



## Complete Technical Documentation

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# PEEK 255/125x3000 mm beige

Article No. P1500509

## 1. Technical Data Sheet

| Property                                   | Value            | Unit                | Test standard  |
|--------------------------------------------|------------------|---------------------|----------------|
| Density                                    | 1.31             | g/cm <sup>3</sup>   | ISO 1183       |
| Water absorption to saturation             | 0.2              | %                   | ISO 62         |
| Water Absorption to Saturation             | 0.45             | %                   | ISO 62         |
| Tensile Strength                           | 112              | MPa                 | ISO527-2       |
| Modulus of elasticity (tensile)            | 4400             | MPa                 | ISO 527-2      |
| Breakdown Voltage                          | 67               | MPa                 | ISO 527        |
| Break Elongation                           | 20               | %                   | ISO 527-2      |
| Flexural Strength                          | 110              | MPa                 | ISO 527-2      |
| Notched impact strength (Charpy)           | 3.5              | kJ/m <sup>2</sup>   | ISO 179/1eA    |
| Impact Resistance (Charpy)                 | 92               | kJ/m <sup>2</sup>   | ISO179/1eU     |
| Hardness Shore D                           | 90               | ° Shore D           | DIN EN ISO 868 |
| Ball pressure hardness                     | 230              | MPa                 | ISO 2039-1     |
| Melting point                              | 340              | °C                  | ISO 3146       |
| Maximal operating temperature (short-term) | 291              | °C                  | UL746B         |
| Maximum Operating Temperature              | 245              | °C                  |                |
| Minimum temperature                        | -35              | °C                  |                |
| Heat deflection temperature (HDT/A)        | 160              | °C                  | ISO 75-2       |
| Heat deflection temperature (HDT/B)        | 240              | °C                  | ISO 75         |
| Vicat softening temperature (VST/B/50)     | 50               | °C                  | ISO 306        |
| Thermal Conductivity                       | 0.25             | W/(m·K)             | DIN 52612      |
| Thermal Expansion Coefficient              | 0.5              | 10 <sup>-4</sup> /K | DIN 11359      |
| Dielectric Strength                        | 24               | kV/mm               | IEC 60243-1    |
| Volume Resistivity                         | 10 <sup>14</sup> | Ω·cm                | IEC 60093      |
| Dielectric Constant (1 MHz)                | 3.6              | -                   | IEC 60250      |
| Dielectric Constant (100 Hz)               | 3.2              | -                   | IEC 60250      |

| Property                            | Value            | Unit | Test standard |
|-------------------------------------|------------------|------|---------------|
| Dielectric loss factor (1 MHz)      | 0.0              | -    | IEC 60250     |
| Dielectric loss factor (100 Hz)     | 0.0              | -    | IEC 60250     |
| Surface Resistivity                 | 10 <sup>13</sup> | Ω    | IEC 60093     |
| Comparative Tracking Index (CTI)    | 150              | V    | IEC 60112     |
| Flammability Classification (UL 94) | 0                |      | UL 94         |

## 2. Chemical Resistance

● Resistant
 ● Partially resistant
 ● Not resistant

| Chemical                              | Concentration | Resist. |
|---------------------------------------|---------------|---------|
| 1,4-Dioxane                           | 100           | ●       |
| 2-Hydroxypropionic acid (lactic acid) | 90            | ●       |
| Acetic acid                           | 100           | ●       |
| Acetone                               | 100           | ●       |
| Ammonia                               | —             | ●       |
| Ammonium chloride                     | —             | ●       |
| Amyl alcohol                          | —             | ●       |
| Apple juice                           | —             | ●       |
| Benzene                               | —             | ●       |
| Boric acid                            | 100           | ●       |
| Brake fluid                           | —             | ●       |
| Butyl acetate                         | —             | ●       |
| Calcium chloride                      | —             | ●       |
| Carbon tetrachloride                  | —             | ●       |
| Chlorine (gas)                        | 100           | ●       |
| Chlorobenzene                         | 100           | ●       |
| Chloroform                            | —             | ●       |
| Citric acid                           | 10            | ●       |
| Cyclohexanone                         | 100           | ●       |
| Cyclohexene                           | 100           | ●       |
| Diesel                                | —             | ●       |
| Diethylene oxide                      | —             | ●       |
| Ethyl acetate                         | 100           | ●       |

| Chemical                         | Concentration | Resist. |
|----------------------------------|---------------|---------|
| Ethyl alcohol (ethanol)          | 96            | ●       |
| Ethylene chloride                | 100           | ●       |
| Food oil                         | —             | ●       |
| Formaldehyde (aqueous)           | 40            | ●       |
| Formic acid                      | 10            | ●       |
| Frost protection agent           | —             | ●       |
| Fuel oil                         | —             | ●       |
| Fuel, aromatic free              | —             | ●       |
| Glycerine                        | 100           | ●       |
| Glycol                           | 100           | ●       |
| Heptane                          | 100           | ●       |
| Hydrochloric acid                | 10            | ●       |
| Hydrochloric acid (concentrated) | —             | ●       |
| Hydrofluoric acid                | 40            | ●       |
| Hydrogen peroxide                | 10            | ●       |
| Hydrogen sulfide (aqueous)       | —             | ●       |
| Isopropyl alcohol                | 100           | ●       |
| Linseed oil                      | —             | ●       |
| Mercurochrome                    | —             | ●       |
| Methyl alcohol (methanol)        | 100           | ●       |
| Methyl ethyl ketone (MEK)        | 100           | ●       |
| Methylene chloride               | 100           | ●       |
| Milk                             | —             | ●       |
| Mineral oils (aromatic free)     | —             | ●       |
| Nitric acid                      | 10            | ●       |
| Nitric acid                      | 50            | ●       |
| Nitrobenzene                     | —             | ●       |
| Oxalic acid                      | —             | ●       |
| Ozone (gas)                      | —             | ●       |
| Paraffin oil                     | 100           | ●       |
| Perchloroethylene                | —             | ●       |
| Petroleum                        | 100           | ●       |

| Chemical                                 | Concentration | Resist. |
|------------------------------------------|---------------|---------|
| Petroleum ether                          | 100           | ●       |
| Phenol (aqueous)                         | 9             | ●       |
| Phosphoric acid                          | 50            | ●       |
| Potassium hydroxide solution             | 50            | ●       |
| Premium fuel                             | —             | ●       |
| Propyl alcohol                           | —             | ●       |
| Pyridine                                 | —             | ●       |
| Silicone oil                             | —             | ●       |
| Sodium carbonate (aqueous)               | —             | ●       |
| Sodium chloride (aqueous)                | —             | ●       |
| Sodium hydrogen sulfite                  | —             | ●       |
| Sodium hydroxide solution (caustic soda) | 60            | ●       |
| Sodium hydroxide solution (caustic soda) | 15            | ●       |
| Sodium nitrate (aqueous)                 | —             | ●       |
| Sodium thiosulfate                       | —             | ●       |
| Sulphuric acid                           | 96            | ●       |
| Tetrahydrofuran (THF)                    | 100           | ●       |
| Toluene                                  | 100           | ●       |
| Transformer oil                          | —             | ●       |
| Trichloroethylene                        | 100           | ●       |
| Vinegar (standard)                       | 5-10          | ●       |
| Water                                    | —             | ●       |
| Xylene                                   | —             | ●       |