

CELANEX® 3425HRT | PBT | Glass Reinforced

Description

Celanex 3425HRT is a non-lubricated, 40% fiberglass reinforced PBT copolymer that has excellent hydrolysis resistance, toughness, improved flow, and improved elongation at break.

Physical properties	Value	Unit	Test Standard
Density	1580	kg/m ³	ISO 1183
Mold shrinkage - parallel	0-0.5	%	ISO 294-4
Mold shrinkage - normal	0.6-0.9	%	ISO 294-4
Humidity absorption (23°C/50%RH)	0.12	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	9100	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	107	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	3	%	ISO 527-2/1A
Flexural modulus (23°C)	8500	MPa	ISO 178
Flexural strength (23°C)	165	MPa	ISO 178
Charpy impact strength @ 23°C	53.0	kJ/m ²	ISO 179/1eU
Charpy impact strength @ -30°C	44.0	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	11.0	kJ/m ²	ISO 179/1eA
Charpy notched impact strength @ -30°C	9.4	kJ/m ²	ISO 179/1eA
Notched impact strength (Izod) @ 23°C	11.0	kJ/m ²	ISO 180/1A

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	225	°C	ISO 11357-1,-2,-3
Glass transition temperature (10°C/min)	20	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	175	°C	ISO 75-1/-2
DTUL @ 0.45 MPa	202	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	0.2	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	1.16	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	4.21	-	IEC 60250
Relative permittivity - 1 MHz	4.13	-	IEC 60250
Dissipation factor - 1 MHz	200	E-4	IEC 60250
Volume resistivity	1E14	Ohm*m	IEC 60093
Surface resistivity	3E17	Ohm	IEC 60093
Electric strength	31	kV/mm	IEC 60243-1
Comparative tracking index CTI	375	-	IEC 60112

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Typical injection moulding processing conditions



Temperature:

	$\vartheta_{\text{Manifold}}$	ϑ_{Mold}	ϑ_{Melt}	$\vartheta_{\text{Nozzle}}$	ϑ_{Zone4}	ϑ_{Zone3}	ϑ_{Zone2}	ϑ_{Zone1}	ϑ_{Feed}	$\vartheta_{\text{Hopper}}$
min (°C)	250	65	235	250	240	235	235	230	230	20
max (°C)	260	93	260	260	260	250	250	240	240	50

Injection Molding

Rear Temperature	450-470(230-240)	deg F (deg C)
Center Temperature	460-480(235-250)	deg F (deg C)
Front Temperature	470-500(240-260)	deg F (deg C)
Nozzle Temperature	480-500(250-260)	deg F (deg C)
Melt Temperature	460-500(235-260)	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.

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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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We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed (+49 (0) 69 30516299 for Europe and +1 859-372-3244 for the Americas) for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

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