

# Celanex® J600

## Celanese Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

#### **General Information**

#### **Product Description**

Celanex J-600 is a 40% glass/mineral reinforced resin providing excellent warpage resistance, surface gloss and good mechanical properties. Celanex J-600 is particularly suited to applications requiring flatness and good surface appearance in large parts, such as exterior automotive components.

General				
Material Status	Commercial: Active			
Availability	<ul><li> Africa &amp; Middle East</li><li> Asia Pacific</li></ul>	Europe     Latin America     North America		
Filler / Reinforcement	Glass\Mineral, 40% Filler by Weight			
Features	Good Gloss	Pleasing Surface Appearance		
Uses	<ul> <li>Automotive Applications</li> </ul>	Automotive Exterior Parts		
RoHS Compliance	<ul> <li>Contact Manufacturer</li> </ul>			
Automotive Specifications	<ul> <li>ASTM D5927 TPES061 R40 Color: Black</li> <li>CHRYSLER MS-DB-400 CPN2666 Color: Black</li> </ul>	CHRYSLER MS-DB-400 CPN2810 Color: Natural GM GMP.PBT+PET.003		

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Density         1.62         g/cm³         ISO 1183           Melt Mass-Flow Rate (MFR) (265°C/2.16 kg)         11         g/10 min         ISO 1133           Melt Volume-Flow Rate (MVR) (265°C/2.16 kg)         18         cm³/10min         ISO 1133           Molding Shrinkage         18         cm³/10min         ISO 294-4           Across Flow         0.60 to 1.2         %           Flow         0.40 to 0.90         %           Water Absorption (Saturation, 73°F)         0.40         %         ISO 62           Water Absorption (Equilibrium, 73°F, 50% RH)         0.20         %         ISO 62           Wechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         1.3800         psi         ISO 527-2/1A/5           Flexural Modulus         1.60E+6         psi         ISO 178           73°F         1.60E+6         psi         ISO 178           176°F         638000         psi         ISO 178           73°F         22500         psi           176°F         10100         psi	ASTM & ISO Properties 1				
Melt Mass-Flow Rate (MFR) (265°C/2.16 kg)         11 g/10 min         ISO 1133           Melt Volume-Flow Rate (MVR) (265°C/2.16 kg)         18 cm³/10 min         ISO 1133           Molding Shrinkage         18 cm³/10 min         ISO 294-4           Across Flow         0.60 to 1.2 %         18 cm³/10 min         ISO 294-4           Flow         0.40 to 0.90 %         18 cm²/10 min         ISO 62           Water Absorption (Saturation, 73°F)         0.40 %         ISO 62           Wetchanical         Nominal Valu         Unit         Test Method           Mechanical         Nominal Valu         Unit         Test Method           Tensile Stress (Break)         1.60E+6 psi         ISO 527-2/1A/5         ISO 527-2/1A/5           Tensile Strain (Break)         2.1 %         ISO 527-2/1A/5         ISO 178           Flexural Modulus         1.60E+6 psi         ISO 178         ISO 178           73°F         63800 psi         ISO 178         ISO 178           Flexural Stress         22500 psi         psi         ISO 179/1eA           73°F         22500 psi         psi         ISO 179/1eA           73°F         3.1 ft lb/in²         150 179/1eA           Charpy Notched Impact Strength         3.1 ft lb/in²         150 179/1eA	Physical	Nominal Value	Unit	Test Method	
Melt Volume-Flow Rate (MVR) (265°C/2.16 kg)         18 cm³/10min         ISO 1133           Molding Shrinkage         0.60 to 1.2 %         SO 294-4           Across Flow         0.60 to 0.20 %         SO 62           Flow         0.40 to 0.90 %         ISO 62           Water Absorption (Saturation, 73°F)         0.40 %         ISO 62           Wechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6 psi         ISO 527-2/14/5         ISO 527-2/14/5           Tensile Stress (Break)         13800 psi         ISO 527-2/14/5         ISO 527-2/14/5           Flexural Modulus         2.1 %         ISO 527-2/14/5         ISO 178           73°F         63800         psi         ISO 178           73°F         22500         psi         ISO 178           73°F         22500         psi         ISO 179/1eA           Toharpy Notched Impact Strength         Nominal Value         Unit         Test Method           Charpy Unnotched Impact Strength         3.1 ft-lb/in²         ISO 179/1eU           -22°F         3.1 ft-lb/in²         ISO 179/1eU           Charpy Unnotched Impact Strength         3.1 ft-lb/in²         ISO 179/1eU	Density	1.62	g/cm³	ISO 1183	
Molding Shrinkage         ISO 294-4           Across Flow         0.60 to 1.2         %           Flow         0.40 to 0.90         %           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         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1         %         ISO 178           73°F         1.60E+6         psi         ISO 178           73°F         1.60E+6         psi         ISO 178           73°F         22500         psi         ISO 178           73°F         22500         psi         ISO 178           176°F         10100         psi         ISO 179/1eA           empact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         3.1         ft·lb/in²         ISO 179/1eA           -22°F         3.1         ft·lb/in²         ISO 179/1eU           Charpy U	Melt Mass-Flow Rate (MFR) (265°C/2.16 kg)	11	g/10 min	ISO 1133	
