

Petrothene®

# NA 940

Low Density Polyethylene  
Film Extrusion Grade

Melt Index 0.25 Density 0.918

## Applications

PETROTHENE NA 940 is a series of resins designed for heavy duty film applications. Superior puncture resistance combined with excellent impact properties make NA 940 an ideal choice for bags used to package fertilizer, peat moss, decorative stone and agricultural and construction materials.

## Certification

The basic resin NA 940 meets the requirements of the Food and Drug Administration regulation, 21 CFR 177.1520. This regulation allows the use of this olefin polymer... in articles or components of articles intended for use in contact with food.' Specific limitations or conditions of use may apply. Contact your Equistar sales representative for more information regarding the suitability of specific products for specific applications.

## Processing Techniques

NA 940 has been designed for excellent processability, bubble stability and good heat sealing over a wide range of extrusion conditions. Optimum properties are found at melt temperatures of 330°-430°F (165°-221°C) and blow-up ratios between 1.8:1 and 2.5:1. Drawdown to 1.5 mil (38.1 microns) is possible at commercial rates when proper extrusion techniques are used. Specific recommendations for processing NA 940 can be made only when the end use applications, required properties and processing equipment are known. For exact recommendations, contact your Equistar sales representative.

## Typical Properties\*

| Property  | Value           | Units             | ASTM Test Method |
|---|-----------------|-------------------|------------------|
| Melt Index  | 0.25            | g/10 min          | D 1238           |
| Density   | 0.918           | g/cm <sup>3</sup> | D 1505           |
| Vicat Softening Point   | 90              | °C                | D 1525           |
| <b>Film**</b>   |                 |                   |                  |
| Dart Drop Impact Strength, F <sub>50</sub>                        | 220             | 9                 | D 1709           |
| Tensile Strength, MD (TD)   | 3,000 (2,800)   | psi               | D 882            |
| Elongation, MD (TD)   | 300 (500)       | %                 | D 882            |
| 1 % Secant Modulus, MD (TD)                                       | 24,000 (27,000) | psi               | D 882            |
| Elmendorf Tear Strength, MD (TD)                                  | 220 (200)       | 9                 | D 1922           |
| <b>Molding</b>  |                 |                   |                  |
| Low Temperature Brittleness, F <sub>50</sub>                      | <-76            | °C                | D 746            |
| Tensile Strength @ Break  | 2,100           | psi               | D 638            |
| Elongation @ Break  | >600            | %                 | D 638            |
| Flexural Modulus  | 34,000          | psi               | D 790            |
| Hardness, Shore D   | 50              |                   | D 2240           |
| Environmental Stress Crack Resistance, # Failures in 100% Igepal® | 0 in 7 days     |                   | D 1693           |

| Products | NA 940-000 | NA 940-085 | NA 940-094 |
|----------|------------|------------|------------|
| Slip     | None       | None       | Low        |
| Anbblock | None       | High       | High       |

\* These are typical values and not to be construed as specific product limits.

\*\* Data obtained from film produced in a 3½" (89 mm) blown film line, commercials available 8" (203 mm) die, 430°F (221°C) melt extrusion temperature, 2:1 BUR, 2 mil (51 micron) gauge, 0.025" die gap at 170 lb/hr.

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