

Vyncolit® 4221XB

Phenolic

Vyncolit N.V.

Message:

Vyncolit® 4221XB is an organic and mineral filled phenolic molding compound with good mechanical properties in combination with good electrical and heat insulation properties.

General Information			
Filler / Reinforcement	Mineral filler		
	Organic filler		
Features	Insulation		
	Thermal insulation		
RoHS Compliance	RoHS compliance		
Appearance	Black		
Forms	Particle		
Processing Method	Resin transfer molding		
	Compression molding		
	Injection molding		
Resin ID (ISO 1043)	>PF-(L1D+GF+MD)50		
Physical	Nominal Value	Unit	Test Method
Density	1.50	g/cm ³	ISO 1183
Apparent Density	0.55	g/cm ³	ISO 60
Molding Shrinkage - Flow	0.57	%	ISO 2577
Water Absorption (23°C, 24 hr)	0.19	%	ISO 62
Post Shrinkage	0.13	%	ISO 2577
Flexural Strain at Break	1.5	%	ISO 178
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (Injection Molded)	9000	MPa	ISO 527-2
Tensile Stress (Break, Injection Molded)	62.0	MPa	ISO 527-2
Tensile Strain (Break, Injection Molded)	0.88	%	ISO 527-2
Flexural Modulus (Injection Molded)	8000	MPa	ISO 178
Flexural Stress (Injection Molded)	126	MPa	ISO 178
Compressive Stress	235	MPa	ISO 604
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (Injection Molded)	2.4	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength (Injection Molded)	8.6	kJ/m ²	ISO 179

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	174	°C	ISO 75-2/Af
Linear thermal expansion coefficient			TMA
Flow	2.7E-5	cm/cm/°C	TMA
Lateral	6.2E-5	cm/cm/°C	TMA
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	2.4E+13	ohms	IEC 60093
Volume Resistivity	1.7E+15	ohms·cm	IEC 60093
Dielectric Strength	34	kV/mm	IEC 60243-1
Comparative Tracking Index	200	V	IEC 60112
Injection	Nominal Value	Unit	
Rear Temperature	60.0	°C	
Middle Temperature	73.9	°C	
Nozzle Temperature	87.8	°C	
Processing (Melt) Temp	98.9 - 116	°C	
Mold Temperature	166 - 188	°C	
Injection Pressure	100 - 248	MPa	
Holding Pressure	30.0 - 89.6	MPa	
Back Pressure	4.83 - 15.2	MPa	
Injection instructions			

Plastication: 50rpm Injection Time: 2 to 8 sec Hold Time: 1 to 5 sec/mm Cure Time, 0.125 in: 5 to 12 sec/mm

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