

Akulon® K224-G3

Polyamide 6
DSM Engineering Plastics

Message:

Akulon® K224-G3 is a Polyamide 6 (Nylon 6) material filled with 15% glass fiber. It is available in Asia Pacific, Europe, or North America for injection molding. Primary attribute of Akulon® K224-G3: Flame Rated.
Typical application of Akulon® K224-G3: Automotive

General Information				
UL YellowCard		E43392-235092	E43392-235095	E47960-240097
Filler / Reinforcement		Glass Fiber, 15% Filler by Weight		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.23	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.96	--	%	
Flow	0.32	--	%	
Water Absorption				ISO 62
Saturation, 23°C	7.6	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	6000	3500	MPa	ISO 527-2
Tensile Stress (Break)	125	70.0	MPa	ISO 527-2
Tensile Strain (Break)	3.0	12	%	ISO 527-2
Flexural Modulus	5200	--	MPa	ISO 178
Flexural Stress	170	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	6.0	6.0	kJ/m ²	
23°C	7.0	15	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40	40	kJ/m ²	
23°C	45	80	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	215	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	195	--	°C	ISO 75-2/A

Melting Temperature ¹	220	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	3.0E-5	--	cm/cm/°C	
Transverse	8.0E-5	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+15	ohms·cm	IEC 60093
Electric Strength	35	25	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.50	14.0		
1 MHz	4.70	4.50		
Dissipation Factor				IEC 60250
100 Hz	5.5E-3	0.15		
1 MHz	0.018	0.12		
Comparative Tracking Index	--	600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
0.750 mm	HB	--		
1.50 mm	HB	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	4.0 to 8.0		hr	
Rear Temperature	255 to 265		°C	
Middle Temperature	265 to 275		°C	
Front Temperature	265 to 280		°C	
Nozzle Temperature	260 to 280		°C	
Processing (Melt) Temp	250 to 285		°C	
Mold Temperature	50.0 to 80.0		°C	
Injection Rate	Moderate-Fast			
Back Pressure	3.00 to 10.0		MPa	
Screw Compression Ratio	2.5:1.0			
NOTE				
1.	10°C/min			

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