CELANEX® 6402 ECO-R

CELANEX® PBT

Celanex 6402® ECO-R 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.

Product information

Resin Identification	(PBT+PET)-(GF+MD)40	ISO 1043
Part Marking Code	>(PBT+PET)-(GF+MD)40<	ISO 11469

Rheological properties

Melt mass-flow rate	22	g/10min	ISO 1133
Melt mass-flow rate, Temperature	509	°F	
Melt mass-flow rate, Load	4.76	lb	
Molding shrinkage range, parallel	0.1 - 0.2	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.4 - 0.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	1.96E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	21300	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	2.1	%	ISO 527-1/-2
Flexural modulus	1.81E6	psi	ISO 178
Flexural strength	31900	psi	ISO 178
Charpy notched impact strength, 23°C	3.57	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	3.3	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	30.5	ftlb/in²	ISO 180/1U

Thermal properties

Temperature of deflection under load, 1.8 MPa	401	°F	ISO 75-1/-2

Physical/Other properties

Density	0.0599	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	248	°F
Drying Time, Dehumidified Dryer	4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	509	°F
Min. melt temperature	491	°F
Max. melt temperature	527	°F
Max. screw tangential speed	0.1 - 0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	194	°F
Max. mold temperature	266	°F
Back pressure	49.3	psi
Ejection temperature	345	°F

Revised: 2025-05-16 Source: Celanese Materials Database

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Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Ford	WRS-M4D625-A3	Natural, Black, Standard colors
Stellantis - Chrysler	MS.50103 / CPN-5372	100% Color Match
Stellantis - Chrysler	MS.50103 / CPN-5372R	100% Color Match

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	High Gloss, Low Warpage
Sustainability	Recycled Content

Additional information

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 minimum 4 hours.

Processing

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.

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 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours.

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Storage

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

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