

Akulon® K223-TP4

Polyamide 6
DSM Engineering Plastics

Message:

Akulon® K223-TP4 is a Polyamide 6 (Nylon 6) material. It is available in Europe or North America for injection molding.
Important attributes of Akulon® K223-TP4 are:
Flame Rated
Impact Modified
Mold Release Agent

General Information				
Additive		Impact Modifier		
		Mold Release		
Features		Impact Modified		
Forms		Pellets		
Processing Method		Injection Molding		
Multi-Point Data		Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.07	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	1.7	--	%	
Flow	1.4	--	%	
Water Absorption				ISO 62
Saturation, 23°C	8.5	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	2000	625	MPa	ISO 527-2
Tensile Stress (Yield)	50.0	30.0	MPa	ISO 527-2
Tensile Strain (Yield)	4.0	30	%	ISO 527-2
Nominal Tensile Strain at Break	> 50	> 50	%	ISO 527-2
Flexural Modulus	1600	--	MPa	ISO 178
Flexural Stress	65.0	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	18	25	kJ/m ²	
23°C	65	75	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				
0.45 MPa, Unannealed	130	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	55.0	--	°C	ISO 75-2/A
CLTE				ISO 11359-2
Flow	1.2E-4	--	cm/cm/°C	
Transverse	1.2E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	--	5.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+13	ohms·cm	IEC 60093
Electric Strength	27	20	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.10	10.0		
1 MHz	2.70	3.50		
Dissipation Factor				IEC 60250
100 Hz	3.0E-3	0.16		
1 MHz	0.016	0.10		
Comparative Tracking Index	--	600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification (1.60 mm)	HB	--		IEC 60695-11-10, -20
Glow Wire Flammability Index				IEC 60695-2-12
1.50 mm	700	--	°C	
2.00 mm	700	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
1.50 mm	725	--	°C	
2.00 mm	725	--	°C	
Injection	Dry	Unit		
Drying Temperature	80.0		°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	50.0 to 80.0		°C	
Injection Rate	Moderate-Fast			
Back Pressure	3.00 to 10.0		MPa	
Screw Compression Ratio	2.5:1.0			

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