

TECHNICAL DATA

Arborite® Fire Rated Laminate

Types: 30PL, GPPL, B3PL and BKPL

1. Manufacturing facility location

80 L a White Dr
Fletcher, NC
28732, USA

2. Product Description

Recommended Uses

Arborite® Fire-Rated Laminate is recommended for interior application where fire codes specify or the environment suggests a fire-resistant and smoke-resistant surface.

It may be applied as decorative surfacing for casework and cabinets, wainscoting, interior doors, and wall panel and divider systems. This laminate is particularly appropriate for surfacing furniture in public places such as airports, hotels, office buildings and institutions such as hospitals and schools. Fire-Rated Laminate can offer a Class I or A fire rating, provided fire-retardant adhesives and substrates are used.

- Vertical Surface (VGF) **Type 30PL**: Intended to surface walls in public spaces and corridors, front panels on commercial casework and other applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface.
- General Purpose (HGF) **Types GPPL**: Produced for both horizontal and vertical applications where the surface must perform under constant use.
- Fire-Rated Backer **Type B3PL**: A stabilizing backer sheet for applications where the decorative surface is Vertical Surface **Type 30PL**.
- Fire-Rated Backer **Type BKPL**: A stabilizing backer sheet for applications where the decorative surface is General Purpose **Type GPPL**.

For Arborite Compact Fire-Rated Grade, please refer to the “Arborite’s Compact Grades Laminates tech data sheet”.

Product Composition

The decorative surface is composed of melamine resin-treated decorative surface papers. Special kraft core sheets, used to obtain the desired thickness, are impregnated with phenolic resin.

Basic Limitations

Arborite® Laminate is intended for interior use only and should be protected from continuous exposure to direct sunlight, extremes in humidity and temperatures greater than 275°F (135°C). It is not structural material and must be bonded to a suitable substrate.

Arborite® Laminate should not be used as direct covering for plaster or concrete walls, or for gypsum wallboard. It should not be exposed to flame, molten metal, metallic sparks or intense, direct sunlight. Nor should it be used as cutting surfaces.

Patterns & Colors

Available in the full range of Arborite® solid colors, stones, marbles, woodgrains and patterns. See all patterns and colors at www.arborite.com. Please order an actual sample before specifying. Confirm finish availability on individual designs.

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Finishes

- **Cashmere (CA)** – a fine, matte texture with a slight sheen
Nominal Glossometer Reading = 10
- **Casual Wood (CW)** – a finish that adds visual interest with soft ticking
Nominal Glossometer Reading = 4
- **Diamond (DI)** – a fine beaded texture which minimizes smudges, finger marks and offers optimum scratch resistance.
Nominal Glossometer Reading = 13
- **Evergrain (EV)** – a fine woodgrain texture with slight sheet
Nominal Glossometer Reading = 6
- **Gloss (GL)** – a flat texture with a high sheen
Nominal Glossometer Reading = 110
- **Laqwood (LQ)** – a slightly embossed woodgrain texture
Nominal Glossometer Reading = 25
- **Metalux (MX)** – a dimensional texture whose finely abraded directional lines convey the luster and feel of brushed metal
Nominal Glossometer Reading = 26
- **Refined Matte (RM)** – a smooth non-gloss finish resembling actual wood veneer
Nominal Glossometer Reading = 3
- **Structured (SR)** – a highly embossed linear texture suitable for woodgrains, solids and linear patterns
Nominal Glossometer Reading = 10
- **Velvatex (VL)** – a smooth furniture finish texture
Nominal Glossometer Reading = 14

NOTE: Nominal Glossometer Readings are made at a 60° angle of incidence.

