

Datasheet

Description:

AKROMID® A3 1 S3 black (2768) is an unreinforced, heat stabilised, dry impact resistant polyamide 6.6.

Applications

Applications are connecting and fixing systems, used are elevated temperatures in the automotive and electro industry

| Typical values | Test specification | Method | Unit | Value | |
|----------------|--------------------|--------|------|--------|---------|
| | | | | d.a.m. | moist.* |

Mechanical Properties

| | | | | | |
|--------------------------------|-----------|---------------|-------------------|------|-------|
| Tensile modulus | 1 mm/min | ISO 527-2 | MPa | 2600 | 1000 |
| Stress at yield | 50 mm/min | ISO 527-2 | MPa | 68 | 40 |
| Strain at yield | 50 mm/min | ISO 527-2 | % | 4,4 | |
| Strain at break | 50 mm/min | ISO 527-2 | % | > 25 | > 100 |
| Nominal strain at break | 50 mm/min | ISO 527-2 | % | ≥ 25 | |
| Flexural modulus | 2 mm/min | ISO 178 | MPa | 2100 | 1000 |
| Flexural strength | 2 mm/min | ISO 178 | MPa | 81 | |
| Standard Flexural stress | 2 mm/min | ISO 178 | MPa | 65 | |
| Charpy impact strength | 23°C | ISO 179-1/1eU | kJ/m ² | n.b. | n.b. |
| Charpy notched impact strength | 23°C | ISO 179-1/1eA | kJ/m ² | 11 | 95 |
| Charpy notched impact strength | -30°C | ISO 179-1/1eA | kJ/m ² | 8 | |
| Izod notched impact strength | 23°C | ISO 180/1A | kJ/m ² | 11 | |
| Izod notched impact strength | -30°C | ISO 180/1A | kJ/m ² | 9 | |
| Ball indentation hardness | 358/30 | ISO 2039-1 | MPa | 125 | 65 |

Thermal Properties

| | | | | |
|--------------------------------------|--------------|----------------|----|-----|
| Melting temperature | DSC, 10K/min | DIN EN 11357-1 | °C | 260 |
| Temp. of deflection under load HDT/A | 1,8 MPa | ISO 75 | °C | 60 |
| Temp. of deflection under load HDT/B | 0,45 MPa | ISO 75 | °C | 194 |

Flammability

| | | | | | | | | |
|-----------------------------|------------------|-----------|-------|-----|-----|-----|-----|-----|
| Wall thickness | | | mm | 0,4 | 0,8 | 1,6 | 2,0 | 3,2 |
| Flammability | | UL 94 | class | | | HB | | |
| Burning rate (< 100 mm/min) | > 1 mm thickness | FMVSS 302 | | | | + | | |

General Properties

| | | | | |
|---------------------|----------------|----------|-------------------|------|
| Density | 23°C | ISO 1183 | g/cm ³ | 1,11 |
| Humidity absorption | 70°C, 62% r.h. | ISO 1110 | % | 2,5 |

Rheological Properties

| | | | | |
|-----|-------|----------|------------------------|----|
| MVR | 275/5 | ISO 1133 | cm ³ /10min | 52 |
|-----|-------|----------|------------------------|----|

Processing

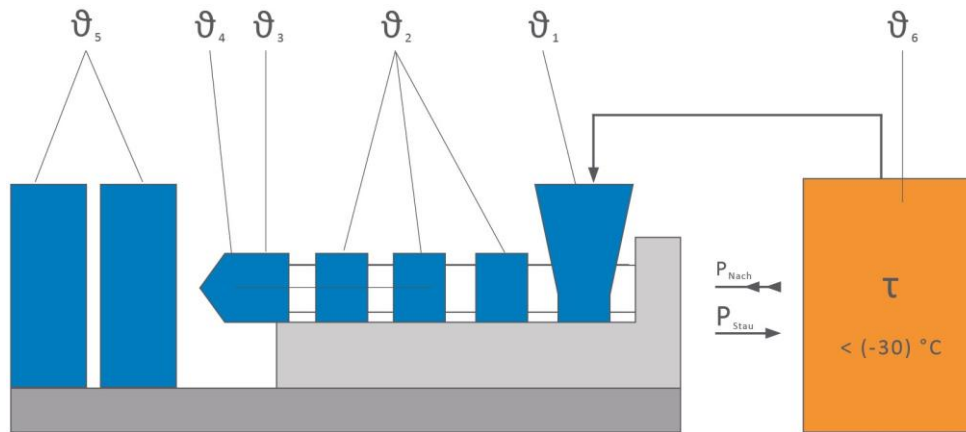
| | | | | |
|-------------------|------------|-----------|---|-----|
| Molding shrinkage | flow | ISO 294-4 | % | 2 |
| Molding shrinkage | transverse | ISO 294-4 | % | 2,1 |

n.b. = not broken

* = specimen acc. ISO 1110 stored

Continuation

Processing recommendations



| | | | |
|---------------|-------------------------|-------|----------------|
| ϑ_6 | Drying time | h | 0 - 4 |
| ϑ_6 | Drying temperature | °C | 80 |
| | Processing moisture | % | 0,02 - 0,1 |
| ϑ_1 | Feed section | °C | 60 - 80 |
| ϑ_2 | Section 1 - Section 4 | °C | 260 - 300 |
| ϑ_3 | Nozzle | °C | 270 - 310 |
| ϑ_4 | Melt | °C | 280 - 300 |
| ϑ_5 | Mould | °C | 40 - 80 |
| P_{Nach} | Holding pressure, spec. | bar | 300 - 800 |
| P_{Stau} | Back pressure, spez. | bar | 50 - 150 |
| | Injection speed | | medium to high |
| | Screw speed | m/min | 8 - 15 |

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.