



Physical Properties: PCB Material

Last Revised: 12/12/94

Material Category:	Thermoplastic
Material Type:	Nylon 6/6
Material Trade Name:	RTP 200 FR
Description:	A flame retardant, un-reinforced nylon. This material offers toughness, excellent mold ability, thermal stability and is non-corrosive.

Mechanical Properties @ Room Temperature Value

Compressive Str. (ASTM.D695).....	ksi (Mpa).....	4.60 (33.072)
Elongation. @ Yld..... (ASTM.D638).....	(MD)	3.00-4.00
Flexural Modulus (ASTM.D790).....	100ksi (Gpa).....	4.00 (2.76)
Flexural Str..... (ASTM.D790).....	ksi (Mpa).....	14.00 (96.46)
Hardness Rockwell..... (ASTM.D785).....	R. Scale	115
Impact Str Notched Izod 1/8"(ASTM.D256)	ft-lbs/in (J/m)	0.50 (26.70)
Impact Str UnNotched Izod 1/8"(ASTM.D256)	ft-lbs/in (J/m)	6.00 (320.40)
Poisson's Ratio		0.375*
Shear Modulus	100 ksi (Gpa).....	3.00 (2.07) *
Tensile Moduls..... (ASTM.D638).....	100 ksi (Gpa).....	5.50 (3.79)
Tensile Str @ Brk..... (ASTM.D638).....	ksi (Mpa) (MD).....	13.58 (93.57) *
Tensile Str. @ Yld..... (ASTM.D638).....	ksi (Mpa) (MD).....	9.00 (62.01)

Physical Properties @ Room Temperature Value

Density	lbs/in^3 (gm/cm^3)	0.049 (1.36)
(note) ASTM D792		
Water Absorption..... (ASTM.D570).....	@ 24 hrs	0.90

Processing Properties @ Room Temperature (Injection Molding) Value

Injections Cylinder Temp.....	F (C).....	475-525 (246-274)
Injection Pressure.....	psi.....	10,000-15,000
Injection Pressure.....	Mpa.....	58.90-103.35
Mold Shrinkage (1/8") (ASTM.D955).....	in/in	0.016
Mold Shrinkage (1/4") (ASTM.D955).....	in/in	0.022
Mold Temperature.....	F (C).....	150-225 (66-107)

Thermal Properties @ Room Temperature Value

Coef Linear Exp..... (ASTM.D696).....	10^-5in/F(10^-5m/m/C)	4.4 (7.92)
Conductivity..... (ASTM.C177).....	Stu-in/hr/ft^2/F(W/m-K).....	3.00 (0.4326)
Defection Temp..... (ASTM.D646).....	@264 psi F(C).....	200 (93)
Deflection Temp..... (ASTM.D646.....	@ 66 psi F(C).....	410 (210)
Flammability Rating.....	UL 94V-0.....	2
(note) 1/32"/unintended to reflect hazards of any mat'l under fire conditions.		
Specific Heat.....	Btu/lbs-B(J/Kg-K).....	0.39 (1632.93) *

Electrical Properties @ Room Temperature Value

Dielectric Str Short..... (ASTM.D149).....	V/mil(KV/mm)	500 (19.70)
Dielectric Constant..... (ASTM.D150).....	@ 1 Mhz	3.70
Dissipation Factor (ASTM.D150).....	@ 1 Mhz	0.02
Volume Resistivity..... (ASTM.D257).....	ohm-cm	1.0 x 10^16
(note) * Source MDLA Nylon 6/6 Toughness		

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