

## Petroquimica Triunfo Trithene® TS 4016 LDPE and LLDPE Blend - Film

Category: Polymer, Film, Thermoplastic, Polyethylene (PE), LDPE, LLDPE

## **Material Notes:**

The Trithene® TS 4016 resin is a mixture of low-density polyethylene (LDPE) with linear low-density polyethylene (LLDPE) designed to meet the needs of the technical films segment for the use of automatic packaging. The formula developed confers to the Trithene® TS 4016 resin easy processability with conventional LDPE extruders, ensuring films with good appearance, thickness uniformity, and excellent weldability. Furthermore, the incorporated additive package brings thermal stability and good slip performance, which are fundamental for offering high productivity rates on the packaging line. The components that form the product Trithene® TS 4016 complies with the requirements of Brazilian and corresponding legislation of Mercosul and it is in conformity with FDA Regulations 21 CFR 177.1520 (c) 2.1, to contact with foodstuff. Applications: Technical films for the automatic packaging of food products in the form of grains, powder, or farinaceous, such as cereals, sugar, salt, and flours. Film obtained on a 50mm blow film line with barrier screw, 25:1 L/D, 1.0mm die gap, 50µm gauge, 2.3:1 BUR. Information provided by Dax Resinas

## Order this product through the following link:

http://www.lookpolymers.com/polymer\_Petroquimica-Triunfo-Trithene-TS-4016-LDPE-and-LLDPE-Blend-Film.php

| Physical Properties    | Metric                               | English                              | Comments   |
|------------------------|--------------------------------------|--------------------------------------|------------|
| Density                | 0.923 g/cc                           | 0.0333 lb/in <sup>3</sup>            | ASTM D1505 |
| Thickness              | 50.0 microns                         | 1.97 mil                             |            |
| Melt Index of Compound | 1.6 g/10 min                         | 1.6 g/10 min                         |            |
|                        | @Load 2.16 kg,<br>Temperature 190 °C | @Load 4.76 lb,<br>Temperature 374 °F | ASTM D1238 |

| Mechanical Properties              | Metric        | English   | Comments               |
|------------------------------------|---------------|-----------|------------------------|
| Film Elongation at Break, MD       | 460 %         | 460 %     | ASTM D882              |
| Film Elongation at Break, TD       | 780 %         | 780 %     | ASTM D882              |
| Secant Modulus, MD                 | 0.100 GPa     | 14.5 ksi  | 5%; ASTM D882          |
| Secant Modulus, TD                 | 0.110 GPa     | 16.0 ksi  | 5%; ASTM D882          |
| Coefficient of Friction, Dynamic   | 0.10          | 0.10      | ASTM D1894             |
| Elmendorf Tear Strength, MD        | 7.00 g/micron | 178 g/mil | ASTM D1922             |
| Elmendorf Tear Strength, TD        | 10.5 g/micron | 267 g/mil | ASTM D1922             |
| Dart Drop Test                     | 160 g         | 0.353 lb  | (method A); ASTM D1709 |
| Film Tensile Strength at Break, MD | 25.0 MPa      | 3630 psi  | ASTM D882              |
| Film Tensile Strength at Break, TD | 22.0 MPa      | 3190 psi  | ASTM D882              |



| Optical Properties | Metric | English | Comments                  |
|--------------------|--------|---------|---------------------------|
| Haze               | 9.0 %  | 9.0 %   | ASTM D1003                |
| Gloss              | 63 %   | 63 %    | 45° - Gardner; ASTM D2457 |
|                    | 96 %   | 96 %    | @ 60° Gardner; ASTM D2457 |

| Processing Properties  | Metric       | English      | Comments          |
|------------------------|--------------|--------------|-------------------|
| Processing Temperature | 170 - 175 °C | 338 - 347 °F | Plasticizing Zone |
|                        | 170 - 180 °C | 338 - 356 °F | Mixture Zone      |
| Feed Temperature       | 160 - 165 °C | 320 - 329 °F |                   |
| Adapter Temperature    | 175 - 185 °C | 347 - 365 °F |                   |

| Descriptive Properties | Value | Comments  |
|------------------------|-------|-----------|
| Proportion LLDPE %     | 22.5  | PTN-570-Q |

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