

NOVALAC RX®431

Phenolic

Vyncolit N.V.

Message:

NOVALAC RX®431 is a phenolic (Phenolic) material, and its filler is fiber filler. 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.

NOVALAC RX®The main features of the 431 are:

- flame retardant/rated flame
- chemical resistance
- Creep resistance
- Good dimensional stability

Typical application areas include:

- Electrical/electronic applications
- engineering/industrial accessories
- electrical appliances
- House
- Tools

General Information			
Filler / Reinforcement	Fiber filler		
Features	Good dimensional stability		
	Low smoke		
	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		
Agency Ratings	ASTM D 5948, Type CFI-10		
Forms	Particle		
Processing Method	Resin transfer molding		
	Compression molding		
	Injection molding		
Physical	Nominal Value	Unit	Test Method

Specific Gravity	1.43	g/cm ³	ASTM D792
Bulk Factor	3.5		ASTM D1895
Molding Shrinkage - Flow (Compression Molded)	0.20	%	ASTM D955
Water Absorption (23°C, 24 hr)	0.60	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (E-Scale)	75		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	41.4	MPa	ASTM D638
Flexural Modulus	9650	MPa	ASTM D790
Flexural Strength	75.8	MPa	ASTM D790
Compressive Strength	186	MPa	ASTM D695
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact	59	J/m	ASTM D256A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	191	°C	ASTM D648
Linear thermal expansion coefficient			ASTM D696
Flow	2.7E-5	cm/cm/°C	ASTM D696
Lateral	6.9E-5	cm/cm/°C	ASTM D696
Thermal Conductivity	0.58	W/m/K	ASTM C177
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	1.6	kV/mm	ASTM D149
-- ²	1.4	kV/mm	ASTM D149
Arc Resistance	60.0	sec	ASTM D495
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.59 mm	HB		UL 94
3.18 mm	HB		UL 94
Injection	Nominal Value	Unit	
Rear Temperature	60.0	°C	
Middle Temperature	73.9	°C	
Nozzle Temperature	98.9	°C	
Processing (Melt) Temp	98.9 - 110	°C	
Mold Temperature	160 - 171	°C	
Back Pressure	0.345	MPa	
Injection instructions			

Plastication: 50 to 65rpmInjection Pressure: Set to give 6 to 10 seconds injection timeHold Pressure: 50 to 100% of injection pressureHold Time: 15 sec minimumCure Time, 0.125 in: 40 to 45 secThe value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM F433.Water Absorption, ASTM D570, 48 hrs, 50°C: 1.9%Flexural Strain, ASTM D790: 0.85%Dielectric Strength, ASTM D149, 60 Hz, Method A, wet: 40 V/milDielectric Strength, ASTM D149, 60 Hz, Method B, wet: 35 V/milCompression 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

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

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