



# TSE-OKULEN Americas, L.L.C.

4370 112th Terrace North, Clearwater, Florida 33762  
 www.TSE-OK.com E-mail: info@TSE-OK.com

A Joint Venture of TSE Industries, Inc., Clearwater, Florida  
 and Ottensteiner Kunststoff, GmbH & Co. KG, Germany

**plastics  
for  
industry**

## Characteristics and standard values for OK 2000 (PE-UHMW) special types

29.10.2003

Data sheet PB012\_C Page 7

| Material                      | DryRun           | L                | DG                | SL               | OF              | W               | SG                    | AB               | H                |
|-------------------------------|------------------|------------------|-------------------|------------------|-----------------|-----------------|-----------------------|------------------|------------------|
| color                         | black<br>no. 912 | brown<br>no. 845 | purple<br>no. 562 | brown<br>no. 846 | grey<br>no. 702 | grey<br>no. 703 | light grey<br>no. 705 | white<br>no. 995 | white<br>no. 925 |
| FDA-approved: 1 = yes, 2 = no | 2                | 1                | 1                 | 1                | 1               | 1               | 1                     | 1                | 1                |

### Mechanical Properties

|  |                         |      |      |      |      |      |      |      |      |      |
|--|-------------------------|------|------|------|------|------|------|------|------|------|
| Density ISO 1183-A / ASTM D-792  | <b>g/cm<sup>3</sup></b> | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,93 | 0,94 | 0,94 |
| Abrasion - Internal method acc. to DIN 58836<br>(Slurry-Test rel. to GUR 4120 = 100 %)         | <b>%</b>                | 75   | 65   | 70   | 75   | 65   | 70   | 70   | 80   | 80   |
| Tensile strength ISO/R 527 / ASTM D-638  | <b>N/mm<sup>2</sup></b> | ≥ 17 | ≥ 17 | ≥ 17 | ≥ 17 | ≥ 17 | ≥ 17 | ≥ 17 | ≥ 17 | ≥ 17 |
| Break elongation ISO/R 527 / ASTM D-638  | <b>%</b>                | > 50 | > 50 | > 50 | > 50 | > 50 | > 50 | > 50 | ≥ 50 | > 50 |
| Creep properties under varying compressive stress  | <b>N/mm<sup>2</sup></b> | 10   | 10   | 10   | 10   | 10   | 10   | 10   | 10   | ---  |
| Coefficient of friction, ASTM 1894<br>metal=Rz 2,5μ, Pm = 2 N/mm <sup>2</sup> , v = 150mm/min, | static μ                | 0,15 | 0,17 | 0,15 | 0,15 | 0,17 | 0,16 | 0,14 | 0,18 | 0,18 |
|  | dynamic μ               | 0,08 | 0,12 | 0,09 | 0,09 | 0,12 | 0,10 | 0,09 | 0,13 | 0,13 |
| Shore D Hardness, ISO 868 / ASTM D-2240  |                         | 62   | 62   | 62   | 62   | 62   | 62   | 62   | 62   | 62   |

### Thermal Properties

|  |  |  |  |  |  |  |  |  |  |           |
|--|--|--|--|--|--|--|--|--|--|-----------|
| Melt point DSC ISO 3146 / ASTM D-3417                  |  | 135 - 137 °C / 275 – 278 °F  |  |  |  |  |  |  |  | ---       |
| Permanente operation temperature, max.                 |  | 80 °C / 176°F  |  |  |  |  |  |  |  | 150 / 300 |
| Coefficient of linear expansion DIN 53752 / ASTM D-696 |  | 23 – 80°C ≈ 2*10 <sup>-4</sup> /K / 73-176°F ≈ 1,1 * 10 <sup>-4</sup> /F |  |  |  |  |  |  |  |           |

### Electrical Properties

|  |             |                  |                   |                   |                   |                   |                   |                   |                   |                   |                   |
|--|-------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Volume resistivity IEC 93 / ASTM D-257 | <b>Ω*cm</b> | <10 <sup>9</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | >10 <sup>14</sup> |
|--|-------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

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.



