

# AKROMID® A3 GF 50 1 natural (1259)

Polyamide 66  
AKRO-PLASTIC GmbH

Message:

AKROMID® A3 GF 50 1 natural (1259) is a 50% glass fibre reinforced, heat stabilised polyamide 6.6 with very high rigidity and strength and light inherent color, UL listed.  
Applications are mainly components in mechanical engineering and in the automotive industry

| General Information                    |            |                                  |                   |                 |
|----------------------------------------|------------|----------------------------------|-------------------|-----------------|
| UL YellowCard                          |            | E148915-101075625                |                   |                 |
| 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)                    |            | PA66 GF50                        |                   |                 |
| Physical                               | Dry        | Conditioned                      | Unit              | Test Method     |
| Density (23°C)                         | 1.57       | --                               | g/cm <sup>3</sup> | ISO 1183        |
| Spiral Flow                            | 60.0       | --                               | cm                | Internal Method |
| Molding Shrinkage                      |            |                                  |                   | ISO 294-4       |
| Across Flow                            | 1.2        | --                               | %                 |                 |
| Flow                                   | 0.30       | --                               | %                 |                 |
| Water Absorption (Saturation, 23°C)    | 3.7 to 4.3 | --                               | %                 | ISO 62          |
| Humidity Absorption - 62% RH (70°C)    | 1.3 to 1.5 | --                               | %                 | 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)   | 290        | --                               | MPa               | ISO 2039-1      |
| Mechanical                             | Dry        | Conditioned                      | Unit              | Test Method     |
| Tensile Modulus                        | 16700      | 12600                            | MPa               | ISO 527-2/1     |
| Tensile Stress (Break)                 | 250        | 180                              | MPa               | ISO 527-2/5     |
| Tensile Strain (Break)                 | 2.5        | 3.5                              | %                 | ISO 527-2/5     |

|                                         |               |             |                   |                |
|-----------------------------------------|---------------|-------------|-------------------|----------------|
| Flexural Modulus <sup>1</sup>           | 15200         | 13600       | MPa               | ISO 178        |
| Flexural Stress <sup>2</sup>            | 380           | 310         | 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                                    | 19            | 23          | kJ/m <sup>2</sup> |                |
| Charpy Unnotched Impact Strength        |               |             |                   | ISO 179/1eU    |
| -30°C                                   | 110           | --          | kJ/m <sup>2</sup> |                |
| 23°C                                    | 110           | 110         | kJ/m <sup>2</sup> |                |
| Thermal                                 | Dry           | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature             |               |             |                   |                |
| 0.45 MPa, Unannealed                    | 260           | --          | °C                | ISO 75-2/B     |
| 1.8 MPa, Unannealed                     | 260           | --          | °C                | ISO 75-2/A     |
| 8.0 MPa, Unannealed                     | 235           | --          | °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                       | 1.7E-5        | --          | cm/cm/°C          |                |
| Transverse : 23 to 80°C                 | 8.8E-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 (0.800 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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