TECHNICAL DATA
Arborite® Laminate
Basic Types: A3, A4 and A5

Division de/of Wilsonart Canada ULC
385 Lafleur, Lasalle, Québec
Canada, H8R 3H7
www.arborite.com

1. Manufacturing facility location

80 L a White Dr
Fletcher, NC
28732, USA

2. Product Description

Recommended Uses

Arborite® Laminate, types A3, A4 and A5, is suitable for use on fine quality residential and contract furniture, fixtures and casework, and for architectural application on columns, wainscoting, valances, cornices, interior doors and divider systems.

- **Vertical Surface (VGP) Type A3** is the usual choice to surface cabinet walls, doors and drawer panels. It often appears on the vertical surfaces of desks, restaurants booths and maître d' stations, and as architectural cladding. Type A3 is intended for vertical applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface. VGP surfaces may be postformed to achieve radius edges.
- **Postforming (HGP) Type A4** adds the decorative capability of a soft edge to any typical laminate use. Common applications of post forming laminates are formed edges for counters, desktops, cabinet doors and drawer panels. Type A4 is intended for use on vertical and horizontal interior surfaces where it is necessary or desirable to roll the laminate on a simple radius over the edge of the substrate. This eliminates seams and leaves an attractive surface.
- **General Purpose (HGS) Type A5** is most frequently used for work surfaces on counters, islands, vanities, desks and tables. Typical vertical uses include surfacing for wall panels, teller cages and the front panels of workstations, such as those in hospitals, airports and restaurants. Type A5 is produced for both horizontal and vertical interior applications where the surface must be functional, durable and decorative.

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). Finished sheets are trimmed, and the backs are sanded to facilitate bonding.

Basic Limitations

Arborite® Laminate is for interior use only and is not recommended for direct application to plaster, concrete walls, or gypsum wallboard. It is not structural material and must be bonded to a suitable substrate.

Do not subject Arborite® Laminate to extremes in humidity, temperatures higher than 275°F (135°C) for substantial periods of time, or intense, continuous, direct sunlight.

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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 request an actual sample before specifying.

Finishes – Confirm finish availability on individual designs by going to www.arborite.com

- **Artisan Walnut (AW)** – a texture that exactly matches the design for unprecedented fidelity
  Glossometer Reading = 5
- **Breccia (BC)** – an embossed finish offering sheen levels ranging from matte to glossy
  Glossometer Reading = 7-50
- **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
- **French Polish (FP)** – a rich gloss and deep sheen that replicates the effects of the finest wood finish
  Nominal Glossometer Reading = 36
- **Gloss (GL)** – a flat texture with a high sheen
  Nominal Glossometer Reading = 110
- **Impression (IM)** – a matte, pre-polish finish for those who appreciate stone's essential nature
  Nominal Glossometer Reading = 12
- **Laqwood (LQ)** – a slightly embossed woodgrain texture
  Nominal Glossometer Reading = 25
- **Legno (LE)** – A two toned finish with both matte and gloss features which resemble a wood veneer finish
  Nominal Glossmeter Reading = 6
- **Luminous (LM)** – a softly polished stone texture that displays the effects of gentle weathering
  Nominal Glossometer Reading = 55
- **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
- **Ultra Smooth (UL)** A smooth, ultra-matte finish with a silky, soft touch. This minimalist finish gives the surface a genuine stone feel.
  Nominal Glossometer Reading = 8
- **Velvatex (VL)** – a smooth furniture finish texture
  Nominal Glossometer Reading = 14
- **Vista (VT)** – a polished, glossy stone finish with a lustrous look
  Glossometer Reading = 39-51

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

Finish Availability: Not all finishes are available in all patterns and colors. Some finish options have limited size availability. Please check with your Arborite® representative or consult the

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pattern availability lookup on our website at www.arborite.com, to verify size availability by finish type.

Standard Sheet Widths

48”	60”
1219mm	1524mm

Standard Sheet Lengths

96”	120”	144”
2438mm	3048mm	3658mm

NOTE: Not all sizes are available from stock; contact your Arborite® representative for details on local availability.

