

Akro-Plastic Akromid® A3 GF 50 (2423) PA 6.6 Dry, 50% Glass Filled

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 50% Glass Fiber Filled

Material Notes:

AKROMID® A (Polyamide 6.6) 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® A 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-A3-GF-50-2423-PA-66-Dry-50-Glass-Filled.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in ³	ISO 1183
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Filler Content	50 %	50 %	ISO 1172
Water Absorption	1.3 - 1.5 %	1.3 - 1.5 %	62% r.h., Humidity; ISO 62
	@Temperature 70.0 °C	@Temperature 158 °F	
Water Absorption at Saturation	3.7 - 4.3 %	3.7 - 4.3 %	ISO 62
	@Time 82800 sec	@Time 23.0 hour	
Linear Mold Shrinkage, Flow	0.0030 cm/cm	0.0030 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.012 cm/cm	0.012 in/in	ISO 294-4
Spiral Flow	60.0 cm	23.6 in	Cross Section: 7[mm]x3.5[mm]; AKRO

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	290 MPa	42100 psi	H 961/30; ISO 2093-1
Tensile Strength at Break	250 MPa	36300 psi	5 [mm/min]; ISO 527-1/2
	125 MPa	18100 psi	5 [mm/min], 50% Loss of Tensile Strength; ICE 216
	@Temperature 160 - 175 °C, Time 1.80e+7 sec	@Temperature 320 - 347 °F, Time 5000 hour	
Elongation at Break	125 MPa	18100 psi	5 [mm/min], 50% Loss of Tensile Strength; ICE 216
	@Temperature 130 - 150 °C, Time 7.20e+7 sec	@Temperature 266 - 302 °F, Time 20000 hour	
	2.5 %	2.5 %	5 [mm/min]; ISO 527-1/2
Tensile Modulus	16.7 GPa	2420 ksi	1[mm/min]; ISO 527-1/2

Mechanical Properties	Metric	English	Comments
Flexural Strength	380 MPa	55 100 psi	2 [mm/min]; ISO 178
Flexural Modulus	15.2 GPa	2200 ksi	2 [mm/min]; ISO 178
Charpy Impact Unnotched	10.5 J/cm ²	50.0 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	10.5 J/cm ²	50.0 ft-lb/in ²	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.60 J/cm ²	7.61 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.90 J/cm ²	9.04 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	17.0 µm/m-°C	9.44 µin/in-°F	ISO 11359-1/2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	88.0 µm/m-°C	48.9 µin/in-°F	ISO 11359-1/2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Melting Point	262 °C	504 °F	ISO 11357-1/3
Deflection Temperature at 0.46 MPa (66 psi)	260 °C	500 °F	HDT/B; ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	260 °C	500 °F	HDT/A; ISO 75-2
Deflection Temperature at 8.0 MPa	235 °C	455 °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
Comparative Tracking Index	600 V	600 V	Test Solution A; IEC 60112

Processing Properties	Metric	English	Comments
Feed Temperature	60.0 - 80.0 °C	140 - 176 °F	
Nozzle Temperature	280 - 295 °C	536 - 563 °F	
Zone 1	260 - 300 °C	500 - 572 °F	
Zone 2	260 - 300 °C	500 - 572 °F	
Zone 3	260 - 300 °C	500 - 572 °F	
Zone 4	260 - 300 °C	500 - 572 °F	
Melt Temperature	280 - 320 °C	536 - 608 °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
	Pass	100% Conc. at 23°C

Descriptive Properties	Pass Value	100% Conc. at 23°C Comments
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
Resistance to Methanol	Pass	100% Conc. at 23°C

Descriptive Properties	Value	Comments
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 Sodium hypochlorite, aqueous	Fail	5% Conc. at 23°C
Resistant to Sulphuric acid	Fail	10% Conc. at 23°C
	Fail	96% Conc. at 23°C
Resistant to Super-grade petrol (DIN 51600)	Pass	100% Conc. at 23°C

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

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