



## Material data sheet PE 500 black

PE 500 – is a high molecular low pressure polyethylene with a molecular weight of approx. 500.000 g/mol.

Colour: black

### Characteristics and standard values

| Properties<br>Physical properties             | Method  | PE 500 - black            |                                |
|---|---|---------------------------|--------------------------------|
|   |   | SI                        | US                             |
| Molecular-weight                              | k.a   | ~ 0.5 Mio. g/mol.         | ~ 0.5 Mio. g/mol.              |
| Density                                       | DINENISO 1183-1 (04/2013)<br>ASTM D792        | > 0.950 g/cm <sup>3</sup> | > 59.306 lb/ft <sup>3</sup>    |
| Notched impact strength                       | DINENISO 11542-2 (01/2010)                    | > 15 kJ/m <sup>2</sup>    | > 7.1325 ft-lb/in <sup>2</sup> |
| Abrasion-Index (Sand-Slurry)                  | DINENISO 15527 (05/2013)                      | 360 – 440                 | 360 – 440                      |
| Tensile strength at yield<br>(1B - 50mm/Min.) | DINENISO 527-2 (06/2012)<br>ASTM D 638 (2010) | > 26 N/mm <sup>2</sup>    | > 3770 psi                     |
| Elongation (Break / 1B – 50 mm/Min.)          | DINENISO 527-2 (06/2012)<br>ASTM D 638 (2010) | > 250 %                   | > 250 %                        |
| Tensile-E-modulus (1B – 1 mm/Min.)            | DINENISO 527-2 (06/2012)<br>ASTM D 638 (2010) | > 1100 N/mm <sup>2</sup>  | > 159500 psi                   |
| Static Friction                               | ASTM D 1894 (2011)                            | ~ 0.15 - 0.22             | ~ 0.15 - 0.22                  |
| Dynamic Friction                              | ASTM D 1894 (2011)                            | ~ 0.10 - 0.15             | ~ 0.10 - 0.15                  |
| Shore-D-Hardness, 3 sec. Value<br>6 mm plate  | DINENISO 868 (10/2003)                        | 65 – 67 D                 | 65 – 67 D                      |
| Ball indentation hardness                     | DINENISO 2039                                 | ~ 50 N/mm <sup>2</sup>    | ~ 7250 psi                     |
| Water absorption                              | DINENISO 62 (05/2008)                         | < 0.01 %                  | < 0.01 %                       |





## Werkstoffdatenblatt PE 500 natural

| Thermal properties                              | Method                     | PE 500 - black                  |  |
|---|----------------------------|---------------------------------|--|
|   |                            | SI                              | US   |
| Melting Point (DSC)                             | DINENISO 11357-1 (03/2010) | 133 - 136 °C                    | 271.4 – 276.8 °F                             |
| Thermal Conductivity                            | Wire method                | ~ 0.41 W/m*K                    | ~ 2.84253<br>(BTU-in)/hr-ft <sup>2</sup> -°F |
| Max. operation temperature                      | Literature                 | 80 °C                           | 176 °F                                       |
| Coefficient of thermal expansion<br>(23 – 80°C) | ISO 11359                  | ~ 0.00015 - 0.00020<br>mm/mm °C | ~ 0.000083 - 0.000111<br>in/in °F            |

| Electrical properties          |                           |                  |                  |
|--------------------------------|---------------------------|------------------|------------------|
| Volume resistivity             | DINEN 62631-3-1 (01/2017) | > 1.0E+14 Ohm*cm | > 1.0E+14 Ohm*cm |
| Surface resistivity            | DINEN 62631-3-2 (10/2016) | > 1.0E+13 Ohm    | > 1.0E+13 Ohm    |
| ATEX-Directive – TÜV approved! | ATEX-Directive            | ---              | ---              |
| ESD-D                          | ---                       | --- Ohm          | --- Ohm          |

| Burning properties                    |          |          |          |
|---------------------------------------|----------|----------|----------|
| Fire resistance (Self-classification) | DIN 4102 | B2 Class | B2 Class |
| Fire resistance (Self-classification) | UL94     | HB Class | HB Class |

| Physiological properties |  |        |        |
|--------------------------|--|--------|--------|
| Food compliant           |  | EU/FDA | EU/FDA |

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. The decision about the suitability of a material for a certain application must be made by the user. We reserve the right to alter the indicated values after for a 15 mm thick sheet.

2020/09/24

