

# VYPET VNT 840

Polyethylene Terephthalate

Lavergne Group

## Message:

Vypet VNT 840 is a 40% glass/mineral reinforced PET injection molding compound designed for electrical and structural applications, with High Dielectric Strength.

### Features

- High temperature performance
- Excellent strength & high stiffness
- Excellent dimensional stability

### Typical Applications

- Electric motors
- Brackets
- Connectors

| General Information    |                                      |
|------------------------|--------------------------------------|
| Filler / Reinforcement | Glass \mineral, 40% filler by weight |
| Features               | Good dimensional stability           |
|                        | Rigidity, high                       |
|                        | Good strength                        |
|                        | Heat resistance, high                |
| Uses                   | Electrical/Electronic Applications   |
|                        | Electrical components                |
|                        | Connector                            |

| Physical                          | Nominal Value | Unit              | Test Method |
|-----------------------------------|---------------|-------------------|-------------|
| Density (23°C)                    | 1.61          | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage <sup>1</sup>    |               |                   | ASTM D955   |
| Flow: 3.20mm                      | 0.50          | %                 | ASTM D955   |
| Transverse flow: 3.20mm           | 1.0           | %                 | ASTM D955   |
| Water Absorption (23°C, 24 hr)    | 0.060         | %                 | ASTM D570   |
| Hardness                          | Nominal Value | Unit              | Test Method |
| Rockwell Hardness (R-Scale)       | 109           |                   | ASTM D785   |
| Mechanical                        | Nominal Value | Unit              | Test Method |
| Tensile Stress (Break, 23°C)      | 120           | MPa               | ISO 527-2/5 |
| Flexural Modulus <sup>2</sup>     | 10500         | MPa               | ISO 178     |
| Flexural Stress <sup>3</sup>      | 177           | MPa               | ISO 178     |
| Compressive Strength <sup>4</sup> | 126           | MPa               | ASTM D695   |
| Shear Strength                    | 49.0          | MPa               | ASTM D732   |
| Impact                            | Nominal Value | Unit              | Test Method |
| Notched Izod Impact (23°C)        | 7.0           | kJ/m <sup>2</sup> | ISO 180     |
| Thermal                           | Nominal Value | Unit              | Test Method |

| Heat Deflection Temperature (1.8 MPa, Unannealed)                                   | 222                    | °C       | ISO 75-2/A  |
|-------------------------------------------------------------------------------------|------------------------|----------|-------------|
| Melting Temperature (DSC)                                                           | 246                    | °C       | ISO 3146    |
| Linear thermal expansion coefficient                                                |                        |          | ASTM E831   |
| Flow: 23 to 55°C                                                                    | 2.6E-5                 | cm/cm/°C | ASTM E831   |
| Lateral: 23 to 55°C                                                                 | 3.1E-5                 | cm/cm/°C | ASTM E831   |
| Electrical                                                                          | Nominal Value          | Unit     | Test Method |
| Volume Resistivity                                                                  | 1.7E+16                | ohms·cm  | ASTM D257   |
| Dielectric Strength <sup>5</sup> (23°C, 1.60 mm, in Oil)                            | 28                     | kV/mm    | ASTM D149   |
| Dielectric Constant (1 kHz)                                                         | 3.80                   |          | ASTM D150   |
| Dissipation Factor (1 kHz)                                                          | 8.0E-3                 |          | ASTM D150   |
| Flammability                                                                        | Nominal Value          | Unit     | Test Method |
| Flame Rating (3.20 mm)                                                              | HB                     |          | UL 94       |
| Injection                                                                           | Nominal Value          | Unit     |             |
| Drying Temperature                                                                  | 120                    | °C       |             |
| Drying Time                                                                         | 2.0 - 4.0              | hr       |             |
| Suggested Max Moisture                                                              | 0.020                  | %        |             |
| Rear Temperature                                                                    | 260 - 270              | °C       |             |
| Middle Temperature                                                                  | 265 - 275              | °C       |             |
| Front Temperature                                                                   | 270 - 295              | °C       |             |
| Nozzle Temperature                                                                  | 275 - 300              | °C       |             |
| Processing (Melt) Temp                                                              | 275 - 300              | °C       |             |
| Mold Temperature                                                                    | 75.0 - 120             | °C       |             |
| Injection instructions                                                              |                        |          |             |
| Mold temperature (thick wall): 75 to 95°C Mold temperature (thin wall): 95 to 120°C |                        |          |             |
| NOTE                                                                                |                        |          |             |
| 1.                                                                                  | 3.2mm x 7.6mm x 12.6mm |          |             |
| 2.                                                                                  | 2.0 mm/min             |          |             |
| 3.                                                                                  | 2.0 mm/min             |          |             |
| 4.                                                                                  | 1.3 mm/min             |          |             |
| 5.                                                                                  | 500 V/sec              |          |             |

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