

BASF Ultrason E 3010 PES

Category : Polymer , Thermoplastic , Polyethersulfone (PES)

Material Notes:

Ultrason E 3010 is an unfilled, higher viscosity injection molding and extrusion PES grade, tougher and with improved chemical resistance.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultrason-E-3010-PES.php

Physical Properties	Metric	English	Comments
Density	1.37 g/cc	0.0495 lb/in ³	ISO 1183
Water Absorption	2.2 %	2.2 %	ISO 62
Moisture Absorption at Equilibrium	0.80 %	0.80 %	23°C/50% R.H.; ISO 62
Viscosity Test	66 cm ³ /g	66 cm ³ /g	Viscosity number
Linear Mold Shrinkage, Flow	0.0085 cm/cm	0.0085 in/in	ISO Data
Linear Mold Shrinkage, Transverse	0.0090 cm/cm	0.0090 in/in	ISO Data
Melt Flow	35 g/10 min @Load 10.0 kg, Temperature 360 °C	35 g/10 min @Load 22.0 lb, Temperature 680 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	154 MPa	22300 psi	ISO 2039-1
Tensile Strength at Break	90.0 MPa	13100 psi	5mm/min; ISO 527-2
Tensile Stress	23.0 MPa @Strain 1.00 %, Temperature 160 °C	3340 psi @Strain 1.00 %, Temperature 320 °F	ISO 527
	25.0 MPa @Strain 1.00 %, Temperature 23.0 °C	3630 psi @Strain 1.00 %, Temperature 73.4 °F	ISO 527
	41.0 MPa @Strain 2.00 %, Temperature 160 °C	5950 psi @Strain 2.00 %, Temperature 320 °F	ISO 527
	42.0 MPa @Strain 2.00 %, Temperature 23.0 °C	6090 psi @Strain 2.00 %, Temperature 73.4 °F	ISO 527
	50.0 MPa	7250 psi	ISO 527

Mechanical Properties	Metric @Strain 3.00 %, Temperature 160 °C	English @Strain 3.00 %, Temperature 320 °F	Comments
	73.0 MPa	10600 psi	
	@Strain 4.00 %, Temperature 23.0 °C	@Strain 4.00 %, Temperature 73.4 °F	ISO 527
	90.0 MPa	13100 psi	
	@Strain 6.00 %, Temperature 23.0 °C	@Strain 6.00 %, Temperature 73.4 °F	ISO 527
Tensile Strength, Yield	90.0 MPa	13100 psi	50mm/min; ISO 527-2
	50.0 MPa	7250 psi	
	@Temperature 140 °C	@Temperature 284 °F	
	65.0 MPa	9430 psi	
	@Temperature 100 °C	@Temperature 212 °F	
	75.0 MPa	10900 psi	
	@Temperature 60.0 °C	@Temperature 140 °F	
	85.0 MPa	12300 psi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Elongation at Break	6.7 %	6.7 %	5mm/min; ISO 527-2
Elongation at Yield	6.7 %	6.7 %	50mm/min; ISO 527-2
	0.40 %	0.40 %	
	@Time 3600 sec, Pressure 10.0 MPa	@Time 1.00 hour, Pressure 1450 psi	140°C; ISO 899
	0.50 %	0.50 %	
	@Pressure 10.0 MPa, Time 360000 sec	@Pressure 1450 psi, Time 100 hour	140°C; ISO 899
	0.50 %	0.50 %	
	@Time 3600 sec, Pressure 10.0 MPa	@Time 1.00 hour, Pressure 1450 psi	ISO 899
	0.50 %	0.50 %	
	@Time 3600 sec, Pressure 10.0 MPa	@Time 1.00 hour, Pressure 1450 psi	ISO 899
	0.55 %	0.55 %	
	@Pressure 10.0 MPa, Time 360000 sec	@Pressure 1450 psi, Time 100 hour	ISO 899
	0.55 %	0.55 %	

