Akulon® K222-D

Polyamide 6

DSM Engineering Plastics

PROSPECTOR®
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Technical Data

Product Description

Low Viscosity

General

Material Status	• Commercial: Active		
Literature [1]	• Processing (English) • Technical Datasheet (English)		
UL Yellow Card [2]	• E43392-235086 • E47960-240087		
Search for UL Yellow Card	• DSM Engineering Plastics • Akulon®		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Features	• Low Viscosity		
Processing Method	• Injection Molding		
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1)	• Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2)	• Viscosity vs. Shear Rate (ISO 11403-2)
Resin ID (ISO 1043)	• PA6		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.13	--	g/cm³	ISO 1183
Water Absorption				ISO 62
Saturation, 73°F (23°C)	9.0	--	%	
Equilibrium, 73°F (23°C), 50% RH	2.5	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	464000 (3200)	145000 (1000)	psi (MPa)	ISO 527-2
Tensile Stress (Yield)	12300 (85.0)	6530 (45.0)	psi (MPa)	ISO 527-2
Tensile Strain (Yield)	4.0	25	%	ISO 527-2
Nominal Tensile Strain at Break	20	> 50	%	ISO 527-2
Flexural Modulus	377000 (2600)	--	psi (MPa)	ISO 178
Flexural Stress	14500 (100)	--	psi (MPa)	ISO 178

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F (-30°C)	2.4 (5.0)	2.4 (5.0)	ft·lb/in² (kJ/m²)	
73°F (23°C)	3.8 (8.0)	17 (35)	ft·lb/in² (kJ/m²)	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F (-30°C)	No Break	No Break		
73°F (23°C)	No Break	No Break		

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Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
66 psi (0.45 MPa), Unannealed	302 (150)	--	°F (°C)	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	140 (60.0)	--	°F (°C)	ISO 75-2/A
Melting Temperature [4]	428 (220)	--	°F (°C)	ISO 11357-3
CLTE				ISO 11359-2
Flow	5.0E-5 (9.0E-5)	--	in/in/°F (cm/cm/°C)	
Transverse	5.0E-5 (9.0E-5)	--	in/in/°F (cm/cm/°C)	

Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Electric Strength	640 (25)	510 (20)	V/mil (kV/mm)	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.20	14.0		
1 MHz	3.00	4.50		
Dissipation Factor				IEC 60250
100 Hz	5.0E-3	0.30		
1 MHz	0.015	0.12		
Comparative Tracking Index	--	600	V	IEC 60112

Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
0.06 in (1.5 mm)	V-2	--		
0.12 in (3.0 mm)	V-2	--		
Oxygen Index	26	--	%	ISO 4589-2

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

[4] 10°C/min