



TUFLIN™ HS-7028 NT 7 Linear Low Density Polyethylene Resin

Description

TUFLIN™ HS-7028 NT 7 Linear Low Density Polyethylene Resin is an ethylene-hexene copolymer, linear low density (LLDPE) resin designed for good strength and processability. This product is recommended for general purpose packaging applications from thick gauge, heavy duty bags to high-speed thin gauge applications.

Main Characteristics

- Hexene linear low-density resin
- General purpose resin
- Excellent strength
- An additive present in this product limits use only in film form for food contact applications

Complies with

- U.S. FDA 21 CFR 177.1520 (c) 3.1a (with restrictions)
- U.S. FDA FCN 1539 (with restrictions)
- EU, No 10/2011

Consult the regulations for complete details.

Additive

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

Properties¹

| Physical | Nominal Value | Unit | Test Method ² |
|----------------------------|---------------|-------------------|--------------------------|
| Density | 0.918 | g/cm ³ | ASTM D792 |
| Base Density ³ | 0.918 | g/cm ³ | Internal Method |
| Melt Index (190°C/2.16 kg) | 1.0 | g/10 min | ASTM D1238 |
| Films | Nominal Value | Unit | Test Method |
| Film Thickness - Tested | 25 | µm | |
| Film Puncture Energy | 4.52 | J | Internal Method |
| Film Puncture Force | 48.9 | N | Internal Method |
| Film Puncture Resistance | 24.8 | J/cm ³ | Internal Method |

1. Typical properties: these are not to be construed as specifications. Users should confirm results by their own tests.
2. ASTM: American Society for Testing and Materials
3. Base Density is estimated using the assumption that every 1000 ppm of antiblock in the finished product raises the density of the polymer by 0.0006 g/cm³. Base density is the estimated density of the polymer if it does not contain any antiblock.



Properties (Cont.)

| Films | Nominal Value | Unit | Test Method |
|--------------------------------------|----------------------|-------------------|--------------------|
| Film Toughness | | | ASTM D882 |
| MD | 82.7 | J/cm ³ | |
| TD | 82.7 | J/cm ³ | |
| Secant Modulus | | | ASTM D882 |
| 1% Secant, MD | 262 | MPa | |
| 1% Secant, TD | 255 | MPa | |
| 2% Secant, MD | 214 | MPa | |
| 2% Secant, TD | 214 | MPa | |
| Tensile Strength | | | ASTM D882 |
| MD: Yield | 12.1 | MPa | |
| TD: Yield | 11.7 | MPa | |
| MD: Break | 37.9 | MPa | |
| TD: Break | 37.9 | MPa | |
| Tensile Elongation | | | ASTM D882 |
| MD: Break | 500 | % | |
| TD: Break | 500 | % | |
| Dart Drop Impact | 200 | g | ASTM D1709A |
| Elmendorf Tear Strength ⁴ | | | ASTM D1922 |
| MD | 380 | g | |
| TD | 600 | g | |
| Thermal | Nominal Value | Unit | Test Method |
| Vicat Softening Temperature | 109 | °C | ASTM D1525 |
| Melting Temperature (DSC) | 124 | °C | Internal Method |
| Optical | | | |
| Gloss (45°) | 34 | | ASTM D2457 |
| Haze | 18.0 | % | ASTM D1003 |

Extrusion Notes

Fabrication Conditions For Blown Film:

- Screw Size: 3.5 in.
- Screw Type: DSBII
- Die Gap: 70 mil (1.8 mm)
- Melt Temperature: 415 °F
- Output: 12 lb/hr/in. of die circumference
- Die Diameter: 8 in.
- Blow-Up Ratio: 2.5 to 1
- Screw Speed: 39 rpm
- Frost Line Height: 57 in.

4. Method B.

