

FORTRON® 0205 - PPS

Description

0205 is an easy flowing unfilled grade. It demonstrates excellent chemical resistance and thermal stability. Intended for compounding with various fillers. Available standard in pellet (0205P4) and powder (0205B4) form.

Physical properties	Value	Unit	Test Standard
Density	1350	kg/m ³	ISO 1183
Molding shrinkage, parallel	1.2 - 1.5	%	ISO 294-4, 2577
Molding shrinkage, normal	1.5 - 1.8	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.02	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	4000	MPa	ISO 527-2/1A
Tensile stress at break, 5mm/min	66	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	2	%	ISO 527-2/1A
Flexural modulus, 23°C	3900	MPa	ISO 178
Flexural stress at break	130	MPa	ISO 178
Izod impact notched, 23°C	2	kJ/m ²	ISO 180/1A
Izod impact unnotched, 23°C	30	kJ/m ²	ISO 180/1U
Compressive stress at 6% strain	130	MPa	ISO 604
Rockwell hardness	95	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	280	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	90	°C	ISO 11357-1, -2, -3
DTUL at 1.8 MPa	115	°C	ISO 75-1, -2
DTUL at 8.0 MPa	95	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0.53	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	0.52	E-4/°C	ISO 11359-2

Electrical properties	Value	Unit	Test Standard
Volume resistivity	1E9	Ohm*m	IEC 60093
Electric strength	17	kV/mm	IEC 60243-1
Comparative tracking index	100	-	IEC 60112

Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	295 - 330	°C	ISO 294
Injection Molding, mold temperature	135 - 160	°C	ISO 294

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	Test Standard
Necessary low maximum residual moisture content	0.02	%	-
Drying time	3 - 4	h	-
Drying temperature	110 - 120	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 30	°C	-
Feeding zone temperature	60 - 80	°C	-
Zone1 temperature	290 - 300	°C	-
Zone2 temperature	300 - 310	°C	-
Zone3 temperature	310 - 320	°C	-
Zone4 temperature	310 - 320	°C	-

FORTRON® 0205 - PPS

Die temperature	300 - 310	°C	-
Melt temperature	310 - 320	°C	-
Cavity temperature	140 - 160	°C	-
Hot runner temperature	310 - 320	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	30	bar	-
Speed	Value	Unit	Test Standard
Injection speed	fast	-	-
Screw Speed	Value	Unit	Test Standard
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 (≤ 60 h).

Injection molding

On injection molding machines with 15-25 D long three-section screws, are usual in the trade, the unreinforced FORTRON is processable. A shut-off nozzle is recommended.

Melt temperature 310-320 degC

Mold wall temperature at least 140 degC

A medium injection rate is normally preferred. All mold cavities must be effectively vented.

Characteristics

Product Categories

Unfilled

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FORTRON® 0205 - PPS

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