CS Hyde Company

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PRODUCT INFORMATION

34-__F
UDEL / PSU Film

PRODUCT DESCRIPTION

Polysulfones (PSU) are tough, rigid, high-strength thermoplastics that are suitable for continuous use up to 300°F (149°C). The resins are resistant to oxidation and hydrolysis and withstand prolonged exposure to high temperatures and repeated sterilization. Polysulfones are highly resistant to mineral acids, alkali and salt solutions. Their resistance to detergents and hydrocarbon oils is good, but they will be attacked by polar solvents such as ketones, chlorinated hydrocarbons, and aromatic hydrocarbons. PSU's are also highly resistant to degradation by gamma or electron beam radiation. Electrical properties of polysulfones are stable over a wide temperature range and after immersion in water or exposure to high humididty. Applications of PSE films are mainly in electronics, CPI and automotive.

PHYSICAL PROPERTIES:

	TEST METHOD	**SI UNITS**	**US CUSTOMARY UNITS**
Glass Transition Temp.	ASTM D-3418	190 ºC	374 ºF
Water Absorption	ASTM D-570	0.3 %	0.3 %
@ 50ºC (122ºF), 75%RH, 24 hrs Yield	Internal	753 m²/kg/µm	20,833 in²/lb/mil
MECHANICAL PROPERTIES		**MD – TD**	**MD - TD**
Stress at Yield @ 23 ºC (73ºF)	ASTM D-882	68 MPa - 63 MPa	9,90psi - 9,200 psi
Elongation at Yield @ 23 ºC (73ºF)	ASTM D-882	5 % - 5 %	5 % - 5%
Stress at Break @ 23 ºC (73 ºF)	ASTM D-882	59 MPa - 57 MPa	8,500 psi - 8,200 psi
Elongation at Break @ 23 ºC (73 ºF)	ASTM D 882	55 % - 35%	55 % - 35 %
Modulus @ 23 ºC (73 ºF)	ASTM D-882	2310 MPa - 2340 MPa	335 kpsi - 340 kspi
Dart impact	ASTM D-1709	399 g	0.88 lb
Tear Propagation	ASTM D-1922	12 gforce - 12 gforce	0.026 if - 0.026 lbf
Tear Resistance	ASTM D-1004	960 gforce - 970 gforce	2.13 lbf - 2.14 lbf
ELECTRICAL PROPERTIES			
Dielectric Strength	ASTM D-149		425 V/mil

*Reported values were measured on a 30µm thick film

*The above values are "Typical Values" which have a nominal range about them and are not intended for specification purposes.