

# AKROMID® T1 GF 50 9 black (3257)

Polyphthalamide  
AKRO-PLASTIC GmbH

Message:

AKROMID® T1 GF 50 9 black (3257) is a 50% glass fibre reinforced, process improved polyphthalamide with very high rigidity and strength, as well as high temperature and chemical resistance  
Applications are parts with tight dimensional tolerances even under high mechanical load.

| General Information                    |            |                                  |                   |             |
|----------------------------------------|------------|----------------------------------|-------------------|-------------|
| Filler / Reinforcement                 |            | Glass Fiber,50% Filler by Weight |                   |             |
| Features                               |            | Good Chemical Resistance         |                   |             |
|                                        |            | Good Dimensional Stability       |                   |             |
|                                        |            | High Heat Resistance             |                   |             |
|                                        |            | High Rigidity                    |                   |             |
|                                        |            | High Strength                    |                   |             |
| Appearance                             |            | Black                            |                   |             |
| Resin ID (ISO 1043)                    |            | PPA GF50                         |                   |             |
| Physical                               | Dry        | Conditioned                      | Unit              | Test Method |
| Density (23°C)                         | 1.62       | --                               | 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)    | 0.95       | --                               | %                 | ISO 1110    |
| Flexural Strain at Break <sup>1</sup>  | 2.6        | --                               | %                 | ISO 178     |
| Temperature Index                      |            |                                  |                   | IEC 216     |
| 50% Loss of Tensile Strength, 20000 hr | 130 to 140 | --                               | °C                |             |
| 50% Loss of Tensile Strength, 5000 hr  | 150 to 160 | --                               | °C                |             |
| Reinforcement Content                  | 50         | --                               | %                 | ISO 1172    |
| Hardness                               | Dry        | Conditioned                      | Unit              | Test Method |
| Ball Indentation Hardness (H 961/30)   | 340        | --                               | MPa               | ISO 2039-1  |
| Mechanical                             | Dry        | Conditioned                      | Unit              | Test Method |
| Tensile Modulus                        | 19500      | 18500                            | MPa               | ISO 527-2/1 |
| Tensile Stress (Break)                 | 290        | 250                              | MPa               | ISO 527-2/5 |
| Tensile Strain (Break)                 | 2.1        | 2.1                              | %                 | ISO 527-2/5 |
| Flexural Modulus <sup>2</sup>          | 17000      | --                               | MPa               | ISO 178     |
| Flexural Stress <sup>3</sup>           | 390        | --                               | MPa               | ISO 178     |
| Impact                                 | Dry        | Conditioned                      | Unit              | Test Method |

|                                          |               |             |                   |                |
|------------------------------------------|---------------|-------------|-------------------|----------------|
| Charpy Notched Impact Strength           |               |             |                   | ISO 179/1eA    |
| -30°C                                    | 14            | --          | kJ/m <sup>2</sup> |                |
| 23°C                                     | 14            | --          | kJ/m <sup>2</sup> |                |
| Charpy Unnotched Impact Strength         |               |             |                   | ISO 179/1eU    |
| -30°C                                    | 80            | --          | kJ/m <sup>2</sup> |                |
| 23°C                                     | 90            | --          | kJ/m <sup>2</sup> |                |
| Thermal                                  | Dry           | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature              |               |             |                   |                |
| 1.8 MPa, Unannealed                      | 275           | --          | °C                | ISO 75-2/A     |
| 8.0 MPa, Unannealed                      | 205           | --          | °C                | ISO 75-2/C     |
| Melting Temperature <sup>4</sup>         | 308           | --          | °C                | DIN EN 11357-1 |
| Electrical                               | Dry           | Conditioned | Unit              | Test Method    |
| Comparative Tracking Index (Solution A)  | 600           | --          | V                 | IEC 60112      |
| Flammability                             | Dry           | Conditioned | Unit              | Test Method    |
| Burning Rate <sup>5</sup> (1.00 mm)      | < 100         | --          | mm/min            | FMVSS 302      |
| Flame Rating (0.800 mm)                  | HB            | --          |                   | UL 94          |
| Glow Wire Flammability Index (1.60 mm)   | 700           | --          | °C                | IEC 60695-2-12 |
| Glow Wire Ignition Temperature (1.60 mm) | 725           | --          | °C                | IEC 60695-2-13 |
| NOTE                                     |               |             |                   |                |
| 1.                                       | 2 mm/min      |             |                   |                |
| 2.                                       | 2.0 mm/min    |             |                   |                |
| 3.                                       | 2.0 mm/min    |             |                   |                |
| 4.                                       | 10 K/min, DSC |             |                   |                |
| 5.                                       | > 1 mm        |             |                   |                |

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