

# AKROMID®

## C3 GF 30 1 FR orange (7855)

PA66+PA6 GF30 FR(40)

AKROMID® C3 GF 30 1 FR orange (7855) is a 30 % glass fiber reinforced, flame retardant and heat stabilised PA6/6.6 blend colored in orange similar to RAL 2003. 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 E&E applications (e.g. control cabinets), high voltage applications e-mobility as well as for railroad applications and meets the requirements for public transportation (EN 45545-2 R22/23/24/26 HL3).

### Features

heat stabilised 130   electrically neutral   flame retardant  
easy flow   E-Mobility

### Regulatory

**EN45545-2**



### Properties

#### Modulus

**10.600 MPa**

#### Strength

**135 MPa**

#### Impact

**65 kJ/m²**

## Mechanical Properties

### Tensile modulus

ISO 527-2

1 mm/min | d.a.m.

**10600 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.

**2,5 %**

### Charpy impact strength

ISO 179-1/1eU

23°C | d.a.m.

**65 kJ/m²**

### Charpy notched impact strength

ISO 179-1/1eA

23°C | d.a.m.

**10 kJ/m²**

## Thermal Properties

#### RTI electrical

UL 746B

|           |                      |               |
|-----------|----------------------|---------------|
| <b>UL</b> | 0,4mm Wall thickness | <b>140 °C</b> |
| <b>UL</b> | 0,8mm Wall thickness | <b>150 °C</b> |
| <b>UL</b> | 1,6mm Wall thickness | <b>150 °C</b> |
| <b>UL</b> | 3,2mm Wall thickness | <b>150 °C</b> |

#### RTI impact

UL 746B

|           |                      |               |
|-----------|----------------------|---------------|
| <b>UL</b> | 0,4mm Wall thickness | <b>120 °C</b> |
| <b>UL</b> | 0,8mm Wall thickness | <b>125 °C</b> |
| <b>UL</b> | 1,6mm Wall thickness | <b>125 °C</b> |
| <b>UL</b> | 3,2mm Wall thickness | <b>125 °C</b> |

#### RTI strength

UL 746B

|           |                      |               |
|-----------|----------------------|---------------|
| <b>UL</b> | 0,4mm Wall thickness | <b>135 °C</b> |
| <b>UL</b> | 0,8mm Wall thickness | <b>140 °C</b> |
| <b>UL</b> | 1,6mm Wall thickness | <b>140 °C</b> |
| <b>UL</b> | 3,2mm Wall thickness | <b>140 °C</b> |

#### Melting temperature

ISO 11357-3

|              |               |
|--------------|---------------|
| DSC, 10K/min | <b>262 °C</b> |
|--------------|---------------|

## Flammability

#### Flammability

UL 94

|           |                       |                  |
|-----------|-----------------------|------------------|
| <b>UL</b> | 0,4 mm Wall thickness | <b>V-0 Class</b> |
| <b>UL</b> | 0,8 mm Wall thickness | <b>V-0 Class</b> |
| <b>UL</b> | 1,6 mm Wall thickness | <b>V-0 Class</b> |
| <b>UL</b> | 3,2 mm Wall thickness | <b>V-0 Class</b> |

#### GWFI

IEC 60695-2-12

|           |                       |               |
|-----------|-----------------------|---------------|
| <b>UL</b> | 0,4 mm Wall thickness | <b>960 °C</b> |
| <b>UL</b> | 0,8 mm Wall thickness | <b>960 °C</b> |
| <b>UL</b> | 1,6 mm Wall thickness | <b>960 °C</b> |
| <b>UL</b> | 3,2 mm Wall thickness | <b>960 °C</b> |

#### GWIT

IEC 60695-2-13

|           |                       |               |
|-----------|-----------------------|---------------|
| <b>UL</b> | 0,4 mm Wall thickness | <b>725 °C</b> |
| <b>UL</b> | 0,8 mm Wall thickness | <b>725 °C</b> |
| <b>UL</b> | 1,6 mm Wall thickness | <b>725 °C</b> |
| <b>UL</b> | 3,2 mm Wall thickness | <b>775 °C</b> |

#### HWI

UL 746A

|           |                       |              |
|-----------|-----------------------|--------------|
| <b>UL</b> | 0,4 mm Wall thickness | <b>0 PLC</b> |
| <b>UL</b> | 0,8 mm Wall thickness | <b>0 PLC</b> |
| <b>UL</b> | 1,6 mm Wall thickness | <b>0 PLC</b> |
| <b>UL</b> | 3,2 mm Wall thickness | <b>0 PLC</b> |

#### HAI

UL 746A

|           |                       |              |
|-----------|-----------------------|--------------|
| <b>UL</b> | 0,8 mm Wall thickness | <b>0 PLC</b> |
| <b>UL</b> | 1,6 mm Wall thickness | <b>0 PLC</b> |
| <b>UL</b> | 3,2 mm Wall thickness | <b>0 PLC</b> |

**Protection Train**

EN 45545-2

R22/R23/R24/R26 HL3

**General Properties**

**Density**

ISO 1183

23°C

1,43 g/cm<sup>3</sup>

**Electrical Properties**

**Comparative tracking index**

IEC 60112

Test liquid A

600 V

**Comparative tracking index**

ASTM D3638

UL

0 PLC

**Dielectric strength**

IEC 60243

UL 1 mm

24,6 kV/mm

**Inclined-Plane Tracking, IPT**

ASTM D2303-13

UL

1 kV

**High voltage arc tracking rate (HVTR)**

UL 746A

UL

1 PLC

**High Volt, Low Current Arc Resistance**

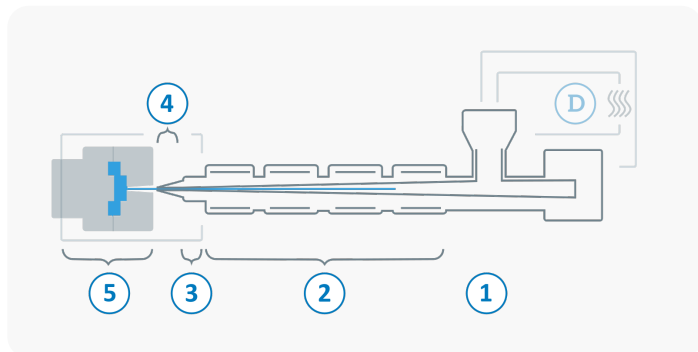
ASTM D495

UL

6 PLC

## 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.



|          |                                                        |               |
|----------|--------------------------------------------------------|---------------|
| <b>D</b> | Drying time                                            | 2 - 4 h       |
|          | Drying temperature ( $\tau \leq -30^{\circ}\text{C}$ ) | 80 °C         |
|          | Processing moisture                                    | 0,02 - 0,08 % |
| <b>1</b> | Feed section                                           | 60 - 80 °C    |
| <b>2</b> | Temperature Zone 1 - Zone 4                            | 260 - 290 °C  |
| <b>3</b> | Nozzle temperature                                     | 260 - 300 °C  |
| <b>4</b> | Melt temperature                                       | 270 - 290 °C  |
| <b>5</b> | Mold temperature                                       | 60 - 100 °C   |
| <b>→</b> | Holding pressure, spec.                                | 300 - 800 bar |
| <b>←</b> | Back pressure, spec.                                   | 30 - 100 bar  |
|          | Injection speed                                        | medium        |
|          | Screw speed                                            | 5 - 10 m/min  |