TECHNICAL DATA
Wilsonart® Compact Laminate
Laboratory Grades

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1. Manufacturer

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2. Product Description

Recommended Uses

Wilsonart® Compact Laminate is a high pressure solid composite designed for laboratory work surfaces, wall panels, fume hood decks, fume hood liner panels, pegboards (drying racks), reagent racks, commercial countertops, cabinet drawer fronts, shelving, and other interior applications. Compact Laminate provides superior impact, chemical and stain resistance.

Laboratory Grade – Thick panels engineered to resist a variety of acids, solvents, general reagents and cleaning agents. Thickness rage - ¼" to 1" Laboratory Grade panels are guaranteed good one side only.

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 Grade and Laboratory Grade 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

See all patterns and colors at www.wilsonart.com. Some Compact product types are available in limited designs only. Reference the chart on page 2.

Finishes

60 Finish - Textured finish with a moderate reflective quality. *Nominal Glossmeter Reading = 10*
96 Finish - Electron beam surface. *Nominal Gloss-o-meter Reading = 13*

Finish	Compact Grade Available	Minimum	Special Requirements
60	Classic Grade	1 sheet	Available in all Designs for Compact Laminate
96	Laboratory	1 sheet	Designs: Black (EB101), Grey (EB102), White (EB103), Flint (EB104), and Ash (EB105)

Size options for 96 finish designs

Design	Compact Grade Available	Minimum	Sheet Sizes
Black (EB101)-96	Laboratory	1 sheet	5'x8', 5'x10', 5'x12'
Grey (EB102)-96	Laboratory	1 sheet	5'x8', 5'x10', 5'x12'
White (EB103)-96	Laboratory	1 sheet	5'x8', 5'x10', 5;x12'
Flint (EB104)- 96	Laboratory	1 sheet	5'x8', 5'x10', 5'x12'
Ash (EB105)-96	Laboratory	1 sheet	5'x8', 5'x10', 5'x12'

Nominal Panel Thicknesses*, Compact Laminate

Product Type	Compact Grade	Imperial Measure (Inches)	Description	Metric Measure (Mm)	Thickness Tolerance	Lbs/ Sq.Ft
569-60	Standard	¼" (0.250")	Double Faced	6.35 mm	± 0.0125" (0.32mm)	1.81
571-60	Standard	5/16" (0.312")	Double Faced	7.92 mm	± 0.0156" (0.40mm)	2.26
572-60	Standard	3/8" (0.375")	Double Faced	9.52 mm	± 0.0187" (0.47mm)	2.72
568-60	Standard	½" (0.500")	Double Faced	12.7 mm	± 0.025" (0.64mm)	3.62
575-60	Standard	¾" (0.750")	Double Faced	19.0 mm	± 0.037" (0.94mm)	5.40
590-60	Standard	1" (1.00")	Double Faced	25.4 mm	± 0.050" (1.27mm)	7.24
569-96	Laboratory	1/4" (0.250")	Double Faced	3.17 mm	±0.012" (0.30mm)	1.81
571-96	Laboratory	5/16" (0.312")	Double Faced	6.35 mm	± 0.0125" (0.32mm)	2.26
572-96	Laboratory	3/8" (0.375")	Double Faced	7.92 mm	± 0.0156" (0.40mm)	2.72
568-96	Laboratory	1/2" (0.500")	Double Faced	9.52 mm	± 0.0187" (0.47mm)	3.62
575-96	Laboratory	3/4" (0.750")	Double Faced	12.7 mm	± 0.025" (0.64mm)	5.40
590-96	Laboratory	1" (1.00")	Double Faced	19.0 mm	± 0.037" (0.94mm)	7.24

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

Standard Panel Sizes, Compact Laminate

Compact Grade	Imperial Measure (Feet)	Metric measure (mm)	Finish Availability
Standard	4' x 8'	1220 mm x 2440 mm	60
Standard	4' x 10'	1220 mm x 3050 mm	60
Standard	5' x 8'	1525 mm x 2440 mm	60
Standard	5' x 10'	1525 mm x 3050 mm	60
Standard	5' x 12'	1525mm x 3660 mm	60
Laboratory	5' x 8'	1525 mm x 2440 mm	96
Laboratory	5' x 10'	1525 mm x 3050 mm	96
Laboratory	5' x 12'	1525 mm x 3660 mm	96

