NOVALAC FM 4017F

Phenolic

Vyncolit N.V.

Message:

NOVALAC FM 4017F is a phenolic (Phenolic) material, and its filler is glass fiber reinforced material. 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 NOVALAC FM 4017F are:
flame retardant/rated flame
chemical resistance
high strength
Creep resistance
Good dimensional stability
Typical application areas include:
Electrical/electronic applications
engineering/industrial accessories
electrical appliances
House
Tools

General Information	
Filler / Reinforcement	Glass fiber reinforced material
Features	Ultra high toughness Good dimensional stability Low smoke High strength Antibacterial property Solvent resistance Good creep resistance alkali resistance acid resistance
Uses	Membrane key switch Pump parts Gear Electrical/Electronic Applications Electrical appliances Power/other tools Connector Application in Automobile Field Shell
Forms	Particles
Processing Method	Resin transfer molding Compression molding

Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.81	g/cm³	ASTM D792
Bulk Factor	3.0		ASTM D1895
Molding Shrinkage - Flow (Compression Molded)	0.20	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.070	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	125		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength	72.4	MPa	ASTM D638
Flexural Modulus	15200	MPa	ASTM D790
Flexural Strength	131	MPa	ASTM D790
Compressive Strength	290	MPa	ASTM D695
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact	37	J/m	ASTM D256A
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	188	°C	ASTM D648
CLTE - Flow	1.9E-5	cm/cm/°C	ASTM D696
RTI Elec	150	°C	UL 746
RTI Imp	150	°C	UL 746
RTI	150	°C	UL 746
Electrical	**Nominal Value**	**Unit**	**Test Method**
Dielectric Strength			ASTM D149
-- [1]	15	kV/mm	ASTM D149
-- [2]	14	kV/mm	ASTM D149
Arc Resistance	180	sec	ASTM D495
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
1.59 mm	V-0		UL 94
3.18 mm	V-0		UL 94
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	
Back Pressure	0.207	MPa	
Injection instructions			

Plastication: 50rpmInjection Pressure: Set to give 3 to 5 seconds injection timeHold Pressure: 50 to 100% of injection pressureHold Time: 10 sec minimumCure Time, 0.125 in: 30 to 35 secWater Absorption, ASTM D570, 48 hrs, 50°C: 0.15%DTUL @264psi - Unannealed, ASTM D648, Post Baked: 550°FDielectric Strength, ASTM D149, 60 Hz, Method A, wet: 375 V/milDielectric Strength, ASTM D149, 60 Hz, Method B, wet: 350 V/milBulk Factor, ASTM D1895: 2.5 to 3.5Compression and Transfer Molding Conditions:
Preforming Pressure: 8000 to 12000 psi
Preheat Temperature: 210 to 235 °F
Preheat Time: 45 sec
Mold Temperature: 330 to 360 °F
Compression Mold Pressure: 2500 to 5000 psi
Transfer Mold Pressure: 4000 to 6000 psi
Cure Time, 0.125 in: 40 to 50 sec

NOTE	
1.	Method A (short time)
2.	Method B (step by step)

Recommended distributors for this material

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