

BASF Ultrason E 2010 G6 30% Glass Filled PES

Category : Polymer , Thermoplastic , Polyethersulfone (PES) , Polyethersulfone (PES), 30%Glass Fiber Filled

Material Notes:

Ultrason E 2010 G6 is a 30% glass reinforced, medium viscosity injection molding PES grade with high rigidity and strength.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultrason-E-2010-G6-30-Glass-Filled-PES.php

Physical Properties	Metric	English	Comments
Density	1.60 g/cc	0.0578 lb/in ³	ISO 1183
Water Absorption	1.6 %	1.6 %	ISO 62
Moisture Absorption at Equilibrium	0.60 %	0.60 %	23°C/50% R.H.; ISO 62
Viscosity Test	56 cm ³ /g	56 cm ³ /g	Viscosity number
Linear Mold Shrinkage, Flow	0.0028 cm/cm	0.0028 in/in	ISO 294
Linear Mold Shrinkage, Transverse	0.0058 cm/cm	0.0058 in/in	ISO 294
Melt Flow	25 g/10 min @Load 10.0 kg, Temperature 360 °C	25 g/10 min @Load 22.0 lb, Temperature 680 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	224 MPa	32500 psi	ISO 2039-1
Tensile Strength at Break	140 MPa	20300 psi	5mm/min; ISO 527-2
	100 MPa @Temperature 140 °C	14500 psi @Temperature 284 °F	
	125 MPa @Temperature 100 °C	18100 psi @Temperature 212 °F	
	135 MPa @Temperature 60.0 °C	19600 psi @Temperature 140 °F	
	150 MPa @Temperature 20.0 °C	21800 psi @Temperature 68.0 °F	
Tensile Stress	31.0 MPa @# of Cycles 1.00e+7 , Temperature 180 °C	4500 psi @# of Cycles 1.00e+7 , Temperature 356 °F	
	38.0 MPa	5510 psi	

Mechanical Properties	Metric @# of Cycles 1.00e+6 , Temperature 180 °C	English @# of Cycles 1.00e+6 , Temperature 356 °F	Comments
	43.0 MPa	6240 psi	
	@# of Cycles 100000 , Temperature 180 °C	@# of Cycles 100000 , Temperature 356 °F	
	50.0 MPa	7250 psi	
	@Strain 0.600 %, Temperature 160 °C	@Strain 0.600 %, Temperature 320 °F	ISO 527
	50.0 MPa	7250 psi	
	@Strain 0.500 %, Temperature 23.0 °C	@Strain 0.500 %, Temperature 73.4 °F	ISO 527
	75.0 MPa	10900 psi	
	@Strain 1.00 %, Temperature 160 °C	@Strain 1.00 %, Temperature 320 °F	ISO 527
	80.0 MPa	11600 psi	
	@Strain 1.40 %, Temperature 160 °C	@Strain 1.40 %, Temperature 320 °F	ISO 527
	80.0 MPa	11600 psi	
	@Strain 1.00 %, Temperature 23.0 °C	@Strain 1.00 %, Temperature 73.4 °F	ISO 527
	125 MPa	18100 psi	
	@Strain 1.50 %, Temperature 23.0 °C	@Strain 1.50 %, Temperature 73.4 °F	ISO 527
Tensile Strength, Yield	140 MPa	20300 psi	50mm/min; ISO 527-2
Elongation at Break	1.9 %	1.9 %	5mm/min; ISO 527-2
Elongation at Yield	1.9 %	1.9 %	50mm/min; ISO 527-2
	0.189 %	0.189 %	
	@Time 3600 sec, Pressure 15.0 MPa	@Time 1.00 hour, Pressure 2180 psi	ISO 899
	0.19 %	0.19 %	
	@Pressure 15.0 MPa, Time 360000 sec	@Pressure 2180 psi, Time 100 hour	ISO 899
	0.20 %	0.20 %	
	@Pressure 15.0 MPa, Time 3.60e+7 sec	@Pressure 2180 psi, Time 10000 hour	ISO 899
	0.20 %	0.20 %	

Mechanical Properties	Metric @Pressure 10.0 MPa, Time 360000 sec	English @Pressure 1450 psi, Time 100 hour	180°C; ISO 899 Comments
	0.20 %	0.20 %	
	@Time 3600 sec, Pressure 10.0 MPa	@Time 1.00 hour, Pressure 1450 psi	180°C; ISO 899
	0.25 %	0.25 %	
	@Pressure 10.0 MPa, Time 3.60e+7 sec	@Pressure 1450 psi, Time 10000 hour	180°C; ISO 899
	0.30 %	0.30 %	
	@Time 3600 sec, Pressure 20.0 MPa	@Time 1.00 hour, Pressure 2900 psi	180°C; ISO 899
	0.30 %	0.30 %	
	@Pressure 20.0 MPa, Time 360000 sec	@Pressure 2900 psi, Time 100 hour	180°C; ISO 899
	0.30 %	0.30 %	
	@Time 3600 sec, Pressure 30.0 MPa	@Time 1.00 hour, Pressure 4350 psi	180°C; ISO 899
	0.35 %	0.35 %	
	@Time 3600 sec, Pressure 30.0 MPa	@Time 1.00 hour, Pressure 4350 psi	180°C; ISO 899
	0.38 %	0.38 %	
	@Pressure 30.0 MPa, Time 360000 sec	@Pressure 4350 psi, Time 100 hour	180°C; ISO 899
	0.40 %	0.40 %	
	@Pressure 30.0 MPa, Time 3.60e+7 sec	@Pressure 4350 psi, Time 10000 hour	ISO 899
	0.40 %	0.40 %	
	@Time 3600 sec, Pressure 40.0 MPa	@Time 1.00 hour, Pressure 5800 psi	180°C; ISO 899
	0.40 %	0.40 %	
	@Pressure 20.0 MPa, Time 3.60e+7 sec	@Pressure 2900 psi, Time 10000 hour	180°C; ISO 899
	0.40 %	0.40 %	
	@Pressure 30.0 MPa, Time 360000 sec	@Pressure 4350 psi, Time 100 hour	ISO 899
	0.50 %	0.50 %	
	@Pressure 40.0 MPa, Time 360000 sec	@Pressure 5800 psi, Time 100 hour	ISO 899

