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PA6.6 – Polyamide 6.6 PA66 GF40

# AKROMID® A3 GF 40 natural (1258)

| Tensile modulus | Stress at break | Charpy impact strength |
|---|---|---|
| **13100 MPa** | **225 MPa** | **100 kJ/m²** |
| **1 mm/min** | **5 mm/min** | **23°C** |
| ISO 527-2 | ISO 527-2 | ISO 179-1/1eU |

AKROMID® A3 GF 40 natural (1258) is a 40% glass fibre reinforced polyamide 6.6 with high rigidity and strength and light inherent color

**Typical applications**

Components in mechanical engineering and in the automotive industry

## Mechanical Properties

| | |
|---|---|
| **Tensile modulus** (1 mm/min \| ISO 527-2) | |
| d.a.m. | 13100 MPa |
| conditioned | 9800 MPa |
| **Stress at break** (5 mm/min \| ISO 527-2) | |
| d.a.m. | 225 MPa |
| conditioned | 160 MPa |
| **Strain at break** (5 mm/min \| ISO 527-2) | |
| d.a.m. | 3 % |
| conditioned | 4 % |
| **Flexural modulus** (2 mm/min \| ISO 178) | |
| d.a.m. | 12000 MPa |
| conditioned | 9300 MPa |
| **Flexural strength** (2 mm/min \| ISO 178) | |
| d.a.m. | 360 MPa |
| conditioned | 260 MPa |
| **Charpy impact strength** (23°C \| ISO 179-1/1eU) | |
| d.a.m. | 100 kJ/m² |
| conditioned | 105 kJ/m² |
| **Charpy impact strength** (-30°C \| ISO 179-1/1eU) | |
| d.a.m. | 95 kJ/m² |
| conditioned | 95 kJ/m² |
| **Charpy notched impact strength** (23°C \| ISO 179-1/1eA) | |
| d.a.m. | 17 kJ/m² |
| conditioned | 20 kJ/m² |
| **Charpy notched impact strength** (-30°C \| ISO 179-1/1eA) | |
| d.a.m. | 15 kJ/m² |
| conditioned | 15 kJ/m² |
| **Ball indentation hardness** (961N/30s \| ISO 2039-1) | |
| d.a.m. | 270 MPa |

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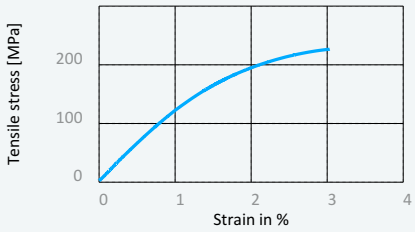
Stress strain chart at 23°C




## Thermal Properties

| | |
|---|---|
| Temperature of deflection under load HDT/A (1,8 MPa \| ISO 75) | 260 °C |
| Temperature of deflection under load HDT/B (0,45 MPa \| ISO 75) | 260 °C |
| Temperature of deflection under load HDT/C (8 MPa \| ISO 75) | 225 °C |
| Melt temperature (DSC, 10K/min \| DIN EN 11357-1) | 262 °C |
| Temperature index for 50% loss of tensile strength after 5.000h (5.000 h \| IEC 60216) | 160 - 175 °C |
| Temperature index for 50% loss of tensile strength after 20.000h (20.000 Std. \| IEC 60216) | 130 - 150 °C |

## Flammability

| | |
|---|---|
| Burning rate (UL 94)<br>1,6mm Wall thickness | HB Class |
| GWFI (IEC 60695-2-12)<br>1,6mm Wall thickness | 650 °C |
| Burning rate (<100 mm/min) (> 1 mm Thickness \| FMVSS 302) | + |

## General properties

| | |
|---|---|
| Density (23°C \| ISO 1183) | 1,46 g/cm³ |
| Humidity absorption (70°C, 62% r.H. \| ISO 1110) | 1,7 - 1,9 % |
| Water absorption 23°C saturated (23°C, saturated \| ISO 62) | 4,3 - 4,7 % |
| Molding shrinkage (flow \| ISO 294-4) | 0,2 % |
| Molding shrinkage (transverse \| ISO 294-4) | 1,2 % |

## Electrical Properties

| | |
|---|---|
| Volume resistivity (IEC 60093) | |
| d.a.m. | 1,0E+13 Ohm x cm |
| conditioned | 1,0E+10 Ohm x cm |
| Surface resistivity (acc. to IEC 60093) | |
| d.a.m. | 1,0E+12 Ohm |
| conditioned | 1,0E+10 Ohm |
| Comparative tracking index (Test liquid A \| IEC 60112) | 600 V |

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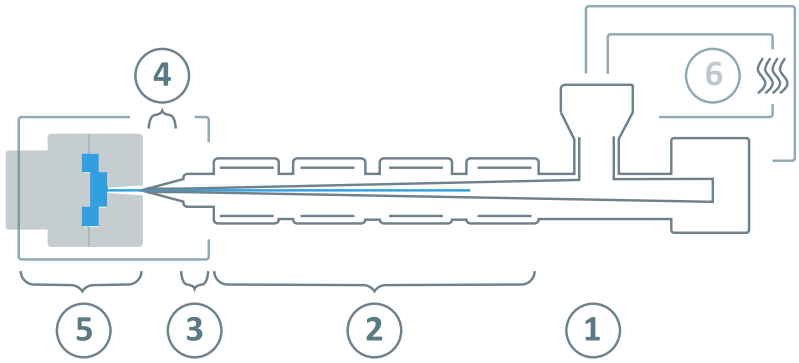
**Processing information**

The listed values are recommendations. Higher values should be used for higher glass loadings. We recommend only de-humidifying or vacuum dryers. Extensive drying can cause filling problems and surface defects.




| | | |
|---|---|---|
| 6 | Drying time | 0 - 4 h |
| | Drying temperature (τ ≤ -30°C) | 80°C |
| | Processing moisture | 0,02 - 0,1% |
| 1 | Feed section | 60 - 80°C |
| 2 | Temperature zone 1 - Zone 4 | 260 - 300°C |
| 3 | Nozzle temperature | 270 - 310°C |
| 4 | Melt temperature | 280 - 300°C |
| 5 | Mold temperature | 80 - 100°C |
| → | Holding pressure, spec. | 300 - 800 bar |
| ← | Back pressure, spec. | 50 - 150 bar |
| | Injection speed | medium to high |
| | Screw speed | 8 - 15 m/min |