3. Physical Properties

Sample	Test Method	Units	Scale	Wilsonart Standard Grade 60	Wilsonart Lab Grade 96
SEFA 3 stain (24 hr. stain)	SEFA 3	Pass/Fail	Pass/Fail	Pass	Pass
Number of Level 3 effects	SEFA 3	Numerical Rating	Maximum of 4 level 3	3	0
Scratch resistance	EN438-2:25	N	1 to 5 (5 best)	≥5	≥5
Resistance to Wear	EN438-2:10	Cycles	Cycles	≥ 390	≥ 400
Resistance to Impact	EN438-2:21	Indentation diameter, mm	Max of 10mm	¼″ ≥ 130″ ½″ & ¾″ ≥ 180″	¼″ ≥ 130″ ½″ & ¾″ ≥ 180″
		Height, mm	Measurement of distance	>1800	>1800
Resistance to Dry Heat	EN438-2:16	Rating (min)	1 to 5 (5 best)	≥ 4	≥ 5
Resistance to Wet Heat	EN12721	Rating (min)	1 to 5 (5 best)	≥ 5	≥ 5
Boiling Water Immersion	EN438-2:12	Appearance	1 to 5 (5 best)	≥ 5	≥ 5
Dimensional Stability	EN438-2:17	Cumulative change (%)	Percent Change	≤0.15	≤0.1
Resistance to Water Vapor	EN438-2:14	Rating	1 to 5 (5 best)	≥4	≥5
Resistance to Cigarette Burn	EN438-2:30	Rating	1 to 5 (5 best)	≥4	≥5
Resistance to Crazing	EN438-2:24	Grade	1 to 5 (5 best)	≥5	≥5
Modulus of Elasticity	EN ISO 178/ASTM 638-08	Mpa	>11000	≥15,000	≥12,000
Modulus of Elasticity	EN ISO 178/ASTM 638-09	psi	> 1,400,000	>2,200,000	>1,776,000
Flexural Strength (MD)	EN ISO 178/ASTM 790-07	Mpa	> 114.0	≥177	≥210
Flexural Strength (CD)	EN ISO 178/ASTM 790-08	Mpa	>82.7	≥120	≥170
Tensile Strength (MD)	EN ISO 527-2/ASTM 638-08	Mpa	> 114.0	≥145	≥230
Tensile Strength (CD)	EN438-2:25	Mpa	>82.7	≥99	≥140
Density	EN ISO 1183/ASTM 792-08	g/cm2		1.39	> 1.34
Light Fastness	EN438-2:27	Blue wool scale	Min of 4 to 5	> 6	> 6
ISO 4586-2 Method 19	Dimensional Change MD	% MD Max	% Change	0.4	0.4
	Dimensional Change CD	% CD Max	% Change	0.8	0.8

Fire Properties	ASTM E-84			Class B	Class B
Warpage	Internal Standard	On products >3/8"	Maximum of 1/4"	Maximum of 1/4"	Maximum of 1/4"
Screw Hold Strength	1/4"	Pounds (N)		≥ 500 (≥2000)	≥ 500 (≥2000)
	3/8"	Pounds (N)		≥ 900 (≥4000)	≥ 900 (≥4000)
	1/2"	Pounds (N)		≥ 1300 (≥5000)	≥ 1300 (≥5000)
	3/4"	Pounds (N)		≥ 1900 (≥8000)	≥ 1900 (≥8000)
	1"	Pounds (N)		≥ 2000 (≥8500)	≥ 2000 (≥8500)

SEFA Rating Scale	Description
0	No detectable Change
1	Slight Change in color or gloss
2	Slight Surface etching or severe staining
3	Pitting, cratering, swelling, erosion of coating, obvious & significant deterioration

