

## Akro-Plastic Akromid® A3 (2414) PA 6.6 Dry

Category : Polymer , Thermoplastic , Nylon , Nylon 66

### 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-A3-2414-PA-66-Dry.php](http://www.lookpolymers.com/polymer_Akro-Plastic-Akromid-A3-2414-PA-66-Dry.php)

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in <sup>3</sup>	ISO 1183
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Water Absorption	2.9 - 3.1 %	2.9 - 3.1 %	62% r.h., Humidity; ISO 62
	@Temperature 70.0 °C	@Temperature 158 °F	
Water Absorption at Saturation	8.0 - 9.0 %	8.0 - 9.0 %	ISO 62
	@Time 82800 sec	@Time 23.0 hour	
Linear Mold Shrinkage, Flow	0.0186 cm/cm	0.0186 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0225 cm/cm	0.0225 in/in	ISO 294-4
Spiral Flow	104 cm	40.9 in	Cross Section: 7[mm]x3.5[mm]; AKRO

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	85.0 MPa	12300 psi	5 [mm/min], Test Speed 50 [mm/min]; ISO 527-1/2
	42.5 MPa	6160 psi	5 [mm/min], 50% Loss of Tensile Strength; ICE 216
	@Temperature 115 - 145 °C, Time 1.80e+7 sec	@Temperature 239 - 293 °F, Time 5000 hour	
Tensile Strength, Yield	42.5 MPa	6160 psi	5 [mm/min], 50% Loss of Tensile Strength; ICE 216
	@Temperature 100 - 120 °C, Time 7.20e+7 sec	@Temperature 212 - 248 °F, Time 20000 hour	
Elongation at Break	>= 20 %	>= 20 %	5 [mm/min]; ISO 527-1/2
Elongation at Yield	4.5 %	4.5 %	50 [mm/min]; ISO 527-2
Tensile Modulus	3.20 GPa	464 ksi	1[mm/min]; ISO 527-1/2

Flexural Strength Mechanical Properties	110 MPa Metric	16000 psi English	2 [mm/min]; ISO 178 Comments
Flexural Modulus	2.80 GPa	406 ksi	2 [mm/min]; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.200 J/cm <sup>2</sup>	0.952 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.500 J/cm <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	71.0 µm/m-°C	39.4 µin/in-°F	ISO 11359-1/2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	110 µm/m-°C	61.1 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)	215 °C	419 °F	HDT/B; ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	75.0 °C	167 °F	HDT/A; ISO 75-2
Flammability, UL94	V-2	V-2	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Glow Wire Test	675 °C	1250 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	750 °C	1380 °F	Flammability Index; 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+13 ohm	1.00e+13 ohm	IEC 60093
Comparative Tracking Index	600 V	600 V	Test Solution A; IEC 60112

Electrical Properties	Metric	English	Comments
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 - 310 °C	536 - 590 °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
Resistant to Sodium hypochlorite, aqueous	Fail	5% Conc. at 23°C
Rate acc. FMVSS 302 (	Passed	
Rate acc. FMVSS 302,(	FMVSS 302, >1 [mm] Thickness, >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 Pass	Comments 100% Conc. 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 Descriptive Properties	Pass Value	100% Conc. at 23°C 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	10% Conc. at 23°C
	Fail	96% Conc. at 23°C
	Fail	5% Conc. at 23°C

Descriptive Properties	Value	Comments
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	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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