# Epramid® 4.6

A polyamide with a similar mechanical strength, stiffness and hardness as standard PA6, but with an increased temperature stability. The material has excellent fatigue resistance and excellent resistance to thermal aging in air, hot oils and fats. The material retains its longer stiffness, creep resistance, and wear resistance at higher temperatures.

| General properties | Test method | Value | Unit |
|---|---|---|---|
| ISO code: | ISO 1183 | PA4.6 | |
| Density: | ISO 1183-1 | 1,19 | g/cm3 |
| Water absorption in Air (23°C / 50% RH) | ISO 62 | 2,8 | % |
| Water absorption in Air (23°C / 100% RH) | ISO 62 | 9,5 | % |
| Resistance to hot water | n/a | + | |
| Weather resistance | n/a | - | |
| **Mechanical properties** | | | |
| Elongation at break: | ISO 527 | 30 | % |
| Ball indention hardness | ISO 2039 | 165 | MPa |
| Tensile modules of elasticity | ISO 527 | 3100 | MPa |
| Charpy impact strength - notched | ISO 179 | 6 | kJ/m2 |
| Charpy impact strength - unnotched | ISO 179 | No Break | kJ/m2 |
| Compressive stress at 1% | n/a | n/a | MPa |
| Coefficient of friction | ASTM D 1894 | 0,4-0,6 | |
| **Thermal properties** | | | |
| Melting temperature | n/a | 290 | °C |
| Max. allowable service temp (short period) | n/a | 200 | °C |
| Max. allowable service temp (long period) | n/a | 135 | °C |
| Min. service temperature | n/a | -40 | °C |
| Coefficient of linear expansion | n/a | 80 | x10 -6 m/(m*K) |
| Flammability | UL94 | HB | |
| **Electrical properties** | | | |
| Dielectric dissipation (at 1MHz) | ISO 60250 | 0,06 | Ω |
| Electric strength | ISO 60243 | 15 | kV/mm |
| Volume resistivity | ISO 60093 | >10^15 | Ω.cm |

Date of issue: 3 May 2018