

## TECAPEEK MT 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

- 高蠕變抗性
- 優異的耐應力破裂
- 良好的加工特性
- 高能輻射抗性
- 優異的耐化學性
- 耐水解和熱蒸氣
- 良好的滑動及耐磨特性
- 非常易於消毒

### 目標產業

- 食品科技
- 醫療科技
- 醫藥產業
- 機械工程

| 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. n.b. = not broken |
| 抗彎強度           | 2mm/min, 10 N                 | 175              | MPa                              | DIN EN ISO 178       | (6) Specimen in 4mm thickness  |
| 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           |  |
| 壓縮模數           | 5mm/min, 10 N                 | 3400             | MPa                              | EN ISO 604           |  |
| 衝擊強度(Charpy)   | max. 7,5J                     | n.b.             | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eU   |  |
| 缺口衝擊強度(Charpy) | max. 7,5J                     | 4                | kJ/m <sup>2</sup>                | DIN EN ISO 179-1eA   |  |
| 球壓式硬度          |                               | 253              | MPa                              | ISO 2039-1           |  |
| 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) Found in public sources.   |
| 熔化溫度           |                               | 342              | °C                               | DIN EN ISO 11357     | (2) Found in public sources.   |
| 使用溫度           | short term                    | 300              | °C                               |                      | Individual testing regarding application conditions is mandatory.        |
| 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           |                               | 10 <sup>14</sup> | Ω                                | DIN IEC 60093        |  |
| 體積電阻           |                               | 10 <sup>14</sup> | Ω*cm                             | DIN IEC 60093        |  |
| 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) Ø ca. 50mm, h=13mm<br>(2) + good resistance<br>(3) - poor resistance |
| 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 產品是使用 Victrex® PEEK 原物料製作而成。

Our information and statements reflect the current state of our knowledge and shall inform about our products and their applications. They do not assure or guarantee chemical resistance, quality of products and their merchantability in a legally binding way. Our products are not defined for use in medical or dental implants. Existing commercial patents have to be observed. The corresponding values and information are no minimum or maximum values, but guideline values that can be used primarily for comparison purposes for material selection. These values are within the normal tolerance range of product properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes. Unless otherwise noted, these values were determined by tests at reference dimensions (typically rods with diameter 40-60 mm according to DIN EN 15860) on extruded and machined specimen. As the properties depend on the dimensions of the semi-finished products and the orientation in the component (esp. in reinforced grades), the material may not be used without a separate testing under individual circumstances. The customer is solely responsible for the quality and suitability of products for the application and has to test usage and processing prior to use. Data sheet values are subject to periodic review, the most recent update can be found at [www.ensingerplastics.com](http://www.ensingerplastics.com). Technical changes reserved.