TECASINT 1000 is an amorphous high-temperature polyimide. Parts made of it excel with a very good dimensional stability. They bear a very high load under temperatures which are unreachable for other plastics. Even under short terms heating up to 350 °C parts made of TECASINT 1000 do not melt or soften.

Properties

- Broad range of temperature from -270 °C up to +300 °C
- In long term service high stability and high creep resistance
- Low outgassing, high purity
- Outstanding radiation resistance
- Electrically insulating
- Excellent slide and wear properties
- Strain resistant
- Good chemical resistance

Preferred fields

Mechanical engineering, automotive, conveyor technology, cryotechnology, aerospace, vacuum technology, precision engineering, hot glass technology, electronics, semiconductor

Applications

Sliding rails, guide for chains, piston rings, Bearing discs, bushings, seals, insulators, valve seatings, friction rings, hot glass grippers

TECASINT 1011 black (SINTIMID PUR HT)
Highest mechanical strength.
Best electrical insulation.

TECASINT 1021 anthracite (SINTIMID 15 G)
Enhanced friction and wear properties. Self-lubricating.

TECASINT 1031 (SINTIMID 40 G)
Extremely low wear values.

Self-lubricating.

TECASINT 1611 (SINTIMID 30 P)
Very low friction values. Self-lubricating.

TECASINT 1061 black (SINTIMID PVX)
Low friction values, self-lubricating. Good UV resistance.

TECASINT 1041 anthracite (SINTIMID 30 M)
Best lubrication in vacuum and dry atmosphere.
## Property values

<table>
<thead>
<tr>
<th>Property values</th>
<th>TECASINT 1011 (SINTIMID PUR HT)</th>
<th>TECASINT 1021 (SINTIMID 15G)</th>
<th>TECASINT 1031 (SINTIMID 40G)</th>
<th>TECASINT 1061 (SINTIMID PVX)</th>
<th>TECASINT 1041 (30% MoS₂, black)</th>
<th>TECASINT 1061 (30% PTFE, ochre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abbreviation</td>
<td>PI</td>
<td>PI CS15</td>
<td>PI CS40</td>
<td>PI CS15TF10</td>
<td>PI MoS₂</td>
<td>PI TF30</td>
</tr>
<tr>
<td>Description</td>
<td>black</td>
<td>15% Graphite, black</td>
<td>40% Graphite, black</td>
<td>15% Graphite, 15% PTFE, black</td>
<td>30% MoS₂, black</td>
<td>30% PTFE, ochre</td>
</tr>
<tr>
<td>Long term service temperature (°C)</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>300</td>
<td>260</td>
</tr>
<tr>
<td>Density (ASTM D 792, DIN EN ISO 1183)</td>
<td>1,34</td>
<td>1,42</td>
<td>1,57</td>
<td>1,48</td>
<td>1,67</td>
<td>1,51</td>
</tr>
<tr>
<td>Tensile strength at break (ASTM D 638, DIN EN ISO 527)</td>
<td>116</td>
<td>97</td>
<td>65</td>
<td>77</td>
<td>82</td>
<td>82</td>
</tr>
<tr>
<td>Elongation at break (ASTM D 638, DIN EN ISO 527, 23 °C)</td>
<td>9</td>
<td>2,8</td>
<td>2,2</td>
<td>2,9</td>
<td>2,8</td>
<td>4,1</td>
</tr>
<tr>
<td>Modulus of elasticity after tensile test (ASTM D 638, DIN EN ISO 527)</td>
<td>4000</td>
<td>4000</td>
<td></td>
<td>4340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardness (Shore D, DIN 53505)</td>
<td>90</td>
<td>88</td>
<td>85</td>
<td>85</td>
<td>90</td>
<td>84</td>
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<tr>
<td>Impact resistance (DIN EN ISO 179 (Charpy))</td>
<td>75</td>
<td>35</td>
<td></td>
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<tr>
<td>Glass transition temperature (DIN EN ISO 3146)</td>
<td>360-375</td>
<td>330</td>
<td>330</td>
<td>330</td>
<td>330</td>
<td>330</td>
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<tr>
<td>Short term service temperature (°C)</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
<td>350</td>
</tr>
<tr>
<td>Thermal conductivity (23°C)</td>
<td>0,22</td>
<td>0,53</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Specific heat (23°C)</td>
<td>1,04</td>
<td>1,13</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Coefficient of linear thermal expansion (50-200 °C, DIN 53752)</td>
<td>5,0</td>
<td>3,8</td>
<td>3,1</td>
<td>5,1</td>
<td>6,5</td>
<td>5</td>
</tr>
<tr>
<td>Water absorption (24 h, 23 °C, in water, EN ISO 62)</td>
<td>1,08</td>
<td>0,51</td>
<td>0,42</td>
<td>0,72</td>
<td>0,46</td>
<td></td>
</tr>
<tr>
<td>Flammability acc. to UL-Standard 94</td>
<td>V0</td>
<td>V0</td>
<td>V0</td>
<td>V0</td>
<td>V0</td>
<td>V0</td>
</tr>
</tbody>
</table>

The information corresponds with current knowledge and indicates our products and possible applications. We cannot give you a legally binding guarantee of the physical properties or the suitability for a specific application. Existing commercial patents are to be taken in account.

Please find information concerning the exclusion of liability and Terms and Conditions of Delivery in our Semi-finished products catalogue or at www.ensinger-online.com.

### Stock program

#### Rods

- **Tolerances:** + 0,2 / + 0,8
- **Diameter:** 6 - 100 mm
- **Stock length:** Ø 6-12 mm: 395 mm Ø 12,7-15 mm: 395 mm, 795 mm > Ø 16 mm: 395 mm, 795 mm, 1000 mm. Other delivery lengths possible, also available ground.

#### Tubes

Available on request.

#### Plates

- **Tolerances:**
  - Thickness 5-20 mm: 0 / + 0,8 mm
  - Thickness 20-60 mm: 0 / 1 mm
  - Thickness 65-100 mm: 0 / 1,5 mm.

- **Thickness:** 5-100 mm

- **Width:**
  - Thickness 5-55 mm: 300 / 395 mm from thickness 60 mm: 300 mm

- **Stock length:**
  - Width 300 mm stock length 1000 mm
  - Width 395 mm: stock length 795 mm
  - Other delivery lengths possible.