

AKROMID® PRELIMINARY

B28 GF 25 9 FR black (8250)

PA6 GF25 FR(40)

AKROMID® B28 GF 25 9 FR black (8250) is a flame retardant PA6 with 25% glass fibres and a better UV-stability than the standard AKROMID® B28 GF 25 9 FR black (8253). The flame retardant system is free of red phosphorus and halogens, leading to optimised electrical properties for e-mobility applications. This grade is UL listed with a V0 classification at 1.6mm. Due to its very good flowability, it is characterised by easy processability as well as good surface properties. The material has excellent long-term thermal stability and outstanding mechanical properties.

Features

heat stabilised 130 UV-stabilised electrically neutral

flame retardant easy flow E&E

Regulatory



Properties

Modulus

9.000 MPa

Strength

135 MPa

Impact

81 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

9000 MPa

1 mm/min | conditioned

6000 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

135 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3,7 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

81 kJ/m²

23°C | conditioned

83 kJ/m²

Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

 1,8 MPa

207 °C

| | | |
|--|--------------|---------------|
| Melting temperature ISO 11357-3 | DSC, 10K/min | 220 °C |
| Temperature index for 50% loss of tensile strength IEC 60216 | 5.000 h | 165 °C |
| | 20.000 h | 135 °C |

Flammability

| | | |
|---|---------------------------------|------------------|
| Flammability UL 94 | UL 1,6 mm Wall thickness | V-0 Class |
| | UL 3,2 mm Wall thickness | V-0 Class |
| GWFI IEC 60695-2-12 | 1,6 mm Wall thickness | 960 °C |
| HWI UL 746A | UL 1,6 mm Wall thickness | 0 PLC |
| | UL 3,2 mm Wall thickness | 0 PLC |
| HAI UL 746A | UL 1,6 mm Wall thickness | 0 PLC |
| | UL 3,2 mm Wall thickness | 0 PLC |
| Burning rate (<100 mm/min) FMVSS 302 | > 1 mm Thickness | + |

General Properties

| | | |
|--|----------------|------------------------------|
| Density ISO 1183 | 23°C | 1,38 g/cm³ |
| Humidity absorption ISO 1110 | 70°C, 62% r.H. | 2,1 - 2,3 % |
| Molding shrinkage ISO 294-4 | flow | 0,1 - 0,3 % |
| | transverse | 0,6 - 0,8 % |

Electrical Properties

| | | |
|---|------------------|-------------------------------|
| Volume resistivity IEC 62631-3-1 | UL d.a.m. | 10¹⁰ Ω x cm |
| Surface resistivity IEC 62631-3-2 | UL d.a.m. | 10¹² Ω |

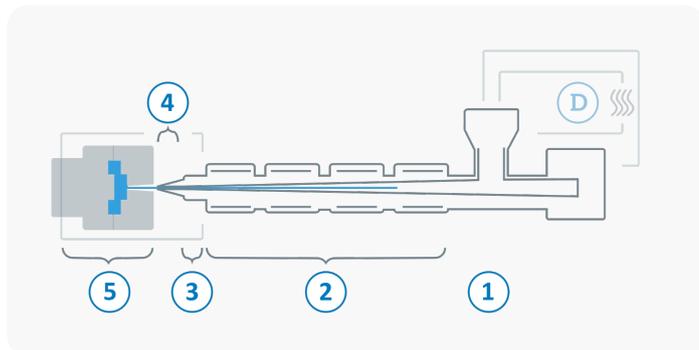
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|---|----------------|-----------------|
| Comparative tracking index IEC 60112 | Test liquid A | 600 V |
| Comparative tracking index ASTM D3638 | UL | 0 PLC |
| Dielectric strength IEC 60243 | UL 3 mm | 18 kV/mm |
| Inclined-Plane Tracking, IPT ASTM D2303-13 | UL | 1,5 kV |
| High voltage arc tracking rate (HVTR) UL 746A | UL | 1 PLC |
| High Volt, Low Current Arc Resistance ASTM D495 | UL | 4 PLC |

Rheological Properties

| | | |
|----------------------------|----------------|---------------|
| Flowability AKRO | 1 mm Thickness | 130 mm |
| | 2 mm Thickness | 410 mm |

Processing

The values mentioned are recommendations. We only recommend desiccant / dry air dryers or vacuum dryers. Too long a drying time and the resulting residual moisture content below the lower limit can lead to filling problems and surface defects. The specified drying time refers to closed and undamaged bagged material. When processing from previously opened bags or from octabins with polyolefin inliners, a longer drying time may be necessary. It is recommended to check the residual moisture content after the drying process.



| | | |
|----------|--|---------------|
| D | Drying time | 2 - 4 h |
| | Drying temperature ($\tau \leq -30^{\circ}\text{C}$) | 80 °C |
| | Processing moisture | 0,02 - 0,08 % |
| 1 | Feed section | 60 - 80 °C |
| 2 | Temperature Zone 1 - Zone 4 | 220 - 280 °C |
| 3 | Nozzle temperature | 240 - 280 °C |
| 4 | Melt temperature | 240 - 280 °C |
| 5 | Mold temperature | 60 - 100 °C |
| → | Holding pressure, spec. | 300 - 800 bar |
| ← | Back pressure, spec. | 30 - 100 bar |
| | Injection speed | medium |
| | Screw speed | 5 - 10 m/min |