

FORTRON® ICE 716L - PPS

Description

65% Glass/Mineral filled, improved crystallization

FORTRON ICE 716L is a 65% glass fiber-mineral reinforced polyphenylene sulfide with improved mechanical properties, that belongs to our new generation of Fortron® PPS.

This new technology allows optimization of molding conditions with faster cycle times. Due to the faster crystallization of the material at a higher temperature, the option of mold wall temperature reduction can be subject of advanced process optimization. The potential for optimization of Fortron® ICE by cycle time reduction is possible by standard cavity surface temperatures of 140°C. The potential for lowering the mold temperature must be checked individually and it depends on process and part design.

Physical properties	Value	Unit	Test Standard
Density	122	lb/ft ³	ISO 1183
Molding shrinkage, parallel (flow)	0.2 - 0.5	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	0.3 - 0.6	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.02	%	Sim. to ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	3.12E6	psi	ISO 527-1, -2
Tensile stress at break, 5mm/min	23200	psi	ISO 527-1, -2
Tensile strain at break, 5mm/min	1.2	%	ISO 527-1, -2
Flexural modulus, 23°C	3.05E6	psi	ISO 178
Flexural strength, 23°C	37700	psi	ISO 178
Charpy impact strength, 23°C	14.3	ft-lb/in ²	ISO 179/1eU
Charpy notched impact strength, 23°C	4.76	ft-lb/in ²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
DTUL at 1.8 MPa	518	°F	ISO 75-1, -2
DTUL at 8.0 MPa	428	°F	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0.0778	E-4/°F	ISO 11359-2
Coeff. of linear therm expansion, normal	0.172	E-4/°F	ISO 11359-2

Electrical properties	Value	Unit
Comparative tracking index	PLC 4	UL 746

Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	0.02	%
Drying time	3 - 4	h
Drying temperature	266 - 284	°F

Temperature	Value	Unit
Hopper temperature	68 - 86	°F
Feeding zone temperature	140 - 176	°F
Zone1 temperature	554 - 572	°F
Zone2 temperature	590 - 608	°F
Zone3 temperature	626 - 644	°F
Zone4 temperature	626 - 644	°F
Nozzle temperature	590 - 626	°F
Melt temperature	626 - 644	°F
Mold temperature	284 - 320	°F
Hot runner temperature	626 - 644	°F



FORTRON® ICE 716L - PPS

Pressure	Value	Unit
Back pressure max.	30	bar
Speed	Value	
Injection speed	fast	
Screw Speed	Value	Unit
Screw speed diameter, 25mm	120	RPM
Screw speed diameter, 40mm	75	RPM
Screw speed diameter, 55mm	50	RPM

Characteristics

Special Characteristics	Auto spec approved, Flame retardant, High crystallinity, High flow
Product Categories	Specialty
Processing	Injection molding
Delivery Form	Pellets

Other Approvals

OEM	Specification
Hyundai	MS244-02, Type A-2

