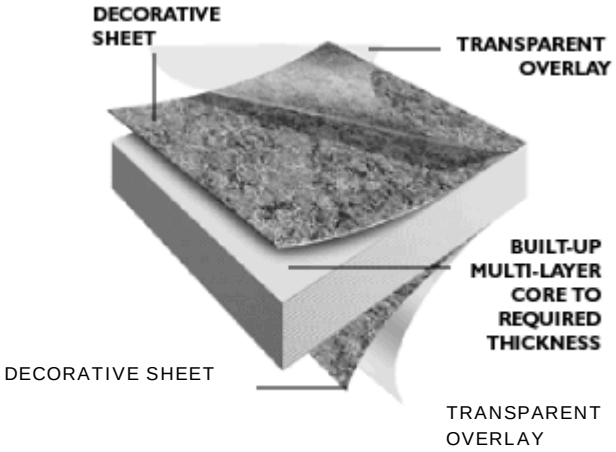
COMPACT LAMINATE
TECHNICAL DATA

Product Description

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.



Three categories of Compact Laminate include:

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

2) **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 rage - ¼" to 1"

3) **Laboratory Grade** – Thick panels engineered to resist a variety of acids, solvents, general reagents and cleaning agents. Thickness rage - ¼" to 1" One side good.

4) **Solid Phenolic Backer** – Non decorative material used for panels that require impact resistance. Thickness range- 1/8" to 1".

Limitations:
Classic Grade, Fire Rated 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.

Classic Grade

Nominal Panel Thickness*, Compact Laminate:

Imperial Measure (In.)	Description	Product Type	Metric Measure (Mm)	Thickness Tolerance	Lbs/ Sq.Ft
1/10” (0.100")	Sanded One Side	114	2.54 mm	±0.012”	0.745
0.118"	Sanded One Side	117	3.00 mm	±0.012”	0.886
1/10” (0.100")	Double Faced	514	2.54 mm	±0.012”	0.745
1/8” (0.125")	Double Faced	515	3.18 mm	±0.012”	0.895
1/4" (0.250")	Double Faced	569	6.4 mm	± 0.0125"	1.81
5/16” (0.312")	Double Faced	571	7.93 mm	± 0.0156"	2.26
3/8” (0.375")	Double Faced	572	9.6 mm	± 0.0187"	2.72
1/2” (0.500")	Double Faced	568	12.7 mm	± 0.025"	3.62
3/4” (0.750")	Double Faced	575	19.0 mm	± 0.037"	5.40
1” (1.00")	Double Faced	590	25.4 mm	± 0.050"	7.24

Note: thickness tolerance according to NEMA LD3-2005 for Compact Laminate grade (CGS)

TEXTURE ON ALL PRODUCT TYPES	MIN ORDER QTY
60 Finish – A fine matte texture with a slight sheen (Standard)	1 sheet min
38 Finish – Fine Velvet Texture, moderate reflective value. (must be available as standard or factory special, per pattern)	16 sheet min
74 Finish – Wood ticking with a low luster (Available in wood grain or solid patterns)	16 sheet min

Standard Panel Sizes for Compact Laminate:

IMPERIAL MEASURE (FEET)	METRIC MEASURE (MM)	TEXTURE OPTIONS
4' x 8'	1220 mm x 2440 mm	60, 38 and 74
4' x 10'	1220 mm x 3050 mm	60
5' x 8'	1525 mm x 2440 mm	60
5' x 10'	1525 mm x 3050 mm	60 and 38
5' x 12'	1525 mm x 3660 mm	60 and 38

Fire Test Information for Classic Grade Compact (ASTM E84)

Thickness	Flame Spread	Smoke Development
¼” to 1”	**55 - 60**	**165 -250**

Fire Rated Grade Compact

Nominal Panel Thickness* Fire Rated Grade, Compact Laminate:

Imperial Measure (In.)	Description	Product Type	Metric Measure (Mm)	Thickness Tolerance	Lbs/ Sq.Ft
1/4" (0.250")	Double Faced	669	6.4 mm	± 0.0125"	1.81
5/16” (0.312")	Double Faced	671	7.93 mm	± 0.0156"	2.26
3/8” (0.375")	Double Faced	672	9.6 mm	± 0.0187"	2.72
1/2” (0.500")	Double Faced	668	12.7 mm	± 0.025"	3.62
3/4” (0.750")	Double Faced	675	19.0 mm	± 0.037"	5.40
1” (1.00")	Double Faced	690	25.4 mm	± 0.050"	7.24

Note: -Thickness tolerance according to NEMA LD3-2005 for Compact Laminate grade (CGS)

Standard Panel Sizes for Fire Rated Compact Laminate:

IMPERIAL MEASURE (FEET)	METRIC MEASURE (MM)
4' x 8'	1220 mm x 2440 mm
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

TEXTURE ON ALL PRODUCT TYPES	SURFACE GLOSS VALUE
60 Finish – a fine, matte texture with a slight sheen (Standard)	8-12

Fire Test Information for Fire Rated Compact

Testing Company	Thickness	Flame Spread	Smoke Development
Underwriter Laboratory	**¼” to 1”**	**15**	**110-165**

Note: The Fire Rated Compact Laminate is produced with a black center core, with a brown color line under the decorative layer.

