NYLON 11

OVERVIEW

Since its development in 1935, nylon has found a home in applications ranging from automotive and aerospace to life saving medical devices. Today the family of nylon resins has expanded to meet the demands of a wide range of custom applications.

Nylon 11 offers exceptional low water absorption for a PA (c. 2.5% at saturation), which leads to excellent dimensional stability. A true all-weather performer, it excels in extreme climates. Nylon 11 performs significantly better in wet environments than Nylon 6 and 6/6 while delivering higher strength and better heat resistance than Nylon 12. It also has high impact resistance at sub-zero temperatures and high pressure resistance. Nylon 11 is extremely robust, with excellent chemical resistance and high abrasion resistance. It also possesses a low coefficient of friction. UV resistance compared to other PAs is reasonable.

APPLICATIONS

• Catheter jacket
• Electrical insulation
• Delivery systems for catheters
• Furcation tubing for fiber optics
• Optical coatings
• Pneumatic and hydraulic systems
• Petroleum industry / drilling

PRODUCTS

• Extruded tubing
• Custom profiles
• Multi-Lumens
• Sub-Lite-Wall™ tubing
• Monofilament
• Spiral cut
• Bump tubing
• Lay-Flat tubing

KEY PROPERTIES

• Exceptional flexibility
• Low moisture absorption
• Chemically resistant
• Class VI approved material
• High impact resistance at sub-zero temperatures
• High abrasion resistance

Extruded Nylon 11 tubing in a variety of colors and sizes.
The information presented in this publication is believed to be accurate and is not intended to constitute a specification. Property characteristics are dramatically impacted by geometry and processing method, thus properties of extruded parts may vary. In some instances, data may not be available for publication and will be notated as “na” where applicable. These tables are meant to serve as a general guideline only. Users should evaluate the material to determine suitability for their own particular application.

### NYLON 11

#### SUMMARY OF PROPERTIES

<table>
<thead>
<tr>
<th>PHYSICAL</th>
<th>ASTM</th>
<th>Rilsan® BENSO TL</th>
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<tbody>
<tr>
<td>Water Absorption (%)</td>
<td>D570</td>
<td>0.9</td>
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<table>
<thead>
<tr>
<th>MECHANICAL</th>
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<tbody>
<tr>
<td>Ultimate Tensile Strength (MPa)</td>
<td>D638</td>
<td>10</td>
</tr>
<tr>
<td>Elongation at Break (%)</td>
<td>D638</td>
<td>380</td>
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<tr>
<td>Flexural Modulus (GPa)</td>
<td>D790</td>
<td>0.110</td>
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<thead>
<tr>
<th>ELECTRICAL</th>
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<tbody>
<tr>
<td>Volume Resistivity (Ω-cm)</td>
<td>D257</td>
<td>$1 \times 10^{14}$</td>
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<tr>
<td>Dielectric Strength (V/mil)</td>
<td>D149</td>
<td>30</td>
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<thead>
<tr>
<th>THERMAL</th>
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<tbody>
<tr>
<td>Melt Temp (°C)</td>
<td>D 3418</td>
<td>189</td>
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**- OVER 50 YEARS OF INDUSTRY SOLUTIONS -**

Zeus delivers precision polymer solutions that transform businesses, markets and lives. We have dedicated ourselves to building partnerships, products and services for the benefit of our customers.

Headquartered in Orangeburg, South Carolina, Zeus employs approximately 1,300 people and operates multiple facilities around the world.