Thickness and Weight

Description	A3	A4	A5
Thickness	0.028” + 0.001 - 0.004” (0.7mm + 0.03 - 0.10mm)	0.039” ± 0.005” (0.99mm ± 0.13mm)	0.048” ± 0.005” (1.22mm ± 0.13mm)
Weight per square foot	0.186#	0.260#	0.322#

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3. Technical Data

Physical Properties of Vertical Surface Laminates

ISO 4586 Test	Typical Arborite Type A3	ISO 4586-3 VGP
Thickness	**0.028" + 0.001 - 0.004" (0.7mm + 0.03 - 0.10mm)**	N/A
Appearance	N/A	N/A
Light Resistance	**Slight effect**	Slight effect
Cleanability (cycles)	**10**	20 (max.)
Stain Resistance Reagents 1-10 Reagents 11-15	 **No effect** **Slight effect**	 No effect Moderate effect
Boiling Water Resistance	**Slight Effect (Gloss) No Effect (Other Finishes)**	Slight Effect (Gloss) No Effect (Other Finishes)
High Temperature Resistance	**Slight Effect (Gloss) No Effect (Other Finishes)**	Slight Effect (Gloss) No Effect (Other Finishes)
Impact Resistance	**40" (1016mm)**	23.5" (600mm)
Radiant Heat Resistance	**200 seconds**	≥ 200 sec.
Dimensional Stability Machine Direction Cross Direction	 **0.5%** **0.8%**	 1.1% (max.) 1.4% (max.)
Surface Wear Resistance (cycles)	**Meets or Exceeds 400**	350 (min.)
Formability*	***5/16" radius (7.93mm) See NOTE**	*7/16" radius (11mm) *9/16" radius(14.7mm)
Blistering	**45 seconds**	≥ 40 seconds

**Radius for face is actually the radius of the form around which the laminate is postformed. The radius for back is actually the radius to which the decorative face is postformed.*

NOTE: Designs 1403, P3000, P3001, P3002, P3003, P3004, P3005 and P3006 are not available with postforming properties.

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Physical Properties of Postforming Laminate

ISO 4586 Test	Typical Arborite Type A4	ISO 4586-3 HGP
Thickness	**0.039" ± 0.005" (0.99mm ± 0.13mm)**	0.039" ± 0.005" (1mm ± 0.12mm)
Appearance	N/A	N/A
Light Resistance	**Slight effect**	Slight effect
Cleanability (cycles)	**10**	20
Stain Resistance Reagents 1-10 Reagents 11-15	 **No effect** **Slight effect**	 No effect Moderate effect
Boiling Water Resistance	**Slight Effect (Gloss) No Effect (Other Finishes)**	Slight Effect (Gloss) No Effect (Other Finishes)
High Temperature Resistance	**Slight Effect (Gloss) No Effect (Other Finishes)**	Slight Effect (Gloss) No Effect (Other Finishes)
Impact Resistance	**55" (1397mm)**	31.5" (800mm)
Radiant Heat Resistance	**205 seconds**	≥ 200 sec.
Dimensional Stability Machine Direction Cross Direction	 **0.5%** **0.8%**	 1.1% (max.) 1.4% (max.)
Surface Wear Resistance (cycles)	**Meets or Exceeds 400**	350 (min.)
Formability*	***5/16" face (7.93mm)** ***3/8" back (9.52mm)** **See NOTE**	*9/16" face (14.27mm) *3/4" back (19.05mm)
Blistering	**65 seconds**	≥ 40 seconds

**Radius for face is actually the radius of the form around which the laminate is postformed. The radius for back is actually the radius to which the decorative face is postformed.*

NOTE: Designs 1403, P3000, P3001, P3002, P3003, P3004, P3005 and P3006 are not available with postforming properties.

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Physical Properties of General Purpose Laminates

ISO 4586 Test	Typical Arborite Type A5	ISO 4586-3 HGS
Thickness	**0.048" ± 0.005" (1.22mm ± 0.13mm)**	N/A
Appearance	N/A	N/A
Light Resistance	**Slight effect**	Slight Effect
Cleanability (cycles)	**10**	10
Stain Resistance Reagents 1-10 Reagents 11-15	 **No effect** **Slight effect**	 No effect Moderate effect
Boiling Water Resistance	**Slight Effect (Gloss)** **No Effect (Other Finishes)**	Slight Effect (Gloss) No Effect (Other Finishes)
High Temperature Resistance	**Slight effect**	Slight Effect (Gloss) No Effect (Other Finishes)
Impact Resistance	**65" (1651mm)**	31.5" (800mm)
Radiant Heat Resistance	**210 seconds**	≥ 200 sec.
Dimensional Stability Machine Direction Cross Direction	 **0.3%** **0.7%**	 1.1% (max.) 1.4% (max.)
Surface Wear Resistance (cycles)	**Meets or Exceeds 400**	350 (min.)
Formability	**Not applicable**	Not applicable
Blistering	**Not applicable**	Not applicable

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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.
Here is typical data for Arborite® laminates, averaged from two specific tests:

Typical Flame Spread and Smoke Developed Properties

Product Type	Test Condition	Flame Spread	Smoke Developed
Vertical Surface Type A3	Unbonded	45	40
Postforming Type A4	Unbonded	60	35
General Purpose Type A5	Unbonded	50	45
Vertical Surface Type A3	Bonded with contact adhesive to particleboard substrate; 3/8”	40	155
Postforming Type A4	Bonded with contact adhesive to particleboard substrate; 3/8”	50	140
General Purpose Type A5	Bonded with contact adhesive to particleboard substrate; 3/8”	40	100

When you wish to specify decorative laminate for a Class I or A fire rating, please refer to the Fire-Rated Laminate Tech Data.

