

# AKROMID® A3 GF 30 5 black (2180)

Polyamide 66  
AKRO-PLASTIC GmbH

Message:

AKROMID® A3 GF 30 5 black (2180) is a 30% glass fibre reinforced, high heat stabilised polyamide 6.6 with high stiffness and strength  
Applications are functional parts in the mechanical engineering and the automotive industry

| General Information                    |                                  |             |                   |             |
|----------------------------------------|----------------------------------|-------------|-------------------|-------------|
| Filler / Reinforcement                 | Glass Fiber,30% Filler by Weight |             |                   |             |
| Additive                               | Heat Stabilizer                  |             |                   |             |
| Features                               | Heat Stabilized                  |             |                   |             |
|                                        | High Stiffness                   |             |                   |             |
|                                        | High Strength                    |             |                   |             |
| Uses                                   | Automotive Applications          |             |                   |             |
|                                        | Engineering Parts                |             |                   |             |
| Appearance                             | Black                            |             |                   |             |
| Resin ID (ISO 1043)                    | PA66 GF30                        |             |                   |             |
| Physical                               | Dry                              | Conditioned | Unit              | Test Method |
| Density (23°C)                         | 1.36                             | --          | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                      |                                  |             |                   | ISO 294-4   |
| Across Flow                            | 1.3                              | --          | %                 |             |
| Flow                                   | 0.20                             | --          | %                 |             |
| Water Absorption<br>(Saturation, 23°C) | 5.2 to 5.8                       | --          | %                 | ISO 62      |
| Humidity Absorption - 62%<br>RH (70°C) | 1.9 to 2.1                       | --          | %                 | ISO 1110    |
| Reinforcement Content                  | 30                               | --          | %                 | ISO 1172    |
| Mechanical                             | Dry                              | Conditioned | Unit              | Test Method |
| Tensile Modulus                        | 9500                             | 7000        | MPa               | ISO 527-2/1 |
| Tensile Stress (Break)                 | 190                              | 120         | MPa               | ISO 527-2/5 |
| Tensile Strain (Break)                 | 3.5                              | 5.5         | %                 | ISO 527-2/5 |
| Flexural Modulus <sup>1</sup>          | 8500                             | 7000        | MPa               | ISO 178     |
| Flexural Stress <sup>2</sup>           | 280                              | 210         | MPa               | ISO 178     |
| Impact                                 | Dry                              | Conditioned | Unit              | Test Method |
| Charpy Notched Impact<br>Strength      |                                  |             |                   | ISO 179/1eA |
| -30°C                                  | 9.0                              | --          | kJ/m <sup>2</sup> |             |
| 23°C                                   | 10                               | 15          | kJ/m <sup>2</sup> |             |
| Charpy Unnotched Impact<br>Strength    |                                  |             |                   | ISO 179/1eU |

|                                     |               |             |                   |                |
|-------------------------------------|---------------|-------------|-------------------|----------------|
| -30°C                               | 80            | --          | kJ/m <sup>2</sup> |                |
| 23°C                                | 85            | 95          | kJ/m <sup>2</sup> |                |
| Thermal                             | Dry           | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature         |               |             |                   |                |
| 1.8 MPa, Unannealed                 | 255           | --          | °C                | ISO 75-2/A     |
| 8.0 MPa, Unannealed                 | 210           | --          | °C                | ISO 75-2/C     |
| Melting Temperature <sup>3</sup>    | 262           | --          | °C                | DIN EN 11357-1 |
| CLTE                                |               |             |                   | ISO 11359-2    |
| Flow : 23 to 80°C                   | 1.9E-5        | --          | cm/cm/°C          |                |
| Transverse : 23 to 80°C             | 9.5E-5        | --          | cm/cm/°C          |                |
| Flammability                        | Dry           | Conditioned | Unit              | Test Method    |
| Burning Rate <sup>4</sup> (1.00 mm) | < 100         | --          | mm/min            | FMVSS 302      |
| Flame Rating (1.60 mm)              | HB            | --          |                   | UL 94          |
| NOTE                                |               |             |                   |                |
| 1.                                  | 2.0 mm/min    |             |                   |                |
| 2.                                  | 2.0 mm/min    |             |                   |                |
| 3.                                  | 10 K/min, DSC |             |                   |                |
| 4.                                  | > 1 mm        |             |                   |                |

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