Ticona
Performance Driven Solutions™

CELANEX® J600 | PBT | Mineral / Glass Reinforced

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.

Physical properties	Value	Unit	Test Standard
Density	**1620**	kg/m³	ISO 1183
Melt volume rate (MVR)	**18**	cm³/10min	ISO 1133
MVR test temperature	**265**	°C	ISO 1133
MVR test load	**2.16**	kg	ISO 1133
Mold shrinkage - parallel	**0.4-0.9**	%	ISO 294-4
Mold shrinkage - normal	**0.6-1.2**	%	ISO 294-4
Humidity absorption (23°C/50%RH)	**0.2**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**11000**	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	**95**	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	**2.1**	%	ISO 527-2/1A
Flexural modulus (23°C)	**11000**	MPa	ISO 178
Flexural strength (23°C)	**155**	MPa	ISO 178
Charpy impact strength @ 23°C	**38**	kJ/m²	ISO 179/1eU
Charpy impact strength @ -30°C	**40**	kJ/m²	ISO 179/1eU
Charpy notched impact strength @ 23°C	**6.5**	kJ/m²	ISO 179/1eA
Charpy notched impact strength @ -30°C	**6.5**	kJ/m²	ISO 179/1eA
Unnotched impact str (Izod) @ 23°C	**30**	kJ/m²	ISO 180/1U
Notched impact strength (Izod) @ 23°C	**5.1**	kJ/m²	ISO 180/1A
Rockwell hardness	**69**	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**225**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**190**	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	**220**	°C	ISO 75-1/-2
DTUL @ 8.0 MPa	**80**	°C	ISO 75-1/-2
Vicat softening temperature B50 (50°C/h 50N)	**205**	°C	ISO 306
Coeff.of linear therm. expansion (parallel)	**0.2**	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	**0.68**	E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	**22**	%	ISO 4589
Flammability at thickness h	**HB**	class	UL94
thickness tested (h)	**0.82**	mm	UL94

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	**5.1**	-	IEC 60250
Relative permittivity - 1 MHz	**4.4**	-	IEC 60250
Dissipation factor - 100 Hz	**100**	E-4	IEC 60250
Dissipation factor - 1 MHz	**220**	E-4	IEC 60250
Volume resistivity	**>1E13**	Ohm*m	IEC 60093
Surface resistivity	**>1E15**	Ohm	IEC 60093
Electric strength	**35**	kV/mm	IEC 60243-1
Comparative tracking index CTI	**350**	-	IEC 60112

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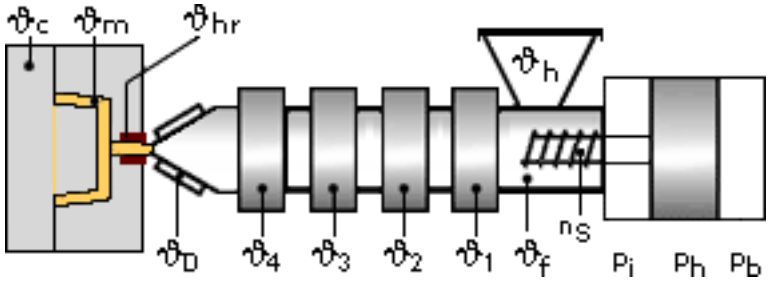
Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	**7792-2**	-	Internal
Injection molding melt temperature	**260**	°C	ISO 294
Injection molding mold temperature	**82**	°C	ISO 294
Injection molding flow front velocity	**300**	mm/s	ISO 294
Injection molding hold pressure	**48**	MPa	ISO 294

Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.02%

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours.

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Drying time: 4 h

Drying temperature: 120 - 130 °C

Temperature:

	ϑManifold	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
min (°C)	250	65	235	240	240	235	235	230	230	20
max (°C)	265	96	265	265	265	255	255	250	250	50

Speed:

Injection speed: medium-fast

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General Disclaimer

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values.
Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use.
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