



## Celanex® 2003-2

Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

### General Information

#### Product Description

Celanex 2003-2 is a general purpose, unreinforced polybutylene terephthalate with a good balance of mechanical properties, processability, and good flow characteristics. Celanex 2003-2 is a medium high melt flow material that contains an internal lubricant.

#### General

|                 |                                          |                                       |                 |
|-----------------|------------------------------------------|---------------------------------------|-----------------|
| Material Status | • Commercial: Active                     |                                       |                 |
| Availability    | • Africa & Middle East<br>• Asia Pacific | • Europe<br>• Latin America           | • North America |
| Additive        | • Lubricant                              |                                       |                 |
| Features        | • General Purpose<br>• Good Flow         | • Good Processability<br>• Lubricated | • Medium Flow   |
| Uses            | • General Purpose                        |                                       |                 |
| RoHS Compliance | • Contact Manufacturer                   |                                       |                 |

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

| Physical                                          | Nominal Value | Unit                   | Test Method     |
|---------------------------------------------------|---------------|------------------------|-----------------|
| Density                                           | 1.31          | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)       | 44            | cm <sup>3</sup> /10min | ISO 1133        |
| Molding Shrinkage - Flow                          | 1.8 to 2.0    | %                      | ISO 294-4       |
| Water Absorption (Saturation, 73°F)               | 0.45          | %                      | ISO 62          |
| Mechanical                                        | Nominal Value | Unit                   | Test Method     |
| Tensile Modulus                                   | 392000        | psi                    | ISO 527-2/1A    |
| Tensile Stress (Yield)                            | 8700          | psi                    | ISO 527-2/1A/50 |
| Tensile Strain (Yield)                            | 4.0           | %                      | ISO 527-2/1A/50 |
| Nominal Tensile Strain at Break                   | 40            | %                      | ISO 527-2/1A/50 |
| Flexural Modulus (73°F)                           | 370000        | psi                    | ISO 178         |
| Flexural Stress (73°F)                            | 11600         | psi                    | ISO 178         |
| Impact                                            | Nominal Value | Unit                   | Test Method     |
| Charpy Notched Impact Strength                    |               |                        | ISO 179/1eA     |
| -22°F                                             | 2.0           | ft·lb/in <sup>2</sup>  |                 |
| 73°F                                              | 2.0           | ft·lb/in <sup>2</sup>  |                 |
| Charpy Unnotched Impact Strength                  |               |                        | ISO 179/1eU     |
| -22°F                                             | 28            | ft·lb/in <sup>2</sup>  |                 |
| 73°F                                              | 98            | ft·lb/in <sup>2</sup>  |                 |
| Notched Izod Impact Strength (73°F)               | 1.9           | ft·lb/in <sup>2</sup>  | ISO 180/1A      |
| Unnotched Izod Impact Strength (73°F)             | 30            | ft·lb/in <sup>2</sup>  | ISO 180/1U      |
| Hardness                                          | Nominal Value | Unit                   | Test Method     |
| Rockwell Hardness (M-Scale)                       | 79            |                        | ISO 2039-2      |
| Thermal                                           | Nominal Value | Unit                   | Test Method     |
| Heat Deflection Temperature (66 psi, Unannealed)  | 302           | °F                     | ISO 75-2/B      |
| Heat Deflection Temperature (264 psi, Unannealed) | 131           | °F                     | ISO 75-2/A      |
| Glass Transition Temperature <sup>2</sup>         | 140           | °F                     | ISO 11357-2     |
| Vicat Softening Temperature                       | 374           | °F                     | ISO 306/B50     |
| Melting Temperature <sup>2</sup>                  | 437           | °F                     | ISO 11357-3     |

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| Thermal                    | Nominal Value | Unit     | Test Method |
|----------------------------|---------------|----------|-------------|
| CLTE - Flow                | 6.1E-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          | 380           | V/mil    | IEC 60243-1 |
| Relative Permittivity      |               |          | IEC 60250   |
| 100 Hz                     | 4.10          |          |             |
| 1 MHz                      | 3.20          |          |             |
| Dissipation Factor (1 MHz) | 0.020         |          | IEC 60250   |
| Comparative Tracking Index | 600           | V        | IEC 60112   |
| Flammability               | Nominal Value | Unit     | Test Method |
| Flame Rating (0.028 in)    | HB            |          | UL 94       |
| Oxygen Index               | 22            | %        | 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         | %    |
| Suggested Max Regrind  | 25            | %    |
| 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 |      |
| Back Pressure          | 0.00 to 50.0  | psi  |

### 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