

Akro-Plastic Akromid® B3 GF 30 (2472) PA 6 Dry, 30% Glass Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , 30% Glass Fiber Filled

Material Notes:

AKROMID® B (Polyamide 6) is an engineering compound, characterized by high mechanical strength, stiffness and thermal resistance.

Furthermore, this polyamide offers high toughness at low temperatures as well as easy processing. AKROMID® B is an engineering plastic compound that allows a broad range of possible applications. On the basis of these standard types, we are able to develop individual compounds for special application needs. Information from Akro-Plastic

Order this product through the following link:

http://www.lookpolymers.com/polymer_Akro-Plastic-Akromid-B3-GF-30-2472-PA-6-Dry-30-Glass-Filled.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|-------------------------------------|---|------------------------------------|
| Density | 1.36 g/cc @Temperature 23.0 °C | 0.0491 lb/in ³ @Temperature 73.4 °F | ISO 1183 |
| Filler Content | 30 % | 30 % | ISO 1172 |
| Water Absorption | 2.1 - 2.3 % @Temperature 70.0 °C | 2.1 - 2.3 % @Temperature 158 °F | 62% r.h., Humidity; ISO 62 |
| Water Absorption at Saturation | 6.3 - 6.9 % @Time 82800 sec | 6.3 - 6.9 % @Time 23.0 hour | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0014 cm/cm | 0.0014 in/in | ISO 294-4 |
| Linear Mold Shrinkage, Transverse | 0.0083 cm/cm | 0.0083 in/in | ISO 294-4 |
| Spiral Flow | 66.0 cm | 26.0 in | Cross Section: 7[mm]x3.5[mm]; AKRO |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|--|--|---|
| Ball Indentation Hardness | 230 MPa | 33400 psi | H961/30; ISO 2039-1 |
| Tensile Strength at Break | 185 MPa | 26800 psi | 5 [mm/min]; ISO 527-1/2 |
| | 92.5 MPa @Temperature 160 - 175 °C, Time 1.80e+7 sec | 13400 psi @Temperature 320 - 347 °F, Time 5000 hour | 5 [mm/min], 50% Loss of Tensile Strength; ISO 527-1/2 |
| | 92.5 MPa @Temperature 130 - 150 °C, Time 7.20e+7 sec | 13400 psi @Temperature 266 - 302 °F, Time 20000 hour | 5 [mm/min], 50% Loss of Tensile Strength; ISO 527-1/2 |
| Elongation at Break | 3.0 % | 3.0 % | 5 [mm/min]; ISO 527-1/2 |
| Tensile Modulus | 10.3 GPa | 1490 ksi | 1[mm/min]; ISO 527-1/2 |

| Mechanical Properties | Metric | English | Comments |
|-------------------------|------------------------|----------------------------|---------------------|
| Flexural Strength | 270 MPa | 39000 psi | 2 [mm/min]; ISO 178 |
| Flexural Modulus | 8.50 GPa | 1230 ksi | 2 [mm/min]; ISO 178 |
| Charpy Impact Unnotched | 8.50 J/cm ² | 40.4 ft-lb/in ² | ISO 179/1eU |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 9.50 J/cm ² | 45.2 ft-lb/in ² | ISO 179/1eU |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Charpy Impact, Notched | 1.70 J/cm ² | 8.09 ft-lb/in ² | ISO 179/1eA |
| | 1.20 J/cm ² | 5.71 ft-lb/in ² | |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| | 1.30 J/cm ² | 6.19 ft-lb/in ² | ISO 179/1eA |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|---|-----------------------------|----------------------------|-----------------|
| CTE, linear, Parallel to Flow | 16.0 µm/m-°C | 8.89 µin/in-°F | ISO 11359-1/2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| CTE, linear, Transverse to Flow | 95.0 µm/m-°C | 52.8 µin/in-°F | ISO 11359-1/2 |
| | @Temperature 23.0 - 80.0 °C | @Temperature 73.4 - 176 °F | |
| Melting Point | 220 °C | 428 °F | ISO 11357-1/3 |
| Deflection Temperature at 0.46 MPa (66 psi) | 220 °C | 428 °F | HDT/B; ISO 75-2 |
| Deflection Temperature at 1.8 MPa (264 psi) | 210 °C | 410 °F | HDT/A; ISO 75-2 |
| Deflection Temperature at 8.0 MPa | 150 °C | 302 °F | HDT/C; ISO 75-2 |
| Flammability, UL94 | HB | HB | |
| | @Thickness 1.60 mm | @Thickness 0.0630 in | |
| Glow Wire Test | 650 °C | 1200 °F | ICE 60695-12 |
| | @Thickness 1.60 mm | @Thickness 0.0630 in | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-----------------|-----------------|-----------|
| Volume Resistivity | 1.00e+13 ohm-cm | 1.00e+13 ohm-cm | IEC 60093 |
| Surface Resistance | 1.00e+12 ohm | 1.00e+12 ohm | IEC 60093 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------|---------|----------|
|-----------------------|--------|---------|----------|

