Amilan® HF3074G-30

Polyamide 6

Toray Resin Company

Technical Data

Product Description

Amilan® HF3074G-30 is a Polyamide 6 (Nylon 6) product filled with 30% glass fiber. It is available in Asia Pacific, Europe, or North America.

Characteristics include:
- Flame Rated
- Halogen Free

General

Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet (Japanese)		
UL Yellow Card [2]	• E41797-233454		
Search for UL Yellow Card	• Toray Resin Company • Amilan®		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Features	• Halogen Free		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.53	--	g/cm³	ISO 1183
Molding Shrinkage				Internal Method
Across Flow : 0.118 in (3.00 mm)	0.60 to 0.90	--	%	
Flow : 0.118 in (3.00 mm)	0.20 to 0.50	--	%	
Water Absorption				ISO 62
73°F (23°C), 24 hr	0.70	--	%	
Saturation, 73°F (23°C)	4.0	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Stress				ISO 527-2
Yield, -40°F (-40°C)	32600 (225)	--	psi (MPa)	
Yield, 73°F (23°C)	25800 (178)	19600 (135)	psi (MPa)	
Yield, 176°F (80°C)	18100 (125)	--	psi (MPa)	
Tensile Strain				ISO 527-2
Break, -40°F (-40°C)	2.5	--	%	
Break, 73°F (23°C)	1.9	1.9	%	
Break, 176°F (80°C)	4.0	--	%	
Flexural Modulus				ISO 178
-40°F (-40°C)	1.78E+6 (12300)	--	psi (MPa)	
73°F (23°C)	1.62E+6 (11200)	1.13E+6 (7800)	psi (MPa)	
176°F (80°C)	972000 (6700)	--	psi (MPa)	

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Mechanical	Dry	Conditioned	Unit	Test Method
Flexural Stress				ISO 178
-40°F (-40°C)	43500 (300)	--	psi (MPa)	
73°F (23°C)	40800 (281)	29700 (205)	psi (MPa)	
176°F (80°C)	27600 (190)	--	psi (MPa)	
Taber Abrasion Resistance (1000 Cycles)	26.0	--	mg	
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179
-40°F (-40°C)	3.6 (7.5)	--	ft·lb/in² (kJ/m²)	
73°F (23°C)	5.0 (11)	7.1 (15)	ft·lb/in² (kJ/m²)	
Charpy Unnotched Impact Strength				ISO 179
73°F (23°C)	33 (70)	38 (80)	ft·lb/in² (kJ/m²)	
Hardness	**Dry**	**Conditioned**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale, 73°F (23°C))	121	--		ISO 2039-2
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/B
66 psi (0.45 MPa), Unannealed	495 (257)	--	°F (°C)	
Melting Temperature	509 (265)	--	°F (°C)	DSC
CLTE - Flow	1.1E-5 (2.0E-5)	--	in/in/°F (cm/cm/°C)	ISO 11359-2
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity	1.0E+15	1.0E+13	ohm·cm	IEC 60093
Electric Strength (0.118 in (3.00 mm))	970 (38)	840 (33)	V/mil (kV/mm)	IEC 60243-1
Dielectric Constant [4] (73°F (23°C), 1 MHz)	4.00	--		IEC 60250
Dissipation Factor [4] (73°F (23°C), 1 MHz)	0.010	--		IEC 60250
Arc Resistance [5]	70.0	--	sec	UL 746
Comparative Tracking Index (CTI)	475	--	V	UL 746
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating (0.0313 in (0.794 mm))	V-0	--		UL 94