

BASF Ultrason S 6010 PSU

Category : Polymer , Thermoplastic , Polysulfone (PSU)

Material Notes:

Ultrason S 6010 is an unreinforced, high molecular weight injection-molding and extrusion grade with excellent chemical resistance (stress crack resistance) and good solubility in typical solvents (N-Methylpyrrolidone, Dimethylacetamide, Dichlormethane) used e.g. in the production of membranes or coatings, with reduced oligomer content. It conforms to FDA requirements of 21 CFR 177.1655.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultrason-S-6010-PSU.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	ISO 1183
Water Absorption	0.80 %	0.80 %	ISO 62
Moisture Absorption at Equilibrium	0.30 %	0.30 %	23°C/50% R.H.; ISO 62
Viscosity Test	81 cm ³ /g	81 cm ³ /g	Viscosity number
Linear Mold Shrinkage, Flow	0.0072 cm/cm	0.0072 in/in	ISO 294
Linear Mold Shrinkage, Transverse	0.0077 cm/cm	0.0077 in/in	ISO 294
Melt Flow	30 g/10 min @Load 10.0 kg, Temperature 360 °C	30 g/10 min @Load 22.0 lb, Temperature 680 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	135 MPa	19600 psi	ISO 2039-1
Tensile Strength at Break	75.0 MPa	10900 psi	5mm/min; ISO 527
Tensile Strength, Yield	75.0 MPa	10900 psi	50mm/min; ISO 527
Elongation at Break	5.7 %	5.7 %	5mm/min; ISO 527
Elongation at Yield	5.7 %	5.7 %	50mm/min; ISO 527
Tensile Modulus	2.60 GPa	377 ksi	ISO 527
Secant Modulus	0.0250 GPa @Temperature 200 °C	3.63 ksi @Temperature 392 °F	ISO 6721
	0.800 GPa @Temperature 175 °C	116 ksi @Temperature 347 °F	ISO 6721
	0.900 GPa	131 ksi	ISO 6721

Mechanical Properties	@Temperature 100 °C Metric	@Temperature 212 °F English	Comments
	0.950 GPa	138 ksi	ISO 6721
	@Temperature 50.0 °C	@Temperature 122 °F	
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	ISO 180/A
	6.00 kJ/m ²	2.86 ft-lb/in ²	ISO 180/A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA
	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Tensile Creep Modulus, 1000 hours	2500 MPa	363000 psi	Elongation <0.5%, 23°C; ISO 899-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	53.0 µm/m-°C	29.4 µin/in-°F	
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature 140 - 180 °C	@Temperature 284 - 356 °F	
Maximum Service Temperature, Air	180 °C	356 °F	short cycle operations
Deflection Temperature at 1.8 MPa (264 psi)	175 °C	347 °F	ISO 75-2
Glass Transition Temp, Tg	187 °C	369 °F	10 K/min; ISO 11357-1/-3

Optical Properties	Metric	English	Comments
Transmission, Visible	87 %	87 %	ASTM D 1003
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	IEC 60093

Dielectric Strength Electrical Properties	37.0 kV/mm Metric	940 kV/in English	IEC 60243-1 3 Comments
Comparative Tracking Index	125 V	125 V	Test Liquid A; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	330 - 390 °C	626 - 734 °F	
Mold Temperature	120 - 160 °C	248 - 320 °F	

Descriptive Properties	Value	Comments
Color	Natural	
Commercial Status	North America and Europe	
FDA	21 CFR 177.1655	
Impact Modified	No	
NSF Std. 61	Yes	
Primary Processing Technique	Injection Molding and Extrusion	

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