Solid Phenolic Backer

Nominal Panel Thickness*, Compact Laminate Backer:

Imperial Measure (In.)	Description	Product Type	Metric Measure (Mm)	Thickness Tolerance	Lbs/ Sq.Ft
1/8” (0.125")	Double Faced	298	3.18 mm	±0.012”	0.895
1/4" (0.250")	Double Faced	269	6.4 mm	± 0.0125"	1.81
5/16” (0.312")	Double Faced	271	7.93 mm	± 0.0156"	2.26
3/8” (0.375")	Double Faced	272	9.6 mm	± 0.0187"	2.72
1/2” (0.500")	Double Faced	268	12.7 mm	± 0.025"	3.62
3/4” (0.750")	Double Faced	275	19.0 mm	± 0.037"	5.40
1” (1.00")	Double Faced	290	25.4 mm	± 0.050"	7.24

Note: thickness tolerance according to NEMA LD3-2005 for Compact Laminate grade (CGS)

Standard Panel Sizes for Compact Laminate:

IMPERIAL MEASURE (FEET)	METRIC MEASURE (MM)
4' x 8'	1220 mm x 2440 mm
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

TEXTURE ON BACKER PRODUCT TYPES
Backers are produced with a slight texture and mottled black appearance.
A slight color difference can exist between sheets.

Laboratory Grade

Nominal Panel Thickness* Laboratory Grade, Compact Laminate:

Imperial Measure (In.)	Description	Product Type	Metric Measure (Mm)	Thickness Tolerance	Lbs/ Sq.Ft
1/4" (0.250")	Double Faced	569 -95	6.4 mm	± 0.0125"	1.81
5/16” (0.312")	Double Faced	571 - 95	7.93 mm	± 0.0156"	2.26
3/8” (0.375")	Double Faced	572 - 95	9.6 mm	± 0.0187"	2.72
1/2” (0.500")	Double Faced	568 - 95	12.7 mm	± 0.025"	3.62
3/4” (0.750")	Double Faced	575 - 95	19.0 mm	± 0.037"	5.40
1” (1.00")	Double Faced	590 - 95	25.4 mm	± 0.050"	7.24

Note: -Thickness tolerance according to NEMA LD3-2005 for Compact Laminate grade (CGS)

Standard Panel Sizes for Compact Laminate:

IMPERIAL MEASURE (FEET)	METRIC MEASURE (MM)
4' x 8'	1220 mm x 2440 mm
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

TEXTURE ON ALL PRODUCT TYPES	SURFACE GLOSS VALUE
95 Finish –matte texture designation for Chemical Resistant Surface	14-18

Note: -Laboratory Grade panels are guaranteed good one side only.

Physical Properties

Sample	Test Method	Units	Scale	Wilsonart Standard Grade	Wilsonart Lab Grade
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	≥4
Resistance to Wear	EN438-2:10	Cycles	Cycles	≥390	≥ 450
Resistance to Impact	EN438-2:21	Indentation diameter, mm	Max of 10mm	0	0
		Height, mm	Measurement of distance	1800	1800
Resistance to Dry Heat	EN438-2:16	Rating (min)	1 to 5 (5 best)	≥ 4	≥ 2
Resistance to Wet Heat	EN12721	Rating (min)	1 to 5 (5 best)	≥ 5	≥ 3
Boiling Water Immersion	EN438-2:12	Appearance	1 to 5 (5 best)	≥ 5	≥ 2
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	≥3
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	≥12000	≥15,000
Modulus of Elasticity	EN ISO 178/ASTM 638-09	psi	> 1,400,000	>1,800,000	>2,200,000
Flexural Strength (MD)	EN ISO 178/ASTM 790-07	Mpa	> 114.0	≥177	≥150
CD	EN ISO 178/ASTM 790-08	Mpa	>82.7	≥120	≥120
Tensile Strength (MD)	EN ISO 527-2/ASTM 638-08	Mpa	> 114.0	≥145	≥150
CD	EN438-2:25	Mpa	>82.7	≥99	≥150
Density	EN ISO 1183/ASTM 792-08	g/cm2		1.39	> 1.35
Light Fastness	EN438-2:27	Blue wool scale	Min of 4 to 5	≥6	> 6
ASTM D790	Flexural Strength	MPa (psi) MD Min.	125 (18000)	≥126 (18000)	≥126 (18000)
ASTM D790	Flexural Strength	MPa (psi) CD Min.	82.7 (12000)	≥82.7 (12000)	≥82.7 (12000)
ASTM D790	Modulus of Elasticity	MPa (psi) MD Min.	11000 (1600000)	≥11001 (1600000)	≥11001 (1600000)
ASTM D790	Modulus of Elasticity	MPa (psi) CD Min.	9650 (1400000)	≥9651 (1400000)	≥9651 (1400000)
ASTM D790	Tensile Strength	MPa (psi) MD Min.	124 (18000)	≥125 (18000)	≥125 (18000)
ASTM D790	Tensile Strength	MPa (psi) CD Min.	82.7 (12000)	≥82.7 (12000)	≥82.7 (12000)
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 Resistanc	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	200	
NEMA 3.11	Dimentional Change MD	% MD Max	% Change	0.3	
	Dimentional Change CD	% CD Max	% Change	0.7	
NEMA 3.13	Wear Resistance	Revolutions	Min Value 400	≥ 400	
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)
Note - All SEFA and EN438 testing were performed on Compact laminate with a black decerative surface					

