

Technical Data Sheet

Petrothene NA940085



Low Density Polyethylene

Product Description

Petrothene NA940085 is a low density homopolymer resin used for heavy duty film applications. Excellent puncture resistance combined with impact properties make NA940085 an exceptional choice when selected by customers for bags used to package fertilizer, peat moss, decorative stone and agricultural and construction materials. NA940085 also has excellent heat shrink properties.

Regulatory Status

For regulatory compliance information, see *Petrothene* NA940085 [Product Stewardship Bulletin \(PSB\)](#) and [Safety Data Sheet \(SDS\)](#).

| | |
|--------------------------|---|
| Status | Commercial: Active |
| Availability | North America |
| Application | Agriculture Film; Bags & Pouches; Bottles and Vials; Bottles For Consumer Goods; Bottles for Industrial Use; Can Liners; Clear Containers; Film Wrap; Food Packaging Film; Heavy Duty Packaging; Liner Film; Opaque Containers; Shrink Film; Specialty Film; Textile Packaging Film |
| Market | Flexible Packaging |
| Processing Method | Blown Film |

| Typical Properties | Nominal Value | English Units | Nominal Value | SI Units | Test Method |
|----------------------------------|---------------|-------------------|---------------|-------------------|-------------|
| Physical | | | | | |
| Melt Flow Rate, (190 °C/2.16 kg) | 0.25 | g/10 min | 0.25 | g/10 min | ASTM D1238 |
| Base Resin Density, (23 °C) | 0.918 | g/cm ³ | 0.918 | g/cm ³ | ASTM D1505 |
| Product Density, (23 °C) | 0.921 | g/cm ³ | 0.921 | g/cm ³ | ASTM D1505 |
| Mechanical | | | | | |
| Flexural Modulus | 34000 | psi | 234 | MPa | ASTM D790 |
| Tensile Strength at Break | 2100 | psi | 14.5 | MPa | ASTM D638 |
| Tensile Elongation at Break | >600 | % | >600 | % | ASTM D638 |
| Film | | | | | |
| Dart Drop Impact Strength, F50 | 220 | g | 220 | g | ASTM D1709 |
| Tensile Strength at Break | | | | | |
| MD | 3000 | psi | 20.7 | MPa | ASTM D882 |
| TD | 2800 | psi | 19.3 | MPa | ASTM D882 |
| Tensile Elongation at Break | | | | | |
| MD | 300 | % | 300 | % | ASTM D882 |
| TD | 500 | % | 500 | % | ASTM D882 |
| 1% Secant Modulus | | | | | |
| MD | 24000 | psi | 165 | MPa | ASTM D882 |
| TD | 27000 | psi | 186 | MPa | ASTM D882 |

| Elmendorf Tear Strength | | | |
|--|----------|----------|------------|
| MD | 220 g | 220 g | ASTM D1922 |
| TD | 200 g | 200 g | ASTM D1922 |
| Hardness | | | |
| Shore Hardness, (Shore D) | 50 | 50 | ASTM D2240 |
| Thermal | | | |
| Vicat Softening Temperature | 194 °F | 90 °C | ASTM D1525 |
| Low Temperature Brittleness, F ₅₀ | <-105 °F | <-76 °C | ASTM D746 |
| Additive | | | |
| Slip | None | None | LYB Method |
| Antiblock | 4000 ppm | 4000 ppm | LYB Method |

| Product | Product Density(g/cm ³) | Slip(ppm) | Antiblock (ppm) |
|----------|-------------------------------------|-----------|-----------------|
| NA940000 | 0.918 | None | None |
| NA940085 | 0.921 | None | 4000 |
| NA940094 | 0.921 | 500 | 4000 |

Notes

Data obtained from 2.0 mil (51 micron) film produced on a blown film line with a 8" (203 mm) die, 430°F (221°C) melt temperature, 2:1 BUR, 0.025" die gap at 170 lbs/hr.

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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Users should review the applicable Safety Data Sheet before handling the product.

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- (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.
- (v) safety components in automotive applications, for example: air bags, air bag unit housings and covers, seat belt mechanisms, brake systems, pedals and pedal supports, steering systems.

The product(s) may not be used in:

- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
- (ii) applications involving permanent implantation into the body;
- (iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

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