Celanese
The chemistry inside innovation™

FORTRON® FX75T1

Polyphenylene sulfide

Fortron® FX75T1 is an unreinforced, impact-modified poly(phenylene sulfide) with high melt viscosity suitable for extrusion.

Product information

Resin Identification	PPS		ISO 1043
Part Marking Code	>PPS<		ISO 11469

Rheological properties

Molding shrinkage, parallel	1.9	%	ISO 294-4, 2577
Molding shrinkage, normal	2.1	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	239000	psi	ISO 527-1/-2
Tensile stress at break, 50mm/min	6090	psi	ISO 527-1/-2
Tensile strain at break, 50mm/min	80	%	ISO 527-1/-2
Flexural modulus	232000	psi	ISO 178
Flexural stress at 3.5%	7250	psi	ISO 178
Charpy notched impact strength, 23°C	33.3[OT]	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	23.8[OT]	ftlb/in²	ISO 179/1eA

[OT]: One time tested

Thermal properties

Temperature of deflection under load, 1.8 MPa	203	°F	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	248	°F	ISO 306
Vicat softening temperature, 50°C/h 10N	518	°F	ISO 306
Coefficient of linear thermal expansion (CLTE), parallel	0.54	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.678	E-4/°F	ISO 11359-1/-2
Thermal conductivity, flow	0.332[OT]	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.346[OT]	W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	1.65E-7[OT]	m²/s	ISO 22007-4
Effective thermal diffusivity, through plane	1.73E-7[OT]	m²/s	ISO 22007-4
Specific heat capacity of melt	1670[OT]	J/(kg K)	ISO 22007-4

[OT]: One time tested

Electrical properties

Relative permittivity, 1MHz	3.24		IEC 62631-2-1
Dissipation factor, 1MHz	6	E-4	IEC 62631-2-1
Volume resistivity	2E15	Ohm.m	IEC 62631-3-1

Physical/Other properties

Density	0.0433	lb/in³	ISO 1183

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Injection

Drying Recommended	yes	
Drying Temperature	266	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	626	°F
Min. melt temperature	590	°F
Max. melt temperature	644	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	248	°F
Min. mold temperature	176	°F
Max. mold temperature	320	°F
Hold pressure range	4350 - 10200	psi
Back pressure	508	psi

Extrusion

Drying Temperature	176 - 212	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	590	°F
Melt Temperature Range	545 - 608	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
General Motors	GMW17769P-PPS-T2	Black
General Motors	GMW17769P-PPS-T2	Natural

Characteristics

Processing	Injection Molding, Extrusion, Blow Molding
Special characteristics	High impact or impact modified, High viscosity

Additional information

Injection molding

Processing

Drying – alternate 80 °C, approx. 6 hours

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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. 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. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, 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. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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