

## TECAPEEK natural - 型材 (棒材, 板材, 管件)

### 化學命名

PEEK (聚醚醚酮)

### 顏色

米黃色 不透明

### 密度

1.31 g/cm<sup>3</sup>

### 主要特色

- 良好的熱變形溫度
- 良好的加工特性
- 固有的防火性
- 高能輻射抗性
- 良好的滑動及耐磨特性
- 優異的耐化學性
- 高蠕變抗性
- 耐水解和熱蒸氣

### 目標產業

- 化學技術
- 機械工程
- 食品科技
- 電子學
- 能源工業
- 石油和天然氣工業
- 航空與航太科技
- 汽車工業
- 半導體科技
- 真空科技

| 機械特性           | 參數                                          | 值                | 單位                               | 標準                   | 註解                                                                     |
|----------------|---------------------------------------------|------------------|----------------------------------|----------------------|------------------------------------------------------------------------|
| 抗拉強度           | 50mm/min                                    | 116              | MPa                              | DIN EN ISO 527-2     | (1) For tensile test: specimen type 1b                                 |
| 彈性模數 (張力測試)    | 1mm/min                                     | 4200             | MPa                              | DIN EN ISO 527-2     | (2) For flexural test: support span 64mm, norm specimen.               |
| 降伏點抗拉強度        | 50mm/min                                    | 116              | MPa                              | DIN EN ISO 527-2     | (3) Specimen 10x10x10mm                                                |
| 降伏點伸長率         | 50mm/min                                    | 5                | %                                | DIN EN ISO 527-2     | (4) Specimen 10x10x50mm, modulus range between 0.5 and 1% compression. |
| 斷裂伸長率          | 50mm/min                                    | 15               | %                                | DIN EN ISO 527-2     | (5) For Charpy test: support span 64mm, norm specimen.                 |
| 抗彎強度           | 2mm/min, 10 N                               | 175              | MPa                              | DIN EN ISO 178       | n.b. = not broken                                                      |
| 彈性模數 (彎曲測試)    | 2mm/min, 10 N                               | 4200             | MPa                              | DIN EN ISO 178       |                                                                        |
| 壓縮強度           | 1% / 2% / 5%<br>5mm/min, 10 N               | 23/43/102        | MPa                              | EN ISO 604           | (3)                                                                    |
| 壓縮模數           | 5mm/min, 10 N                               | 3400             | MPa                              | EN ISO 604           | (4)                                                                    |
| 衝擊強度(Charpy)   | max. 7.5J                                   | n.b.             | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eU   | (5)                                                                    |
| 缺口衝擊強度(Charpy) | max. 7.5J                                   | 4                | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eA   |                                                                        |
| 蕭氏硬度           | D                                           | 89               |                                  | DIN EN ISO 868       |                                                                        |
| 熱特性            | 參數                                          | 值                | 單位                               | 標準                   | 註解                                                                     |
| 玻璃轉化溫度         |                                             | 150              | °C                               | DIN EN ISO 11357     | (1)                                                                    |
| 熔化溫度           |                                             | 341              | °C                               | DIN EN ISO 11357     | (2)                                                                    |
| 熱變形溫度          | HDT, Method A                               | 162              | °C                               | ISO-R 75 Method A    |                                                                        |
| 使用溫度           | short term                                  | 300              | °C                               |                      | (2)                                                                    |
| 使用溫度           | long term                                   | 260              | °C                               | -                    |                                                                        |
| 熱膨脹 (CLTE)     | 23-60°C, long.                              | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |                                                                        |
| 熱膨脹 (CLTE)     | 23-100°C, long.                             | 5                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |                                                                        |
| 熱膨脹 (CLTE)     | 100-150°C, long.                            | 7                | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 |                                                                        |
| 比熱             |                                             | 1.1              | J/(g*K)                          | ISO 22007-4:2008     |                                                                        |
| 導熱係數           |                                             | 0.27             | W/(K*m)                          | ISO 22007-4:2008     |                                                                        |
| 電性特性           | 參數                                          | 值                | 單位                               | 標準                   | 註解                                                                     |
| 表面電阻           | Silver electrode, 23°C, 12% r.h.            | 10 <sup>15</sup> | Ω                                | -                    | (1)                                                                    |
| 體積電阻           | Silver electrode, 23°C, 12% r.h.            | 10 <sup>15</sup> | Ω*cm                             | DIN IEC 60093        | (2)                                                                    |
| 介電強度           | 23°C, 50% r.h.                              | 73               | kV/mm                            | ISO 60243-1          | (2)                                                                    |
| 耐電痕(CTI)       | Platin electrode, 23°C, 50% r.h., solvent A | 125              | V                                | DIN EN 60112         |                                                                        |
| 其他特性           | 參數                                          | 值                | 單位                               | 標準                   | 註解                                                                     |
| 吸水率            | 24h / 96h (23°C)                            | 0.02 / 0.03      | %                                | DIN EN ISO 62        | (1)                                                                    |
| 耐熱水/鹼          |                                             | +                | -                                | -                    | (2)                                                                    |
| 耐候性            |                                             | -                | -                                | -                    | (3)                                                                    |
| 耐燃性(UL94)      | listed (value at 1.5mm)                     | V0               |                                  | DIN IEC 60695-11-10; |                                                                        |

→ TECAPEEK產品使用Victrex®PEEK 450或Solvay KetaSpire®製成

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