DESCRIPTION
ETFE is a copolymer consisting of ethylene and tetrafluoroethylene. This fluoroplastic has excellent electrical, chemical, mechanical, and processing properties. It is well suited for applications requiring high mechanical strength, chemical, thermal, and/or electrical requirements. Designed for thin walled molded product. It has excellent chemical and heat resistance including excellent weatherability capabilities.

Commercial Name:........ ETFE
Catalog Code:............... ETFE
Chemical Name:............ Ethylene Tetrafluoroethylene
Used On:.................... Cable ties

GENERAL PERFORMANCE CHARACTERISTICS
Heat Resistance Very Good
Impact Resistance Very Good
Moisture Sensitivity Low
UV Resistance Excellent
Flame Spread Very Low
Smoke Generation Low
High Heat Sterilization Resistance Very Good

PERFORMANCE ADDITIVES
Glass None
Mineral None
Carbon None
Halogens Fluorine is part of base material
No chlorine is used

PROCESS ADDITIVES
Fillers None
Lubricants None
Shrink Additives None
Chlorine None

CONDITIONING None: ETFE absorbs <=0.1% moisture in a 24 hour period

CHEMICAL RESISTANCE
Acids Excellent
Bases Excellent
Solvents Excellent
Gasoline Excellent
Oil Excellent
Salt Water Excellent

MAJOR TOXIC ELEMENTS
Under normal temperature this material is inert. However, when heated to 300°C to 350°C, it may produce harmful vapors, including toxic gases, such as hydrogen fluoride.

APPROVALS
ASTM D3159
RoHS Compliant Yes
**TYPICAL MATERIAL PROPERTIES**

**ETFE**
Injection Molding Grade

**SPECIFICATION NUMBER**
MTS1204CSU

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### PROPERTIES CHART

<table>
<thead>
<tr>
<th>Properties</th>
<th>Dry</th>
<th>Units</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FLAMMABILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UL Flammability @ 1.5 mm</td>
<td>V-0</td>
<td></td>
<td>UL 94 *Mfg</td>
</tr>
<tr>
<td><strong>PHYSICAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.72 - 1.76</td>
<td>(%1)</td>
<td>ASTM D3159</td>
</tr>
<tr>
<td>Melt Flow Rate</td>
<td>8-16</td>
<td>g/10 min</td>
<td>ASTM D3159</td>
</tr>
<tr>
<td><strong>MECHANICAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>42-47 (6092-6817)</td>
<td>MPA (psi)</td>
<td>ASTM D3159</td>
</tr>
<tr>
<td>Elongation</td>
<td>420-450</td>
<td>%</td>
<td>ASTM D3159</td>
</tr>
<tr>
<td><strong>THERMAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Operating Temp</td>
<td>-80 to 150 (-112 to 302)</td>
<td>°C (°F)</td>
<td>*Mfg</td>
</tr>
<tr>
<td>UL RTI Str @1.5 mm (0.059 in)</td>
<td>180 (356) 170 (338) 180 (356)</td>
<td>°C (°F)</td>
<td>UL 746</td>
</tr>
<tr>
<td>Melting Point (DSC)</td>
<td>260-270 (500-518)</td>
<td>°C (°F)</td>
<td>ASTM D3159</td>
</tr>
</tbody>
</table>

(1) Quantity is unitless. Use g/cm³ to convert to other units.

* Raw material vendor test results

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This document is intended as a general guide, in the material selection for a product, but does not guarantee satisfactory performance. All materials selected must be thoroughly tested in its intended application to determine its suitability. Consult a HellermannTyton representative for assistance in the final material selection.

The information contained herein is believed to be accurate at the time of printing. However, this information has been obtained from a variety of sources and has not been independently verified by HellermannTyton Corporation; therefore, we cannot warrant fitness for a particular application. Furthermore, HellermannTyton Corporation reserves the right to make changes to this document, at any time, without notice to our customers.