

Product information

## TECASINT Polyimides Excellent vacuum- and cryogenic temperature properties

### TECASINT for vacuum- and cryogenic applications

There are many applications in process engineering working under vacuum or cryogenic conditions. These components may have a requirement for excellent purity and outgassing at low temperatures.

MoS<sub>2</sub>-modified grades show low wear and friction for sliding components under vacuum.

TECASINT offers much lower service temperatures compared to many other high performance materials and they combine mandatory requirements under vacuum and cryogenic conditions.

### Typical fields of applications

- Vacuum coating process
- Hydrogen technology
- Particle accelerator
- Nuclear fusion reactor
- Gas liquidisation
- Space
- Cryogenic pumps

### TECASINT properties

- High purity and low outgassing
- Outstanding strength over a wide temperature range from -270°C to +300°C
- Good cryogenic properties
- High creep strength
- Low friction and wear



TECASINT 2021: Slide Bearing

TECASINT 2011: Bushing

## TECASINT-grades

### TECASINT 2011

Unfilled grade with good balance between toughness and stiffness for thermally and electrically insulating components. Low outgassing and high purity.

### TECASINT 2021

Grade modified with 15% graphite. It is particularly suitable for tribological applications owing to its improved friction and wear behaviour. Thanks to its self-lubricating property, TECASINT 2021 is well suited to lubricated and dry applications.

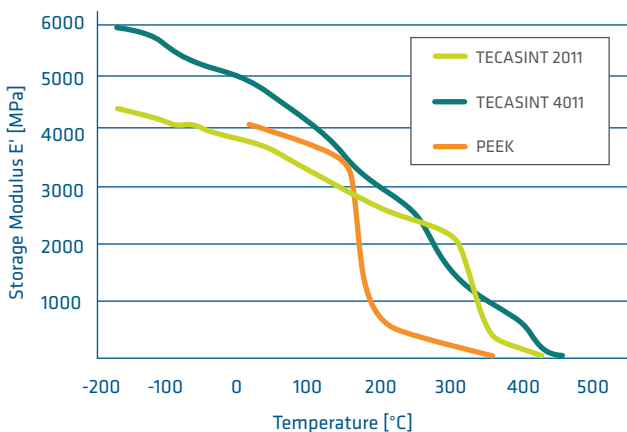
### TECASINT 2391

Grade modified with 15% MoS<sub>2</sub>. Excellent wear and friction properties under vacuum condition. For the use in space, in vacuum or inert gas environments. Low outgassing under vacuum according to ESA standard ECSS-Q-70-02.

### TECASINT 4011

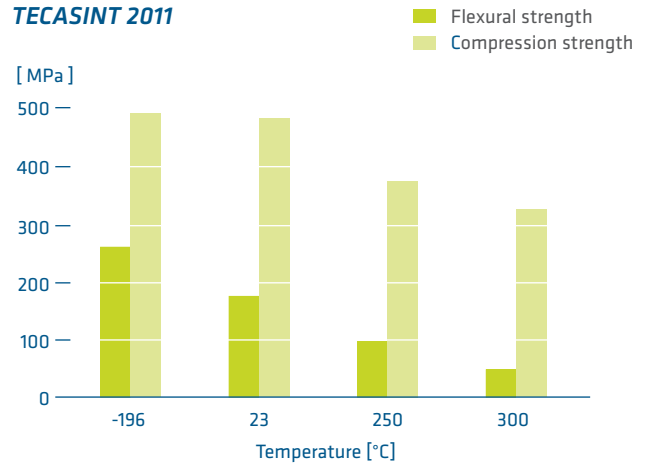
Unfilled grade with best thermal properties combined with high modulus, toughness and elongation. Very low water absorption and outgassing.

### 3 point bending test - 1 Hz, 2 K/min

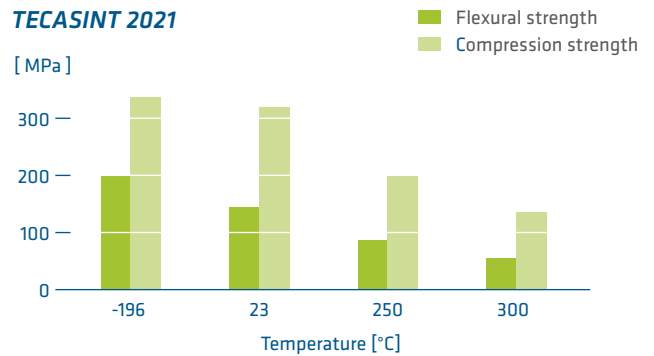


## Mechanical properties under cryogenic conditions

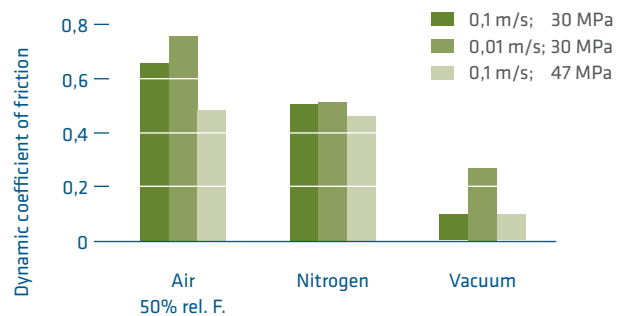
### TECASINT 2011



### TECASINT 2021



### Pin on disc tribometer (TECASINT 2391)



Test temperature: 23°C  
Disc material: Bearing steel 52100  
Pin material: **TECASINT 2391**

### Contact

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