



## Celanex® 3300FC

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

### General Information

#### Product Description

Celanex 3300FC is a general purpose, 30% glass reinforced, polybutylene terephthalate that offers a superior combination of mechanical, electrical, and thermal properties. This grade provides outstanding processability and good chemical resistance.

#### General

|                        |                                           |                                                       |                 |
|------------------------|-------------------------------------------|-------------------------------------------------------|-----------------|
| Material Status        | • Commercial: Active                      |                                                       |                 |
| Availability           | • Africa & Middle East<br>• Asia Pacific  | • Europe<br>• Latin America                           | • North America |
| Filler / Reinforcement | • Glass Fiber, 30% Filler by Weight       |                                                       |                 |
| Features               | • Chemical Resistant<br>• General Purpose | • Good Electrical Properties<br>• Good Processability |                 |
| Uses                   | • General Purpose                         |                                                       |                 |
| RoHS Compliance        | • Contact Manufacturer                    |                                                       |                 |

### ASTM & ISO Properties <sup>1</sup>

| Physical                                           | Nominal Value | Unit                   | Test Method    |
|----------------------------------------------------|---------------|------------------------|----------------|
| Density                                            | 1.53          | g/cm <sup>3</sup>      | ISO 1183       |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)        | 17            | cm <sup>3</sup> /10min | ISO 1133       |
| Molding Shrinkage                                  |               |                        | ISO 294-4      |
| Across Flow                                        | 0.70 to 1.1   | %                      |                |
| Flow                                               | 0.30 to 0.70  | %                      |                |
| Water Absorption (Saturation, 73°F)                | 0.40          | %                      | ISO 62         |
| Water Absorption (Equilibrium, 73°F, 50% RH)       | 0.20          | %                      | ISO 62         |
| Mechanical                                         | Nominal Value | Unit                   | Test Method    |
| Tensile Modulus                                    | 1.33E+6       | psi                    | ISO 527-2/1A   |
| Tensile Stress (Break)                             | 18900         | psi                    | ISO 527-2/1A/5 |
| Tensile Strain (Break)                             | 2.5           | %                      | ISO 527-2/1A/5 |
| Flexural Modulus (73°F)                            | 1.41E+6       | psi                    | ISO 178        |
| Flexural Stress (73°F)                             | 30500         | psi                    | ISO 178        |
| Impact                                             | Nominal Value | Unit                   | Test Method    |
| Charpy Notched Impact Strength                     |               |                        | ISO 179/1eA    |
| -22°F                                              | 4.0           | ft-lb/in <sup>2</sup>  |                |
| 73°F                                               | 4.0           | ft-lb/in <sup>2</sup>  |                |
| Charpy Unnotched Impact Strength                   |               |                        | ISO 179/1eU    |
| -22°F                                              | 21            | ft-lb/in <sup>2</sup>  |                |
| 73°F                                               | 22            | ft-lb/in <sup>2</sup>  |                |
| Notched Izod Impact Strength (73°F)                | 3.6           | ft-lb/in <sup>2</sup>  | ISO 180/1A     |
| Hardness                                           | Nominal Value | Unit                   | Test Method    |
| Rockwell Hardness (M-Scale)                        | 90            |                        | ISO 2039-2     |
| Thermal                                            | Nominal Value | Unit                   | Test Method    |
| Heat Deflection Temperature (66 psi, Unannealed)   | 437           | °F                     | ISO 75-2/B     |
| Heat Deflection Temperature (264 psi, Unannealed)  | 401           | °F                     | ISO 75-2/A     |
| Heat Deflection Temperature (1160 psi, Unannealed) | 302           | °F                     | ISO 75-2/C     |
| Glass Transition Temperature <sup>2</sup>          | 140           | °F                     | ISO 11357-2    |

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| Thermal                          | Nominal Value | Unit     | Test Method |
|----------------------------------|---------------|----------|-------------|
| Vicat Softening Temperature      | 428           | °F       | ISO 306/B50 |
| Melting Temperature <sup>2</sup> | 437           | °F       | ISO 11357-3 |
| CLTE - Flow                      | 1.4E-5        | in/in/°F | ISO 11359-2 |
| CLTE - Transverse                | 5.6E-5        | in/in/°F | ISO 11359-2 |
| Electrical                       | Nominal Value | Unit     | Test Method |
| Surface Resistivity              | > 1.0E+15     | ohms     | IEC 60093   |
| Volume Resistivity               | > 1.0E+15     | ohms·cm  | IEC 60093   |
| Electric Strength                | 790           | V/mil    | IEC 60243-1 |
| Relative Permittivity            |               |          | IEC 60250   |
| 100 Hz                           | 4.50          |          |             |
| 1 MHz                            | 4.10          |          |             |
| Dissipation Factor               |               |          | IEC 60250   |
| 100 Hz                           | 2.2E-3        |          |             |
| 1 MHz                            | 0.016         |          |             |
| Comparative Tracking Index       | 425           | V        | IEC 60112   |
| Flammability                     | Nominal Value | Unit     | Test Method |
| Flame Rating (0.028 in)          | HB            |          | UL 94       |
| Oxygen Index                     | 20            | %        | ISO 4589-2  |

### Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 248 to 266    | °F   |
| Drying Time            | 4.0           | hr   |
| Suggested Max Moisture | 0.020         | %    |
| Hopper Temperature     | 68 to 122     | °F   |
| Rear Temperature       | 446 to 464    | °F   |
| Middle Temperature     | 455 to 482    | °F   |
| Front Temperature      | 455 to 482    | °F   |
| Nozzle Temperature     | 482 to 500    | °F   |
| Processing (Melt) Temp | 455 to 500    | °F   |
| Mold Temperature       | 149 to 199    | °F   |
| Injection Rate         | Moderate-Fast |      |

### Injection Notes

Die Temperature: 250 to 260°C  
Feed Temperature: 230 to 240°C  
Zone 4 Temperature: 240 to 260°C

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min