

Vyncolit® RX®3-1-501N

Diallyl Phthalate

Vyncolit N.V.

Message:

3-1-501N is a mineral filled flame retardant, diallyl ortho-phthalate molding compound, which meets the requirements of ASTM D5948 Type MDG-F.

General Information	
Filler / Reinforcement	Mineral filler
Features	Good dimensional stability
	Moisture resistance
	Antibacterial property
	Solvent resistance
	Impact resistance, high
	Good electrical performance
	Good chemical resistance
	alkali resistance
	Good wear resistance
	Fuel resistance
	Heat resistance, high
	acid resistance
	Flame retardancy
Uses	Membrane key switch
	Aircraft applications
	Insulating material
	Connector
	Communication Equipment
Agency Ratings	ASTM D 5948, Type MDG-F
	MIL C-24308
Appearance	Black
	Grey
	Blue
	Green
Forms	Particles
Processing Method	Resin transfer molding
	Compression molding
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.83	g/cm ³	ASTM D792
Molding Shrinkage - Flow (Compression Molded)	0.30 - 0.60	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Break, Compression Molded)	55.2	MPa	ASTM D638
Flexural Modulus (Compression Molded)	11700	MPa	ASTM D790
Flexural Strength (Break)	103	MPa	ASTM D790
Compressive Strength	152	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (Compression Molded)	32	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, Compression Molded)	163	°C	ASTM D648
CLTE - Flow	2.5E-5	cm/cm/°C	ASTM E831
RTI Elec	130	°C	UL 746
RTI Imp	130	°C	UL 746
RTI	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength ¹	16	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
1 kHz	4.30		ASTM D150
1 MHz	3.70		ASTM D150
Dissipation Factor			ASTM D150
1 kHz	0.013		ASTM D150
1 MHz	0.016		ASTM D150
Arc Resistance	135	sec	ASTM D495
Comparative Tracking Index (CTI)	600	V	UL 746
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.59 mm	V-0		UL 94
3.18 mm	V-0		UL 94
Oxygen Index	30	%	ASTM D2863
Injection	Nominal Value	Unit	
Rear Temperature	60.0	°C	
Middle Temperature	76.7	°C	
Nozzle Temperature	87.8	°C	
Processing (Melt) Temp	110 - 116	°C	
Mold Temperature	160 - 182	°C	

Injection instructions

Plastication: 50rpm Back Pressure (gauge): slight Injection Pressure: set to give 5 to 15 sec injection time Hold Pressure: 1/2 of injection pressure Cure Time, 0.125 in: 40 sec Water Absorption, ASTM D570, 48 hrs, 50°C: 0.3% Flammability Ignition, ASTM D229: 105 sec Flammability Burn, ASTM D229: 25 sec Dielectric Strength, ASTM D149, 60 Hz, Method B, wet: 15.8 kV/mm Dielectric Constant, ASTM D150, 1000 Hz, wet: 4.3 Dielectric Constant, ASTM D150, 1000000 Hz, wet: 3.7 Dissipation Factor, ASTM D150, 1000 Hz, wet: 0.013 Dissipation Factor, ASTM D150, 1000000 Hz, wet: 0.016 Compression and Transfer Molding Conditions:
Preforming Pressure: 8000 to 12000 psi
Preheat Temperature: 220 to 230 °F
Preheat Time: 45 sec
Mold Temperature: 320 to 350 °F
Compression Mold Pressure: 3500 to 6000 psi
Transfer Mold Pressure: 2500 to 5000 psi
Cure Time, 0.125 in: 45 to 70 sec

NOTE

1. Method B (step by step)

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