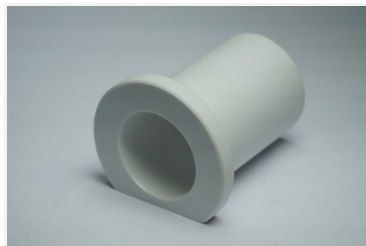


Datasheet AE1400



AE1400 is a partly crystalline thermoplastic polyester based on Polyethylene-Terephthalate.

Application

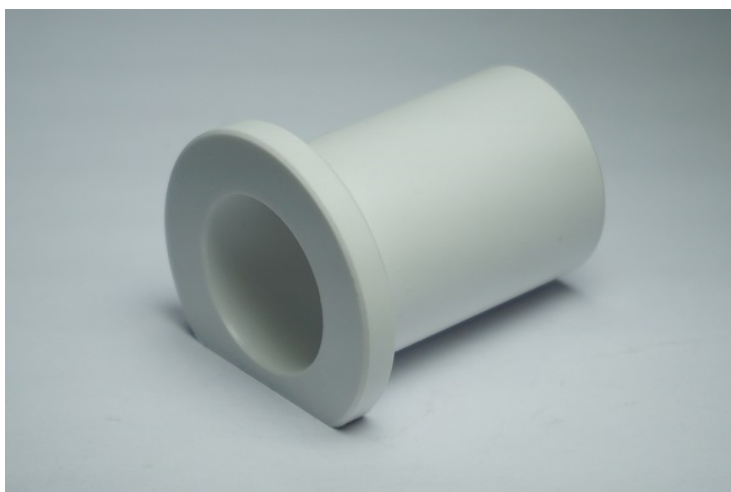
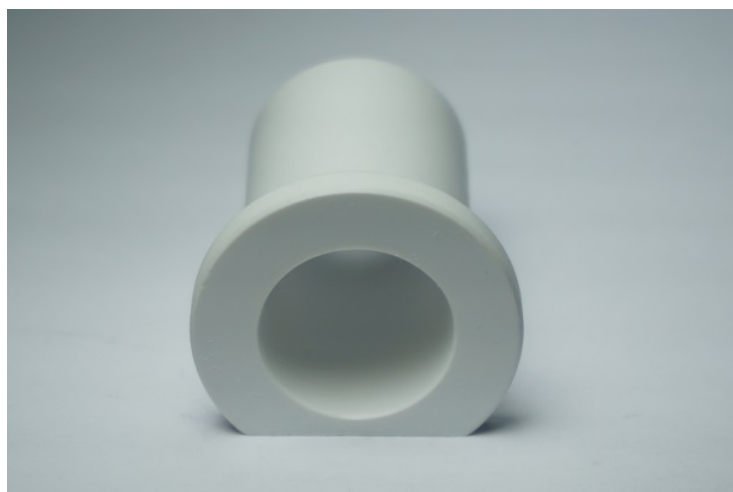
Parts exposed to high pressure such as rollers, toothed gears, valves, distribution valves, precision plain bearings, plug connectors.

Material

Thermoplastic Polyester.

Availability

| | Value | Unit |
|-----------------------|-----------|------|
| Rod diameters | 30-500 | mm |
| Tube inside diameter | 30-200 | mm |
| Tube outside diameter | 20-250 | mm |
| Length standard | 1000-3000 | mm |
| Sheet thickness | aug-60 | mm |
| Sheet size | 1000x3000 | mm |



AE1400 - Specifications

Physical properties

| | Test standard | Value | Unit |
|-------------------------------------|---------------|------------|-------------------|
| Density | ISO 1183 | 1,36 | g/cm ³ |
| Thermal conductivity | | on request | |
| Specific heat capacity | | on request | |
| Moisture absorption at 23°C, 50% RH | ISO 62 | 0,23 | % |
| Water absorption at 23 °C | ISO 62 | 0,5 | % |
| Flammability | UL 94 | HB | [-] |

Mechanical properties

| | Test standard | Value | Unit |
|--------------------------------------|---------------|-------|-------------------|
| Tensile strength | ISO 52 | 88 | MPa |
| Hardness | ISO 868 | 81 | SHORE-D |
| Yield stress | ISO 527 | 88 | MPa |
| Elongation at break | ISO 527 | 10 | % |
| Modulus of elasticity in tension | ISO 527 | 3400 | MPa |
| Bending modulus | Flexural test | 3300 | MPa |
| Flexural strength | ISO 178 | 1130 | MPa |
| Charpy impact strength +23°C | ISO 179/1eU | 82 | kJ/m ² |
| Charpy notched impact strength +23°C | ISO/1eA | 2,8 | kJ/m ² |
| Ball indentation hardness | ISO 2039-1 | 177 | MPa |
| Compressive modulus | ISO 604 | 2400 | MPa |

Thermal properties

| | Test standard | Value | Unit |
|---|-----------------|-------|----------|
| Min. working temperature | | -20 | °C |
| Max. working temperature | | 100 | °C |
| Intermittent working temperature | | 160 | °C |
| Heat distortion temperature | Method A ISO 75 | 100 | °C |
| Melting temperature | ISO 3146 | 255 | °C |
| Thermal coefficient of linear expansion | DIN 53752 | 6 | 1/K.10-5 |

Friction properties

| | Test standard | Value | Unit |
|--|---------------|-------|------|
|--|---------------|-------|------|

Electrical properties

| | Test standard | Value | Unit |
|-----------------------------|---------------|------------|-------|
| Dielectric constant | | on request | |
| Dielectric loss factor | | on request | |
| Dielectric strength | IEC 243 | 20 | KV/mm |
| Dielectric constant at 1MHZ | IEC 250 | 3,3 | [-] |

Electrical properties

| | | | |
|------------------------------|--------|------------------|------|
| Volume resistivity | IEC 93 | 10 ¹⁵ | Ω.cm |
| Surface resistivity | | on request | |
| Resistance to tracking (CTI) | | on request | |