

Vyncolit® 52-40-40

Diallyl Phthalate

Vyncolit N.V.

Message:

Vyncolit 52-40-40 is a diallyl phthalate (DAP) material containing long glass fiber. 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 the Vyncolit 52-40-40 are:

- chemical resistance
- Good dimensional stability
- moisture resistance
- Impact resistance
- Wear-resistant

Typical application areas include:

- Electrical/electronic applications
- Wire and cable
- Aerospace
- military applications

General Information	
Filler / Reinforcement	Long glass fiber
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
Uses	Membrane key switch
	Aircraft applications
	Insulating material
	Connector
	Communication Equipment
Agency Ratings	MIL C-24308
Forms	flake
Processing Method	Resin transfer molding
	Compression molding
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.79	g/cm ³	ASTM D792
Bulk Factor	6.0		ASTM D1895
Molding Shrinkage - Flow (Compression Molded)	0.15 - 0.35	%	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	68.9	MPa	ASTM D638
Flexural Modulus	13800	MPa	ASTM D790
Flexural Strength	131	MPa	ASTM D790
Compressive Strength	152	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	190	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	260	°C	ASTM D648
CLTE - Flow	2.2E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.31	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength			ASTM D149
-- ¹	15	kV/mm	ASTM D149
-- ²	14	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	0.010		ASTM D150
1 MHz	0.016		ASTM D150
Arc Resistance	133	sec	ASTM D495
Comparative Tracking Index (CTI)	600	V	UL 746
Flammability	Nominal Value	Unit	Test Method
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 The value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM F433. Resin Isomer, DAP: Ortho Water Absorption, ASTM D570, 48 hrs, 50°C: 0.32% Flammability Ignition, ASTM D229: 90 sec Flammability Burn, ASTM D229: 60 sec Dielectric Strength, ASTM D149, 60 Hz, Method A, wet: 375 V/mil Dielectric Strength, ASTM D149, 60 Hz, Method B, wet: 350 V/mil Dielectric Constant, ASTM D150, 1000 Hz, wet: 4.5 Dielectric Constant, ASTM D150, 1000000 Hz, wet: 4.3 Dissipation Factor, ASTM D150, 1000 Hz, wet: 0.01 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 A (short time)
2.	Method B (step by step)

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