SEFA 8 Test Results

Wilsonart Standard Grade and Laboratory Grade products contain Stain resistant properties

Sample	Wilsonart Standard Grade	Wilsonart Lab Grade
Pass/Fail	Pass	Pass
# of Severe Stains (3)	3	0
Amyl Acetate	0	0
Ethyl Acetate	1	1
Acetic Acid 89%	0	0
Acetone	1	1
Acid Dichromate, 5%	2	0
Butyl Alcohol	0	0
Ethyl Alcohol	0	0
Methyl Alcohol	0	0
Ammonium Hydroxide, 28%	0	1
Benzene	0	1
Carbon Tetrachloride	0	0
Chloroform	1	1
Chromic Acid, 60%	1	1
Cresol	0	1
Dichloroacetic Acid	1	1
Dimethyl Formamide	0	1
Dioxane	0	1
Ethyl Ether	0	0
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	1
Monochlorobenzene	0	0
Naphthalene	0	0
Nitric Acid, 20%	3	0
Nitric Acid, 30%	3	0
Nitric Acid, 70%	3	1
Phenol, 90%	1	1
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	1
Sulfuric Acid, 33%	2	0
Sulfuric Acid, 77%	2	1
Sulfuric Acid, 96%	2	1
Equal Nitric and Sulfuric Acids	2	1
Toluene	0	0
Trichloroethane	1	1
Xylene	0	1
Saturated Zinc Chloride	0	0

Note: The color of the samples tested were black

Core Color
Classic Grade, Fire Rated and Laboratory 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.

Deco Color Selection
Over 220 designs available. Refer to the Compact laminate brochure or the web site for a complete list of the color selection.

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

Post-Forming
Products 514 and 515 have the ability to be post-formed. These two products can be placed in a convection oven and heated to 325° F. Once removed, they are placed in a mold and cooled to room temperature. The minimum bend, is a 6" inside radius.

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: Do not screw into the edges of Compact Laminate. Leveling at joints should be done using shims on the underside if necessary. Do not use splines in the edges. 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, two part urethane or silicone sealant can be used.

Density – Compact Laminate has a density of about 85-86 lbs./cubic foot.

Warpage – A maximum of ¼" bow or twist is allowed on 3/8" or thicker panels.

Care and Maintenance:

To clean solid grade laminate surfaces, simply wipe with a soft damp cloth and mild detergent; then rinse thoroughly with warm water and wipe dry. For stubborn stains, use an all-purpose cleaner, with a damp cloth; then rinse thoroughly with warm water and wipe dry.

For really tough stains, create a paste composed of baking soda and water. Using a soft brush, scrub gently in a circular motion – 10 to 20 strokes should remove most stains; then rinse thoroughly with warm water and wipe dry. IMPORTANT NOTE: Excessive scrubbing can dull or damage the finish.

Wilsonart Compact Laminate Limited Warranty

Wilsonart International, warrants that, under normal use and service, the material and workmanship of its products shall conform to the standards set forth on the applicable technical data sheets for a period of twelve (12) months from the date of sale to the original purchaser. Dealers and distributors are provided with the technical data sheets which contain specific standards of performance for the products. In the event that a Wilsonart product does not perform as warranted, the first purchaser's sole remedy shall be limited to repair or replacement of all or any part of the product which is defective, at the manufacturer's sole discretion.

This warranty applies only to product:
1. In its original installation,
2. Purchased by the original purchaser: and
3. With original invoice.

This warranty is not transferable, and expires upon resale or transfer by the original purchaser.

This warranty shall not apply to defects or damage arising from any of the following:
1. Accidents, abuse or misuse;
2. Exposure to extreme temperature and/or humidity;
3. Improper fabrication or installation; or
4. Improper maintenance.
5. Exterior applications.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE MADE. UNDER NO CIRCUMSTANCES SHALL THE MANUFACTURER BE LIABLE FOR ANY LOSS OR DAMAGE ARISING FROM THE PURCHASE, USE OR INABILITY TO USE THIS PRODUCT, OR FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. NO FABRICATOR, INSTALLER, DEALER, AGENT OR EMPLOYEE OF WILSONART INTERNATIONAL, HAS THE AUTHORITY TO MODIFY THE OBLIGATIONS OR LIMITATION OF THIS WARRANTY.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state; therefore, some of the limitations stated above may not apply to you. It is to your benefit to save your documentation upon purchase of a product.

Manufacturer:

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