Mechanical Properties	0.50 % Metric	0.50 % English	Comments 180 °C; ISO 899
	@Time 3600 sec, Pressure 50.0 MPa	@Time 1.00 hour, Pressure 7250 psi	
	0.55 %	0.55 %	
	@Time 3600 sec, Pressure 45.0 MPa	@Time 1.00 hour, Pressure 6530 psi	ISO 899
	0.60 %	0.60 %	
	@Pressure 45.0 MPa, Time 360000 sec	@Pressure 6530 psi, Time 100 hour	ISO 899
	0.78 %	0.78 %	
	@Time 3600 sec, Pressure 60.0 MPa	@Time 1.00 hour, Pressure 8700 psi	ISO 899
	0.80 %	0.80 %	
	@Pressure 60.0 MPa, Time 360000 sec	@Pressure 8700 psi, Time 100 hour	ISO 899
	0.80 %	0.80 %	
	@Pressure 50.0 MPa, Time 360000 sec	@Pressure 7250 psi, Time 100 hour	180°C; ISO 899
	0.90 %	0.90 %	
	@Pressure 30.0 MPa, Time 3.60e+7 sec	@Pressure 4350 psi, Time 10000 hour	ISO 899
	0.90 %	0.90 %	
	@Pressure 60.0 MPa, Time 3.60e+7 sec	@Pressure 8700 psi, Time 10000 hour	ISO 899
	0.99 %	0.99 %	
	@Time 3600 sec, Pressure 75.0 MPa	@Time 1.00 hour, Pressure 10900 psi	ISO 899
	1.1 %	1.1 %	
	@Pressure 75.0 MPa, Time 360000 sec	@Pressure 10900 psi, Time 100 hour	ISO 899
	1.23 %	1.23 %	
	@Pressure 75.0 MPa, Time 3.60e+7 sec	@Pressure 10900 psi, Time 10000 hour	ISO 899
	1.5 %	1.5 %	
	@Pressure 40.0 MPa, Time 3.60e+7 sec	@Pressure 5800 psi, Time 10000 hour	180°C; ISO 899
	2.5 %	2.5 %	
	@Pressure 50.0 MPa,	@Pressure 7250 psi,	180°C; ISO 899

Mechanical Properties	Time 3.60e+7 sec Metric	Time 10000 hour English	Comments
	@Pressure 45.0 MPa, Time 3.60e+7 sec	@Pressure 6530 psi, Time 10000 hour	ISO 899
Creep Strength	22.0 MPa @Time 3.60e+7 sec	3190 psi @Time 10000 hour	in water at 95°C
	30.0 MPa @Time 3.60e+6 sec	4350 psi @Time 1000 hour	in water at 95°C
	41.0 MPa @Time 360000 sec	5950 psi @Time 100 hour	in water at 95°C
	55.0 MPa @Time 36000 sec	7980 psi @Time 10.0 hour	in water at 95°C
Modulus of Elasticity	9.80 GPa @Temperature 160 °C	1420 ksi @Temperature 320 °F	ISO 527
	9.85 GPa @Temperature 60.0 °C	1430 ksi @Temperature 140 °F	ISO 527
	9.90 GPa @Temperature 20.0 °C	1440 ksi @Temperature 68.0 °F	ISO 527
	10.0 GPa @Temperature 120 °C	1450 ksi @Temperature 248 °F	ISO 527
Tensile Modulus	10.0 GPa	1450 ksi	ISO 527-2
Fatigue Strength	43.0 MPa @# of Cycles 1.00e+7	6240 psi @# of Cycles 1.00e+7	
	52.0 MPa @# of Cycles 1.00e+6	7540 psi @# of Cycles 1.00e+6	
	65.0 MPa @# of Cycles 100000	9430 psi @# of Cycles 100000	
Shear Modulus	0.200 GPa @Temperature 225 °C	29.0 ksi @Temperature 437 °F	ISO 6721
	0.900 GPa @Temperature 200 °C	131 ksi @Temperature 392 °F	ISO 6721
	0.950 GPa	138 ksi	

Mechanical Properties	Metric @ Temperature 100 °C	English @ Temperature 212 °F	ISO 6721 Comments
	1.00 GPa	145 ksi	ISO 6721
	@Temperature 50.0 °C	@Temperature 122 °F	
Izod Impact, Notched (ISO)	8.00 kJ/m ²	3.81 ft-lb/in ²	ISO 180/A
	8.00 kJ/m ²	3.81 ft-lb/in ²	ISO 180/A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	42.0 kJ/m ²	20.0 ft-lb/in ²	ISO 179/1eU
	@Temperature 120 °C	@Temperature 248 °F	
	50.0 kJ/m ²	23.8 ft-lb/in ²	ISO 179/1eU
	@Temperature 25.0 °C	@Temperature 77.0 °F	
	57.0 kJ/m ²	27.1 ft-lb/in ²	ISO 179/1eU
	@Temperature -25.0 °C	@Temperature -13.0 °F	
	59.0 kJ/m ²	28.1 ft-lb/in ²	ISO 179/1eU
	@Temperature 0.000 °C	@Temperature 32.0 °F	

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