

# AKROMID® B3 GF 50 1 natural (2531)

Polyamide 6  
AKRO-PLASTIC GmbH

Message:

AKROMID® B3 GF 50 1 natural (2531) is a 50% glass fibre reinforced, heat stabilised polyamide 6 with very high rigidity and strength and light inherent color  
Applications are mainly components in mechanical engineering and in the automotive industry

| General Information                    |            |                                  |                   |                 |
|----------------------------------------|------------|----------------------------------|-------------------|-----------------|
| UL YellowCard                          |            | E148915-101075626                |                   |                 |
| Filler / Reinforcement                 |            | Glass Fiber,50% Filler by Weight |                   |                 |
| Additive                               |            | Heat Stabilizer                  |                   |                 |
| Features                               |            | Heat Stabilized                  |                   |                 |
|                                        |            | High Rigidity                    |                   |                 |
|                                        |            | High Strength                    |                   |                 |
| Uses                                   |            | Engineered Applications          |                   |                 |
| Appearance                             |            | Natural Color                    |                   |                 |
| Resin ID (ISO 1043)                    |            | PA6 GF50                         |                   |                 |
| Physical                               | Dry        | Conditioned                      | Unit              | Test Method     |
| Density (23°C)                         | 1.56       | --                               | g/cm <sup>3</sup> | ISO 1183        |
| Spiral Flow                            | 43.0       | --                               | cm                | Internal Method |
| Molding Shrinkage                      |            |                                  |                   | ISO 294-4       |
| Across Flow                            | 0.90       | --                               | %                 |                 |
| Flow                                   | 0.20       | --                               | %                 |                 |
| Water Absorption (Saturation, 23°C)    | 4.5 to 5.1 | --                               | %                 | ISO 62          |
| Humidity Absorption - 62% RH (70°C)    | 1.3 to 1.6 | --                               | %                 | ISO 1110        |
| Temperature Index                      |            |                                  |                   | IEC 216         |
| 50% Loss of Tensile Strength, 20000 hr | 130 to 150 | --                               | °C                |                 |
| 50% Loss of Tensile Strength, 5000 hr  | 160 to 175 | --                               | °C                |                 |
| Reinforcement Content                  | 50         | --                               | %                 | ISO 1172        |
| Hardness                               | Dry        | Conditioned                      | Unit              | Test Method     |
| Ball Indentation Hardness (H 961/30)   | 270        | --                               | MPa               | ISO 2039-1      |
| Mechanical                             | Dry        | Conditioned                      | Unit              | Test Method     |
| Tensile Modulus                        | 17000      | 10300                            | MPa               | ISO 527-2/1     |
| Tensile Stress (Break)                 | 230        | 145                              | MPa               | ISO 527-2/5     |
| Tensile Strain (Break)                 | 2.5        | 4.5                              | %                 | ISO 527-2/5     |

|                                         |               |             |                   |                |
|-----------------------------------------|---------------|-------------|-------------------|----------------|
| Flexural Modulus <sup>1</sup>           | 14900         | --          | MPa               | ISO 178        |
| Flexural Stress <sup>2</sup>            | 340           | --          | MPa               | ISO 178        |
| Impact                                  | Dry           | Conditioned | Unit              | Test Method    |
| Charpy Notched Impact Strength          |               |             |                   | ISO 179/1eA    |
| -30°C                                   | 16            | --          | kJ/m <sup>2</sup> |                |
| 23°C                                    | 20            | 26          | kJ/m <sup>2</sup> |                |
| Charpy Unnotched Impact Strength        |               |             |                   | ISO 179/1eU    |
| -30°C                                   | 90            | --          | kJ/m <sup>2</sup> |                |
| 23°C                                    | 100           | 110         | kJ/m <sup>2</sup> |                |
| Thermal                                 | Dry           | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature             |               |             |                   |                |
| 0.45 MPa, Unannealed                    | 220           | --          | °C                | ISO 75-2/B     |
| 1.8 MPa, Unannealed                     | 220           | --          | °C                | ISO 75-2/A     |
| 8.0 MPa, Unannealed                     | 185           | --          | °C                | ISO 75-2/C     |
| Melting Temperature <sup>3</sup>        | 220           | --          | °C                | DIN EN 11357-1 |
| CLTE                                    |               |             |                   | ISO 11359-2    |
| Flow : 23 to 80°C                       | 1.1E-5        | --          | cm/cm/°C          |                |
| Transverse : 23 to 80°C                 | 9.4E-5        | --          | cm/cm/°C          |                |
| Electrical                              | Dry           | Conditioned | Unit              | Test Method    |
| Surface Resistivity                     | 1.0E+12       | 1.0E+10     | ohms              | IEC 60093      |
| Volume Resistivity                      | 1.0E+13       | 1.0E+10     | ohms·cm           | IEC 60093      |
| Comparative Tracking Index (Solution A) | 600           | --          | V                 | IEC 60112      |
| 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          |
| Glow Wire Flammability Index (1.60 mm)  | 650           | --          | °C                | IEC 60695-2-12 |
| NOTE                                    |               |             |                   |                |
| 1.                                      | 2.0 mm/min    |             |                   |                |
| 2.                                      | 2.0 mm/min    |             |                   |                |
| 3.                                      | 10 K/min, DSC |             |                   |                |
| 4.                                      | >1 mm         |             |                   |                |

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