

TECHNICAL DATA

Arborite® Compact – Classic, Fire-Rated and Solid Phenolic Backer Laminate

1. Manufacturing facility location

80 L a White Dr
 Fletcher, NC
 28732, USA

2. Product Description

Recommended Uses

Compact Laminate is a high pressure solid composite designed for laboratory work surfaces, toilet partitions, wall panels, fume hood decks, fume hood liner panels, pegboards (drying racks), reagent racks, commercial countertops, cabinet drawer fronts, locker drawers, shelving, window sills, decorative casework components and other interior applications. Compact Laminate provides superior impact, fire-rated, chemical and stain resistance.

Classic Grade – Melamine surface designed for vertical or horizontal applications and casework. Class B/ 2 Fire Rating. Thickness range 1/10” to 1”.

Fire-Rated Grade – Fire retardant properties, required by building codes, e.g., elevator cabs, stairwells, and hospitals. Suitable for all segments within the transportation industry. Class A/1 Fire Rating. Thickness range from ¼” to 1”. Fire-Rated Compact Laminate is produced with a black center core, with a brown color line under the decorative layer.

Solid Phenolic Backer – Non decorative material used for panels that require impact resistance. Thickness range from 1/8” to 1”.

For Chemical resistant compact Laminate, please refer to the “Compact Laboratory grade Laminate tech sheet”.

Product Composition

Decorative surface papers impregnated with melamine resins are pressed over kraft paper core sheets impregnated with phenolic resin. These sheets are then bonded at pressures greater than 1000 pounds per square inch at temperatures approaching 300°F (149°C).

Basic Limitations

Classic and Fire-Rated panels offer special protection for many work surface applications. These product types are designed for interior applications. However, no one material is suitable for all possible conditions; its properties should be checked for suitability under the specific conditions of each application. The information provided herein is not intended for or to guarantee specific properties.

Patterns & Colors are available in the full range of Arborite® solid colors, stones, marbles, woodgrains and patterns. See all patterns and colors at www.arborite.com. Please see actual sample before specifying.

Finish Availability

Cashmere (CA) Finish – A fine matte texture with a slight sheen (Standard). *Surface gloss value: Nominal Glossometer Reading = 10*

| Finish | Compact Grade Available | Minimum | Special Requirements | Sheet Sizes |
|--------|-------------------------|---------------------------|---|--------------------------------------|
| CA | Classic, Fire-Rated | 1 sheet | Available in the full range of Arborite® solid colors, stones, marbles, woodgrains and patterns. | 4'x8', 4'x10', 5'x8', 5'x10', 5'x12' |
| n/a | Solid Phenolic Backer | 20 sheets or 25% upcharge | Backers are produced with a slight texture and mottled black or brown appearance. A slight color difference can exist between sheets. | 4'x8', 4'x10', 5'x8', 5'x10', 5'x12' |

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Nominal Panel Thicknesses*, Compact Laminate

