NORPLEX MICARTA
Global Thermoset Composite Solutions

NP510WR

PRELIMINARY TECHNICAL DATA BULLETIN

GRADE: NP510WR **NEMA GRADE:** FR-4,Type **U. L. LISTED:** N

DESCRIPTION: NP510WR is constructed from a 16 oz. woven roving glass fabric combined with an epoxy resin system. NP510WR is a high strength FR-4 type material providing superior flexural and tensile properties over standard FR-4 materials. Because of the construction of NP510WR it is offered in thicknesses of 0.188" and thicker. NP510WR meets the requirements NEMA FR-4, ASTM D709 Type IV Grade FR-4 and MIL-I-24768/27 GEE-F with exception to relative permittivity.

THICKNESS TESTED: 0.250" (6.35mm) and 0.500" (12.70mm)

TYPICAL PROPERTIES

PHYSICAL PROPERTIES		UNITS	VALUE	
			Thickness Tested	
			0.250"	0.500"
Specific Gravity (ASTM D792)	Condition D-24/23	%		1.98
Rockwell Hardness (ASTM D745)		M Scale	102	
Moisture Absorption (ASTM D570)	Condition D-24/23	%	0.020	0.040
Flexural Strength (ASTM D790)	Condition A LW / CW	psi (MPa)	81,100 / 59,800 599 / 412	84,500 / 68,900 583 / 475
Impact Strength (ASTM D256)	Condition A LW / CW	ft-lb/in (J/cm)	60 / 10 32 / 5	-[1] / 20 -[1] / 11
Tensile Strength (ASTM D638)	Condition A LW / CW	psi (MPa)	61,000 / 39,200 421 / 270	59,500 / 44,600 410 / 308
Compressive Strength (ASTM D695)	Condition A Flatwise	psi (MPa)	68,400 472	62,600 432

THERMAL & ELECTRICAL PROPERTIES				
T_g by DMA		°C	90	
Flammability Rating - U. L. 94 (UL Bulletin 94)		Class	V-1	
Dissipation Factor (ASTM D150)	Condition A	kV	-	0.016
	Condition D-24/23	kV	-	0.026
Relative Permittivity @ 1 MHz (ASTM D150)	Condition A	-	-	5.30
	Condition D-24/23	-	-	5.30
Breakdown Voltage (ASTM D149)	Condition A	kV	75	75
	Condition D-24/23	kV	60	55

[1] Sample did not break.

The data presented, while believed to be accurate and representative of the material's characteristics, was compiled from a limited number totally independent tests using reliable analytical test methods. It is being provided for informational purposes only. We acknowledge that a larger data population may produce different results but have no means to predict what they may be. The terms and conditions of the agreement under which it is sold will govern any sales of this product. Data supplied above are "typical values"; not to be considered "specification values".

To assure the material's performance is adequate for a specific application; customers should verify, independent of Norplex-Micarta, performance characteristics of interest.

It is the responsibility of the users of this information to make sure that they have the latest version of this TDB, and are urged to check with Customer Service or, preferably our web site, www.norplex-micarta.com, to determine if information is most current available.

Specification writers: Contact Norplex-Micarta for speciation values before submission.