

### **Material Data Sheet**

**Item:** ARBORON (High Arc Resistant Panel Board)

**Description:** ARBORON is a cellulose based quality laminate impregnated with thermosetting resins, consolidated under high pressure and temperature into dense, uniform sheets having good electrical and mechanical properties. ARBORON conforms to NEMA thickness and flatness standards and is listed by Underwriters Laboratories Inc. under Card # E96516 (M), dated December 30, 1992.

The superior smooth dense surface of ARBORON provides excellent chemical and abrasion resistance. Its very high strength to weight ratio (one half the weight of aluminum) and relative ease of fabrication (carbide) makes ARBORON your first choice for new designs.

**Application:** ARBORON is widely used in power distribution applications requiring dielectric strength, low moisture absorption, dimensional stability and mechanical properties, applications such as:

**Electrical:**

- Electrical control and test panels
- Switchgear mounting
- Bus bar insulation
- Phase barriers
- Electrical enclosures

**Mechanical:**

- Drill jigs and fixtures
- Non-conductive work benches
- Needle trade templates
- Die stock
- Transportation industry panels
- Conveyer applications

ARBORON can easily be fabricated using carbide tipped, standard machine tools for sawing, drilling and tapping, milling, turning and routing.

**Material Properties**

Density	86.4 lbs/cu ft
Specific Gravity	1.39 gm/cc
Tensile Strength	
M.D.	22,000 psi
C.D.	16,000psi
Flexural Strength	
M.D.	23,000 psi
C.D.	15,000 psi
Compressive Strength (ASTM D 695-89)	
Edgewise	43,600 psi
Flatwise	22,700 psi
Modulus of Elasticity (ASTM D 790-86)	
M.D.	2,370,000 psi
C.D.	1,780,000 psi
Impact Strength (Edgewise)	
M.D.	0.6 ft lbs/in
C.D.	0.5 ft lbs/in
Bond Strength	
(ASTM D 229-86)	659 psi
Rockwell Hardness (M scale)	
(ASTM D 785-89)	106
Water Absorption	
1/8"	0.9%
1/2"	0.5%

**Electrical Properties:    Values:**

Relative Temperature Index (Electrical and Mechanical)	130 C <sup>o</sup> *
U.L. 94 Flame Classification - 0.240"	94 VO

\* Long term temperature testing still in progress. Initial feedback indicates a 130 C temperature rating consistent with paper phenolic based laminate materials.

All of the information, suggestions, and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the use contemplated, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty, expressed or implied, including, without limitation warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.



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The properties for ARBORON represent typical average test values. Typical values should not be used for specification purposes and the suitability for application is the sole responsibility of the user.

**Product Details:**

Sizes: 48" x 96", 60" x 120", 60" x 144"

Color: Black matte surfaces - Brown or Black core

Thickness: 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 3/4", 1", 1-1/4",  
1-1/2"\*, 2"\*  
\* Available only in 48" x 96" size

Weight (lb/ sq ft): 0.90, 1.35, 1.80, 2.25, 2.70, 3.60, 4.50, 7.20, 9.00, 10.20,  
14.40

Tolerances: NEMA Standards

U.L. Listing: E96516 (M)

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