

# AKROMID® A3 ICF 30 black (5021)

Polyamide 66  
AKRO-PLASTIC GmbH

Message:  
AKROMID® A3 ICF 30 black (5021) is a 30% carbon fibre reinforced polyamide 6.6 with high flexural strength and good sliding properties  
Applications are mechanically high stressed parts in all industries

| General Information                               |       |                                   |                   |                |
|---------------------------------------------------|-------|-----------------------------------|-------------------|----------------|
| Filler / Reinforcement                            |       | Carbon Fiber,30% Filler by Weight |                   |                |
| Features                                          |       | High Strength                     |                   |                |
| Appearance                                        |       | Black                             |                   |                |
| Resin ID (ISO 1043)                               |       | PA66 CF30                         |                   |                |
| Physical                                          | Dry   | Conditioned                       | Unit              | Test Method    |
| Density (23°C)                                    | 1.28  | --                                | g/cm <sup>3</sup> | ISO 1183       |
| Molding Shrinkage                                 |       |                                   |                   | ISO 294-4      |
| Across Flow                                       | 0.70  | --                                | %                 |                |
| Flow                                              | 0.20  | --                                | %                 |                |
| Humidity Absorption - 62% RH (70°C)               | 1.9   | --                                | %                 | ISO 1110       |
| Flexural Strain at Break <sup>1</sup>             | 2.5   | 3.5                               | %                 | ISO 178        |
| Reinforcement Content                             | 30    | --                                | %                 | ISO 1172       |
| Mechanical                                        | Dry   | Conditioned                       | Unit              | Test Method    |
| Tensile Modulus                                   | 20000 | 15000                             | MPa               | ISO 527-2/1    |
| Tensile Stress (Break)                            | 220   | 170                               | MPa               | ISO 527-2/5    |
| Tensile Strain (Break)                            | 2.0   | 3.5                               | %                 | ISO 527-2/5    |
| Flexural Modulus <sup>2</sup>                     | 22000 | 14000                             | MPa               | ISO 178        |
| Flexural Stress <sup>3</sup>                      | 370   | 265                               | MPa               | ISO 178        |
| Impact                                            | Dry   | Conditioned                       | Unit              | Test Method    |
| Charpy Notched Impact Strength                    |       |                                   |                   | ISO 179/1eA    |
| -30°C                                             | 6.0   | --                                | kJ/m <sup>2</sup> |                |
| 23°C                                              | 8.0   | 11                                | kJ/m <sup>2</sup> |                |
| Charpy Unnotched Impact Strength                  |       |                                   |                   | ISO 179/1eU    |
| -30°C                                             | 55    | --                                | kJ/m <sup>2</sup> |                |
| 23°C                                              | 55    | 70                                | kJ/m <sup>2</sup> |                |
| Thermal                                           | Dry   | Conditioned                       | Unit              | Test Method    |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 254   | --                                | °C                | ISO 75-2/A     |
| Melting Temperature <sup>4</sup>                  | 262   | --                                | °C                | DIN EN 11357-1 |
| Thermal Conductivity                              | 0.42  | --                                | W/m/K             | DIN 52612      |

| Electrical             | Dry           | Conditioned | Unit | Test Method |
|------------------------|---------------|-------------|------|-------------|
| Surface Resistivity    | 1.0E+4        | 1.0E+4      | ohms | IEC 60093   |
| Flammability           | Dry           | Conditioned | Unit | Test Method |
| Flame Rating (1.60 mm) | HB            | --          |      | UL 94       |
| NOTE                   |               |             |      |             |
| 1.                     | 2 mm/min      |             |      |             |
| 2.                     | 2.0 mm/min    |             |      |             |
| 3.                     | 2.0 mm/min    |             |      |             |
| 4.                     | 10 K/min, DSC |             |      |             |

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