Mechanical Properties	Metric @Pressure 10.0 MPa, Time 360000 sec	English @Pressure 1450 psi, Time 100 hour	ISO 899 Comments
	0.60 %	0.60 %	
	@Pressure 10.0 MPa, Time 3.60e+7 sec	@Pressure 1450 psi, Time 10000 hour	ISO 899
	0.60 %	0.60 %	
	@Time 3600 sec, Pressure 15.0 MPa	@Time 1.00 hour, Pressure 2180 psi	140°C; ISO 899
	0.60 %	0.60 %	
	@Pressure 10.0 MPa, Time 3.60e+6 sec	@Pressure 1450 psi, Time 1000 hour	140°C; ISO 899
	0.60 %	0.60 %	
	@Pressure 10.0 MPa, Time 3.60e+7 sec	@Pressure 1450 psi, Time 10000 hour	ISO 899
	0.70 %	0.70 %	
	@Pressure 1.52 MPa, Time 360000 sec	@Pressure 220 psi, Time 100 hour	140°C; ISO 899
	0.80 %	0.80 %	
	@Time 3600 sec, Pressure 20.0 MPa	@Time 1.00 hour, Pressure 2900 psi	140°C; ISO 899
	0.90 %	0.90 %	
	@Time 3600 sec, Pressure 20.0 MPa	@Time 1.00 hour, Pressure 2900 psi	ISO 899
	0.90 %	0.90 %	
	@Time 3600 sec, Pressure 20.0 MPa	@Time 1.00 hour, Pressure 2900 psi	ISO 899
	1.0 %	1.0 %	
	@Pressure 20.0 MPa, Time 360000 sec	@Pressure 2900 psi, Time 100 hour	ISO 899
	1.0 %	1.0 %	
	@Pressure 20.0 MPa, Time 360000 sec	@Pressure 2900 psi, Time 100 hour	ISO 899
	1.0 %	1.0 %	
	@Pressure 15.0 MPa, Time 360000 sec	@Pressure 2180 psi, Time 100 hour	140°C; ISO 899
	1.1 %	1.1 %	
	@Pressure 20.0 MPa, Time 360000 sec	@Pressure 2900 psi, Time 100 hour	140°C; ISO 899

Mechanical Properties	Metric	English	Comments
	@Time 3600 sec, Pressure 25.0 MPa	@Time 1.00 hour, Pressure 3630 psi	140°C; ISO 899
	1.2 %	1.2 %	
	@Pressure 20.0 MPa, Time 3.60e+7 sec	@Pressure 2900 psi, Time 10000 hour	ISO 899
	1.2 %	1.2 %	
	@Pressure 20.0 MPa, Time 3.60e+7 sec	@Pressure 2900 psi, Time 10000 hour	ISO 899
	1.4 %	1.4 %	
	@Time 3600 sec, Pressure 30.0 MPa	@Time 1.00 hour, Pressure 4350 psi	ISO 899
	1.4 %	1.4 %	
	@Time 3600 sec, Pressure 30.0 MPa	@Time 1.00 hour, Pressure 4350 psi	ISO 899
	1.5 %	1.5 %	
	@Pressure 30.0 MPa, Time 360000 sec	@Pressure 4350 psi, Time 100 hour	ISO 899
	1.5 %	1.5 %	
	@Pressure 30.0 MPa, Time 360000 sec	@Pressure 4350 psi, Time 100 hour	ISO 899
	1.5 %	1.5 %	
	@Time 3600 sec, Pressure 30.0 MPa	@Time 1.00 hour, Pressure 4350 psi	140°C; ISO 899
	1.5 %	1.5 %	
	@Pressure 20.0 MPa, Time 3.60e+6 sec	@Pressure 2900 psi, Time 1000 hour	140°C; ISO 899
	1.6 %	1.6 %	
	@Pressure 25.0 MPa, Time 360000 sec	@Pressure 3630 psi, Time 100 hour	140°C; ISO 899
	1.9 %	1.9 %	
	@Pressure 30.0 MPa, Time 3.60e+7 sec	@Pressure 4350 psi, Time 10000 hour	ISO 899
	1.9 %	1.9 %	
	@Pressure 30.0 MPa, Time 3.60e+7 sec	@Pressure 4350 psi, Time 10000 hour	ISO 899
	2.0 %	2.0 %	
	@Time 3600 sec,	@Time 1.00 hour,	ISO 899

