Tecnoflon® T 938 is a medium viscosity fluoroelastomer terpolymer with 68.5% fluorine content. Tecnoflon® T 938 does not contain curatives: therefore the proper levels of Tecnoflon® FOR M1 and Tecnoflon® FOR M2 must be added to achieve the required properties.

Tecnoflon® T 938 exhibits the chemical resistance typical of fluoroelastomer terpolymers. It is well suited for applications requiring better chemical resistance and/or long term heat resistance compared to fluoroelastomer copolymers.

Some of the basic properties of Tecnoflon® T 938 are:

- Excellent chemical resistance
- Good heat resistance
- Very good processability

Tecnoflon® T 938 can be used for compression, injection and transfer molding of shaft seals, valve stem seals, gaskets or any item requiring excellent chemical resistance. Tecnoflon® T 938 can be combined with the cure system and other typical fluoroelastomer compounding ingredients. Mixing can be accomplished with two roll mills or internal mixers.

Tecnoflon® T 938 can be extruded into hoses or profiles and can be calendered to make sheet stocks or belting. Finished goods can be produced by a variety of rubber processing methods.

**Handling and safety**

Normal care and precautions should be taken to avoid skin contact, eye contact and breathing of fumes. Smoking is prohibited in working areas. Wash hands before eating or smoking. For complete health and safety information, please refer to the material safety data sheet.

### Basic characteristics of the raw polymer are as follows

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML (1+10') at 121 °C</td>
<td>66</td>
<td>MU</td>
<td>ASTM D1646</td>
</tr>
<tr>
<td>Fluorine content</td>
<td>68.5%</td>
<td>%</td>
<td>Solvay Internal Method – NMR</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.88</td>
<td>g/cm³</td>
<td>ASTM D792</td>
</tr>
<tr>
<td>Colour</td>
<td>Translucent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging/Form</td>
<td>Slabs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
<td>Ketones and esters</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Typical properties

<table>
<thead>
<tr>
<th>Test Compound</th>
<th>Typical Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tecnoflon® T 938</td>
<td>100</td>
<td>phr</td>
<td></td>
</tr>
<tr>
<td>Tecnoflon® FOR M1</td>
<td>5</td>
<td>phr</td>
<td></td>
</tr>
<tr>
<td>Tecnoflon® FOR M2</td>
<td>3.5</td>
<td>phr</td>
<td></td>
</tr>
<tr>
<td>MgO–DE</td>
<td>3</td>
<td>phr</td>
<td></td>
</tr>
<tr>
<td>Ca(OH)(_2)</td>
<td>6</td>
<td>phr</td>
<td></td>
</tr>
<tr>
<td>N-990 MT Carbon Black</td>
<td>30</td>
<td>phr</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mooney viscosity ML (1+10') at 121 °C</td>
<td>98</td>
<td>MU</td>
<td>ASTM D1646</td>
</tr>
<tr>
<td>MDR 6 min at 177 °C arc 0.5”</td>
<td></td>
<td></td>
<td>ASTM D6601</td>
</tr>
<tr>
<td>Minimum torque</td>
<td>2.12</td>
<td>lb·in</td>
<td></td>
</tr>
<tr>
<td>Maximum torque</td>
<td>22.5</td>
<td>lb·in</td>
<td></td>
</tr>
<tr>
<td>( t_s )</td>
<td>1.0</td>
<td>min</td>
<td></td>
</tr>
<tr>
<td>( t_s' )</td>
<td>1.3</td>
<td>min</td>
<td></td>
</tr>
<tr>
<td>( t_s'' )</td>
<td>1.8</td>
<td>min</td>
<td></td>
</tr>
<tr>
<td>Press cure: 10 min at 170 °C, post cure: (8+16) h at 250 °C</td>
<td></td>
<td></td>
<td>ASTM D412C</td>
</tr>
<tr>
<td>100 % Modulus</td>
<td>6.7</td>
<td>MPa</td>
<td></td>
</tr>
<tr>
<td>Tensile strength</td>
<td>15.5</td>
<td>MPa</td>
<td></td>
</tr>
<tr>
<td>Elongation at break</td>
<td>218</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Hardness</td>
<td>78</td>
<td>ShoreA</td>
<td>ASTM D2240</td>
</tr>
<tr>
<td>Compression set</td>
<td></td>
<td></td>
<td>ASTM D395 method B</td>
</tr>
<tr>
<td>25 % deformation, 70 h at 200 °C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O-ring #214</td>
<td>24</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Temperature retraction</td>
<td></td>
<td></td>
<td>ASTM D1329</td>
</tr>
<tr>
<td>( \text{TR}_{10} )</td>
<td>–13</td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>
**Tecnoflon® T 938**

**Raw Terpolymer**

### Fluid resistance

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
<th>Unit</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methanol, 70 h at 23°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Tensile strength</td>
<td>-38</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Elongation at break</td>
<td>2</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Hardness</td>
<td>-11</td>
<td>Shore A</td>
<td></td>
</tr>
<tr>
<td>Δ Volume</td>
<td>17</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Methanol, 168 h at 23°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Tensile strength</td>
<td>-34</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Elongation at break</td>
<td>10</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Hardness</td>
<td>-12</td>
<td>Shore A</td>
<td></td>
</tr>
<tr>
<td>Δ Volume</td>
<td>20</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>M15 (Fuel C/Methanol 85/15), 70 h at 23°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Tensile strength</td>
<td>-41</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Elongation at break</td>
<td>-5</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Hardness</td>
<td>-8</td>
<td>Shore A</td>
<td></td>
</tr>
<tr>
<td>Δ Volume</td>
<td>13</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>FAM B, 70 h at 70°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Tensile strength</td>
<td>-49</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Elongation at break</td>
<td>-1</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Hardness</td>
<td>-16</td>
<td>Shore A</td>
<td></td>
</tr>
<tr>
<td>Δ Volume</td>
<td>25</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Fuel Perox PN 180, 168 h at 60°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Tensile strength</td>
<td>-8</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Elongation at break</td>
<td>15</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Hardness</td>
<td>-4</td>
<td>Shore A</td>
<td></td>
</tr>
<tr>
<td>Δ Volume</td>
<td>25</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>IRM 903 oil, 70 h at 175°C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ Tensile strength</td>
<td>-11</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Elongation at break</td>
<td>0</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Δ Hardness</td>
<td>-4</td>
<td>Shore A</td>
<td></td>
</tr>
<tr>
<td>Δ Volume</td>
<td>2</td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>

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