

Akulon® S223-E

Polyamide 66
DSM Engineering Plastics

Message:

Akulon® S223-E is a Polyamide 66 (Nylon 66) material. It is available in Asia Pacific or Europe for injection molding.
Important attributes of Akulon® S223-E are:
Flame Rated
Medium Viscosity

General Information		
UL YellowCard	E43392-235160	E47960-240110
Features	Medium-low Viscosity	
Processing Method	Injection Molding	
Multi-Point Data	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 Heat vs. Temperature (ISO 11403-2)	
	Specific Volume vs Temperature (ISO 11403-2)	
	Viscosity vs. Shear Rate (ISO 11403-2)	

Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	1.6	--	%	
Flow	1.6	--	%	
Water Absorption				ISO 62
Saturation, 23°C	8.5	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3500	1500	MPa	ISO 527-2
Tensile Stress (Yield)	95.0	60.0	MPa	ISO 527-2
Tensile Strain (Yield)	3.5	20	%	ISO 527-2
Nominal Tensile Strain at Break	25	> 50	%	ISO 527-2
Flexural Modulus	2800	--	MPa	ISO 178
Flexural Stress	125	--	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	6.0	12	kJ/m²	
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	225	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	80.0	--	°C	ISO 75-2/A
Melting Temperature ¹	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow	1.0E-4	--	cm/cm/°C	
Transverse	1.0E-4	--	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	25	20	kV/mm	IEC 60243-1
Relative Permittivity				IEC 60250
100 Hz	3.20	10.0		
1 MHz	3.00	4.00		
Dissipation Factor				IEC 60250
100 Hz	6.0E-3	0.14		
1 MHz	0.017	0.10		
Comparative Tracking Index	600	600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flammability Classification				IEC 60695-11-10, -20
1.50 mm	V-2	--		
3.00 mm	V-2	--		
Injection	Dry	Unit		
Drying Temperature	80.0			°C
Drying Time	4.0 to 8.0			hr
Rear Temperature	265 to 285			°C
Middle Temperature	275 to 290			°C
Front Temperature	280 to 295			°C
Nozzle Temperature	280 to 290			°C
Processing (Melt) Temp	270 to 295			°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				

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