

FORTRON® 0309 - PPS

Description

Unfilled

0309 exhibits a good balance of flow and melt strength for extrusion processes. The material demonstrates excellent heat and chemical resistance. The intended use of this product is for extruding monofilament/fibers. Available in powder (0309B4) and high melt viscosity (0309B4 HMV) forms.

Physical properties	Value	Unit	Test Standard
Density	84.3	lb/ft ³	ISO 1183
Water absorption, 23°C-sat	0.02	%	Sim. to ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile stress at break, 5mm/min	13100	psi	ISO 527-1, -2
Tensile strain at break, 5mm/min	8	%	ISO 527-1, -2
Flexural modulus, 23°C	609000	psi	ISO 178
Flexural strength, 23°C	21000	psi	ISO 178
Rockwell hardness (M-Scale)	90	M-Scale	ISO 2039-2

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	239	°F	ISO 75-1, -2
DTUL at 8.0 MPa	203	°F	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0.289	E-4/°F	ISO 11359-2
Coeff. of linear therm expansion, normal	0.294	E-4/°F	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Dielectric constant (Dk), 1kHz	2.8	-	IEC 60250
Dielectric constant (Dk), 1MHz	4.6	-	IEC 60250
Dissipation factor, 1MHz	11	E-4	IEC 60250
Volume resistivity, 23°C	1E9	Ohm*m	IEC 62631-3-1
Electric strength, 23°C (AC)	457	kV/in	IEC 60243-1
Comparative tracking index	PLC 4	-	UL 746

Rheological calculation properties	Value	Unit	Test Standard
Spec. heat capacity melt	1830	J/(kg K)	Internal

Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	0.02	%
Drying time	3 - 4	h
Drying temperature	230 - 248	°F

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

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	Chlorine resistant, Flame retardant, Heat resistant
Product Categories	Unfilled
Processing	Extrusion, Film extrusion, Injection molding, Other extrusion, Profile extrusion, Sheet extrusion
Delivery Form	Pellets, Powder