Sheet Sizes

48" x 96"	(1219mm x 2438mm)
48" x 120"	(1219mm x 3048mm)

Sheet Thicknesses

Type	Typical Arborite Thickness	Weight PSF
Vertical Surface Type 30PL (VGF)	0.032" ± 0.005" (0.81mm ± 0.13mm)	0.274#
General Purpose Type GPPL (HGF)	0.048" ± 0.005" (1.22mm ± 0.13mm)	0.438#
Backer Type B3PL	0.030" ± 0.004" (0.76mm ± 0.10mm)	0.223#
Backer Type BKPL	0.050" ± 0.005" (1.27mm ± 0.13mm)	0.359#

NOTE: Minimum sheet order requirements: 2 sheets by size, finish and product type

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3. Technical Data

Physical Properties of Fire-Rated Laminate

ISO 4586 Test	Typical Arborite Type 30PL (VGF)	ISO 4586-3 VGF	Typical Arborite Type GPPL (HGF)	ISO 4586-3 HGF
Thickness	0.032" ± 0.005" (0.8mm ± 0.12mm)	N/A	0.048" ± 0.005" (1.2mm ± 0.12mm)	N/A
Surface Wear Resistance (cycles)	Meets or Exceeds 400	350 (min.)	Meets or Exceeds 400	350 (min.)
Boiling Water Resistance	No effect	Slight Effect (Gloss) No Effect (Other Finishes)	No effect	Slight Effect (Gloss) No Effect (Other Finishes)
High Temperature Resistance	Slight effect	Slight Effect (Gloss) No Effect (Other Finishes)	Slight effect	Slight Effect (Gloss) No Effect (Other Finishes)
Radiant Heat Resistance	205 seconds	≥ 200 sec.	205 seconds	≥ 200 sec.
Stain Resistance Reagents 1-10 Reagents 11-15	No effect Slight effect	No effect Moderate effect	No effect Slight effect	No effect Moderate effect
Light Resistance	Slight effect	Slight effect (min.)	Slight effect	Slight effect (min.)
Dimensional Stability Machine Direction	0.40%	1.10% (max.)	0.30%	1.10% (max.)
Cross Direction	1.00%	1.40% (max.)	0.80%	1.40% (max.)
Impact Resistance	35" (889mm)	23.5" (600mm)	65" (1651mm)	31.5" (800mm)
Cleanability (cycles)	10	20 (max.)	10	20 (max.)
Appearance	No ABC defects	No ABC defects	No ABC defects	No ABC defects

NOTE: Since Fire-Rated backer sheets are not intended to be exposed to light, wear or everyday use, no physical property tests are in current use.

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Typical Fire Test Data

Test data for Arborite® Fire-Rated Laminate is 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). This procedure is cataloged by Underwriters Laboratories, Inc. as **UL 723** and **CAN/ULC-S102**.

Typical Flame Spread and Smoke Developed Properties

ISO 4586 Type	Arborite Product	Unbonded	Bonded to Incombustible Cement Board	Bonded to Fire-Rated Particleboard
VGf	30PL	15/15	15/0	15/20
HGF	GPPL	15/15	15/0	15/25
BKV	B3PL	15/0	15/0	20/10
BKH	BKPL	20/0	15/0	10/15

NOTE: Adhesive to attain Flame Spread and Smoke Developed figures for bonded laminates (above) is resorcinol. Fire-rated particleboard is Duraflake, with a UL rating of 25/25, or comparable material. The above values are CUL (Canadian Underwriters Lab) approved.

Model Code Designations used to determine flame spread classification

Flame Spread Classification (Maximum Rating)	International (IBC)	Life Safety (NFPA 101)
25	A	A
75	B	B
200	C	C

Reference: 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.

4. Codes and Certifications

General Fire Code Compliance

Test data for code compliance is from the UL 723 Tunnel Test method. This procedure has been cataloged under the following designations:

American Society for Testing Materials	ASTM E 84
American Society for Testing Materials	ASTM E 162
American Society for Testing Materials	ASTM E 662
American National Standards Institute	ANSI No. 2.5
National Fire Protection Agency	NFPA No. 255
Underwriters Laboratories, Inc.	UL No. 723

This test data is the basis for fire codes written by various responsible groups, including:

BBC	Basic Building Code (Building Officials Conference of America. Used in Midwest and Northeast.)
NFPA	National Fire Protection Agency (Building Exits Code, Section #101.)
SSBC	Southern Standards Building Code (Southern Building Codes Congress. Used primarily in the South.)

