



Material data sheet PA 6 C ivory

Chemical Designation: Cast polyamide 6
 DIN-abbreviation: PA 6 C
 Colour / Fillers: ivory opaque
 Density: 1,15 g/cm³

Data generated directly after machining
 (standard climate Germany).

Main features

- high toughness
- electrically insulating
- high strength
- good dumping
- resistant to many oils, greases and fuels
- good wear properties
- good slide and wear properties

Target Industries

- mechanical engineering
- heavy duty industry
- oil and gas industry
- food technology
- automotive industry

Characteristics

| mechanical properties | parameter | value | unit | norm | comment |
|---------------------------------------|----------------------------------|----------|-------------------|-----------------------|---|
| Modulus of elasticity (tensile test) | 1 mm / min | 3500 | MPa | DIN EN ISO 527-2 1) | 1) For tensile test: specimen type 1b 2) For flexural test: support span 64 mm, norm specimen. 3) Specimen 10 x 10 x 10 mm 4) Specimen 10 x 10 x 50 mm, modulus range between 0,5 and 1% compression. 5) For Charpy test: support span 64 mm, norm specimen. n. b. = not broken |
| Tensile strength | 50 mm / min | 83 | MPa | DIN EN ISO 527-2 | |
| Tensile strength at yield | 50 mm / min | 80 | MPa | DIN EN ISO 527-2 | |
| Elongation at yield | 50 mm / min | 4 | % | DIN EN ISO 527-2 | |
| Elongation at break | 50 mm / min | 40 | % | DIN EN ISO 527-2 | |
| Flexural strength | 2 mm / min, 10 N | 109 | MPa | DIN EN ISO 178 2) | |
| Modulus of elasticity (flexural test) | 2 mm / min, 10 N | 3200 | MPa | DIN EN ISO 178 | |
| Compression strength | 1% / 2% / 5% 5 mm / min, 10 N | 19/36/83 | MPa | EN ISO 604 3) | |
| Compression modulus | 5 mm / min, 10 N | 2900 | MPa | EN ISO 604 4) | |
| Impact strength (Charpy) | max. 7,5 J | n. b. | kJ/m ² | DIN EN ISO 179-1eU 5) | |
| Notched impact strength (Charpy) | max. 7,5 J | 4 | kJ/m ² | DIN EN ISO 179-1eA | |
| Shore hardness | D | 83 | | DIN EN ISO 868 | |





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| thermal properties | parameter | value | unit | norm | comment |
|------------------------------|-----------------|-------|----------------------------------|----------------------|--|
| Glass transition temperature | | 40 | °C | DIN EN ISO 11357 1) | 1) Found in public sources. 2) Found in public sources. Individual testing regarding application conditions is mandatory. |
| Melting temperature | | 215 | °C | DIN EN ISO 11357 | |
| Service temperature | short term | 170 | °C | 2) | |
| Service temperature | long term | 100 | °C | | |
| Thermal expansion (CLTE) | 23-60 °C, long | 12 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Thermal expansion (CLTE) | 23-100 °C, long | 12 | 10 ⁻⁵ K ⁻¹ | DIN EN ISO 11359-1;2 | |
| Specific heat | | 1.7 | J/(g*K) | ISO 22007-4:2008 | |
| Thermal conductivity | | 0.38 | W/(K*m) | ISO 22007-4:2008 | |

| electrical properties | parameter | value | unit | norm | comment |
|-----------------------|-----------|------------------|------|---------------|---------|
| surface resistivity | | 10 ¹⁴ | Ω | DIN IEC 60093 | |
| volume resistivity | | 10 ¹⁴ | Ω*cm | DIN IEC 60093 | |

| other properties | parameter | value | unit | norm | comment |
|-------------------------------|---------------------|-----------|------|------------------------|---|
| Water absorption | 24 h / 96 h (23 °C) | 0.2 / 0.4 | % | DIN EN ISO 62 1) | 1) Ø ca. 50 mm, h = 13 mm 2) (+) limited resistance 3) – poor resistance 4) Corresponding means no listing at UL (yellow card). The information might be taken from resin, stock shape or estimation. Individual testing regarding application conditions is mandatory. |
| Resistance to hot water/bases | | (+) | | - 2) | |
| Resistance to weathering | | - | | - 3) | |
| Flammability (UL94) | corresponding to | HB | | DIN IEC 60695-11-10 4) | |

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