

**Product Texts**

Celanex 1600A is a high molecular weight grade of unreinforced polybutylene terephthalate for use in both extrusion and injection molding applications.

Flammability at thickness h (0.75 HB mm)

| Processing/Physical Characteristics        | Value | Unit                   | Test Standard   |
|--|-------|------------------------|-----------------|
| <b>ISO Data</b>                            |       |                        |                 |
| <sup>[C]</sup> Melt volume-flow rate, MVR  | 9     | cm <sup>3</sup> /10min | ISO 1133        |
| Temperature                                | 250   | °C                     | -               |
| Load                                       | 2.16  | kg                     | -               |
| <sup>[C]</sup> Molding shrinkage, parallel | 1.9   | %                      | ISO 294-4, 2577 |
| <sup>[C]</sup> Molding shrinkage, normal   | 1.9   | %                      | ISO 294-4, 2577 |

[C]: CAMPUS

| Mechanical properties                                | Value | Unit              | Test Standard |
|--|-------|-------------------|---------------|
| <b>ISO Data</b>                                      |       |                   |               |
| <sup>[C]</sup> Tensile Modulus                       | 2550  | MPa               | ISO 527       |
| <sup>[C]</sup> Yield stress                          | 60    | MPa               | ISO 527       |
| <sup>[C]</sup> Yield strain                          | 5     | %                 | ISO 527       |
| <sup>[C]</sup> Nominal strain at break               | >50   | %                 | ISO 527       |
| <sup>[C]</sup> Charpy impact strength, +23°C         | N     | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy impact strength, -30°C         | 210   | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy notched impact strength, +23°C | 7     | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Charpy notched impact strength, -30°C | 6.5   | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Shore D hardness                      | 77    | -                 | ISO 7619-1    |

[C]: CAMPUS

| Thermal properties   | Value | Unit  | Test Standard   |
|--|-------|-------|-----------------|
| <b>ISO Data</b>  |       |       |                 |
| <sup>[C]</sup> Melting temperature, 10°C/min               | 225   | °C    | ISO 11357-1/-3  |
| <sup>[C]</sup> Glass transition temperature, 10°C/min      | 60    | °C    | ISO 11357-1/-2  |
| <sup>[C]</sup> Temp. of deflection under load, 1.80 MPa    | 50    | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Temp. of deflection under load, 0.45 MPa    | 150   | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Vicat softening temperature, B              | 185   | °C    | ISO 306         |
| <sup>[C]</sup> Coeff. of linear therm. expansion, parallel | 110   | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Coeff. of linear therm. expansion, normal   | 103   | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Burning Behav. at thickness h               | HB    | class | IEC 60695-11-10 |
| Thickness tested   | 0.8   | mm    | -               |
| <sup>[C]</sup> Oxygen index                                | 22    | %     | ISO 4589-1/-2   |

[C]: CAMPUS

| Electrical properties                       | Value | Unit  | Test Standard |
|---|-------|-------|---------------|
| <b>ISO Data</b>                             |       |       |               |
| <sup>[C]</sup> Relative permittivity, 100Hz | 4     | -     | IEC 62631-2-1 |
| <sup>[C]</sup> Relative permittivity, 1MHz  | 3.5   | -     | IEC 62631-2-1 |
| <sup>[C]</sup> Dissipation factor, 100Hz    | 14    | E-4   | IEC 62631-2-1 |
| <sup>[C]</sup> Dissipation factor, 1MHz     | 210   | E-4   | IEC 62631-2-1 |
| <sup>[C]</sup> Volume resistivity           | >1E13 | Ohm*m | IEC 62631-3-1 |
| <sup>[C]</sup> Surface resistivity          | >1E15 | Ohm   | IEC 62631-3-2 |
| <sup>[C]</sup> Electric strength            | 23    | kV/mm | IEC 60243-1   |

[C]: CAMPUS

| Other properties                | Value | Unit | Test Standard  |
|---------------------------------|-------|------|----------------|
| <sup>[C]</sup> Water absorption | 0.45  | %    | Sim. to ISO 62 |

|                         |             |                   |                |
|-------------------------|-------------|-------------------|----------------|
| [C] Humidity absorption | <b>0.2</b>  | %                 | Sim. to ISO 62 |
| [C] Density             | <b>1310</b> | kg/m <sup>3</sup> | ISO 1183       |

[C]: CAMPUS

**Characteristics**

**Processing**

Injection Molding, Film Extrusion, Profile Extrusion, Sheet Extrusion, Other Extrusion

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

**Delivery form**

Pellets

**Other text information**

**Injection molding**

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided. Up to 25% clean and dry regrind may be used.