Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Celanex 2300A GV1/20FC is a general purpose, 20% glass reinforced polybutylene terephthalate with a good balance of mechanical properties and processability for use in food contact applications in Europe. Celanex 2300A GV1/20FC contains an internal lubricant.
Chemical abbreviation according to ISO 1043-1: PBT GF20, Polybutylene terephthalate, 20 % glass fiber reinforced.
Moulding compound ISO 7792-1 PBT, MGMR, 08-070, GF20

Product information

Resin Identification	PBT-GF20	ISO 1043
Part Marking Code	>PBT-GF20<	ISO 11469

Rheological properties

Melt volume-flow rate	14	cm^3/10min	ISO 1133
Temperature	250	°C	
Load	2.16	kg	
Moulding shrinkage range, parallel	0.4 - 0.5	%	ISO 294-4, 2577
Moulding shrinkage range, normal	1 - 1.2	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	7400	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	125	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3	%	ISO 527-1/-2
Flexural strength	170	MPa	ISO 178
Flexural strain at failure	3	%	ISO 178
Tensile creep modulus, 1h	6200	MPa	ISO 899-1
Tensile creep modulus, 1000h	4800	MPa	ISO 899-1
Charpy impact strength, 23°C	46	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	43	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	7.5	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	7	kJ/m^2	ISO 179/1eA
Ball indentation hardness, H 961/30	190	MPa	ISO 2039-1
Poisson's ratio	0.35[C]		

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	225	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	195	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	220	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	100	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	215	°C	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	35	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.156	W/(m K)	ISO 22007-2
Specific heat capacity of melt	1840	J/(kg K)	ISO 22007-4

Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
Oxygen index	20	%	ISO 4589-1/-2

Electrical properties

Relative permittivity, 100Hz	4		IEC 62631-2-1
Relative permittivity, 1MHz	4		IEC 62631-2-1
Dissipation factor, 100Hz	16	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	190	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index	350		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.15	%	Sim. to ISO 62
Water absorption, 2mm	0.4	%	Sim. to ISO 62
Density	1450	kg/m³	ISO 1183
Density of melt	1230	kg/m³	

Injection

Drying Recommended	yes	
Drying Temperature	140	°C
Drying Time, Dehumidified Dryer	4 - 6	h
Processing Moisture Content	≤0.01	%
Melt Temperature Optimum	240	°C
Min. melt temperature	240	°C
Max. melt temperature	250	°C
Screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	80	°C
Min. mould temperature	60	°C
Max. mould temperature	130	°C
Ejection temperature	220	°C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Heat stabilised or stable to heat

Additional information

Injection molding	To minimize the volatile content in the final product, dry the resin to ≤0.01% water content. In injection molding, use the lowest possible melt temperature (recommended 240 °C) and shortest feasible residence time (recommended 2-3 minutes). Store the parts in a ventilated, clean area before use. If assistance is

CELANEX® 2300A GV1/20FC

CELANEX® PBT

needed please contact your Celanese account representative.

These recommendations are based on internal Celanese testing. For drying and injection molding conditions outside the above parameters, customer must test for and verify suitably low volatiles emissions on molded articles to confirm the final product is suitably pure for its intended use.

Processing Notes

Pre-Drying

To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°C (-40°F) at 140°C (284°F) for 4-6 hours.

