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Datasheet AE1100HS



Basically the properties are to be compared with those of AE1100 but better protected against thermal oxidative degradation by a heat aging stabilizer. Therefore, this material is mechanically resistant for longer service temperatures.

Application

Material

Cast nylon polyamide 6 (PA6C) heatstabalized.

Availablity

| | Value | Unit |
|-----------------------|--------------------------|------|
| Rod diameters | 30-800 | mm |
| Tube inside diameter | 30-840 | mm |
| Tube outside diameter | 50-880 | mm |
| Length standard | 1000/2000 | mm |
| Sheet thickness | 8-165 | mm |
| Sheet size | 1000/1220x1000/2000/3050 | mm |





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AE1100HS - Specifications

Physical properties

| | Test standard | Value | Unit |
|-------------------------------------|---------------|-------|-------|
| Density | | 1,15 | g/cm³ |
| Thermal conductivity | Method A | 0,23 | W/m°K |
| Specific heat capacity | IEC 1006 | 1,7 | J/g.K |
| Moisture absorption at 23°C, 50% RH | ISO 62 | 2,2 | % |
| Water absorption at 23 °C | ISO 62 | 7 | % |
| Flammability | UL 94 | НВ | [-] |

Mechanical properties

| | Test standard | Value | Unit |
|--------------------------------------|---------------|------------|-------|
| Yield stress | ISO 527 | 90 | MPa |
| Elongation at break | ISO 527 | 30 | % |
| Modulus of elasticity in tension | ISO 527 | 2500 | MPa |
| Bending modulus | Flexural test | 3000 | MPa |
| Flexural strength | ISO 178 | 120 | MPa |
| Charpy impact strength +23°C | ISO 179/1eU | no break | kJ/m² |
| Charpy notched impact strength +23°C | ISO/1eA | >4 | kJ/m² |
| Ball indentation hardness | ISO 2039 | 170 | N/mm² |
| Compressive modulus | | on request | |

Thermal properties

| | Test standard | Value | Unit |
|---|---------------|------------|----------|
| Min. working temperature | | -40 | °C |
| Max. working temperature | | 105 | °C |
| Intermittent working temperature | | 180 | °C |
| Heat distortion temperature | | on request | |
| Melting temperature | ISO 3146 | 220 | °C |
| Thermal coefficient of linear expansion | DINB 53752 | 7 - 8 | 1/K.10-5 |

Friction properties

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

Electrical properties

| | Test standard | Value | Unit | |
|-----------------------------|---------------|------------------|-------|--|
| Dielectric constant | DIN 53483 | 3,7 | [-] | |
| Dielectric loss factor | DIN 53483 | 0,03 | [-] | |
| Dielectric strength | IEC 243 | 50 | KV/mm | |
| Dielectric constant at 1MHZ | IEC 250 | 3,7 | [-] | |
| Volume resistivity | IEC 93 | 10 ¹⁵ | Ω.cm | |
| Surface resistivity | IEC 93 | 10 ¹³ | Ω | |

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Electrical properties

Resistance to tracking (CTI) DIN EN 60112 600 [-]

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