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

General Standards
The UL GREENGUARD Environmental Institute™ has awarded its UL GREENGUARD® Indoor Air Quality Certification to Arborite Basic Laminates. All Arborite Basic Laminate product types were tested under the stringent UL GREENGUARD Standards for low-emitting products. All UL

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GREENGUARD Indoor Air Quality Certified products ensure minimal impact on the indoor environment. For a copy of the certificate, visit www.greenguard.org.

Arborite® Laminate, types A3, A4 and A5, conform to the voluntary standards of the American National Standards Institute, for thickness, performance properties and appearance. Arborite® Laminates A3, A4 and A5 meet or exceed the International Standards Organization specifications as found in ISO 4586, titled "High-Pressure Decorative Laminate (HPDL) – Sheets Based on Thermosetting Resins – Part I: specifications."

Specific Product Standards
U.S. Federal Specification L-P 508H, April 9, 1977, "Plastic Sheets, Laminated, Decorative and Non-decorative." Spells out criteria for decorative laminates for federal installations. Arborite® A3, A4 and A5 laminates comply.

NSF International (NSF) #35 "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in Basic Types A3, A4 and A5, comply.

U.S. Federal Register, August 9, 1984, Housing and Urban Development Mobile Home Construction and Safety Standard, (24CFR) 3280.203. General Purpose Type A5 and Vertical Surface Type A3 comply.

U.S. Federal Test Method, Federal Aviation Regulation, DOT, Part 25.853, Airworthiness Standards: Transport Category Airplane (Interior Finish). Vertical Surface Type A3 and Postforming Type A4 comply with parts A and C.

U.S. Federal Motor Vehicle Safety Standard (FMVSS) 302, "Flammability of Interior Materials." Basic Types A3, A4 and A5 comply.

U.S. Military Standard MIL-P-17171E (SHIPS)/Plastic Laminate. General Purpose Type A5 complies.

Branded Cleaner and Sanitizer Resistance for Arborite Laminate per ISO 4586-2 Method 31 (B)
No effect was exhibited except as noted (* or **) on the following:

1. Beckart Environmental (Stabilized Chlorine Dioxide Mixed with Water at 3000ppm)
2. Benefect®
3. Claire® Germicidal Cleaner (Country Fresh Scent)
4. Claire® Disinfectant Spray Q (Country Fresh Scent)
5. Clean Republic – All Purpose Everyday Cleaner (Hypochlorous Acid – 0.003% Solution)
6. Clorox® Anywhere® Hard Surface Sanitizing Spray *
7. Clorox® Clean-Up (Cleaner & Bleach)
8. Clorox® Disinfecting Bleach w/6% Sodium Hypochlorite (24:1/Water:Bleach)
9. Clorox® Disinfecting Spray
10. Clorox® Disinfecting Wipes
11. Clorox Healthcare® Bleach Germicidal Cleaner *
12. Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant
13. Clorox Healthcare® Fuzion® Cleaner Disinfectant *
14. Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes
15. Clorox® Total 360 Disinfectant Cleaner
16. Diversey™ Expose® II 256
17. Diversey™ Oxivir 1

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18. Diversey™ Oxivir Tb Wipes
19. Diversey™ Stride® Floral Neutral Cleaner
20. Diversey™ Virex® II 256
21. Fabuloso® Complete (Multi-Purpose Cleaner)
22. Lysol® Professional Disinfectant Spray
23. Microban® 24 Hour (Multi-Purpose Cleaner)
24. PDI Sani-Prime® Germicidal Spray
25. PDI Super Sani-Cloth® Germicidal Disposable Wipes
26. PURELL® Advanced Hand Sanitizer Gel
27. Purell® Food Service Surface Sanitizer
28. Purell® Professional Surface Disinfectant
29. Purell® Healthcare Surface Disinfectant
30. Simple Green® Concentrated (All-Purpose Cleaner)
31. Spic and Span® Everyday (Antibacterial Cleaner)

Test procedure: Listed materials were placed in contact with Arborite 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