Storage

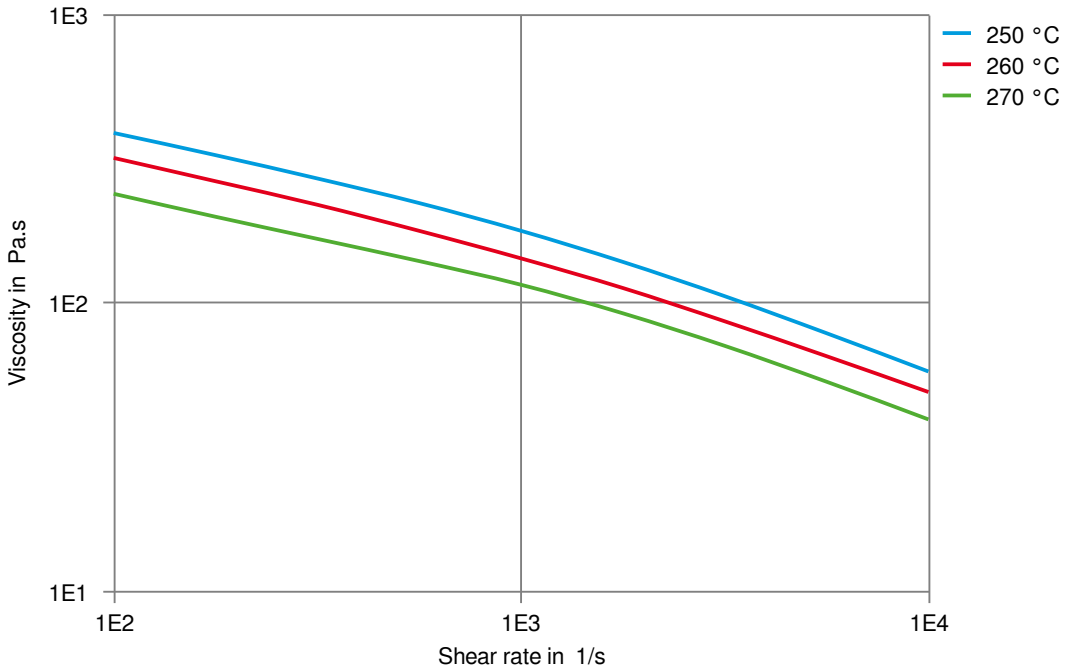
For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Viscosity-shear rate

