

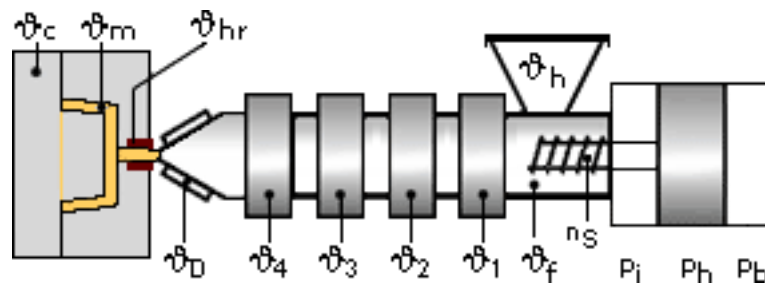
FORTRON® CES50 | PPS | Specialty

Description

Fortron CES50 is a 40% glass fiber reinforced material with a total chlorine content less than or equal to 900 ppm. It offers excellent physical properties similar to those of the Fortron 1140L6 product.

Physical properties	Value	Unit	Test Standard
Density	1630	kg/m ³	ISO 1183
Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	13900	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	170	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	1.9	%	ISO 527-2/1A
Flexural modulus (23°C)	13300	MPa	ISO 178
Flexural strength (23°C)	240	MPa	ISO 178
Charpy impact strength @ 23°C	51.0	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	9.0	kJ/m ²	ISO 179/1eA
Unnotched impact str (Izod) @ 23°C	44	kJ/m ²	ISO 180/1U
Notched impact strength (Izod) @ 23°C	10.0	kJ/m ²	ISO 180/1A
Thermal properties	Value	Unit	Test Standard
DTUL @ 1.8 MPa	262	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	0.15	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	0.5	E-4/°C	ISO 11359-2
Flammability at thickness h	V-0	class	UL94
thickness tested (h)	0.2	mm	UL94
Electrical properties	Value	Unit	Test Standard
Relative permittivity - 1 MHz	4.5	-	IEC 60250
Dissipation factor - 1 MHz	10	E-4	IEC 60250
Volume resistivity	>1E14	Ohm*m	IEC 60093
Surface resistivity	>1E14	Ohm	IEC 60093
Electric strength	30	kV/mm	IEC 60243-1
Comparative tracking index CTI	125	-	IEC 60112

Typical injection moulding processing conditions



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Pre Drying:
Necessary low maximum residual moisture content: 0.02%

FORTRON should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be $\leq -30^{\circ}\text{C}$. The time between drying and processing should be as short as possible.

For subsequent storage the material should be stored dry in the dryer until processed (≤ 60 h).

Drying time: 3 - 4 h
Drying temperature: 130 - 140 °C
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)	330	60	330	310	330	330	310	290	60	20
max (°C)	340	80	340	330	340	340	320	300	80	30

Pressure:

	Inj press	Hold press	Back pressure
min (bar)	500	300	0
max (bar)	1000	700	30

Speed:
Injection speed: fast
Screw speed

Screw diameter (mm)	16	25	40	55	75
Screw speed (RPM)	-	120	75	50	-

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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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