TECAFLON PTFE

Chemical Designation: Polytetrafluoroethylene
DIN Abbreviation: PTFE
Colour, Filler: Opaque

TECAFLON PTFE is a semi-crystalline high performance thermoplastic with excellent chemical resistance, very good non-stick characteristics as well as good machinability.

Main characteristics:
- Extremely good chemical resistance against virtually all media
- Very good UV resistance
- Hot water resistant
- Very good electrical insulation
- Very good sliding properties
- Soft
- Anti-adhesive
- Difficult to bond
- Very tough
- Gamma radiation sensitive
- Self-extinguishing V-0
- Non-melting
- Very good electrical insulation
- Very good UV resistance
- Very good sliding properties
- Anti-adhesive
- Very tough
- Gamma radiation sensitive
- Self-extinguishing V-0
- Non-melting

Preferred fields: Chemical engineering, machine parts, transport and conveyor technology, pump and instrument construction, electrical industry, electronics, laser technology, fume purification, pure water production, cryogenics, filter technology, food and medical technology

Applications:
- Pump housings
- Valve seats
- Tank linings
- Pipe linings
- Roller coverings
- Slide bearings
- Filter housings
- Etching plates
- High frequency insulation
- Pump parts
- Seals
- Slide runners

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TECAFLON PTFE

The following information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of certain properties or the suitability for a specific application. Existing commercial patents must be observed. A definitive quality guarantee is given in our general conditions of sales. Unless otherwise stated, these values represent averages taken from injection moulding samples. We reserve the right of technical alterations.

<table>
<thead>
<tr>
<th>Properties</th>
<th>Unit</th>
<th>Test method DIN EN ISO / ASTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>g/cm³</td>
<td>527 / D 792 2.18</td>
</tr>
<tr>
<td>Tensile strength at yield</td>
<td>MPa</td>
<td>527 / D 638 25</td>
</tr>
<tr>
<td>Tensile strength at break</td>
<td>MPa</td>
<td>527 / D 638 &gt;50</td>
</tr>
<tr>
<td>Elongation at break</td>
<td>%</td>
<td>527 / D 638</td>
</tr>
<tr>
<td>Modulus of elasticity in tension</td>
<td>MPa</td>
<td>527 / D 638 700</td>
</tr>
<tr>
<td>Modulus of elasticity in flexure</td>
<td>MPa</td>
<td>178 / D 790</td>
</tr>
<tr>
<td>Ball indentation hardness</td>
<td>MPa</td>
<td>2039 /1 30</td>
</tr>
<tr>
<td>Impact strength</td>
<td>kJ/m²</td>
<td>179 / D 256 no br.</td>
</tr>
<tr>
<td>Creep rupture strength after 1000 hrs with static load</td>
<td>MPa</td>
<td>5</td>
</tr>
<tr>
<td>Time yield limit for 1% elongation after 1000 hrs.</td>
<td>MPa</td>
<td>1.58</td>
</tr>
<tr>
<td>Coefficient of friction against hardened and ground steel p = 0.05 N/mm², v = 0.6 m/s</td>
<td>--</td>
<td>0.08 - 0.10</td>
</tr>
<tr>
<td>Wear conditions as above</td>
<td>µm/km</td>
<td>21</td>
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<tr>
<td>Thermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crystalline melting point</td>
<td>°C</td>
<td>DIN 53 736 327</td>
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<tr>
<td>Glass transition temperature</td>
<td>°C</td>
<td>DIN 53 736 -20</td>
</tr>
<tr>
<td>Heat distortion temperature Method A</td>
<td>°C</td>
<td>R 75 55</td>
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<tr>
<td></td>
<td>°C</td>
<td>R 75 121</td>
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<tr>
<td></td>
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<td>°C</td>
<td>R 75 121</td>
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</tbody>
</table>

ENSINGER: Production and stock programme

- Semi-finished product, finished parts, injection moulded parts and profiles in more than 500 materials and modifications.
- Engineering plastics: PA extruded or cast, POM, PC, PET, PBT, PPE, PP, PE.
- High temperature plastics: PI, TPI, PEEK, PPS, PPSU, PEI, PSU, PVDF, PCTFE, PTFE.
- Stock length: Standard 3 metres. Cast rod and sheet 2 mts. Tube up to 3.5 mts. PE, PP, PVC, and PTFE 2 mts.
- Pressed/sintered semi-finished product: PI, PEEK, PPS, PTFE/PI and modifications, as well as PCTFE in special sizes ie, large discs, tubes and rings with diameters up to about 1400 mm.
- Material modifications: eg. glass, carbon and aramid fibre, talc, MoS₂, graphite, PTFE, PE, silicone oil, internal lubrication.