# TSE-OKULEN Americas, L.L.C.

4370 112th Terrace North, Clearwater, Florida 33762  
 www.TSE-OK.com E-mail: info@TSE-OK.com

A Joint Venture of TSE Industries, Inc., Clearwater, Florida  
 and Ottensteiner Kunststoff, GmbH & Co. KG, Germany

**plastics  
for  
industry**

## Characteristics and standard values for OK 2000 (PE-UHMW) special types

05.01.2004

Data sheet PB012\_C Page 8

| Material                      | CL             | F-Ex                  | GB               | T               | Q                 | GB               | SGB                   | 588             | 589             |
|-------------------------------|----------------|-----------------------|------------------|-----------------|-------------------|------------------|-----------------------|-----------------|-----------------|
| color                         | red<br>no. 385 | silv.- bl.<br>no. 999 | green<br>no. 675 | grey<br>no. 777 | yellow<br>no. 181 | black<br>no. 983 | light grey<br>no. 706 | blue<br>no. 588 | blue<br>no. 589 |
| FDA-approved: 1 = yes, 2 = no | 2              | 2                     | 2                | 2               | 2                 | 2                | 2                     | 2               | 2               |

### Mechanical Properties

|  |                         |              |              |              |              |              |              |              |              |              |
|--|-------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Density ISO 1183-A / ASTM D-792  | <b>g/cm<sup>3</sup></b> | 0,96         | 1,01         | 0,95         | 0,93         | 0,94         | 0,95         | 0,95         | 0,94         | 0,93         |
| Abrasion - Internal method acc. to DIN 58836<br>(Slurry-Test rel. to GUR 4120 = 100 %)         | <b>%</b>                | 64           | 125          | 65           | 76           | 62           | 65           | 66           | 74           | 80           |
| Tensile strength ISO/R 527 / ASTM D-638  | <b>N/mm<sup>2</sup></b> | ≥ 17         | ≥ 17         | ≥ 18         | ≥ 17         | ≥ 17         | ≥ 18         | ≥ 19         | ≥ 17         | ≥ 17         |
| Break elongation ISO/R 527 / ASTM D-638  | <b>%</b>                | > 50         | > 50         | > 50         | > 50         | > 50         | > 50         | > 50         | > 50         | ≥ 50         |
| Creep properties under varying compressive stress  | <b>N/mm<sup>2</sup></b> | 13           | ---          | 11           | 9            | 11           | 11           | 11           | 10           | 8            |
| Coefficient of friction, ASTM 1894<br>metal=Rz 2,5μ, Pm = 2 N/mm <sup>2</sup> , v = 150mm/min, | static μ<br>dynamic μ   | 0,14<br>0,10 | 0,16<br>0,11 | 0,14<br>0,09 | 0,16<br>0,10 | 0,13<br>0,08 | 0,14<br>0,09 | 0,13<br>0,08 | 0,16<br>0,12 | 0,15<br>0,09 |
| Shore D Hardness, ISO 868 / ASTM D-2240  |                         | 67           | 62           | 65           | 62           | 66           | 65           | 65           | 64           | 61           |

### Thermal Properties

|  |                                      |       |       |       |       |       |       |       |       |       |
|--|--------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Melt point DSC ASTM D-3417                 | 275 – 278 °F                         |       |       |       |       |       |       |       |       |       |
| Permanente operation temperature, max.     | 176°F                                | 176°F | 176°F | 340°F | 176°F | 176°F | 176°F | 176°F | 176°F | 350°F |
| Coefficient of linear expansion ASTM D-696 | 73-176°F ≈ 1,1 * 10 <sup>-4</sup> /F |       |       |       |       |       |       |       |       |       |

### Electrical Properties

|  |             |                   |                  |                   |                   |                   |                   |                   |                   |                   |
|--|-------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Volume resistivity IEC 93 / ASTM D-257 | <b>Ω*cm</b> | <10 <sup>14</sup> | <10 <sup>9</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> | <10 <sup>14</sup> |
|--|-------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|

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.