

# Celanex® 2104UV

Polybutylene Terephthalate

Celanese Corporation

## Message:

Celanex 2104UV is an unreinforced, impact modified, UV stabilized PBT designed for outdoor agricultural, industrial and automotive applications. Celanex 2104UV is suitable for injection molding applications.

| General Information             |                                 |                   |                 |
|---------------------------------|---------------------------------|-------------------|-----------------|
| Additive                        | Impact modifier                 |                   |                 |
|                                 | UV stabilizer                   |                   |                 |
| Features                        | Impact modification             |                   |                 |
| Uses                            | Industrial application          |                   |                 |
|                                 | Agricultural application        |                   |                 |
|                                 | Application in Automobile Field |                   |                 |
|                                 | Outdoor application             |                   |                 |
| RoHS Compliance                 | Contact manufacturer            |                   |                 |
| Processing Method               | Injection molding               |                   |                 |
| Physical                        | Nominal Value                   | Unit              | Test Method     |
| Specific Gravity                |                                 |                   |                 |
| --                              | 1.31                            | g/cm <sup>3</sup> | ASTM D792       |
| --                              | 1.26                            | g/cm <sup>3</sup> | ISO 1183        |
| Melt Mass-Flow Rate (MFR)       | 75                              | g/10 min          | ASTM D1238      |
| Molding Shrinkage               |                                 |                   |                 |
| Flow                            | 1.8 - 2.0                       | %                 | ASTM D955       |
| Vertical flow direction         | 2.2 - 3.3                       | %                 | ISO 294-4       |
| Flow direction                  | 2.2 - 3.3                       | %                 | ISO 294-4       |
| Mechanical                      | Nominal Value                   | Unit              | Test Method     |
| Tensile Modulus                 | 2100                            | MPa               | ISO 527-2/1A/1  |
| Tensile Strength                |                                 |                   |                 |
| Yield, 23°C                     | 57.2                            | MPa               | ASTM D638       |
| Yield                           | 46.0                            | MPa               | ISO 527-2/1A/50 |
| Tensile Strain (Yield)          | 10                              | %                 | ISO 527-2/1A/50 |
| Nominal Tensile Strain at Break | 250                             | %                 | ISO 527-2/1A/50 |
| Flexural Modulus (23°C)         | 2080                            | MPa               | ISO 178         |
| Flexural Stress (23°C)          | 63.0                            | MPa               | ISO 178         |
| Impact                          | Nominal Value                   | Unit              | Test Method     |
| Charpy Notched Impact Strength  |                                 |                   | ISO 179/1eA     |
| -30°C                           | 6.9                             | kJ/m <sup>2</sup> | ISO 179/1eA     |

| 23°C                                                                                             | 15            | kJ/m <sup>2</sup> | ISO 179/1eA             |
|--------------------------------------------------------------------------------------------------|---------------|-------------------|-------------------------|
| Charpy Unnotched Impact Strength                                                                 |               |                   | ISO 179/1eU             |
| -30°C                                                                                            | No Break      |                   | ISO 179/1eU             |
| 23°C                                                                                             | No Break      |                   | ISO 179/1eU             |
| Thermal                                                                                          | Nominal Value | Unit              | Test Method             |
| Heat Deflection Temperature                                                                      |               |                   |                         |
| 0.45 MPa, not annealed                                                                           | 130           | °C                | ISO 75-2/B              |
| 0.45 MPa, annealed                                                                               | 224           | °C                | ASTM D648               |
| 1.8 MPa, not annealed                                                                            | 130           | °C                | ASTM D648               |
| Melting Temperature <sup>1</sup>                                                                 | 225           | °C                | ISO 11357-3, ASTM D3418 |
| Electrical                                                                                       | Nominal Value | Unit              | Test Method             |
| Surface Resistivity                                                                              | > 1.0E+15     | ohms              | IEC 60093               |
| Volume Resistivity                                                                               |               |                   |                         |
| --                                                                                               | 1.0E+16       | ohms · cm         | ASTM D257               |
| --                                                                                               | > 1.0E+15     | ohms · cm         | IEC 60093               |
| Dielectric Strength                                                                              |               |                   |                         |
| -- <sup>2</sup>                                                                                  | 17            | kV/mm             | ASTM D149               |
| --                                                                                               | 23            | kV/mm             | IEC 60243-1             |
| Dielectric Constant                                                                              |               |                   |                         |
| 1 MHz                                                                                            | 3.20          |                   | ASTM D150               |
| 100 Hz                                                                                           | 4.00          |                   | IEC 60250               |
| 1 MHz                                                                                            | 3.50          |                   | IEC 60250               |
| Dissipation Factor                                                                               |               |                   |                         |
| 1 MHz                                                                                            | 2.0E-3        |                   | ASTM D150               |
| 100 Hz                                                                                           | 7.0E-3        |                   | IEC 60250               |
| 1 MHz                                                                                            | 0.020         |                   | IEC 60250               |
| Comparative Tracking Index                                                                       | > 600         | V                 | ASTM D3638              |
| Injection                                                                                        | Nominal Value | Unit              |                         |
| Drying Temperature                                                                               | 120 - 130     | °C                |                         |
| Drying Time                                                                                      | 4.0           | hr                |                         |
| Suggested Max Moisture                                                                           | 0.020         | %                 |                         |
| Hopper Temperature                                                                               | 20.0 - 50.0   | °C                |                         |
| Rear Temperature                                                                                 | 230 - 240     | °C                |                         |
| Middle Temperature                                                                               | 235 - 250     | °C                |                         |
| Front Temperature                                                                                | 235 - 250     | °C                |                         |
| Nozzle Temperature                                                                               | 240 - 260     | °C                |                         |
| Processing (Melt) Temp                                                                           | 235 - 260     | °C                |                         |
| Mold Temperature                                                                                 | 65.0 - 96.0   | °C                |                         |
| Injection Rate                                                                                   | Moderate-Fast |                   |                         |
| Injection instructions                                                                           |               |                   |                         |
| Manifold Temperature: 250 to 260°CZone 4 Temperature: 240 to 260°CFeed Temperature: 230 to 240°C |               |                   |                         |
| NOTE                                                                                             |               |                   |                         |

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|----|-----------------------|
| 1. | 10°C/min              |
| 2. | Method A (short time) |

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