| Product Type | Compact Grade | Imperial Measure (Inches) | Description | Metric Measure (Mm) | Thickness Tolerance | Lbs/Sq.Ft |
|--------------------------------|-----------------------------|---------------------------|-----------------|---------------------|---------------------|-----------|
| BU10 | Classic | 1/10" (0.100") | Double Faced | 2.54 mm | ±0.012" (0.30mm) | 0.745 |
| S010 | Classic | 1/10" (0.100") | Double Faced | 2.54 mm | ±0.012" (0.30mm) | 0.745 |
| S013 | Classic | 1/8" (0.125") | Double Faced | 3.18 mm | ±0.012" (0.30mm) | 0.90 |
| S025 | Classic | 1/4" (0.250") | Double Faced | 6.35 mm | ± 0.012" (0.30mm) | 1.81 |
| S031 | Classic | 5/16" (0.312") | Double Faced | 7.92 mm | ± 0.015" (0.38mm) | 2.26 |
| S038 | Classic | 3/8" (0.375") | Double Faced | 9.52 mm | ± 0.019" (0.48mm) | 2.72 |
| S050 | Classic | 1/2" (0.500") | Double Faced | 12.7 mm | ± 0.025" (0.64mm) | 3.62 |
| S075 | Classic | 3/4" (0.750") | Double Faced | 19.0 mm | ± 0.037" (0.94mm) | 5.40 |
| S100 | Classic | 1" (1.00") | Double Faced | 25.4 mm | ± 0.050" (1.27mm) | 7.24 |
| TT10 | Classic | 1/10" (0.100") | Sanded One Side | 2.54 mm | ±0.012" (0.30mm) | 0.745 |
| SF25 | Fire-Rated | 1/4" (0.250") | Double Faced | 6.35 mm | ± 0.0125" (0.32mm) | 1.81 |
| SF31 | Fire-Rated | 5/16" (0.312") | Double Faced | 7.92 mm | ± 0.015" (0.38mm) | 2.26 |
| SF38 | Fire-Rated | 3/8" (0.375") | Double Faced | 9.52 mm | ± 0.019" (0.48mm) | 2.72 |
| SF50 | Fire-Rated | 1/2" (0.500") | Double Faced | 12.7 mm | ± 0.025" (0.64mm) | 3.62 |
| SF75 | Fire-Rated | 3/4" (0.750") | Double Faced | 19.0 mm | ± 0.037" (0.94mm) | 5.40 |
| F100 | Fire-Rated | 1" (1.00") | Double Faced | 25.4 mm | ± 0.050" (1.27mm) | 7.24 |
| B013 Brown or Black core | Solid Phenolic Backer | 1/8" (0.125") | Double Faced | 3.17 mm | ± 0.012" (0.30mm) | 0.895 |
| B025 Brown or Black core | Solid Phenolic Backer | 1/4" (0.250") | Double Faced | 6.35 mm | ± 0.0125" (0.32mm) | 1.81 |
| B031 Brown or Black core | Solid Phenolic Backer | 5/16" (0.312") | Double Faced | 7.92 mm | ± 0.0156" (0.40mm) | 2.26 |
| B038 Brown or Black core | Solid Phenolic Backer | 3/8" (0.375") | Double Faced | 9.52 mm | ± 0.0187" (0.47mm) | 2.72 |
| B050 Brown or Black core | Solid Phenolic Backer | 1/2" (0.500") | Double Faced | 12.7 mm | ± 0.025" (0.64mm) | 3.62 |
| B075 Brown or Black core | Solid Phenolic Backer | 3/4" (0.750") | Double Faced | 19.0 mm | ± 0.037" (0.94mm) | 5.40 |
| B100 Brown or Black core | Solid Phenolic Backer | 1" (1.00") | Double Faced | 25.4 mm | ± 0.050" (1.27mm) | 7.24 |
| BK10 Brown or Black core | Solid Phenolic Backer | 1/10" (0.100") | Sanded One Side | 2.54 mm | ±0.012" (0.30mm) | 0.745 |

*Note: thickness tolerance according to ISO 4586-4 for Compact Laminate grade (CGS)

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Standard Panel Sizes, Compact Laminate

| Compact Grade | Imperial Measure (Feet) | Metric measure (mm) | Finish Availability |
|-----------------|-------------------------|---------------------|--|
| Classic | 4' x 8' | 1220 mm x 2440 mm | Cashmere (CA) |
| | 4' x 10' | 1220 mm x 3050 mm | |
| | 5' x 8' | 1525 mm x 2440 mm | |
| | 5' x 10' | 1525 mm x 3050 mm | |
| | 5' x 12' | 1525 mm x 3660 mm | |
| Fire-Rated | 4' x 8' | 1220 mm x 2440 mm | Cashmere (CA) |
| | 4' x 10' | 1220 mm x 3050 mm | |
| | 5' x 8' | 1525 mm x 2440 mm | |
| | 5' x 10' | 1525 mm x 3050 mm | |
| | 5' x 12' | 1525 mm x 3660 mm | |
| Phenolic Backer | 4' x 8' | 1220 mm x 2440 mm | Backers are produced with a slight texture and mottled black appearance. |
| | 4' x 10' | 1220 mm x 3050 mm | |
| | 5' x 8' | 1525 mm x 2440 mm | |
| | 5' x 10' | 1525 mm x 3050 mm | |
| | 5' x 12' | 1525 mm x 3660 mm | |

3. Physical Properties

| Sample | Test Method | Units | Scale | Arborite Compact CA finish |
|------------------------------|------------------------|--------------------------|-------------------------|----------------------------|
| SEFA 3 stain (24 hr. stain) | SEFA 3 | Pass/Fail | Pass/Fail | Pass |
| Number of Level 3 effects | SEFA 3 | Numerical Rating | Maximum of 4 level 3 | 3 |
| Scratch resistance | EN438-2:25 | N | 1 to 5 (5 best) | >5 |
| Resistance to Wear | EN438-2:10 | Cycles | Cycles | ≥390 |
| Resistance to Impact | EN438-2:21 | Indentation diameter, mm | Max of 10mm | 0 |
| | | Height, mm | Measurement of distance | 1800 |
| Resistance to Dry Heat | EN438-2:16 | Rating (min) | 1 to 5 (5 best) | ≥ 4 |
| Resistance to Wet Heat | EN12721 | Rating (min) | 1 to 5 (5 best) | ≥ 5 |
| Boiling Water Immersion | EN438-2:12 | Appearance | 1 to 5 (5 best) | ≥ 5 |
| Dimensional Stability | EN438-2:17 | Cumulative change (%) | Percent Change | ≤0.15 |
| Resistance to Water Vapor | EN438-2:14 | Rating | 1 to 5 (5 best) | ≥4 |
| Resistance to Cigarette Burn | EN438-2:30 | Rating | 1 to 5 (5 best) | ≥4 |
| Resistance to Crazeing | EN438-2:24 | Grade | 1 to 5 (5 best) | ≥5 |
| Modulus of Elasticity | EN ISO 178/ASTM 638-08 | Mpa | >11000 | ≥12000 |
| Modulus of Elasticity | EN ISO 178/ASTM 638-09 | psi | > 1,400,000 | >1,800,000 |
| Flexural Strength (MD) | EN ISO 178/ASTM 790-07 | Mpa | > 114.0 | ≥177 |