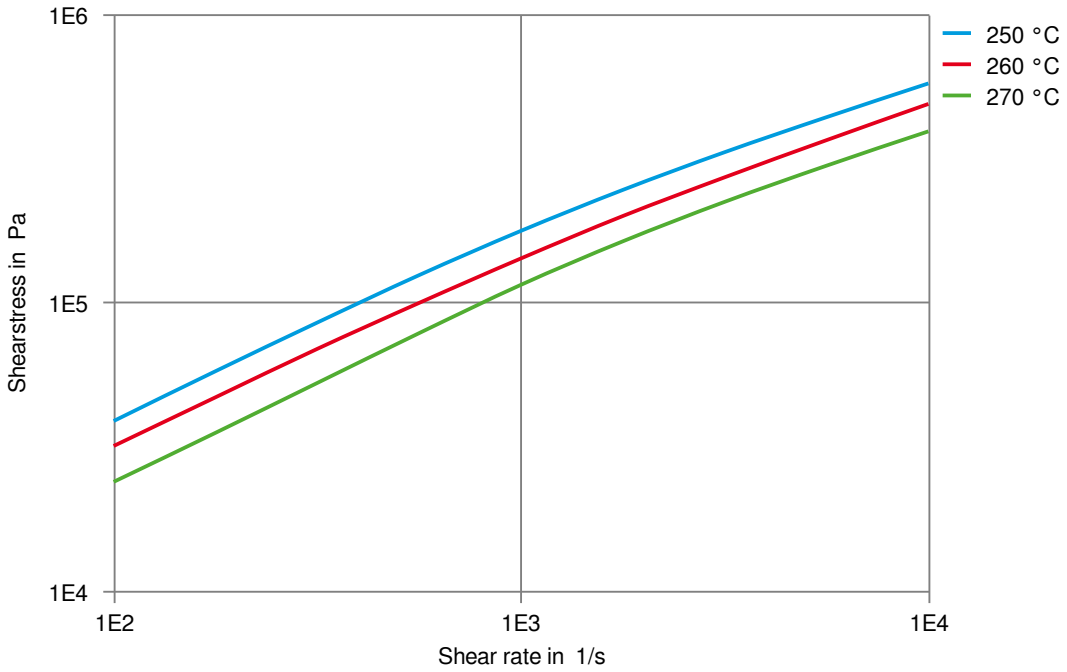


Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Shearstress-shear rate

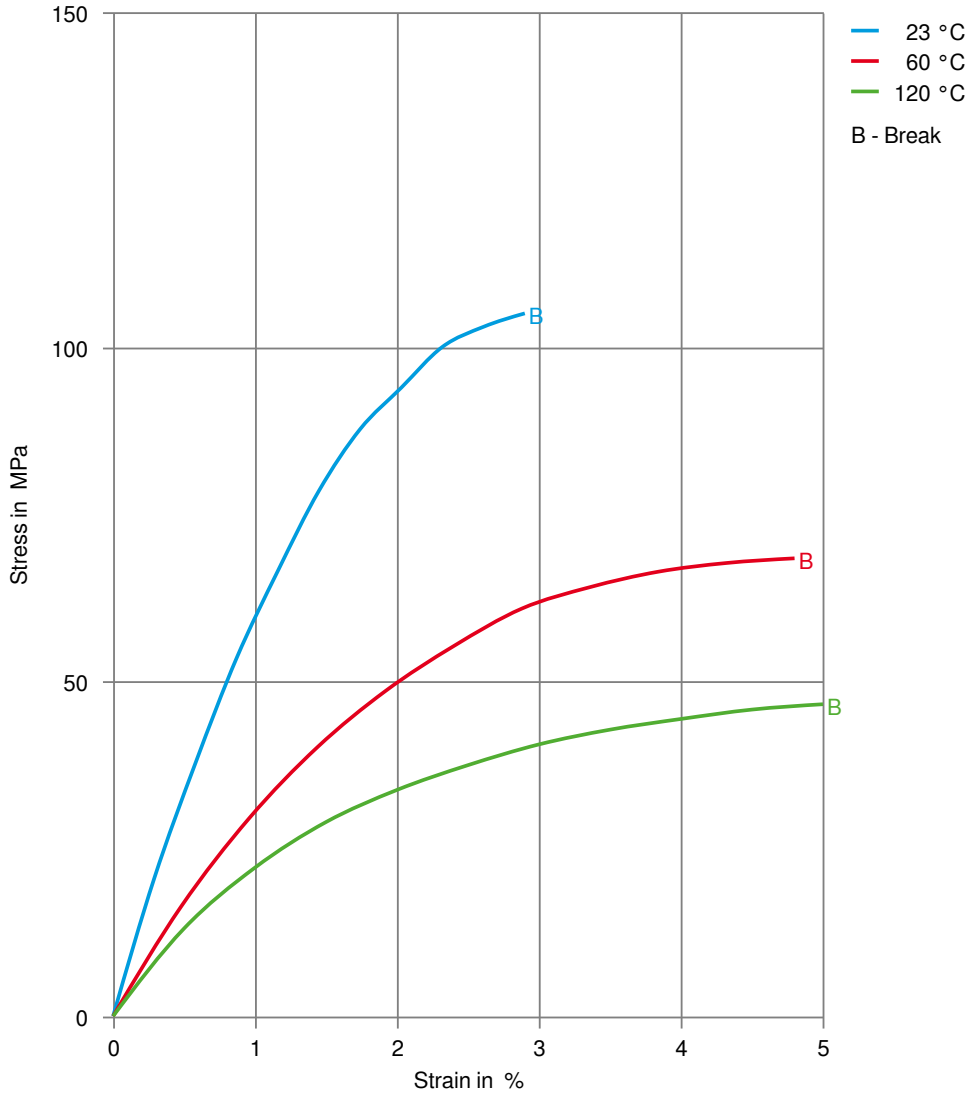


Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Stress-strain