Across Flow         0.60 to 1.2         %           Flow         0.40 to 0.90         %           Water Absorption (Saturation, 73°F)         0.40         %         ISO 62           Water Absorption (Equilibrium, 73°F, 50% RH)         0.20         %         ISO 62           Wechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Flexural Modulus         2.1         %         ISO 527-2/1A/5           73°F         1.60E+6         psi         ISO 178           73°F         1.60E+6         psi         ISO 178           Flexural Stress         22500         psi         ISO 178           73°F         22500         psi         ISO 178           73°F         22500         psi         ISO 179/1eA           Charpy Notched Impact Strength         3.1         ft-lb/in²         ISO 179/1eA           -22°F         3.1         ft-lb/in²         ISO 179/1eU           Charpy Unnotched Impact Strength         19         ft-lb/in²	Melt Volume-Flow Rate (MVR) (265°C/2.16 kg)	18	cm <sup>3</sup> /10min	ISO 1133	
Flow         0.40 to 0.90         %           Water Absorption (Saturation, 73°F)         0.40         %         ISO 62           Water Absorption (Equilibrium, 73°F, 50% RH)         0.20         %         ISO 62           Wechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1         %         ISO 527-2/1A/5           Flexural Modulus         1.60E+6         psi         ISO 178           73°F         1.60E+6         psi         ISO 178           73°F         638000         psi         ISO 178           73°F         22500         psi         ISO 178           73°F         10100         psi         ISO 179/1eA           4-22°F         3.1         ft-lb/in²         ISO 179/1eA           -22°F         3.1         ft-lb/in²         ISO 179/1eU           Charpy Unnotched Impact Strength         3.1         ft-lb/in²         ISO 179/1eU           -22°F         3.1         ft-lb/in²         ISO 179/1eU	Molding Shrinkage			ISO 294-4	
Water Absorption (Saturation, 73°F)         0.40         %         ISO 62           Water Absorption (Equilibrium, 73°F, 50% RH)         0.20         %         ISO 62           Wechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1         %         ISO 527-2/1A/5           Flexural Modulus         ISO 178         ISO 178           73°F         638000         psi           176°F         638000         psi           Flexural Stress         ISO 178           73°F         22500         psi           176°F         10100         psi           Private Method         ISO 178         ISO 178           Charpy Notched Impact Strength         ISO 179/1eA         ISO 179/1eA           -22°F         3.1         ft·lb/in²           73°F         3.1         ft·lb/in²           Charpy Unnotched Impact Strength         ISO 179/1eU           -22°F         3.1         ft·lb/in²	Across Flow	0.60 to 1.2	%		
Water Absorption (Equilibrium, 73°F, 50% RH)         0.20 %         ISO 62           Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1 %         ISO 527-2/1A/5           Flexural Modulus         ISO 178         ISO 178           73°F         638000         psi           176°F         22500         psi           176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         3.1 ft·lb/in²         ISO 179/1eA           -22°F         3.1 ft·lb/in²         ISO 179/1eU           Charpy Unnotched Impact Strength         19 ft·lb/in²         ISO 179/1eU	Flow	0.40 to 0.90	%		
Mechanical         Nominal Value         Unit         Test Method           Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1         %         ISO 527-2/1A/5           Flexural Modulus         ISO 178         ISO 178           73°F         638000         psi           176°F         9si         ISO 178           73°F         22500         psi           176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         3.1         ft·lb/in²           -22°F         3.1         ft·lb/in²           Charpy Unnotched Impact Strength         ISO 179/1eU           -22°F         3.1         ft·lb/in²	Water Absorption (Saturation, 73°F)	0.40	%	ISO 62	
Tensile Modulus         1.60E+6         psi         ISO 527-2/1A/5           Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1         %         ISO 527-2/1A/5           Flexural Modulus         ISO 178         ISO 178           73°F         638000         psi           176°F         638000         psi           176°F         22500         psi           176°F         10100         psi           Personal Stress         ISO 178           176°F         10100         psi           Proposition of the psi         ISO 178           176°F         10100         psi           180 179/1eA         150 179/1eA           -22°F         3.1         ft·lb/in²           176°F         3.1         ft·lb/in²           180 179/1eA         150 179/1eA           180 179/1eA         150 179/1eA           180 179/1eA         150 179/1eA           180 179/1eA <td>Water Absorption (Equilibrium, 73°F, 50% RH)</td> <td>0.20</td> <td>%</td> <td>ISO 62</td>	Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62	