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| Sample | Test Method | Units | Scale | Arborite Compact CA finish |
|------------------------|-----------------------------|-------------------|-----------------|----------------------------|
| Flexural Strength (MD) | EN ISO 178/ASTM 790-07 | Mpa | > 114.0 | ≥177 |
| Flexural Strength (CD) | EN ISO 178/ASTM 790-08 | Mpa | >82.7 | ≥120 |
| Tensile Strength (MD) | EN ISO 527-2/ASTM 638-08 | Mpa | > 114.0 | ≥145 |
| Tensile Strength (CD) | EN438-2:25 | Mpa | >82.7 | ≥99 |
| Density | EN ISO 1183/ASTM 792-08 | g/cm2 | | 1.39 |
| Density | EN ISO 1183/ASTM 792-08 | g/cm2 | | 1.39 |
| Light Fastness | EN438-2:27 | Blue wool scale | Min of 4 to 5 | ≥6 |
| NEMA 3.3 | Light Resistance | Slight Effect | Visual | Slight Effect |
| NEMA 3.4 | Cleanability | 20 Max Rating | Visual | 20 |
| NEMA 3.4 | Stains 1-10 | No Effect | Visual | No Effect |
| NEMA 3.4 | Stains 11-15 | Moderate Effect | Visual | Moderate Effect |
| NEMA 3.5 | Boiling Water Resistance | Rating (min) | Visual | No Effect |
| NEMA 3.6 | High Temperature Resistance | Rating (min) | Visual | Slight Effect |
| NEMA 3.8 | Ball Impact Resistance | Height, Inches | Visual | 1/4" ≥ 130" |
| | | | | 1/2" ≥ 180" |
| | | | | 3/4" ≥ 180" |
| NEMA 3.10 | Radiant Heat Resistance | Seconds | Visual | ≥ 100 |
| NEMA 3.11 | Dimensional Change MD | % MD Max | % Change | 0.3 |
| | Dimensional Change CD | % CD Max | % Change | 0.7 |
| NEMA 3.13 | Wear Resistance | Revolutions | Min Value 400 | ≥ 400 |
| Fire Properties | ASTM E-84 | | | Class B |
| Warpage | | On products >3/8" | Maximum of 1/4" | Maximum of 1/4" |
| Screw Hold Strength | 1/4" | Pounds (N) | | ≥ 500 (≥2000) |
| | 3/8" | Pounds (N) | | ≥ 900 (≥4000) |
| | 1/2" | Pounds (N) | | ≥ 1300 (≥5000) |
| | 3/4" | Pounds (N) | | ≥ 1900 (≥8000) |
| | 1" | Pounds (N) | | ≥ 2000 (≥8500) |

Note: All SEFA and EN438 testing were performed on Compact laminate with a black decorative surface

TECHNICAL DATA**Arborite® Compact – Classic, Fire-Rated and Solid Phenolic Backer Laminate****Typical Fire Test Data**

High-pressure laminates are subject to Flame Spread and Smoke Developed standards in structures where codes establish such conditions.

Test data to determine compliance with these codes are obtained by the Steiner Tunnel Test method of the American Society for Testing Materials (ASTM-E-84, Standard Test Method for Surface Burning Characteristics of Building Materials). Tests were conducted in accordance with test method and mounting procedure as described in paragraph X1.7.2 of the test method. This procedure is cataloged by Underwriters Laboratories, Inc. as UL 723.