Mechanical Properties	Pressure 40.0 MPa Metric	Pressure 5800 psi English	Comments
	2.0 %	2.0 %	
	@Time 3600 sec, Pressure 40.0 MPa	@Time 1.00 hour, Pressure 5800 psi	ISO 899
	2.1 %	2.1 %	
	@Pressure 25.0 MPa, Time 3.60e+6 sec	@Pressure 3630 psi, Time 1000 hour	140°C; ISO 899
	2.2 %	2.2 %	
	@Pressure 30.0 MPa, Time 360000 sec	@Pressure 4350 psi, Time 100 hour	140°C; ISO 899
	2.3 %	2.3 %	
	@Pressure 40.0 MPa, Time 360000 sec	@Pressure 5800 psi, Time 100 hour	ISO 899
	2.3 %	2.3 %	
	@Pressure 40.0 MPa, Time 360000 sec	@Pressure 5800 psi, Time 100 hour	ISO 899
	2.7 %	2.7 %	
	@Pressure 40.0 MPa, Time 3.60e+7 sec	@Pressure 5800 psi, Time 10000 hour	ISO 899
	2.7 %	2.7 %	
	@Time 3600 sec, Pressure 50.0 MPa	@Time 1.00 hour, Pressure 7250 psi	ISO 899
	2.7 %	2.7 %	
	@Pressure 40.0 MPa, Time 3.60e+7 sec	@Pressure 5800 psi, Time 10000 hour	ISO 899
	2.7 %	2.7 %	
	@Time 3600 sec, Pressure 50.0 MPa	@Time 1.00 hour, Pressure 7250 psi	ISO 899
	3.0 %	3.0 %	
	@Pressure 30.0 MPa, Time 3.60e+6 sec	@Pressure 4350 psi, Time 1000 hour	140°C; ISO 899
	3.1 %	3.1 %	
	@Pressure 50.0 MPa, Time 360000 sec	@Pressure 7250 psi, Time 100 hour	ISO 899
	3.1 %	3.1 %	
	@Pressure 50.0 MPa, Time 360000 sec	@Pressure 7250 psi, Time 100 hour	ISO 899
	3.6 %	3.6 %	

Mechanical Properties	Metric	English	ISO 899 Comments
	@Pressure 50.0 MPa, Time 3.60e+7 sec	@Pressure 7250 psi, Time 10000 hour	
	3.6 %	3.6 %	
	@Pressure 50.0 MPa, Time 3.60e+7 sec	@Pressure 7250 psi, Time 10000 hour	ISO 899
Creep Strength	5.00 MPa	725 psi	
	@Time 3.60e+7 sec	@Time 10000 hour	in water at 95°C
	8.00 MPa	1160 psi	
	@Time 3.60e+6 sec	@Time 1000 hour	in water at 95°C
	16.0 MPa	2320 psi	
	@Time 360000 sec	@Time 100 hour	in water at 95°C
	30.0 MPa	4350 psi	
	@Time 36000 sec	@Time 10.0 hour	in water at 95°C
Modulus of Elasticity	2.25 GPa	326 ksi	
	@Temperature 140 °C	@Temperature 284 °F	ISO 527
	2.40 GPa	348 ksi	
	@Temperature 100 °C	@Temperature 212 °F	ISO 527
	2.50 GPa	363 ksi	
	@Temperature 60.0 °C	@Temperature 140 °F	ISO 527
	2.55 GPa	370 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	ISO 527
Tensile Modulus	2.70 GPa	392 ksi	ISO 527-2
Flexural Modulus	2.70 GPa	392 ksi	ISO 178
Shear Modulus	0.200 GPa	29.0 ksi	
	@Temperature 225 °C	@Temperature 437 °F	ISO 6721
	0.900 GPa	131 ksi	
	@Temperature 200 °C	@Temperature 392 °F	ISO 6721
	0.950 GPa	138 ksi	
	@Temperature 100 °C	@Temperature 212 °F	ISO 6721
	1.00 GPa	145 ksi	
	@Temperature 50.0 °C	@Temperature 122 °F	ISO 6721

Izod Impact Notched (ISO)	15.7 kJ/m²	7.50 ft-lb/in²	ISO 180/A
Mechanical Properties	Metric	English	Comments

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