Branded Cleaner and Sanitizer Resistance for Arborite Laminate per BIFMA HCF 8.1-2014 (Section 6 / Modified)
No effect was exhibited except as noted (* or **) on the following:

1. Beckart Environmental, Inc. (Stabilized Chlorine Dioxide Mixed with Water at 3000ppm)
2. Benefect®
3. Claire® Germicidal Cleaner (Country Fresh Scent)
4. Claire® Disinfectant Spray Q (Country Fresh Scent)
5. Clean Republic – All Purpose Everyday Cleaner (Hypochlorous Acid – 0.003% Solution)
6. Clorox® Anywhere® Hard Surface Sanitizing Spray
7. Clorox® Clean-Up (Cleaner & Bleach)
8. Clorox® Disinfecting Bleach w/6% Sodium Hypochlorite (24:1/Water:Bleach)
9. Clorox® Disinfecting Spray
10. Clorox® Disinfecting Wipes
11. Clorox Healthcare® Bleach Germicidal Cleaner
12. Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant
13. Clorox Healthcare® Fuzion® Cleaner Disinfectant
14. Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes
15. Clorox® Total 360 Disinfectant Cleaner
16. Diversey™ Expose® II 256
17. Diversey™ Oxivir 1
18. Diversey™ Oxivir Tb Wipes
19. Diversey™ Stride® Floral Neutral Cleaner
20. Diversey™ Virex® II 256
21. Fabuloso® Complete (Multi-Purpose Cleaner)
22. Lysol® Professional Disinfectant Spray
23. Microban® 24 Hour (Multi-Purpose Cleaner)
24. PDI Sani-Prime® Germicidal Spray
25. PDI Super Sani-Cloth® Germicidal Disposable Wipes
26. PURELL® Advanced Hand Sanitizer Gel

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27. Purell® Food Service Surface Sanitizer
28. Purell® Professional Surface Disinfectant
29. Purell® Healthcare Surface Disinfectant
30. Simple Green® Concentrated (All-Purpose Cleaner)
31. Spic and Span® Everyday (Antibacterial Cleaner)

Test procedure: Listed reagent materials were placed in contact with Arborite Laminate surface with a one-inch square 100% cotton cloth completely saturated and covered with a 2'' (50.8mm) diameter watch cover glass for 15-minute duration. The reagents listed above were removed with clean cloth and the area was then cleaned with clean cloth and distilled water only. The surface area was allowed to dry for 1-hour prior to evaluation for effect.
*Causes slight change of gloss or color
**Causes slight damage, with degree of damage proportionate to length of exposure and concentration.

Resistance of Furniture to UV Lights for Arborite Laminate per BIFMA HCF 8.1-201X Section 9 (Alternate Method per ASTM G155 using ISO 4586-2.33 conditions.
Arborite Laminates product type A3, A4 and A5 conforms to BIFMA – Healthcare Furniture Design Guidelines for Cleanability, Section 9 Resistance to Furniture to UV Lights. Arborite Laminates A3, A4 and A5 meet or exceed the acceptance level for surface evaluation.

4. Installation: Fabrication and Assembly Recommendations

Fabrication should follow approved methods. Assembled pieces should meet the specifications of KCMA (Kitchen Cabinetmakers Manufacturers Association), ANSI A-161.2-1998 (revised), and "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute where applicable.

Arborite® laminates must be bonded to a substrate of reliable quality, such as particleboard, medium density fiberboard or plywood with one A-face. High-pressure laminate, plaster, concrete and gypsum board should not be considered suitable substrates. Basic Types laminate may not be used as structural members.

Bond with adhesives and follow the techniques recommended by the adhesive manufacturer. Recommended adhesives are permanent types, such as urea and polyvinyl acetate (PVA), and contact types. Wilsonart adhesives are recommended for most bonding conditions.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.175mm) radius and all edges should be routed smooth.

Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate. Take care to ensure an appropriate acclimation 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.

With postforming machinery, Arborite® A3 and A4 will postform at a nominal sheet temperature range of 325°F to 338°F (163°C to 170°C) in 20 ± 5 seconds.

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Carbide-tipped saw and router blades should be used for cutting. High tool speed and low feed speed are advisable. Cutting blades should be kept sharp. Use a hold-down to prevent any vibration.

5. Warranty

6. Maintenance

7. Technical Services

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

Specification Form:
Surface shall be Arborite® Laminate

Type: Specify A3, A4 or A5

Surface
Color number: _____ Color Name: _____

Finish
Code: _____ Finish Name: _____

Adhesive
Name: _____ Type: _____
Brand: Wilsonart® Adhesive