2.0 mil (51 µm)) | > 850 g | > 850 g | ASTM D1709B |
| Elmendorf Tear Strength ² | | | ASTM D1922 |
| MD : 2.0 mil (51 µm) | 630 g | 630 g | |
| TD : 2.0 mil (51 µm) | 770 g | 770 g | |
| Seal Initiation Temperature ³ | | | Dow Method |
| 2.0 mil (51 µm) | 194 °F | 90.0 °C | |
| Thermal | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Melting Temperature | 252 °F | 122 °C | DSC |
| Optical | Nominal Value (English) | Nominal Value (SI) | Test Method |
| Gloss ¹ (20°, 2.01 mil (51.0 µm)) | 77 | 77 | ASTM D2457 |
| Haze ¹ (2.01 mil (51.0 µm)) | 9.50 % | 9.50 % | ASTM D1003 |
| Extrusion | Nominal Value (English) | Nominal Value (SI) | |
| Melt Temperature | 374 to 475 °F | 190 to 246 °C | |

Extrusion Notes

Fabrication Conditions For Blown Film Extrusion:

- Die Gap: 0.8-2.8 mm.
- Melt Temperature: 190-246 °C.
- Blow-Up Ratio: 1.5:1 to 3.5:1.

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ Blown film extruded at 232-246°C, 2.5:1 BUR, 1.9 mm die gap.

² Type A; Blown film extruded at 232-246°C, 2.5:1 BUR, 1.9 mm die gap.

³ Blown film extruded at 232-246°C, 2.5:1 BUR, 1.9 mm die gap.
Temperature at which 5.25 N/15 mm heat seal strength is achieved.

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