

Vyncolit® 51-01 CAFR

Diallyl Phthalate

Vyncolit N.V.

Message:

Vyncolit 51-01 CAFR is a diallyl phthalate (DAP) material containing mineral fillers. This product is available in North America, Africa and the Middle East, Latin America, Europe or Asia Pacific. The processing methods are: resin transfer molding, compression molding or injection molding.

The main features of Vyncolit 51-01 CAFR are:

flame retardant/rated flame

chemical resistance

Flame Retardant

Good dimensional stability

moisture resistance

Typical application areas include:

Electrical/electronic applications

Wire and cable

Aerospace

military applications

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	MIL C-24308
Forms	Particles
Processing Method	Resin transfer molding
	Compression molding

Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.75	g/cm ³	ASTM D792
Bulk Factor	2.3		ASTM D1895
Molding Shrinkage - Flow (Compression Molded)	0.40 - 0.60	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	55.2	MPa	ASTM D638
Flexural Modulus	8270	MPa	ASTM D790
Flexural Strength	89.6	MPa	ASTM D790
Compressive Strength	145	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	21	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	163	°C	ASTM D648
CLTE - Flow	3.4E-5	cm/cm/°C	ASTM D696
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			ASTM D149
-- ¹	16	kV/mm	ASTM D149
-- ²	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
1 kHz	4.50		ASTM D150
1 MHz	4.30		ASTM D150
Dissipation Factor			ASTM D150
1 kHz	0.020		ASTM D150
1 MHz	0.025		ASTM D150
Arc Resistance	135	sec	ASTM D495
Comparative Tracking Index (CTI)	600	V	UL 746
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: 50rpmBack Pressure (gauge): slightInjection Pressure: set to give 5 to 15 sec injection timeHold Pressure: 1/2 of injection pressureCure Time, 0.125 in: 40 secResin Isomer, DAP: OrthoWater Absorption, ASTM D570, 48 hrs, 50°C: 0.55%Flammability Ignition, ASTM D229: 95 secFlammability Burn, ASTM D229: 50 secDielectric Strength, ASTM D149, 60 Hz, Method A, wet: 400 V/milDielectric Strength, ASTM D149, 60 Hz, Method B, wet: 375 V/milDielectric Constant, ASTM D150, 1000 Hz, wet: 4.5Dielectric Constant, ASTM D150, 1000000 Hz, wet: 4.3Dissipation Factor, ASTM D150, 1000 Hz, wet: 0.02Dissipation Factor, ASTM D150, 1000000 Hz, wet: 0.025Compression 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 A (short time)	
2.	Method B (step by step)	

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