

## TECAFINE PE1000 natural - Stock Shapes (rods, plates, tubes)

### Chemical Designation

PE-UHMW (Polyethylene - ultra highmolecular weight)

### Colour

white opaque

### Density

0.93 g/cm<sup>3</sup>

### Main features

- ultra high molecular weight
- very good abrasion resistance
- excellent impact strength
- very good slide and wear properties

### Target Industries

- construction industry
- food engineering
- mining industry

| Mechanical properties                | parameter        | value              | unit                             | norm                 | comment                                                                                                                                                                     |
|--------------------------------------|------------------|--------------------|----------------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Modulus of elasticity (tensile test) |                  | 700                | MPa                              | DIN EN ISO 527-1     | (1) n.b. = not broken                                                                                                                                                       |
| Tensile strength at yield            |                  | 19                 | MPa                              | DIN EN ISO 527-1     |                                                                                                                                                                             |
| Elongation at yield (tensile test)   |                  | 11                 | %                                | DIN EN ISO 527-1     |                                                                                                                                                                             |
| Impact strength (Charpy)             |                  | n.b.               | kJ/m <sup>2</sup>                | DIN EN ISO 179-1     | 1)                                                                                                                                                                          |
| Ball indentation hardness            |                  | 30                 | MPa                              | ISO 2039-1           |                                                                                                                                                                             |
| Shore hardness                       | Shore D          | 60                 |                                  | DIN EN ISO 868       |                                                                                                                                                                             |
| Thermal properties                   | parameter        | value              | unit                             | norm                 | comment                                                                                                                                                                     |
| Service temperature                  |                  | -260 - +80         | °C                               | -                    | 1)                                                                                                                                                                          |
| Thermal expansion (CLTE)             |                  | 18                 | 10 <sup>-5</sup> K <sup>-1</sup> | DIN EN ISO 11359-1;2 | (1) Found in public sources. Individual testing regarding application conditions is mandatory.                                                                              |
| Electrical properties                | parameter        | value              | unit                             | norm                 | comment                                                                                                                                                                     |
| surface resistivity                  |                  | > 10 <sup>14</sup> | Ω                                | -                    |                                                                                                                                                                             |
| Dielectric strength                  |                  | 44                 | kV/mm                            | ISO 60243-1          |                                                                                                                                                                             |
| Other properties                     | parameter        | value              | unit                             | norm                 | comment                                                                                                                                                                     |
| Water absorption                     |                  | < 0,01             | %                                | DIN EN ISO 62        | (1) Corresponding means no listing. The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory. |
| Flammability                         | corresponding to | B2                 |                                  | DIN 4102             | 1)                                                                                                                                                                          |

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. 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.

Manufactured by: Ensinger Group,  
a German based plastic manufacturer

Represented by:  
Ensinger Asia Holding Pte Ltd.  
(Singapore Branch)  
for Asia Pacific other than Japan+China

63 Hillview Avenue #02-03  
Lam Soon Industrial Building  
Singapore 669569  
Tel +65 65524177  
Fax +65 65525177  
[www.ensingerplastics.com/en-sg/](http://www.ensingerplastics.com/en-sg/)

Date: 2017/11/23

Version: AA