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# **Datasheet AE1200**



AE1200 is manufactured from the raw material Laurin lactam in a pressure less monomer molding process. The seamless transition from polymerization to crystallization creates a high crystalline structure for rigid applications.

## Application

Vibration dampeners, tie fasteners for high speed rail roads, shock absorbers in bumpers and crash buffers in railway-wagons, mobile phone antennas.

#### Material

Cast Polyamide 12.

#### Availablity

|                       | Value     | Unit |
|-----------------------|-----------|------|
| Rod diameters         | 30-250    | mm   |
| Tube inside diameter  | 30-230    | mm   |
| Tube outside diameter | 20-250    | mm   |
| Length standard       | 1000-3000 | mm   |
| Sheet thickness       | aug-60    | mm   |
| Sheet size            | 1000X3000 | mm   |

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# **AE1200 - Specifications**

## **Physical properties**

|                                     | Test standard | Value | Unit  |
|-------------------------------------|---------------|-------|-------|
| Density                             |               | 1,03  | 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        | 0,9   | %     |
| Water absorption at 23 °C           | ISO 62        | 1,4   | %     |
| Flammability                        | UL 94         | НВ    | [-]   |

## **Mechanical properties**

|   | Test standard | Value      | Unit  |
|---|---------------|------------|-------|
| Yield stress                            | ISO 527       | 60         | МРа   |
| Elongation at break                     | ISO-527       | 55         | %     |
| Modulus of elasticity in tension        | ISO 527       | 2200       | МРа   |
| Bending modulus                         | Flexural test | 2400       | МРа   |
| Flexural strength                       | ISO 178       | 90         | МРа   |
| Charpy impact strength +23°C            | ISO 179/1eU   | no break   | kJ/m² |
| Charpy notched impact strength<br>+23°C | ISO/1eA       | >15        | kJ/m² |
| Ball indentation hardness               |               | on request |       |
| Compressive modulus                     |               | on request |       |

#### Thermal properties

|   | Test standard | Value      | Unit     |
|---|---------------|------------|----------|
| Min. working temperature                |               | -60        | °C       |
| Max. working temperature                |               | 110        | °C       |
| Intermittent working temperature        |               | 150        | °C       |
| Heat distortion temperature             |               | on request |          |
| Melting temperature                     | ISO 3146      | 190        | °C       |
| Thermal coefficient of linear expansion | DIN 53752     | 10 - 11    | 1/K.10-5 |

# **Friction properties**

|  | 1 | Test standard | Value | Unit |
|--|---|---------------|-------|------|
|--|---|---------------|-------|------|

## **Electrical properties**

|                             | Test standard | Value      | Unit  |
|-----------------------------|---------------|------------|-------|
| Dielectric constant         |               | on request |       |
| Dielectric loss factor      |               | on request |       |
| 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

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