Tensile Stress (Break)         13800         psi         ISO 527-2/1A/5           Tensile Strain (Break)         2.1         %         ISO 527-2/1A/5           Flexural Modulus         ISO 178         ISO 178           73°F         638000         psi           176°F         638000         psi           Flexural Stress         ISO 178           73°F         22500         psi           176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         ISO 179/1eA           -22°F         3.1         ft·lb/in²           73°F         3.1         ft·lb/in²           Charpy Unnotched Impact Strength         ISO 179/1eU           -22°F         3.1         ft·lb/in²	Mechanical	Nominal Value	Unit	Test Method	
Tensile Strain (Break)         2.1         %         ISO 527-2/1A/5           Flexural Modulus         ISO 178           73°F         1.60E+6         psi           176°F         638000         psi           Flexural Stress         ISO 178           73°F         22500         psi           176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         ISO 179/1eA         -22°F         3.1         ft·lb/in²           73°F         3.1         ft·lb/in²         ISO 179/1eU           Charpy Unnotched Impact Strength         ISO 179/1eU         -22°F           73°F         3.1         ft·lb/in²	Tensile Modulus	1.60E+6	psi	ISO 527-2/1A	
Flexural Modulus         ISO 178           73°F         1.60E+6         psi           176°F         638000         psi           Flexural Stress         ISO 178           73°F         22500         psi           176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         ISO 179/1eA           -22°F         3.1         ft·lb/in²           Toharpy Unnotched Impact Strength         ISO 179/1eU           -22°F         3.1         ft·lb/in²   ISO 179/1eU	Tensile Stress (Break)	13800	psi	ISO 527-2/1A/5	
73°F       1.60E+6       psi         176°F       638000       psi         Flexural Stress       ISO 178         73°F       22500       psi         176°F       10100       psi         mpact       Nominal Value       Unit       Test Method         Charpy Notched Impact Strength       ISO 179/1eA         -22°F       3.1       ft·lb/in²         73°F       3.1       ft·lb/in²         Charpy Unnotched Impact Strength       ISO 179/1eU         -22°F       19       ft·lb/in²	Tensile Strain (Break)	2.1	%	ISO 527-2/1A/5	
176°F       638000 psi         Flexural Stress       ISO 178         73°F       22500 psi         176°F       10100 psi         mpact       Nominal Value       Unit       Test Method         Charpy Notched Impact Strength       ISO 179/1eA         -22°F       3.1 ft·lb/in²         73°F       3.1 ft·lb/in²         Charpy Unnotched Impact Strength       ISO 179/1eU         -22°F       19 ft·lb/in²	Flexural Modulus			ISO 178	
Flexural Stress         ISO 178           73°F         22500         psi           176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength         ISO 179/1eA           -22°F         3.1         ft·lb/in²           73°F         3.1         ft·lb/in²           Charpy Unnotched Impact Strength         ISO 179/1eU           -22°F         19         ft·lb/in²	73°F	1.60E+6	psi		
73°F       22500 psi         176°F       10100 psi         mpact       Nominal Value       Unit       Test Method         Charpy Notched Impact Strength       ISO 179/1eA         -22°F       3.1 ft·lb/in²         73°F       3.1 ft·lb/in²         Charpy Unnotched Impact Strength       ISO 179/1eU         -22°F       19 ft·lb/in²	176°F	638000	psi		
176°F         10100         psi           mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength	Flexural Stress			ISO 178	
mpact         Nominal Value         Unit         Test Method           Charpy Notched Impact Strength	73°F	22500	psi		
Charpy Notched Impact Strength       ISO 179/1eA         -22°F       3.1 ft·lb/in²         73°F       3.1 ft·lb/in²         Charpy Unnotched Impact Strength       ISO 179/1eU         -22°F       19 ft·lb/in²	176°F	10100	psi		
-22°F       3.1 ft·lb/in²         73°F       3.1 ft·lb/in²         Charpy Unnotched Impact Strength       ISO 179/1eU         -22°F       19 ft·lb/in²	Impact	Nominal Value	Unit	Test Method	
73°F       3.1 ft·lb/in²         Charpy Unnotched Impact Strength -22°F       ISO 179/1eU         19 ft·lb/in²       150 ft·lb/in²	Charpy Notched Impact Strength			ISO 179/1eA	
Charpy Unnotched Impact Strength -22°F  ISO 179/1eU 19 ft·lb/in²	-22°F	3.1	ft·lb/in²		
-22°F 19 ft·lb/in²	73°F	3.1	ft·lb/in²		
	Charpy Unnotched Impact Strength			ISO 179/1eU	
73°F 18 ft·lb/in²	-22°F	19	ft·lb/in²		
	73°F	18	ft·lb/in²		



