

AKROMID®

C3 GF 25 1 FR natural (7208)

PA66+PA6 GF25 FR(40)

AKROMID® C3 GF 25 1 FR natural (7208) is a 25 % glass fiber reinforced, flame retardant and heat stabilised PA6/6.6 blend. Listed to UL 94 in all-colours, the material is based on a flame retardant system that is free of red phosphorus and halogens. Due to its good flowability, an improved surface quality is achieved. This grade is also suitable for applications with high strength requirements in the automotive and E&E markets.

Features

heat stabilised 130 flame retardant easy flow E&E

Regulatory



Properties

Modulus

9.200 MPa

Strength

140 MPa

Impact

73 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

9200 MPa

1 mm/min | conditioned

6300 MPa

Tensile stress at break

ISO 527-2

5 mm/min | d.a.m.

140 MPa

5 mm/min | conditioned

95 MPa

Tensile strain at break

ISO 527-2

5 mm/min | d.a.m.

3,3 %

5 mm/min | conditioned

5,5 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

8600 MPa

2 mm/min | conditioned

5900 MPa

Flexural strength

ISO 178

2 mm/min | d.a.m.

225 MPa

2 mm/min | conditioned

160 MPa

Flexural strain at break

ISO 178

2 mm/min | d.a.m.

3,5 %

2 mm/min | conditioned

5 %

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

73 kJ/m²

23°C | conditioned

75 kJ/m²

-30°C | d.a.m.

74 kJ/m²

Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

11 kJ/m²

23°C | conditioned

15 kJ/m²

Thermal Properties

RTI electrical

UL 746B

UL 0,8mm Wall thickness

150 °C

UL 1,6mm Wall thickness

150 °C

UL 3,2mm Wall thickness

150 °C

RTI impact

UL 746B

UL 0,8mm Wall thickness

125 °C

UL 1,6mm Wall thickness

125 °C

UL 3,2mm Wall thickness

125 °C

RTI strength

UL 746B

UL 0,8mm Wall thickness

140 °C

UL 1,6mm Wall thickness

140 °C

UL 3,2mm Wall thickness

140 °C

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa

225 °C

Temperature of deflection under load HDT/B

ISO 75

0,45 MPa

251 °C

Temperature of deflection under load HDT/C

ISO 75

8 MPa

168 °C

Melting temperature

ISO 11357-3

DSC, 10K/min

262 °C

Coefficient of linear thermal expansion

ISO 11359-1/2

23°C to 80°C | parallel

0,19 10⁻⁴/K

23°C to 80°C | transverse

1,02 10⁻⁴/K

Temperature index for 50% loss of tensile strength

IEC 60216

5.000 h

155 °C

20.000 h

130 °C

Flammability

Flammability

UL 94

UL 0,8 mm Wall thickness

V-0 Class

UL 1,6 mm Wall thickness

V-0 Class

UL 3,2 mm Wall thickness

V-0 Class

Burning rate 5V UL 94	1,6 mm Wall thickness 3,2 mm Wall thickness	5VA Class 5VA Class
GWFI IEC 60695-2-12	UL 0,8 mm Wall thickness UL 1,6 mm Wall thickness UL 3,2 mm Wall thickness	960 °C 960 °C 960 °C
GWIT IEC 60695-2-13	UL 0,8 mm Wall thickness UL 1,6 mm Wall thickness UL 3,2 mm Wall thickness	750 °C 750 °C 750 °C
HWI UL 746A	UL 0,8 mm Wall thickness UL 1,6 mm Wall thickness UL 3,2 mm Wall thickness	0 PLC 0 PLC 0 PLC
HAI UL 746A	UL 0,8 mm Wall thickness UL 1,6 mm Wall thickness UL 3,2 mm Wall thickness	0 PLC 0 PLC 0 PLC
Burning rate (<100 mm/min) FMVSS 302	> 1 mm Thickness	+

General Properties

Density ISO 1183	23°C	1,37 g/cm³
Humidity absorption ISO 1110	70°C, 62% r.H.	1,8 - 2,0 %
Molding shrinkage ISO 294-4	flow transverse	0,1 - 0,3 % 0,5 - 0,7 %

Electrical Properties

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

12 kV/mm

Inclined-Plane Tracking, IPT

ASTM D2303-13

1 kV

High voltage arc tracking rate (HVTR)

UL 746A

UL

1 PLC

High Volt, Low Current Arc Resistance

ASTM D495

UL

6 PLC

Rheological Properties

Flowability

AKRO

1 mm Thickness

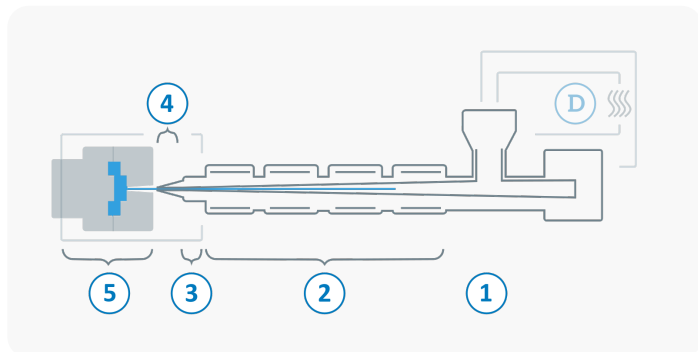
220 mm

2 mm Thickness

480 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	260 - 290 °C
3	Nozzle temperature	260 - 300 °C
4	Melt temperature	270 - 290 °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

Diagrams

