

# NOVALAC RX®342

Phenolic

Vyncolit N.V.

## Message:

NOVALAC RX®342 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 342 are:

- chemical resistance
- Creep resistance
- Good dimensional stability
- Lubrication
- Typical application areas include:
  - Electrical/electronic applications
  - engineering/industrial accessories
  - electrical appliances
  - House
  - Tools

| General Information    |                                    |
|------------------------|------------------------------------|
| Filler / Reinforcement | Fiber filler                       |
| Additive               | Lubricant                          |
| Features               | Good dimensional stability         |
|                        | Low smoke                          |
|                        | Solvent resistance                 |
|                        | Good creep resistance              |
|                        | alkali resistance                  |
|                        | acid resistance                    |
|                        | Self-lubricating                   |
| Uses                   | Membrane key switch                |
|                        | Pump parts                         |
|                        | Gear                               |
|                        | Electrical/Electronic Applications |
|                        | Electrical appliances              |
|                        | Power/other tools                  |
|                        | Connector                          |
|                        | Application in Automobile Field    |
|                        | Shell                              |
| Forms                  | Particle                           |
| Processing Method      | Resin transfer molding             |
|                        | Compression molding                |
|                        | Injection molding                  |

| Physical  | Nominal Value | Unit              | Test Method |
|---|---------------|-------------------|-------------|
| Specific Gravity  | 1.45          | g/cm <sup>3</sup> | ASTM D792   |
| Bulk Factor   | 2.4           |                   | ASTM D1895  |
| Molding Shrinkage - Flow (Compression Molded)           | 0.30          | %                 | ASTM D955   |
| Water Absorption (23°C, 24 hr)                          | 0.25          | %                 | ASTM D570   |
| Hardness  | Nominal Value | Unit              | Test Method |
| Rockwell Hardness (E-Scale)                             | 65            |                   | ASTM D785   |
| Mechanical  | Nominal Value | Unit              | Test Method |
| Tensile Strength  | 41.4          | MPa               | ASTM D638   |
| Flexural Modulus  | 8960          | MPa               | ASTM D790   |
| Flexural Strength                                       | 75.8          | MPa               | ASTM D790   |
| Compressive Strength                                    | 155           | 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) | 191           | °C                | ASTM D648   |
| Linear thermal expansion coefficient                    |               |                   | ASTM D696   |
| Flow  | 6.7E-5        | cm/cm/°C          | ASTM D696   |
| Lateral   | 7.7E-5        | cm/cm/°C          | ASTM D696   |
| Thermal Conductivity                                    | 0.64          | W/m/K             | ASTM C177   |
| Electrical  | Nominal Value | Unit              | Test Method |
| Arc Resistance  | 30.0          | sec               | ASTM D495   |
| 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 65rpm  
Injection Pressure: Set to give 6 to 10 seconds injection time  
Hold Pressure: 50 to 100% of injection pressure  
Hold Time: 15 sec minimum  
Cure Time, 0.125 in: 40 to 45 sec  
The value listed as Thermal Conductivity, ASTM C177, was tested in accordance with ASTM F433.  
Water Absorption, ASTM D570, 48 hrs, 50°C: 1.2%  
Flexural Strain, ASTM D790: 0.83%  
Compression 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

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