

FORTRON® 9141L4 - PPS

Description

40% Glass reinforced PPS, low flash, V-0

Fortron 9141L4 is a 40% glass-reinforced PPS that has excellent heat and chemical resistance, inherently flame-retardant, high hardness and a good balance of strength and stiffness. This grade exhibits low flash and is typically used in applications with thicker walls and shorter flow lengths.

Physical properties	Value	Unit	Test Standard
Density	103	lb/ft ³	ISO 1183
Molding shrinkage, parallel (flow)	0.2 - 0.6	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	0.4 - 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	2.25E6	psi	ISO 527-1, -2
Tensile stress at break, 5mm/min	28300	psi	ISO 527-1, -2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1, -2
Flexural modulus, 23°C	2.15E6	psi	ISO 178
Flexural stress at break	42100	psi	ISO 178
Charpy impact strength, 23°C	25.2	ft-lb/in ²	ISO 179/1eU
Charpy impact strength, -30°C	25.2	ft-lb/in ²	ISO 179/1eU
Charpy notched impact strength, 23°C	5.71	ft-lb/in ²	ISO 179/1eA
Charpy notched impact strength, -30°C	5.71	ft-lb/in ²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	536	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	194	°F	ISO 11357-1,-2,-3
DTUL at 1.8 MPa	518	°F	ISO 75-1, -2
Flammability @1.6mm nom. thickn.	V-0	class	UL 94
thickness tested (1.6)	0.1	in	UL 94
Flammability at thickness h	V-0	class	UL 94
thickness tested (h)	0.0150	in	UL 94

Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	0.02	%
Drying time	3 - 4	h
Drying temperature	212 - 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



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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

Other text information

Pre-drying

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.

The pre-drying conditions can influence the flow (melt viscosity) of the material significantly. The drying temperature can be subject of optimization for flow of the material depending on the injection molding process and the tool- or part design.

Longer pre-drying times/storage

For subsequent storage the material should be stored dry in the dryer until processed ($\leq 60\text{ h}$).

Characteristics

Special Characteristics	Chemical resistant, Flame retardant, Heat resistant
Product Categories	Specialty
Processing	Injection molding
Regulatory	Drinking water approved
Delivery Form	Pellets
Additives	Release agent