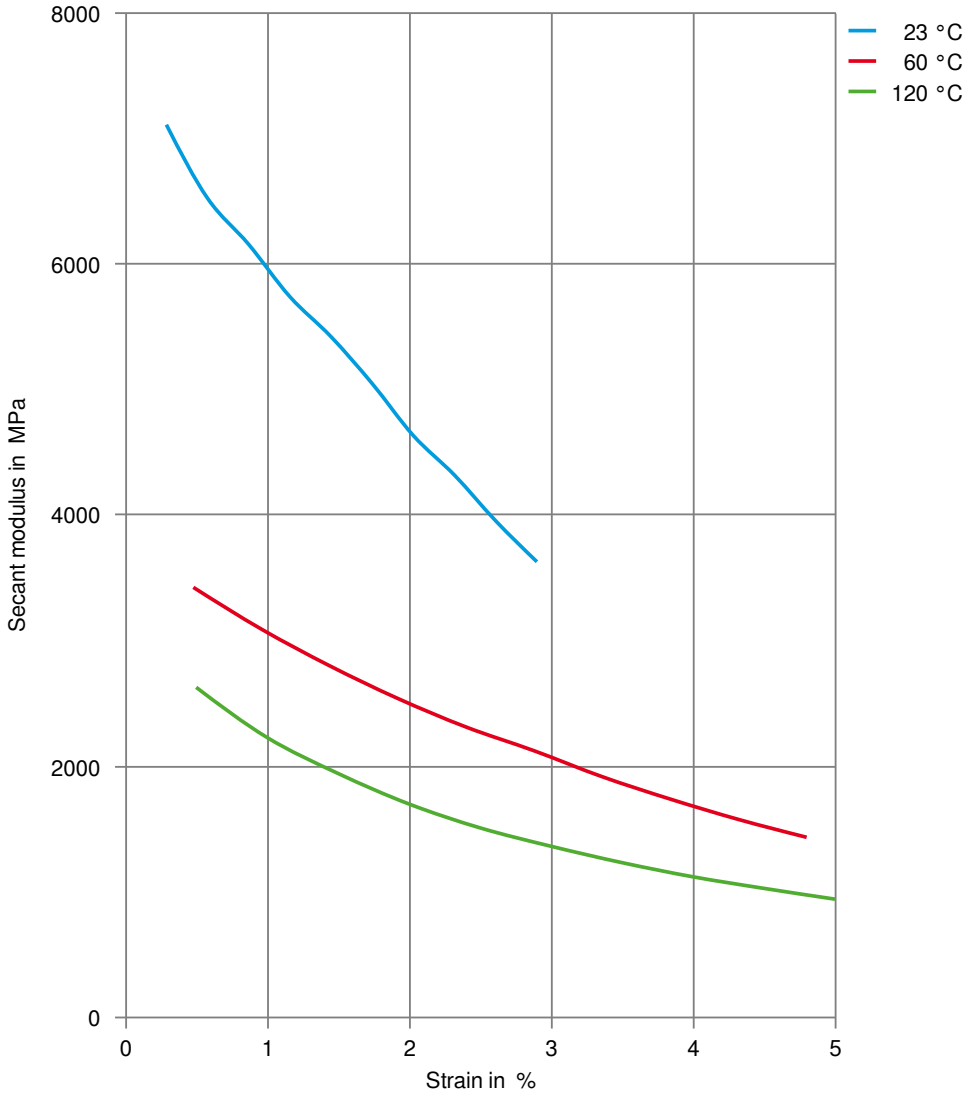


Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Secant modulus-strain

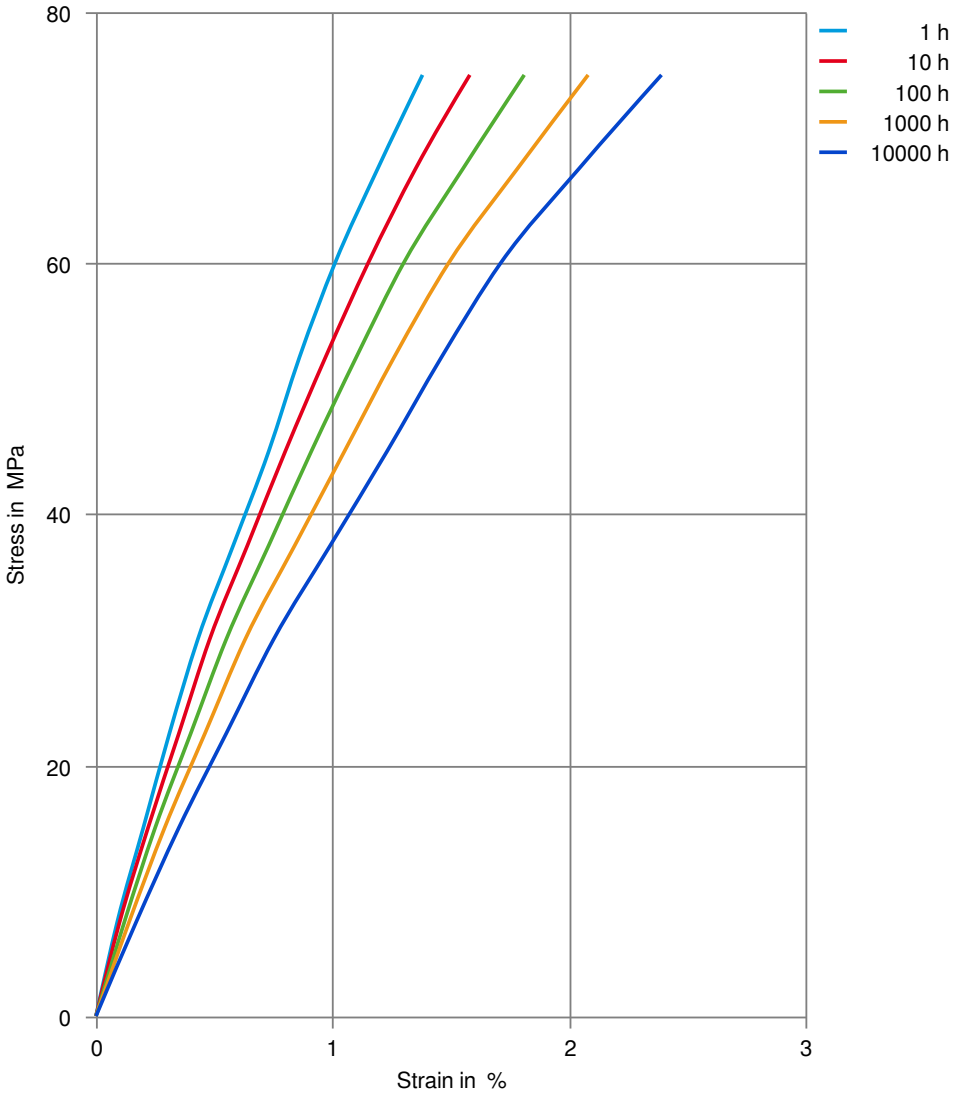


Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Stress-strain (isochronous) 23 °C

