

## TECASINT 1011 natural - halvfabrikat

### Kemisk beteckning

PI (polyimid)

### Färg

Svart

### Densitet

1.34 g/cm<sup>3</sup>

### Huvud egenskaper

→ hög termisk och mekanisk kapacitet  
 → mycket god termisk stabilitet  
 → bra kemisk resistans  
 → mycket bra elektrisk isolering  
 → motstånd mot hög energi strålning  
 → högt krypmotstånd  
 → känslig för hydrolysis i högre termiska intervall

### Målindustrier

→ maskinteknik  
 → precisions teknik  
 → flygplan och rymdteknik  
 → kryogenteknik  
 → elektronik  
 → elektroteknik  
 → kärn- och vakuumenteknik  
 → halvledarteknik

| Mekaniska Egenskaper             | parameter            | värde                | enhet                            | norm                 | anmärkning  |
|----------------------------------|----------------------|----------------------|----------------------------------|----------------------|---|
| Draghållfasthet                  | 50 mm/min            | 116                  | MPa                              | DIN EN ISO 527-1     | (1) eU<br>(2) eA  |
| Elasticitetsmodul (dragprov)     | 1 mm/min             | 3600                 | MPa                              | DIN EN ISO 527-1     |   |
| Brottförlängning                 | 50 mm/min            | 3,8                  | %                                | DIN EN ISO 527-1     |   |
| Böjhållfasthet                   | 10 mm/min            | 170                  | MPa                              | DIN EN ISO 178       |   |
| Elasticitetsmodul (böjningstest) | 2 mm/min             | 3450                 | MPa                              | DIN EN ISO 178       |   |
| Kompressionsstyrka               | 10 mm/min            | 450                  | MPa                              | EN ISO 604           |   |
| Kompressionsstyrka               | 10mm/min, 10% strain | 190                  | MPa                              | EN ISO 604           |   |
| Kompressionsmodul                | 1 mm/min             | 3647                 | MPa                              | EN ISO 604           |   |
| tryckhållfasthet vid brott       | 10 mm/min            | 45                   | %                                | EN ISO 604           |   |
| slagstyrka (charpy)              | max 7.5 J            | 75.8                 | kJ/m <sup>2</sup>                | DIN EN ISO 179-1     | 1)  |
| Skårslahseghet (Charpy)          | max 7.5 J            | 5                    | kJ/m <sup>2</sup>                | DIN EN ISO 179-1     | 2)  |
| Shore hårdhet                    | Shore D              | 90                   |                                  | DIN EN ISO 868       |   |
| Värmeledningsförmåga             | parameter            | värde                | enhet                            | norm                 | anmärkning  |
| Glasövergångstemperatur          |                      | 383                  | °C                               | -                    | 1)  |
| värmeförvrängning temperatur     | 1.85 MPa             | 368                  | °C                               | DIN 53 461           | (2)   |
| termisk expansion                | 50-200°C             | 4,3 / 4,3            | 10 <sup>-5</sup> K <sup>-1</sup> | DIN 53 752           | 2)  |
| termisk expansion                | 200-300°C            | 5,3 / 5,3            | 10 <sup>-5</sup> K <sup>-1</sup> | DIN 53 752           | 3)  |
| Specifik värme                   |                      | 1,04                 | J/(g*K)                          | -                    |   |
| Värmeledningsförmåga             | 40°C                 | 0,22                 | W/(K*m)                          | ISO 8302             |   |
| Elektriska egenskaper            | parameter            | värde                | enhet                            | norm                 | anmärkning  |
| Specifikt ytmotstånd             | 23°C                 | > 10 <sup>15</sup>   | Ω                                | DIN IEC 60093        |   |
| Specifik volym resistans         | 23°C                 | > 10 <sup>15</sup>   | Ω*cm                             | DIN IEC 60093        |   |
| Elektrisk styrka DC              | 23°C                 | > 35                 | kV*mm <sup>-1</sup>              | ISO 60243-1          |   |
| Dielektrisk förlustfaktor        | 50 Hz                | 2,2*10 <sup>-2</sup> |                                  | DIN 53483-1          |   |
| Dielektrisk förlustfaktor        | 1 kHz                | 2,5*10 <sup>-3</sup> |                                  | DIN 53483-1          |   |
| Dielektrisk förlustfaktor        | 1 MHz                | 1,5*10 <sup>-2</sup> |                                  | DIN 53483-1          |   |
| Dielektrisk konstant             | 50 Hz                | 3,8                  |                                  | DIN 53483-1          |   |
| Dielektrisk konstant             | 1 kHz                | 3,9                  |                                  | DIN 53483-1          |   |
| Dielektrisk konstant             | 1 MHz                | 3,7                  |                                  | DIN 53483-1          |   |
| Övriga egenskaper                | parameter            | värde                | enhet                            | norm                 | anmärkning  |
| Vatten absorption                | 24 h in water, 23°C  | 1,3                  | %                                | DIN EN ISO 62        | (1) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory. |
| Vatten absorption                | 24 h in water, 80°C  | 3,8                  | %                                | DIN EN ISO 62        |   |
| Outgassing in high vacuum        |                      | passed               |                                  | ECSS-Q-70-02         |   |
| Brandklassning (UL94)            | corresponding to     | V0                   |                                  | DIN IEC 60695-11-10; | 1)  |

→ TECASINT 1000 series show significant water uptake. Parts have to be pre-dried before fast heating to above 200 °C (drying process: 2 h per 3 mm wall thickness at 150 °C).

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