

CELANEX® 6402R - PBT

Description

Celanex 6402R is a 40% Glass/ mineral filled polyester with 25% Post Consumer Recycled content. It is available in natural, black and various colors including metallic colors.

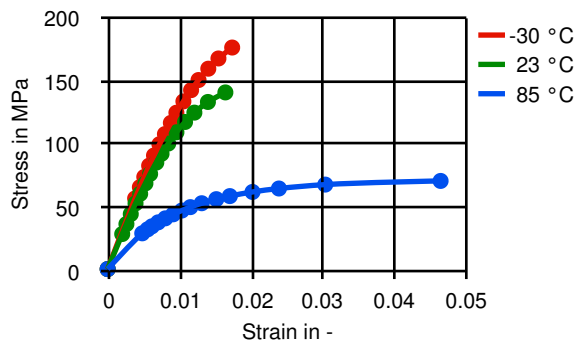
Physical properties	Value	Unit	Test Standard
Density	1660	kg/m ³	ISO 1183
Melt flow rate, MFR	22	g/10min	ISO 1133
MFR temperature	265	°C	ISO 1133
MFR load	2.16	kg	ISO 1133
Molding shrinkage, parallel	0.1	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	13500	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	147	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	2.1	%	ISO 527-2/1A
Flexural modulus, 23°C	12500	MPa	ISO 178
Flexural strength, 23°C	220	MPa	ISO 178
Charpy notched impact strength, 23°C	7.5	kJ/m ²	ISO 179/1eA

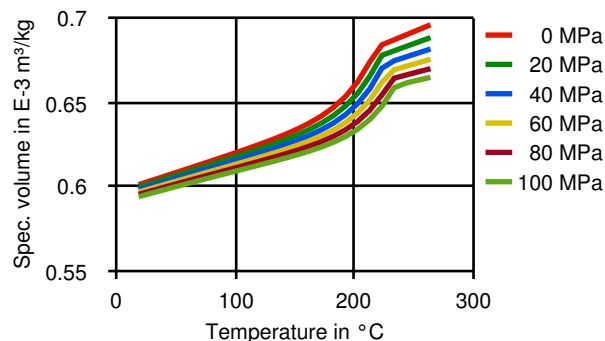
Thermal properties	Value	Unit	Test Standard
DTUL at 1.8 MPa	205	°C	ISO 75-1, -2

Diagrams

True Stress-strain



Moldflow Specific volume-temperature (pvT)



Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.02	%	-
Drying time	4	h	-
Drying temperature	121	°C	-
Temperature	Value	Unit	Test Standard
Feeding zone temperature	230 - 250	°C	-
Zone1 temperature	235 - 255	°C	-
Zone2 temperature	240 - 260	°C	-
Zone3 temperature	240 - 260	°C	-
Zone4 temperature	250 - 265	°C	-
Nozzle temperature	250 - 265	°C	-
Melt temperature	250 - 265	°C	-
Mold temperature	65 - 93	°C	-

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Pressure	Value	Unit	Test Standard
Back pressure max.	3.4	bar	-

Other text information

Pre-drying

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.

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 450-480 (230-250) deg F (deg C)
Center Temperature 460-490(235-255) deg F (deg C)
Front Temperature 470-500 (240-260) deg F (deg C)
Nozzle Temperature 480-510 (250-265) deg F (deg C)
Melt Temperature 460-510 (235-265) deg F (deg C)
Mold Temperature 150-200(65-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 25% clean and dry regrind may be used.

Characteristics

Special Characteristics	Delivery Form
Low warpage	Pellets
Product Categories	Additives
Mineral/Glass reinforced	Release agent

Processing

Injection molding