| Processing Properties | Metric | English | Comments |
|-----------------------|-----------------|------------------|----------|
| Feed Temperature | 60.0 - 80.0 °C | 140 - 176 °F | |
| Nozzle Temperature | 240 - 280 °C | 464 - 536 °F | |
| Zone 1 | 225 - 300 °C | 437 - 572 °F | |
| Zone 2 | 225 - 300 °C | 437 - 572 °F | |
| Zone 3 | 225 - 300 °C | 437 - 572 °F | |
| Zone 4 | 225 - 300 °C | 437 - 572 °F | |
| Melt Temperature | 260 - 300 °C | 500 - 572 °F | |
| Mold Temperature | 80.0 - 100 °C | 176 - 212 °F | |
| Drying Temperature | 80.0 °C | 176 °F | |
| Dry Time | 2.00 hour | 2.00 hour | |
| Hold Pressure | 30.0 - 80.0 MPa | 4350 - 11600 psi | |
| Back Pressure | 5.00 - 10.0 MPa | 725 - 1450 psi | |

| Descriptive Properties | Value | Comments |
|-------------------------------|------------------------------|--------------------|
| Rate acc. FMVSS 302 (| Passed | |
| Rate acc. FMVSS 302,(| FMVSS 302, >1 [mm] Thickness | |
| Resistance to Oleic acid | Pass | 100% Conc. at 23°C |
| Resistance to Acetaldehyde | Fail | 40% Conc. at 23°C |
| Resistance to Acetic Acid | Pass | 20% Conc. at 23°C |
| Resistance to Acetone | Pass | 100% Conc. at 23°C |
| Resistance to Acetonitrile | Pass | 100% Conc. at 23°C |
| Resistance to Acrylonitrile | Pass | 100% Conc. at 23°C |
| Resistance to Allyl alcohol | Fail | 96% Conc. at 23°C |
| Resistance to Amyl alcohol | Pass | 100% Conc. at 23°C |
| Resistance to Aqueous Ammonia | Pass | 10% Conc. at 23°C |
| Resistance to Benzene | Fail | 100% Conc. at 40°C |

