



Product information

TECASINT 4000

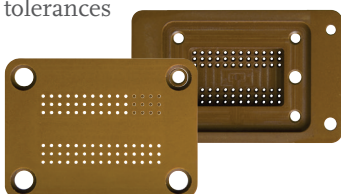
High-performance for exceptional applications

TECASINT 4000 offers a number of unique characteristics not supplied by other polyimides. As well as opening up completely new fields of application, the use of this new material is also able to enhance the efficiency of existing applications.

Compared to other materials in this product line, TECASINT 4000 is characterized by its minimal water absorption and maximum oxidative stability, as well as low friction values and optimum chemical resistance. With its heat resistance of 470 °C acc. to HDT/A, TECASINT 4111 opens up whole new scope for extreme high-temperature applications.

Properties

- Polyimide with excellent thermal stability
- Extremely high heat resistance acc. to HDT / A
TECASINT 4111 = 470 °C, highest value of any organic material
- Substantially lower water absorption than other TECASINT polyimides
- Maximum stability against oxidation in air
- Minimal coefficient of friction, excellent tribological characteristics
- Improved chemical resistance
- High resistance to plasma
- Easy machinability to produce components with tight tolerances



Applications

- Components with extreme load resistance in the high temperature range
- Production facilities for the semi-conductor industry
- Thermal and/or electrical insulating applications
- Low outgassing components in vacuum (UHV) and in aerospace applications
- Cryogenic applications up to -273 °C
- For tribological applications subject to high degrees of load and / or high sliding speeds (lubricated or unlubricated)
- High-performance seals
- Plasma applications

Types and availability

To address specific market requirements, Ensinger has developed two product lines:

1. TECASINT 4011 (high elongation at break and toughness)

HDT / A (1,8 MPa)	360 °C
Tensile modulus of elasticity	4000 MPa
Charpy impact strength	87 J/m ²
Temperature at 10 % weight loss	548 °C

2. TECASINT 4111 (high flexural modulus)

HDT / A (1,8 MPa)	470 °C
Tensile modulus of elasticity	7000 MPa
Charpy impact strength	24 J/m ²
Temperature at 10 % weight loss	623 °C

Product portfolio

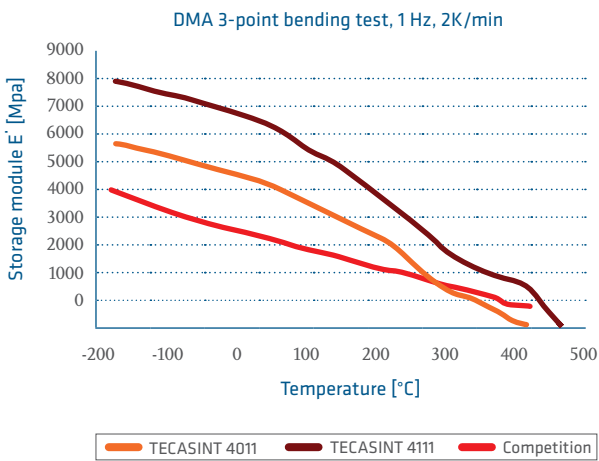
TECASINT 4011 / 4111 unfilled

- Maximum strength and highest modulus
- Minimal thermal and electrical conductivity
- Ultra-pure
- Low outgassing in accordance with ESA standard ECSS-Q-70-20

Applications

- Components subject to high thermal, mechanical and electrical load - even in vacuum or cryogenic applications

Storage module TECASINT 4011 and 4111



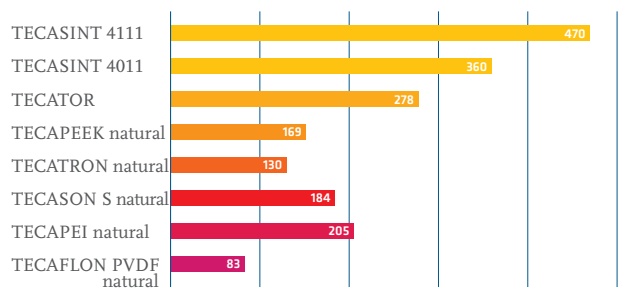
TECASINT 4021 / 4121 (15 % graphite)

- Standard type for tribological applications
- Improved wear resistance and thermal conductivity
- Self-lubrication

Applications

- Lubricated and unlubricated friction and sliding applications

Heat Distortion Temperature HDT A / 1,80 MPa [°C]



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