

## Redco™ POLYIMIDES (PI)

		SHAPES	SHAPES MOLDINGS / FILLER				
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PROPERTY	ASTM or UL TEST	UNFILLED	GLASS FIBER	25% GRAPHITE POWDER	15% GRAPHITE POWDER	LAMINTES	
PHYSICAL							
SPECIFIC GRAVITY	D792	1.34	1.9	1.45	1.51	1.95	
SPECIFIC VOLUME in3/lb (cm3/g)	D792	-	14.5 (401)	19.0 (525)	18.3(506)	14.1(390)	
WATER ABSORPTION, 24h, 1/8-in thk (%)	D570	0.62	0.2	0.6	0.2	0.3	
MECHANICAL		•	•	•		•	
TENSILE STRENGTH PSI (MPa)	D638						
AT 70ºF (21°C)		20,300 (140)	27,000 (186)	5,700 (39)	9,500 (65)	50,000 (345)	
AT 480°F (250°C)		16,000 (110)	23,000 (160)	3,600 (25)	5,500 (38)	35,000 (241)	
ELONGATION (%)	D638	9	<1	<1	4.5	<1	
FLEXURAL STENGTH PSI (MPa)	D790						
AT 70ºF (21°C)		29,700 (205)	50,000 (345)	12,800 (88)	16,000 (110)	70,000 (783)	
AT 480ºF (250°C)		24,000 (166)	36,000 (248)	9,200 (63)	9,000 (62)	50,000 (345)	
FLEXURAL MODULUS PSI (MPa)	D790						
AT 70ºF (21°C)		5800000 (40000)	3250000 (22500)	900000 (6200)	550000 (3800)	4000000 (27500)	
AT 480ºF (250°C)		4400000 (30300)	240000 (1650)	750000 (5170)	370000 (2500)	3200000 (22000)	
IMPACT STRENGTH, Izod ft-lb/in OF NOTCH (J/m of notch)	D256	0.6 (32.4)	17 (920)	0.25 (13.5)	0.8 (43)	13 (702)	
HARDNESS, ROCKWELL M	D785	120	20	110	88	-	
THERMAL			,			,	
THERMAL CONDUCTIVITY BTU-in/hr-ft2- ºF (w/m K)	C177	-	3.48 (23.8)	11.3 (77.3)	6.0 (41)	2.2 (15)	
COEFFICIENT OF LINEAR THERMAL EXPANSION (10-5 in/in- °C)	D696	2.8	24.2	3.4	4.7	1	
DEFLECTION TEMPERATURE ºF (°C)	D648						
AT 264 psi		600(315)	660 (350)	550 (290)	680 (360)	660 (350)	
ELECTRICAL			,			,	
DIELECTRIC STRENGTH V/mil (KV/mm)	D149						
SHORT TIME, 1/8-in thk		500(20)	500 (20)	-	250 (10)	625 (25)	
DIELECTRIC CONSTANT	D150						
AT kHz		-	4.7	-	13.3	4.5	
DISSIPATION FACTOR	D150						
AT 1 KHz		-	0.003	-	0.006	0.015	
VOLUME RESISTANCY (ohm-cm)	D257						
AT 73ºF, 50% RH		1018	5x1015	-	1014	6x1014	
ARC RESISTANCE (s)	D495		180	-	-	180	
FRICTIONAL							
COEFFICIENT OF FRICTION	-						
AGAINST STEEL, PV=10,000		-	-	0.24	0.24	-	

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