

# PTFE

(Polytetrafluorethylene)

Colour: White

Density: 2.15g/cm<sup>3</sup>

## Material Data Sheet

| Mechanical Properties  | Parameter      | Value     | Unit  | DIN/EN/ISO/ASTM |
|--|----------------|-----------|-------|-----------------|
| Modulus of elasticity (tensile test)   | 1mm/min        | 2800      | MPa   | 527-2           |
| Tensile strength   | -              | 22        | MPa   | D4894           |
| Tensile strength at break  | -              | -         | MPa   | 527             |
| Elongation at break  | -              | 220       | %     | D4894           |
| Shore hardness   | Shore D        | 55        | -     | D2240           |
| Compression strength   | 1% deformation | 5         | MPa   | D695            |
| Ball indentation hardness  | -              | 30        | MPa   | 2039/1          |
| Creep rupture strength after 1000hrs with static load  | -              | 5         | MPa   | -               |
| Coefficient of friction against hardened and ground steel<br>P=0.05 N/mm <sup>2</sup> , v=0.6m/s | -              | 0.08-0.10 | -     | -               |
| Wear conditions as above   | -              | 21        | µm/km | -               |

| Thermal Properties           | Parameter      | Value | Unit                             | DIN/EN/ISO/ASTM |
|------------------------------|----------------|-------|----------------------------------|-----------------|
| Glass transition temperature | -              | -20   | °C                               | 53765           |
| Crystalline melting point    | -              | 327   | °C                               | 53736           |
| Service temperature          | Short term     | 260   | °C                               | -               |
| Service temperature          | Long term      | 260   | °C                               | -               |
| Thermal expansion (CLTE)     | 23-100°C, Long | 13    | 10 <sup>-5</sup> K <sup>-1</sup> | D696            |
| Specific heat                | -              | 1     | J/(g*K)                          | -               |
| Thermal conductivity         | -              | 0.20  | W/(K*m)                          | C177            |

| Electrical Properties      | Parameter                    | Value            | Unit  | DIN/IEC/ASTM |
|----------------------------|------------------------------|------------------|-------|--------------|
| Surface resistance         | -                            | 10 <sup>16</sup> | Ω     | D257         |
| Specific volume resistance | -                            | 10 <sup>17</sup> | Ω*cm  | D257         |
| Dielectric strength        | In air, thickness<br>0.125mm | 80               | kV/mm | D149         |
| Dielectric constant        | 50-109Hz                     | 2.1              | -     | D150         |

| Other Properties    | Parameter           | Value    | Unit | DIN/EN/ISO/IEC |
|---------------------|---------------------|----------|------|----------------|
| Water absorption    | 24h/96h (23°C)      | 0.05/0.1 | %    | 62             |
| Flammability (UL94) | Corresponding<br>to | -        | -    | 60695-11-10    |



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Unless otherwise stated, these values represent averages taken from injection moulding samples.

We reserve the right of technical alterations.