AKROLOY® PA GF 40 natural (3059)

Polyamide 66 + PA 6I/6T

AKRO-PLASTIC GmbH

Message:

AKROLOY® PA GF 40 natural (3059) is a 40% glass fibre reinforced polyamide blend with very high stiffness and strength, even in conditioned state. Applications are components with high dimensional stability, independent from moisture content. AKROLOY PA GF 40 is an alternative for aluminium- and zinc diecast alloys.

General Information				
Filler / Reinforcement	Glass Fiber,40% Filler by Weight			
Features	Good Dimensional Stability High Stiffness High Strength			
Uses	Metal Replacement			
Appearance	Natural Color			
Resin ID (ISO 1043)	PA66 + PA6I/6T GF40			
Physical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Density (23°C)	1.48	--	g/cm³	ISO 1183
Spiral Flow	66.0	--	cm	Internal Method
Molding Shrinkage				ISO 294-4
Across Flow	0.60	--	%	
Flow	< 0.10	--	%	
Water Absorption (Saturation, 23°C)	4.0 to 4.5	--	%	ISO 62
Humidity Absorption - 62% RH (70°C)	1.3	--	%	ISO 1110
Temperature Index				IEC 216
50% Loss of Tensile Strength, 20000 hr	110 to 130	--	°C	
50% Loss of Tensile Strength, 5000 hr	140 to 150	--	°C	
Reinforcement Content	40	--	%	ISO 1172
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Ball Indentation Hardness (H 961/30)	265	--	MPa	ISO 2039-1
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus	13000	12000	MPa	ISO 527-2/1
Tensile Stress (Break)	230	200	MPa	ISO 527-2/5
Tensile Strain (Break)	3.0	3.0	%	ISO 527-2/5
Flexural Modulus [1]	12000	--	MPa	ISO 178
Flexural Stress [2]	325	--	MPa	ISO 178

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	13	--	kJ/m²	
23°C	14	14	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	80	--	kJ/m²	
23°C	95	90	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, Unannealed	245	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	220	--	°C	ISO 75-2/A
Melting Temperature [3]	255	--	°C	DIN EN 11357-1
CLTE				ISO 11359-2
Flow : 23 to 80°C	1.5E-5	--	cm/cm/°C	
Transverse : 23 to 80°C	7.0E-5	--	cm/cm/°C	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Comparative Tracking Index (Solution A)	600	--	V	IEC 60112
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Burning Rate [4] (1.00 mm)	< 100	--	mm/min	FMVSS 302
Flame Rating (0.800 mm)	HB	--		UL 94
NOTE				
1.	2.0 mm/min			
2.	2.0 mm/min			
3.	10 K/min, DSC			
4.	>1 mm			

Recommended distributors for this material

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