

AKROMID®

A3 S1 black (1071)

PA66-I

AKROMID® A3 S1 black 950089 (1071) is an UL94 HB listed unreinforced, impact modified Polyamide 6.6. The material is characterised by a very high impact strength even at low temperatures and therefore perfectly suitable for connecting and fixing systems which are used in the automotive and electro industry and that are exposed to high loading speeds.

Features

impact modified

Regulatory



Properties

Modulus

2.000 MPa

Strength

50 MPa

Impact

180 kJ/m²

Mechanical Properties

Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

2000 MPa

1 mm/min | conditioned

1200 MPa

Tensile stress at yield

ISO 527-2

50 mm/min | d.a.m.

50 MPa

50 mm/min | conditioned

40 MPa

Tensile strain at yield

ISO 527-2

50 mm/min | d.a.m.

4,8 %

Tensile strain at break

ISO 527-2

50 mm/min | d.a.m.

> 50 %

50 mm/min | conditioned

> 100 %

Flexural modulus

ISO 178

2 mm/min | d.a.m.

1950 MPa

Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

no break

23°C | conditioned

no break

-30°C | d.a.m.

no break

-30°C | conditioned

no break

-40°C | d.a.m.

no break

Charpy notched impact strength

ISO 179-1/1eA

23°C d.a.m.	> 75 kJ/m ²
23°C conditioned	> 100 kJ/m ²
-30°C d.a.m.	25 kJ/m ²
-30°C conditioned	35 kJ/m ²
-40°C d.a.m.	35 kJ/m ²

Ball indentation hardness

ISO 2039-1

358N/30s d.a.m.	80 MPa
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Thermal Properties

Temperature of deflection under load HDT/A

ISO 75

1,8 MPa	70 °C
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Temperature of deflection under load HDT/B

ISO 75

0,45 MPa	152 °C
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Melting temperature

ISO 11357-3

DSC, 10K/min	262 °C
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Flammability

Flammability

UL 94

UL 0,8 mm Wall thickness	HB Class
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Burning rate (<100 mm/min)

FMVSS 302

> 1 mm Thickness	+
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General Properties

Density

ISO 1183

23°C	1,07 g/cm ³
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Humidity absorption

ISO 1110

70°C, 62% r.H.	1,9 - 2,1 %
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Molding shrinkage

ISO 294-4

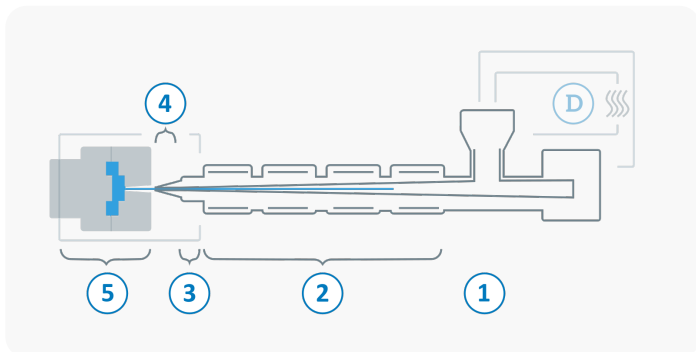
flow	1,3 - 1,5 %
transverse	1,5 - 1,7 %

Electrical Properties

Volume resistivity IEC 62631-3-1	d.a.m.	$10^{15} \Omega \times \text{cm}$
Surface resistivity IEC 62631-3-2	d.a.m.	$10^{14} \Omega$
Comparative tracking index IEC 60112	Test liquid A	600 V

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 - 0,1 %
(1) Feed section	60 - 80 °C
(2) Temperature Zone 1 - Zone 4	260 - 300 °C
(3) Nozzle temperature	270 - 310 °C
(4) Melt temperature	270 - 300 °C
(5) Mold temperature	40 - 90 °C
(→) Holding pressure, spec.	300 - 800 bar
(←) Back pressure, spec.	50 - 150 bar
Injection speed	medium to high
Screw speed	8 - 15 m/min

Diagrams

