

# Celanex® 1662Z

Polybutylene Terephthalate

Celanese Corporation

Message:

Celanex 1662Z is a 30% glass reinforced polybutylene terephthalate with a good balance of mechanical properties and processability

| General Information                   |                                                       |                   |                |
|---------------------------------------|-------------------------------------------------------|-------------------|----------------|
| UL YellowCard                         | E45575-239357                                         |                   |                |
| Filler / Reinforcement                | Glass fiber reinforced material, 30% filler by weight |                   |                |
| Features                              | Workability, good                                     |                   |                |
| RoHS Compliance                       | Contact manufacturer                                  |                   |                |
| Processing Method                     | Injection molding                                     |                   |                |
| Physical                              | Nominal Value                                         | Unit              | Test Method    |
| Specific Gravity                      |                                                       |                   |                |
| --                                    | 1.52                                                  | g/cm <sup>3</sup> | ASTM D792      |
| --                                    | 1.53                                                  | g/cm <sup>3</sup> | ISO 1183       |
| Melt Mass-Flow Rate (MFR)             | 7.0                                                   | g/10 min          | ASTM D1238     |
| Molding Shrinkage                     |                                                       |                   |                |
| Flow                                  | 2.0 - 6.0                                             | %                 | ASTM D955      |
| Flow                                  | 0.30 - 0.50                                           | %                 | ISO 294-4      |
| Hardness                              | Nominal Value                                         | Unit              | Test Method    |
| Rockwell Hardness (M-Scale)           | 90                                                    |                   | ISO 2039-2     |
| Mechanical                            | Nominal Value                                         | Unit              | Test Method    |
| Tensile Modulus                       | 9200                                                  | MPa               | ISO 527-2/1A/1 |
| Tensile Strength                      |                                                       |                   |                |
| Fracture, 23°C                        | 124                                                   | MPa               | ASTM D638      |
| Fracture                              | 130                                                   | MPa               | ISO 527-2/1A/5 |
| Tensile Elongation                    |                                                       |                   |                |
| Fracture, 23°C                        | 4.0                                                   | %                 | ASTM D638      |
| Fracture                              | 3.1                                                   | %                 | ISO 527-2/1A/5 |
| Flexural Modulus (23°C)               | 9700                                                  | MPa               | ISO 178        |
| Flexural Stress (23°C)                | 210                                                   | MPa               | ISO 178        |
| Impact                                | Nominal Value                                         | Unit              | Test Method    |
| Charpy Notched Impact Strength (23°C) | 11                                                    | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Notched Izod Impact (23°C)            | 12                                                    | kJ/m <sup>2</sup> | ISO 180/1A     |
| Thermal                               | Nominal Value                                         | Unit              | Test Method    |
| Deflection Temperature Under Load     |                                                       |                   |                |
| 0.45 MPa, not annealed                | 221                                                   | °C                | ASTM D648      |
| 0.45 MPa, not annealed                | 225                                                   | °C                | ISO 75-2/B     |
| 1.8 MPa, not annealed                 | 208                                                   | °C                | ASTM D648      |

| 1.8 MPa, not annealed                                                                            | 205                   | °C       | ISO 75-2/A              |
|--------------------------------------------------------------------------------------------------|-----------------------|----------|-------------------------|
| Melting Temperature <sup>1</sup>                                                                 | 225                   | °C       | ISO 11357-3, ASTM D3418 |
| Linear thermal expansion coefficient                                                             |                       |          | ISO 11359-2             |
| Flow                                                                                             | 1.9E-5                | cm/cm/°C | ISO 11359-2             |
| Lateral                                                                                          | 1.1E-4                | cm/cm/°C | ISO 11359-2             |
| Electrical                                                                                       | Nominal Value         | Unit     | Test Method             |
| Dielectric Strength <sup>2</sup>                                                                 | 21                    | kV/mm    | ASTM D149               |
| Flammability                                                                                     | Nominal Value         | Unit     | Test Method             |
| Flame Rating (0.8 mm)                                                                            | HB                    |          | UL 94                   |
| Injection                                                                                        | Nominal Value         | Unit     |                         |
| Drying Temperature                                                                               | 120 - 130             | °C       |                         |
| Drying Time                                                                                      | 4.0                   | hr       |                         |
| Suggested Max Moisture                                                                           | 0.020                 | %        |                         |
| Suggested Max Regrind                                                                            | 25                    | %        |                         |
| Rear Temperature                                                                                 | 230 - 240             | °C       |                         |
| Middle Temperature                                                                               | 235 - 250             | °C       |                         |
| Front Temperature                                                                                | 235 - 250             | °C       |                         |
| Nozzle Temperature                                                                               | 250 - 260             | °C       |                         |
| Processing (Melt) Temp                                                                           | 235 - 260             | °C       |                         |
| Mold Temperature                                                                                 | 65 - 93               | °C       |                         |
| Injection Rate                                                                                   | Fast                  |          |                         |
| Back Pressure                                                                                    | 0.00 - 0.345          | MPa      |                         |
| Injection instructions                                                                           |                       |          |                         |
| Manifold Temperature: 250 to 260°CZone 4 Temperature: 240 to 260°CFeed Temperature: 230 to 240°C |                       |          |                         |
| NOTE                                                                                             |                       |          |                         |
| 1.                                                                                               | 10°C/min              |          |                         |
| 2.                                                                                               | Method A (short time) |          |                         |

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