Fire Test Information for Classic Grade Compact (ASTM E84)

| Thickness | Flame Spread | Smoke Development |
|-----------|--------------|-------------------|
| ¼" to 1" | 55 - 60 | 165 -250 |

Fire Test Information for Fire-Rated Compact (ASTM E84)

| Testing Company | Thickness | Flame Spread | Smoke Development |
|-----------------|-----------|--------------|-------------------|
| U.L. | ¼" to 1" | 15 | 110-165 |

Model Code Designations used to determine flame spread classification

| Flame Spread Classification (Max. Rating) | International (IBC) | Life Safety (NFPA 101) |
|--|------------------------|---------------------------|
| 25 | A | A |
| 75 | B | B |
| 200 | C | C |

RE: Architectural Woodwork Quality Standard, 8th Edition, Version 1.0, - 2003

All Model Codes regulate the generation of smoke by interior finish material. In all cases they specify a maximum smoke development rating of 450.

Codes and Certifications

NSF International (NSF) #35 "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in product types S010, S025, S038, S050, S100, SF25, SF38, SF50, SF75 and F100 comply.

Core Color

Classic Grade and Fire-Rated Grade panels are produced with a black core as the standard offering in ¼" to 1" thicknesses. Product 117 is produced with a brown core except when ordered with a black melamine face.

Solid Phenolic Backer grades: B013, B025, B031, B038, B050, B075, B100 and BK10 are available in both Brown and Black core.

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Branded Cleaner and Sanitizer Resistance for Arborite® Compact Laminate No effect was exhibited except as noted (* or **) on the following:

1. Clorox Healthcare Bleach Germicidal Cleaner *
2. Clorox Healthcare Versa Sure Cleaner Disinfectant Wipes
3. Oxivir TB
4. Oxivir 1
5. Virex II 256
6. Benefect
7. PDI Super Sani-Cloth Germicidal Disposable Wipes
8. PDI Sani-Prime Germicidal Spray
9. Expose II 256
10. Stride Floral Neutral Cleaner *
11. PURELL Advanced Instant Hand Sanitizer *

Test procedure: Listed materials were placed in contact with Arborite® Compact Laminate surface under 1" (25.4mm) diameter watch cover glass for 16 hours duration prior to evaluation for effect. The branded cleaners and sanitizers listed above were cleaned with water only.

*Causes slight change of gloss or color.

**Causes slight damage, with degree of damage proportionate to length of exposure and concentration.

Classic grade laminate types BU10, S010, S013 and TT10 can and are used for the transport industries (example; ceiling panels and access panels on rail cars) and meets transportation industry standards requirements for flame spread and smoke emissions, according to ASTM E-162, ASTM E-662, CMVSS302, FMVSS302.

The UL GREENGUARD Environmental Institute™ has awarded its UL GREENGUARD® Indoor Air Quality Certification to Arborite Compact Grades Laminates. All Arborite Compact Grades Laminate product types were tested under the stringent UL GREENGUARD Standards for low-emitting products. All UL GREENGUARD Indoor Air Quality Certified products ensure minimal impact on the indoor environment. For a copy of the certificate, visit www.greenguard.org.

Fabrication

Compact Laminate panels can be cut, drilled and machined using standard wood-working equipment fitted with carbide cutting edges. Rough cuts can be made with carbide tip blades typically 62 tooth or greater on a table saw or Kane saw.

To achieve a clean edge, routers with ¼" or ½" shaft, with 2 flute carbide blades can be used to remove rough edges. CNC routers typically will run at 10,000 to 18000 RPM's at 150 to 900 inches per minute. (Dependent on thickness of panel and type of cut). It is common to run 10,000 RPM's at 200 inches per min on ½" and ¾" material.

Final sanding of the edge can be achieved with an orbital sander

| Matte Finish | Satin Finish | Semi-Gloss Finish |
|--------------|-----------------------|-----------------------|
| 100u | 100u | 100u |
| 80u | 80u | 80u |
| 60u | 60u | 60u |
| | 1000 Mirka Abralon | 1000 Mirka Abralon |
| | | 2000 Mirka Abralon |

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Installation

Generally, the principles applicable to the installation of decorative laminate work, will also apply to the installation of Compact Laminate panels.

Surface mounted objects should be secured into the face or back of the laminate using self-tapping screws in pre-drilled holes. IMPORTANT NOTE: Care needs to be taken when screwing into the edge of the Compact Laminate. Using the appropriate drill diameter and screw size/quality is important. Leveling at joints can be done using shims on the underside if necessary. Metal brackets or retaining clips are recommended for securing the laminate panels together, and to abutting surfaces. To secure counters to cabinets and provide liquid proof butt joints, a two part epoxy, and two part urethane or silicone sealant can be used.

4. [Warranty](#)
5. [Maintenance](#)
6. [Technical Services](#)

For samples, literature, questions or technical assistance, please email us at info@arborite.com or contact our toll-free number, 1-800-996-0366 Monday through Friday, 8:30 am – 5:00 pm, EST.