

VANDAR® 8000 - PBT
Description

Unreinforced, V-0

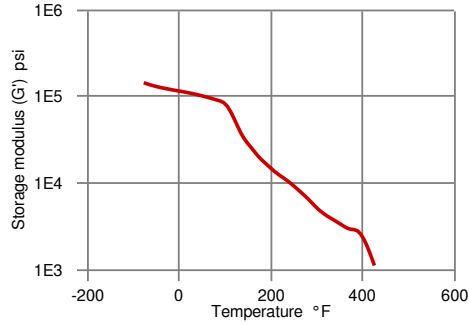
Vandar 8000 polyester alloy is designed to meet UL94 V-0 requirements at 1/32 inch thickness while retaining excellent impact resistance. The product is characterized by excellent moldability and surface finish. Vandar 8000 is well suited for electrical and electronic applications.

Physical properties	Value	Unit	Test Standard
Density	85.5	lb/ft ³	ISO 1183
Molding shrinkage, parallel (flow)	2.5 - 2.8	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.45	%	Sim. to ISO 62
Humidity absorption, 23°C/50%RH	0.2	%	ISO 62
Mechanical properties	Value	Unit	Test Standard
Tensile modulus	246565	psi	ISO 527-1, -2
Tensile stress at yield, 50mm/min	4350	psi	ISO 527-1, -2
Tensile strain at yield, 50mm/min	4.5	%	ISO 527-1, -2
Tensile nominal strain at break, 50mm/min	>50	%	ISO 527-1, -2
Tensile stress at 50% strain, 50mm/min	4640	psi	ISO 527-1, -2
Tensile strain at break, 50mm/min	50	%	ISO 527-1, -2
Flexural modulus, 23°C	239000	psi	ISO 178
Flexural strength, 23°C	7250	psi	ISO 178
Charpy impact strength, 23°C	NB	ft-lb/in ²	ISO 179/1eU
Charpy impact strength, -30°C	NB	ft-lb/in ²	ISO 179/1eU
Charpy notched impact strength, 23°C	35.7	ft-lb/in ²	ISO 179/1eA
Charpy notched impact strength, -30°C	7.14	ft-lb/in ²	ISO 179/1eA
Izod impact notched, 23°C	NB	ft-lb/in ²	ISO 180/1A
Rockwell hardness (M-Scale)	105	M-Scale	ISO 2039-2
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	437	°F	ISO 11357-1/-3
DTUL at 1.8 MPa	126	°F	ISO 75-1, -2
DTUL at 0.45 MPa	261	°F	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0.494	E-4/°F	ISO 11359-2
Coeff. of linear therm expansion, normal	0.611	E-4/°F	ISO 11359-2
Flammability at thickness h	V-0	class	UL 94
thickness tested (h)	0.0335	in	UL 94
Electrical properties	Value	Unit	Test Standard
Dielectric constant (Dk), 100Hz	4	-	IEC 60250
Dielectric constant (Dk), 1MHz	3.6	-	IEC 60250
Dissipation factor, 100Hz	45	E-4	IEC 60250
Dissipation factor, 1MHz	170	E-4	IEC 60250
Volume resistivity, 23°C	1E12	Ohm*m	IEC 62631-3-1
Surface resistivity, 23°C	1E14	Ohm	IEC 62631-3-2
Electric strength, 23°C (AC)	610	kV/in	IEC 60243-1
Comparative tracking index	PLC 0	-	UL 746

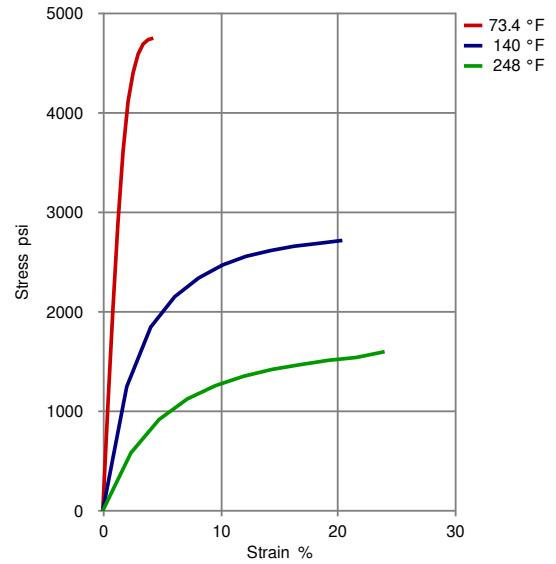
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Diagrams

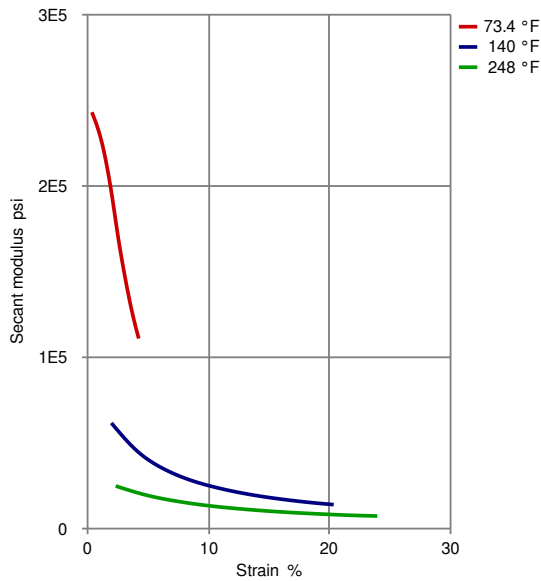
Dynamic Shear modulus-temperature



Stress-strain



Secant modulus-strain



Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	0.02	%
Drying time	4	h
Drying temperature	248 - 266	°F

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Temperature	Value	Unit
Hopper temperature	68 - 122	°F
Feeding zone temperature	446 - 464	°F
Zone1 temperature	446 - 464	°F
Zone2 temperature	455 - 482	°F
Zone3 temperature	455 - 482	°F
Zone4 temperature	464 - 491	°F
Nozzle temperature	464 - 491	°F
Melt temperature	455 - 500	°F
Mold temperature	149 - 205	°F
Hot runner temperature	482 - 500	°F

Speed	Value
Injection speed	medium-fast

Other text information

Pre-drying

To avoid hydrolytic degradation during processing, Vandar 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.

Longer pre-drying times/storage

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

Injection molding

Rear Temperature 450-470(230-240) deg F (deg C)
 Center Temperature 460-480(235-250) deg F (deg C)
 Front Temperature 470-490(240-255) deg F (deg C)
 Nozzle Temperature 480-490(250-255) deg F (deg C)
 Melt Temperature 460-490(235-255) deg F (deg C)
 Mold Temperature 100-200(40-93) deg F (deg C)
 Back Pressure 0-50 psi
 Screw Speed Medium
 Injection Speed Fast

Injection Molding Preprocessing

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 <-30°F (-34°C) at 250°F (121°C) for 4 hours.

Characteristics

Special Characteristics	Flame retardant
Product Categories	Impact modified, Unfilled
Processing	Injection molding
Delivery Form	Pellets
Additives	Flame retarding agent