



Technical Data Sheet & MSDS Information

Nylon 6

Akulon® K222-D
DSM Engineering Plastics - Polyamide 6

Tuesday, September 12, 2017

General Information

Product Description

Low Viscosity

Special Features:

- Contains release agent
- Low viscosity

Used In:

- Chair Bases
- Chair Arms
- Chair Frames

Akulon® is our family of high performance polyamide 6 and polyamide 66 materials, used by customers across the world in applications ranging from automotive, electronics & electrical, to furniture and packaging.

We offer Akulon® grades for injection molding, blow molding and extrusion (including barrier film, stock shapes, convoluted tubes, and mono and multi filament).

In molded parts the material offers an excellent balance of easy design and processing with outstanding mechanical properties over a wide temperature range and in diverse conditions. Meanwhile for extrusion the strength, resilience and easy processing of Akulon® sets the market standards.

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Additive	• Mold Release
Features	• Low Viscosity
Uses	• Furniture
Processing Method	• Injection Molding
Resin ID (ISO 1043)	• PA6

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.13	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) 275°C/5.0 kg	185	--	cm ³ /10min	ISO 1133
Water Absorption				ISO 62
Saturation, 23°C	9.0	--	%	
Water Absorption				ISO 62
Equilibrium, 23°C, 50% RH	2.5	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3200	1000	MPa	ISO 527-2
Tensile Stress (Yield)	85.0	45.0	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	2600	--	MPa	ISO 178
Flexural Stress	100	--	MPa	ISO 178

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	5.0	5.0	kJ/m ²	
23°C	8.0	35	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
0.45 MPa, Unannealed	150	--	°C	
Heat Deflection Temperature				ISO 75-2/A
1.8 MPa, Unannealed	60.0	--	°C	
Vicat Softening Temperature	195	--	°C	ISO 306/B50
Melting Temperature ²	220	--	°C	ISO 11357-3
CLTE - Flow	9.0E-5	--	cm/cm/°C	ISO 11359-2
CLTE - Transverse	9.0E-5	--	cm/cm/°C	ISO 11359-2
Effective Thermal Diffusivity	8.82E-8	--	m ² /s	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity	1.0E+15	1.0E+12	ohms-cm	IEC 60093
Electric Strength	25	20	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
1.5 mm	V-2	--		
3.0 mm	V-2	--		
Oxygen Index	26	--	%	ISO 4589-2
Fill Analysis	Dry	Conditioned	Unit	
Melt Density	0.960	--	g/cm ³	
Melt Thermal Conductivity	0.23	--	W/m/K	
Specific Heat Capacity of Melt	2680	--	J/kg/°C	

Processing Information

Injection	Dry Unit
Drying Temperature	80 °C
Drying Time	4.0 to 8.0 hr
Rear Temperature	230 to 235 °C
Middle Temperature	235 to 250 °C
Front Temperature	240 to 260 °C
Nozzle Temperature	240 to 270 °C
Processing (Melt) Temp	240 to 275 °C
Mold Temperature	50 to 80 °C
Injection Rate	Moderate-Fast
Back Pressure	3.00 to 10.0 MPa

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Injection	Dry Unit
Screw Compression Ratio	2.5:1.0

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min