| Descriptive Properties | Value | Comments at 23°C |
|--|-------|---------------------|
| | Pass | 100% Conc. at 23°C |
| Resistance to Biodiesel | Pass | 100% Conc. at 23°C |
| Resistance to Boric acid | Fail | 100% Conc. at 23°C |
| | Pass | 10% Conc. at 23°C |
| Resistance to Brake fluid (DOT 4) | Fail | 100% Conc. at 130°C |
| | Pass | 100% Conc. at 23°C |
| Resistance to Calcium chloride, alcoholic | Fail | 10% Conc. at 23°C |
| Resistance to Calcium chloride, aqueous | Pass | 10% Conc. at 23°C |
| Resistance to Carbonic acid | Pass | 100% Conc. at 60°C |
| Resistance to Caustic potash solution, aqueous | Pass | 50% Conc. at 23°C |
| Resistance to Chloracetic acid | Fail | 50% Conc. at 23°C |
| Resistance to Chlorine | Fail | 100% Conc. at 23°C |
| Resistance to Chlorine water | Fail | 100% Conc. at 23°C |
| Resistance to Chromic acid | Fail | 10% Conc. at 23°C |
| Resistance to Cyclohexane | Pass | 100% Conc. at 23°C |
| Resistance to Cyclohexanol | Pass | 100% Conc. at 23°C |
| Resistance to Dichloro-Acetic acid | Fail | 50% Conc. at 23°C |
| Resistance to Diesel fuel (DIN 51601) | Pass | 100% Conc. at 23°C |
| Resistance to Ethanol | Pass | 96% Conc. at 23°C |
| Resistance to Ethylene glycol/water | Fail | 50% Conc. at 120°C |
| Resistance to Formaldehyde, aqueous | Pass | 10% Conc. at 23°C |
| Resistance to Formic acid | Fail | 2% Conc. at 23°C |
| Resistance to Glycerin | Pass | 100% Conc. at 23°C |
| Resistance to Hydraulic oil H and HL (DIN 51524) | Pass | 100% Conc. at 100°C |
| Resistance to Hydrogen chloride, gas | Fail | 100% Conc. at 23°C |
| Resistance to Iso-octanol | Pass | 100% Conc. at 23°C |
| Resistance to Isopropanol | Pass | 100% Conc. at 23°C |

| Descriptive Properties | Value | Comments |
|--|-------|---------------------|
| Resistance to Methanol | Pass | 100% Conc. at 23°C |
| Resistance to Methylene chloride | Fail | 100% Conc. at 23°C |
| Resistance to Motor oil (SAE 10W-40) | Pass | 100% Conc. at 130°C |
| | Pass | 100% Conc. at 23°C |
| Resistance to Natural Gas | Pass | 100% Conc. at 23°C |
| Resistance to Nitric acid | Fail | 40% Conc. at 23°C |
| Resistance to Ozone | Fail | 100% Conc. at 23°C |
| Resistance to Phenol | Fail | 100% Conc. at 23°C |
| Resistance to Phosphoric acid | Fail | 30% Conc. at 23°C |
| Resistance to Potassium chloride, aqueous | Pass | 10% Conc. at 23°C |
| Resistance to Potassium permanganate, aqueous | Fail | 10% Conc. at 23°C |
| Resistance to Sodium chloride, aqueous | Pass | 10% Conc. at 23°C |
| Resistance to Sodium hydroxide solution, aqueous | Pass | 1% Conc. at 23°C |
| Resistance to Sodium hypochlorite, aqueous | Fail | 10% Conc. at 23°C |
| Resistance to Transmission oil (ATF m 1375.4) | Pass | 100% Conc. at 150°C |
| Resistance to Urea, aqueous | Pass | 20% Conc. at 23°C |
| Resistant to Carbon disulphide | Pass | 100% Conc. at 23°C |
| Resistant to Carbon tetrachloride | Pass | 100% Conc. at 23°C |
| Resistant to Citric acid | Pass | 10% Conc. at 23°C |
| Resistant to Ethyl acetate | Pass | 100% Conc. at 23°C |
| Resistant to Hydrochloric acid | Fail | 36% Conc. at 23°C |
| Resistant to Hydrogen peroxide | Fail | 23°C |
| Resistant to Seawater | Pass | 100% Conc. at 23°C |
| Resistant to Silicone fluid | Pass | 23°C |
| Resistant to Sulphuric acid | Fail | 96% Conc. at 23°C |
| Resistant to Super-grade petrol (DIN 51600) | Pass | 100% Conc. at 23°C |
| Resistant to Toluol | Pass | 100% Conc. at 23°C |

| Resistant to Water Descriptive Properties | Pass Value | 100% Conc. up to 50°C Comments |
|--|-----------------------|---|
| Resistant to Xylol | Pass | 100% Conc. at 23°C |
| Resistant to Zinc chloride, aqueous | Fail | 50% Conc. at 23°C |

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