



**TSE-OK, L.L.C.**

July 1, 2013

## **Product information**

### **OK 1000 - Natural**

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is a UHMW polymer which has a molecular weight range of 3 – 5 million. Our OK 1000 meets the FDA 21 CFR 177.1520 for Food industry applications.

#### **Properties:**

good sliding properties  
low coefficient of friction  
good notched impact strength

FDA - Compliant (21 CFR 177.1520)  
3-A Sanitary Standard Approval  
USP – Class VI (US Pharmacopeia)

#### **Color:**

natural

#### **Application fields:**

Conveyor industry  
Machine construction  
Food industry

The above data are based on the present knowledge and are given without guarantee.  
Existing laws and conditions are to be respected by the user of our products.

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## Physical Properties Data Sheet

### OK 1000 - natural (UHMW – PE) Characteristics and standard values

| Physical Properties   | Method                            | SI Unit                                 | SI Value   |
|---|-----------------------------------|---|--|
| Density   | ASTM D792<br>ISO 1183-1           | g/cc<br>g/cm <sup>3</sup>               | > 0.93<br>> 0.93   |
| Abrasion (Sand-Slurry-Test rel. to GUR 4120 = 100%)   | ISO 15527                         | %<br>(Average)                          | 100 (± 5%)   |
| Notched impact strength   | ISO 11542-2                       | mJ/mm <sup>2</sup><br>kJ/m <sup>2</sup> | > 190  |
| Tensile strength, yield   | ASTM D638<br>ISO 527-2            | psi<br>MPa                              | > 2500<br>> 17   |
| Break elongation  | ASTM D638<br>ISO 527-2            | %<br>%                                  | > 350<br>> 50  |
| Creep properties under varying compressive stress : Creep <10%                              | max.                              | psi<br>MPa                              | 1450<br>10   |
| Coefficient of friction, ASTM 1894 metal= Rz 2,5 μ, Pm= 2 N/mm <sup>2</sup> , V= 150 mm/min | Static<br>Dynamic                 | μ<br>μ                                  | 0.20<br>0.18   |
| Shore-hardness, 3-s-value 6mm plate   | ASTM D2240<br>ISO 868 / DIN 53505 | D<br>D                                  | 63<br>63   |
| Water absorption  | ---                               | %                                       | < 0.1 (Nil)  |
| Flammability  | UL 94                             | ---                                     | HB   |
| <b>Thermal Properties</b>   |                                   |   |  |
| Melt temperature  | ASTM 3417 (DSC)<br>ISO 3146 (DSC) | °F<br>°C                                | 275 – 278<br>135 – 137                                   |
| Permanent operation temp., max.   | ---                               | °F<br>°C                                | 176<br>80  |
| Coefficient of linear expansion   | ASTM D696<br>DIN 53752            | 73 – 176 °F<br>23 – 80°C                | ≈ 1.1x10 <sup>-4</sup> /°F<br>≈ 2.0x10 <sup>-4</sup> /°C |
| <b>Electrical Properties</b>  |                                   |   |  |
| Surface resistivity   | ASTM D257<br>IEC 93               | Ohm<br>Ω                                | > 10 <sup>14</sup><br>> 10 <sup>14</sup>                 |
| Volume resistivity  | ASTM D257<br>IEC 93               | Ohm<br>Ω                                | > 10 <sup>14</sup><br>> 10 <sup>14</sup>                 |

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