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Many local codes, especially in densely populated areas, have been patterned after these. Examples include the cities of Los Angeles and San Francisco and the Port Authority of New York. Approvals include:

General Standards

Fire-Rated Laminate conforms to the ISO 4586-1:2018 Standard for VGF and HGF (Types 30PL and GPPL, respectively).

NSF International (NSF) #35, "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in Basic Types 30PL and GPPL, with Cashmere (CA) finish comply.

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

Specific Product Standards

Fire-Rated Laminate meets the following federal codes:

Aircraft Interiors

U.S. Federal Test Method, Federal Aviation Administration, DOT, Part 25.853, Airworthiness Standards: Transport Category Airplane (Interior Finish). Fire-Rated Laminate Types 30PL and GPPL comply with parts A and C.

Military/Ships

U.S. Military Standard MIL-P-17171E (SHIPS) Plastic Laminate and U.S. Military Standard 1623D (SHIPS), "Fire Performance Requirements and Approval Specifications for Interior Finished Materials and Furnishings - Naval Shipboard Use." Fire-Rated Laminate Type GPPL comply with both of these standards

Fire-Rated Product Type	U.S.C.G. (IMO FTP Code)
Type 30PL	164.112/A8/0
Type GPPL	164.112/A8/0
Type B3PL	164.112/A11/0
Type BKPL	164.112/A11/0

Mobile Homes

U.S. Federal Register August 9, 1984, Housing and Urban Development Mobile Home Construction and Safety Standard (24CFR), 3280.203. Fire-Rated Laminate Types 30PL, GPPL, B3PL and BKPL comply.

Motor Vehicles/Interiors

U.S. Federal Motor Vehicle Safety Standard (FMVSS) 302, "Flammability of Interior Materials." Fire-Rated Laminate Types 30PL and GPPL comply.

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5. Installation: Fabrication and Assembly Recommendations

Arborite Laminate must be bonded to a substrate of reliable quality and appropriate fire rating, such as particleboard, incombustible cement board or plywood with one A-face. Bond with adhesives, and follow the techniques recommended by the adhesive manufacturer. Permanent adhesives are recommended such as specialized PVAs, phenol/resorcinol, resorcinol, and epoxy. Contact cement, such as Wilsonart Adhesives, also may be used.

Take care to ensure an appropriate moisture balance between the laminate and the substrate prior to fabrication. The face and backing laminates and the substrate should be conditioned in the same environment for 48 hours before fabrication.

Recommended conditioning temperature is about 75°F (24° C). Laminates should be conditioned at 45% to 55% relative humidity.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.18mm) radius, and all edges should be routed smooth.

Fabricating for Fire Rating Concerns

Flame Spread and Smoke Developed data for products fabricated with Arborite Fire-Rated Laminate vary with the choice of substrate and adhesive, as well as with pressing conditions. In general, these factors range from most to least fire-retardant, as shown below:

Substrate	Adhesive	Pressing Conditions
Incombustible	Resorcinol	Hot pressed/cold
Fire-Rated Particleboard	Phenol/Resorcinol	Cold pressed/long
Conventional Particleboard*	Casein	Cold pressed/short
Conventional Plywood	Contact	Nip rolled

*45 lb. cu. ft. density, industrial grade

Methods

Assembled pieces should meet the specification of KCMA (Kitchen Cabinetmakers Manufacturers Association) ANSI-161.2-1998 (revised) and "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute where applicable. Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate.

6. Warranty**7. Maintenance****8. 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.

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Division de/of Wilsonart Canada ULC
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www.arborite.com

Specification Form:

Surface shall be Arborite® Fire-Rated Laminate	
Type: See Fire-Rated specific types under Product Description/Product Definition	
Surface	
Color Number: _____	Color Name: _____
Finish	
Code: _____	Name: _____
Adhesive	
Name: _____	Type: _____
Brand: Wilsonart® Adhesive	