Celanese
The chemistry inside innovation™

CELANEX® 3416 (PRELIMINARY)

45% glass-fiber reinforced, flame retardant (UL94 V-0), high flow grade, non-exuding
Celanex 3416 is a non-exuding flame retarded, 45% fiberglass reinforced polybutylene terephthalate which has an excellent balance of mechanical properties and processability. It is well suited for electrical connector applications
Development Grade, Restricted Data Sheet

Product information

Part Marking Code	> PBT-GF45 FR(17) <	ISO 11469

Rheological properties

Melt volume-flow rate	8	cm^3/10min	ISO 1133
Temperature	250	°C	
Load	2.16	kg	

Typical mechanical properties

Tensile Modulus	16600	MPa	ISO 527-1/-2
Stress at break, 5mm/min	165	MPa	ISO 527-1/-2
Strain at break, 5mm/min	1.6	%	ISO 527-1/-2

Flammability

Burning Behav. at thickness h	V-0	class	UL 94
Thickness tested	0.40	mm	UL 94

Characteristics

Additives	Release agent, Flame retardant

Additional information

Injection molding

Rear Temperature 450-470(230-240) deg F (deg C)
Center Temperature 460-480(235-250) deg F (deg C)
Front Temperature 470-490(240-255) deg F (deg C)
Nozzle Temperature 480-490(250-255) deg F (deg C)
Melt Temperature 460-490(235-255) deg F (deg C)
Mold Temperature 150-200(65-93) deg F (deg C)
Back Pressure 0-50 psi
Screw Speed Medium
Injection Speed Fast

Injection speed, injection pressure and holding pressure have to be optimized to the individual article geometry. To avoid material degradation during processing low back pressure and minimum screw speed have to be used. Overheating of the material has to be avoided, in particular for flame retardant grades. Up to 50% clean and dry regrind may be used for the '16 series' flame retardant grades.

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Processing Texts

Pre-drying	To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 250°F (121°C) for 4 hours.
Longer pre-drying times/storage	For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.
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Injection molding Preprocessing	To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.02%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-30°F (-34°C) at 250°F (121°C) for 4 hours..