

PTFE virgin 51 Shore D FDA white

Polytetrafluorethylene

Material Code: 08006

PTFE is a polymer of tetrafluorethylene. The strength of its carbon-fluorine bonds makes it a material with a unique combination of special properties such as: superior thermal stability, excellent chemical inertness, superior dielectric properties, useful mechanical properties, low coefficient of friction, excellent release properties, excellent weather ability, flame resistance, vast temperature range and almost infinite shelf life

THERMAL PROPERTIES: Thermal insulating material stable up to 260°C. The least flammable of all plastics.

CHEMICAL PROPERTIES: PTFE withstands all chemical agents except for alkaline metals, chlorotrifluoride and elemental fluorine at high temperature and pressure.

ELECTRICAL PROPERTIES: PTFE is an excellent electrical insulator retaining its dielectric properties in a wide range of frequencies and temperatures with no substantial alterations up to 300°C.

TRIBOLOGICAL PROPERTIES: The lowest coefficient of friction of all plastics – the preferred choice for sliding applications.

PHYSICAL – MECHANICAL

| Typical Properties | Unit | Method | Data-Moulded |
|---|-------------------|--|--------------|
| Density | g/cm ³ | ASTM D792 | 2,14 – 2,18 |
| Hardness – Shore D | / | ASTM D2240 | ≥ 51 |
| Tensile Strength – CD* | N/mm ² | ISO 527 v = 50mm/min microtensile die | ≥ 24 |
| Elongation at Break – CD* | % | ISO 527 v = 50mm/min microtensile die | ≥ 250 |
| Compressive Strength at 1% Deformation – CD* | N/mm ² | ASTM D695 | 4 - 5 |
| Deformation under Load at Room Temperature After 24 Hours at 13,7 N/mm ² – CD* | % | ASTM D621 | ≤ 17 |
| Permanent Deformation Under Load After 24 Hours of Rest at Room Temperature – CD* | % | ASTM D621 | ≤ 9 |
| Deformation under Load at 260°C after 24 Hours at 41N/mm ² | % | ASTM D621 | ≤ 32 |
| Permanent Deformation Under Load After 24 Hours of Rest at Room Temperature – CD* | % | ASTM D621 | ≤ 19 |
| Impact Strength IZOD | J/m | ASTM D256 | 153 |

TRIBOLOGICAL

| Typical Properties | Unit | Method | Data-Moulded |
|---------------------------------|--------------------------|--------------------------|--------------|
| Dynamic Coefficient of Friction | / | ASTM D1894 ASTM D3702 | 0,06 |
| Wear Factor K | / | ASTM D3702 | 2,900 |
| PV Limit | | | |
| at 3 n/min | N/mm ² •m/min | / | 2,4 |
| at 30 n/min | | | 4,2 |
| at 300 m/min | | | 5,7 |

THERMAL

| Typical Properties | Unit | Method | Data-Moulded |
|---|--------------------------------|-------------------------|---------------|
| Service Temperature (Min-Max) | °C | / | - 200 / + 260 |
| Thermal Expansion Coefficient (Linear) 25 - 100°C | 10 ⁻⁵ (mm/mm)/°C | Similar to ASTM D696 | 12 - 13 |

ELECTRICAL

| Typical Properties | Unit | Method | Data-Moulded |
|--|--------|-----------|------------------|
| Dielectric Strength (Specimen 0,5 mm. Thick) | KV/mm | ASTM D149 | ≥ 40 |
| Dielectric Constant at 60 Hz and 106 Hz | / | ASTM D150 | 2,05 - 2,40 |
| Volume Resistivity | Ω • cm | ASTM D257 | 10 ¹⁸ |
| Surface Resistivity | Ω | ASTM D257 | 10 ¹⁷ |
| *CD=Cross Direction | | | |

PTFE 0800G FOOD CONTACT APPROVALS

- REG EU 10/2011
- FDA 177.1550
- CHINESE FOOD CONTACT SPEC. (GB NORMS)