



# CoolPoly® E5111

Celanese Corporation - Polyphenylene Sulfide

Tuesday, November 5, 2019

## General Information

### General

|                 |                        |                 |                 |
|-----------------|------------------------|-----------------|-----------------|
| Material Status | • Experimental: Active |                 |                 |
| Availability    | • Africa & Middle East | • Europe        | • North America |
|                 | • Asia Pacific         | • Latin America |                 |

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

| Physical                                | Nominal Value | Unit                          | Test Method    |
|---|---------------|-------------------------------|----------------|
| Density                                 | 1.70          | g/cm <sup>3</sup>             | ISO 1183       |
| Mechanical                              | Nominal Value | Unit                          | Test Method    |
| Tensile Modulus                         | 2.51E+6       | psi                           | ISO 527-2/1A   |
| Tensile Stress (Break)                  | 23200         | psi                           | ISO 527-2/1A/5 |
| Tensile Strain (Break)                  | 1.3           | %                             | ISO 527-2/1A/5 |
| Flexural Modulus (73°F)                 | 2.32E+6       | psi                           | ISO 178        |
| Flexural Stress (73°F)                  | 36300         | psi                           | ISO 178        |
| Impact                                  | Nominal Value | Unit                          | Test Method    |
| Charpy Notched Impact Strength (73°F)   | 2.5           | ft·lb/in <sup>2</sup>         | ISO 179/1eA    |
| Charpy Unnotched Impact Strength (73°F) | 13            | ft·lb/in <sup>2</sup>         | ISO 179/1eU    |
| Thermal                                 | Nominal Value | Unit                          | Test Method    |
| Specific Heat                           | 0.239         | Btu/lb/°F                     | ASTM E1461     |
| Thermal Conductivity                    |               |                               | ASTM E1461     |
| <sup>2</sup>                            | 5.6           | Btu·in/hr/ft <sup>2</sup> /°F |                |
| <sup>3</sup>                            | 7.6           | Btu·in/hr/ft <sup>2</sup> /°F |                |
| Electrical                              | Nominal Value | Unit                          | Test Method    |
| Surface Resistivity                     | 1.3E+12       | ohms                          | IEC 60093      |
| Volume Resistivity                      | 6.5E+14       | ohms·cm                       | IEC 60093      |

## Processing Information

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 241 to 259    | °F   |
| Drying Time            | 4.0 to 6.0    | hr   |
| Rear Temperature       | 630           | °F   |
| Middle Temperature     | 640           | °F   |
| Front Temperature      | 649           | °F   |
| Nozzle Temperature     | 621           | °F   |
| Processing (Melt) Temp | 626 to 635    | °F   |
| Mold Temperature       | 270 to 280    | °F   |

### Injection Notes

Feeding zone temperature: 40 to 47°C

### Notes

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

<sup>2</sup> Thruplane

<sup>3</sup> Flow

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