Sample	Wilsonart Standard Grade	Wilsonart Lab Grade 96
Pass/Fail # of Severe Stains (3)	Pass 3	Pass 0
Amyl Acetate	0	0
Ethyl Acetate	1	1
Acetic Acid 89%	0	1
Acetone	1	1
Acid Dichromate, 5%	2	1
Butyl Alcohol	0	0
Ethyl Alcohol	0	0
Methyl Alcohol	0	0
Ammonium Hydroxide, 28%	0	0
Benzene	0	1
Carbon Tetrachloride	0	1
Chloroform	1	0
Chromic Acid, 60%	1	0
Cresol	0	1
Dichloroacetic Acid	1	1
Dimethyl Formamide	0	1
Dioxane	0	1
Ethyl Ether	0	1
Formaldehyde, 37%	0	0
Formic Acid, 90%	2	1
Furfural	0	1
Gasoline	0	0
Hydrochloric Acid, 37%	2	0
Hydrofluoric Acid, 48%	2	1
Hydrogen Peroxide, 30%*	2	0
Tincture of Iodine	0	0
Methyl Ethyl Ketone	1	0
Methylene Chloride	1	0
Monochlorobenzene	0	1
Naphthalene	0	0
Nitric Acid, 20%	3	0
Nitric Acid, 30%	3	0
Nitric Acid, 70%	3	0
Phenol, 90%	1	0
Phosphoric Acid, 85%	2	0
Silver Nitrate, Saturated**	1	0
Sodium Hydroxide, 10%	1	0
Sodium Hydroxide, 20%	1	0
Sodium Hydroxide, 40%	1	1
Sodium Hydroxide, Flake	1	1
Saturated Sodium Sulfide	0	0
Sulfuric Acid, 33%	2	0
Sulfuric Acid, 77%	2	1
Sulfuric Acid, 96%	2	1
Equal Nitric and Sulfuric Acids	2	1
Toluene	0	1
Trichloroethane	1	0
Xylene	0	0
Saturated Zinc Chloride	0	0

Note: The color of the samples tested were black

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

Branded Cleaner and Sanitizer Resistance for Wilsonart® Compact Laboratory Grade 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
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)

Note: Compact Laboratory Grade – no effect on all listed above

Test procedure: Listed materials were placed in contact with Wilsonart® Compact Laboratory Grade 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.

Resistance of Furniture to UV Lights for Wilsonart® Compact and Compact Laboratory Grade per BIFMA HCF 8.1-201X Section 9 (Alternate Method per ASTM G155 using ISO 4586-2.33 conditions) Wilsonart Compact and Compact Laboratory Grade conform to BIFMA – Healthcare Furniture Design Guidelines for Cleanability , Section 9 Resistance to Furniture to UV Lights. Wilsonart Compact and Compact Laboratory Grade meet or exceed the acceptance level for surface evaluation.

4. **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", 3/8" 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 300 inches per minute. (Dependent on thickness of panel and type of cut). It is common to run 14,000 RPM's at 250 inches per min on ½" and ¾" material. A chip breaker bit can be used for the initial cut followed by a slight up-spiral bit producing a cleaner final pass. Once the panel is cut, the edges can be sanded and polished to remove sharp edges and router lines.

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

Installation

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

Fasteners and Seam Adhesives

Surface mounted objects should be secured into the face or back of the laminate using inserts such as Keep Nuts or self-tapping screws both with 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 splines or shims on the underside if necessary. Metal brackets or retaining clips are recommended for securing the compact laminate panels together, and to abutting surfaces. To secure counters to cabinets, L brackets can be attached to the compact material and to the cabinet frame. To create a more liquid proof butt joints, a two-part epoxy, plastic bonder adhesive, or two part urethane is best. For a soft seam, silicone sealant can be used.

Acclimation

The effects of temperature and humidity can be mitigated if the precautions are taken before, during and after installation. Acclimation for 72 hours prior to being installed and maintaining the relative indoor humidity between 40% and 60% is recommended from fabrication to the final environment. Anything below 40% is too low and anything higher than 60% is too high. Minor fluctuations in humidity and dimensional change in wood-based products will always be inevitable. If the product has been constructed, stored and installed in the appropriate conditions, the effects of these will be insignificant. Dimensional change, as a result of improper RH exposure during job site storage and installation can have an effect on all interior materials. When the environmental temperature and relative humidity are outside of these conditions, additional steps may be required to insure the material is not affected. This may include mechanical fasteners, longer acclimation periods and/or adjustments to the interior conditions.

1. **Warranty**

2. **Maintenance**

3. **Technical Services**

For samples, literature, questions or technical assistance, please contact our toll-free Hotline at (800) 433-3222, Monday through Friday, 8 am – 5 pm, CST.

For additional information about Sustainability & Certifications please visit: Wilsonart Corporate Sustainability
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