## Celanex® J600

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Impact	Nominal Value	Unit	Test Method
Notched Izod Impact Strength (73°F)	2.4	ft·lb/in²	ISO 180/1A
Unnotched Izod Impact Strength (73°F)	14	ft·lb/in²	ISO 180/1U
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	69		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	428	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	374	°F	ISO 75-2/A
Heat Deflection Temperature (1160 psi, Unannealed)	176	°F	ISO 75-2/C
Vicat Softening Temperature	401	°F	ISO 306/B50
Melting Temperature <sup>2</sup>	437	°F	ISO 11357-3
CLTE - Flow	1.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	3.8E-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	890	V/mil	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	5.10		
1 MHz	4.40		
Dissipation Factor			IEC 60250
100 Hz	0.010		
1 MHz	0.022		
Comparative Tracking Index	350	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.03 in)	НВ		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 %			
Hopper Temperature	68 to 122 °F			
Rear Temperature	446 to 482 °F			
Middle Temperature	455 to 491 °F			
Front Temperature	455 to 491 °F			
Nozzle Temperature	482 to 509 °F			
Processing (Melt) Temp	455 to 509 °F			
Mold Temperature	149 to 205 °F			
Injection Rate	Moderate-Fast			

Die Temperature: 240 to 265°C Feed Temperature: 230 to 250°C Zone 4 Temperature: 240 to 265°C

#### Notes

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

<sup>&</sup>lt;sup>2</sup> 10°C/min

