# NOVALAC XB-22

Phenolic

Vyncolit N.V.

## Message:

NOVALAC XB-22 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 the NOVALAC XB-22 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<br>Good dimensional stability<br>Low smoke<br>High strength<br>Antibacterial property<br>Solvent resistance<br>Good creep resistance<br>alkali resistance<br>acid resistance |
| Uses | Membrane key switch<br>Pump parts<br>Gear<br>Electrical/Electronic Applications<br>Electrical appliances<br>Power/other tools<br>Connector<br>Application in Automobile Field<br>Shell |
| Forms | Particles |
| Processing Method | Resin transfer molding<br>Compression molding |

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Specific Gravity | 1.49 | g/cm³ | ASTM D792, ISO 1183 |
| Bulk Factor | 2.3 | | ASTM D1895 |
| Molding Shrinkage | | | |
| Flow: Molding | 0.25 | % | ASTM D955 |
| Flow direction | 0.25 | % | ISO 294-4 |
| Water Absorption (23°C, 24 hr) | 0.11 | % | ASTM D570, ISO 62 |
| **Hardness** | **Nominal Value** | **Unit** | **Test Method** |
| Rockwell Hardness | | | |
| E scale | 90 | | ASTM D785 |
| E scale | 80 | | ISO 2039-2 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Stress | | | |
| Fracture | 100 | MPa | ISO 527-2 |
| -- | 89.6 | MPa | ASTM D638 |
| Flexural Modulus | | | |
| -- | 10300 | MPa | ASTM D790 |
| -- | 11000 | MPa | ISO 178 |
| Flexural Strength | | | |
| -- | 169 | MPa | ASTM D790 |
| -- | 140 | MPa | ISO 178 |
| Compressive Strength | 214 | MPa | ASTM D695 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Notched Izod Impact | | | |
| -- | 43 | J/m | ASTM D256A |
| -- | 3.5 | kJ/m² | ISO 180 |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load | | | |
| 1.8 MPa, not annealed | 174 | °C | ASTM D648 |
| 1.8 MPa, not annealed | 170 | °C | ISO 75-2/A |
| CLTE - Flow | 1.3E-5 | cm/cm/°C | ASTM D696 |
| Thermal Conductivity | 0.36 | 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 | | | |
| -- [1] | 15 | kV/mm | ASTM D149 |
| -- [2] | 13 | kV/mm | ASTM D149 |
| -- | 15 | kV/mm | IEC 60243-1 |

| | | | |
|---|---|---|---|
| Arc Resistance | 30.0 | sec | ASTM D495 |

| Flammability | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Flame Rating | | | UL 94 |
| 1.59 mm | HB | | UL 94 |
| 3.18 mm | V-1 | | 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 secThe value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM C518.The value listed as Molding Shrinkage, ISO 294-4, was tested in accordance with ISO 2577 using compression molded specimens.Water Absorption, ASTM D570, 48 hrs, 50°C: 0.42%Flexural Strain, ASTM D790: 1.7%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: 325 V/milCompressive Strength, ISO 604: 240 MPaDielectric Strength, IEC 243, Method A, wet: 14.5 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 | |
|---|---|
| 1. | Method A (short time) |
| 2. | Method B (step by step) |



## Recommended distributors for this material

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