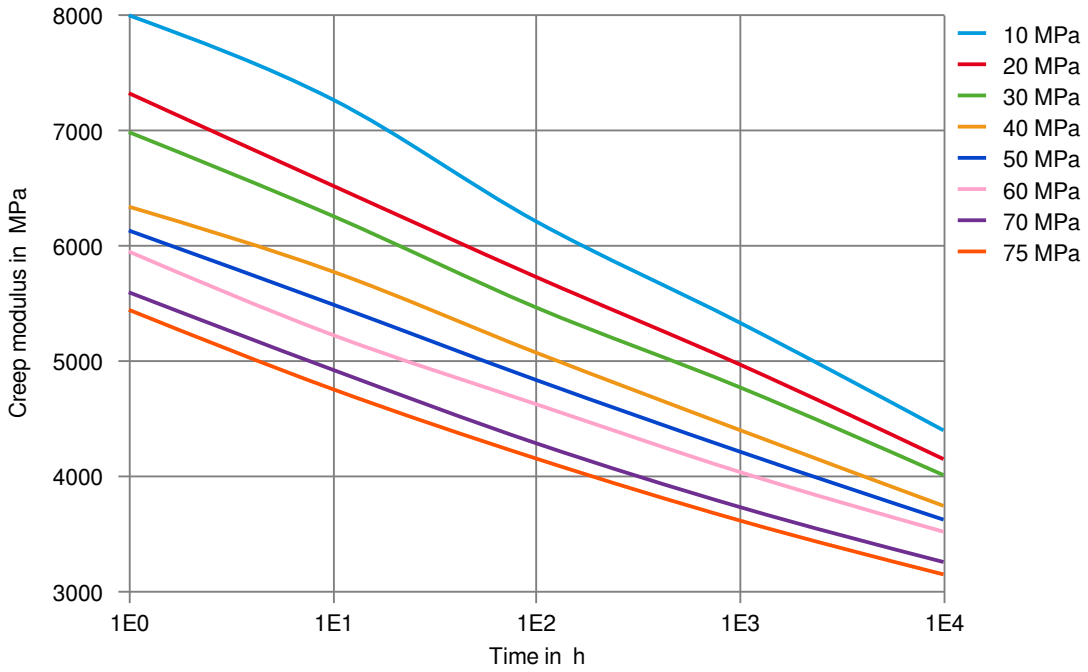


Celanese
The chemistry inside innovation™

CELANEX® 2300A GV1/20FC

CELANEX® PBT

Creep modulus-time 23 °C



Revised: 2025-01-17 Source: Celanese Materials Database