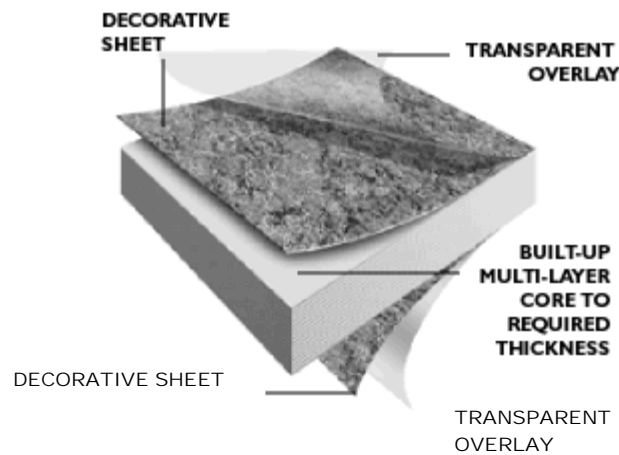


SOLID PHENOLIC CORE PANELS
TECHNICAL DATA

Product Description

Solid Phenolic Core laminate (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.

Solid phenolic panels provide superior impact, fire rated, chemical and stain resistance.



Three categories of Solid Phenolic Core Panels include:

- 1) **Classic Grade** – Self-supporting homogeneous panels finished with melamine surfaces. Can be used for vertical or horizontal applications and casework. e.g., toilet partitions, wall panels, casework and countertops. Class B/2 Fire Rating. Thickness range 1/10” to 1”
- 2) **Fire Rated Grade** – Thick panels with fire retardant properties that are suitable for applications where fire rated properties are 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 - 1/4” to 1”
- 3) **Laboratory Grade** – Thick panels engineered to resist a variety of acids, solvents, general reagents and cleaning agents. Thickness range - 1/4” to 1”

Nominal Panel Thickness* Solid Phenolic Core Panels:

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

** 5/16" and 3/8" must be ordered with a minimum of 20 sheets or a 25% upcharge will apply.*

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

Standard Panel Sizes for Solid Phenolic Core Panels:

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

*** 4' x 10' and 5' x 8' must be ordered with a minimum of 20 sheets per size and thickness, or a 25% upcharge will apply.*

TEXTURE ON ALL PRODUCT TYPES	SURFACE GLOSS VALUE
60 Finish – a fine, matte texture with a slight sheen (Standard)	8-12
95 Finish –matte texture designation for Chemical Resistant Surface	14-18

NEMA Performance Properties of Solid Phenolic Core Panels - meets or exceeds these values

ASTM TEST METHOD	NOMINAL THICKNESS	UNITS: MM / INCHES	COMPACT LAMINATE	
			>6.0 mm (>0.236")	2.0-6.0 mm (0.079" -0.236")
D 790	Flexural Strength	MPa (psi) MD Min.	1.24 x 10 ² (18000)	1.24 x 10 ² (18000)
		MPa (psi) CD Min.	8.27 x 10 ¹ (12000)	8.27 x 10 ¹ (12000)
D 790	Flexural Modulus (Modulus of Elasticity)	MPa (psi) MD Min.	1.10 x 10 ⁴ (1.6 x 10 ⁶)	1.10 x 10 ⁴ (1.6 x 10 ⁶)
		MPa (psi) CD Min.	9.65 x 10 ³ (1.4 x 10 ⁶)	9.65 x 10 ³ (1.4 x 10 ⁶)
D 638	Tensile Strength	MPa (psi) MD Min.	1.24 x 10 ² (18000)	1.24 x 10 ² (18000)
		MPa (psi) CD Min.	8.27 x 10 ¹ (12000)	8.27 x 10 ¹ (12000)

NEMA Performance Properties for CLASSIC GRADE ONLY (meets or exceeds these values)

PROPERTY	GRADE** UNITS	COMPACT LAMINATE	
		>6.0 mm (± 5% of thickness) >0.236" (± 5% of thickness)	2.0-6.0 mm (± 0.30 mm) 0.125" - 0.236" (± 0.012")
Light Resistance	Rating, * Min.	SL	SL
Cleanability	Rating, * Max.	20	20
Stain 1-10 Stain 11-15	Rating, * Min.	NE M	NE M
Boiling water resistance	Rating, * Min.	NE	NE
High Temperature Resistance	Rating, * Min.	SL	SL
Ball Impact Resistance	mm (in.) Min.	1900 (75)	1900 (75)
Radiant Heat Resistance	Sec., Min.	200	200
Dimensional Change	% MD, Max	0.3	0.3
	% CD, Max	0.7	0.7
Room Temperature Dimensional Stability	% MD, Max	0.3	0.3
	% CD, Max	0.7	0.7
Wear Resistance	Cycles, Min.	400	400

* Rating system: NE – no effect, SL – slight effect, M – moderate effect, S – Severe Effect

** Grade designations are not acronyms

Chemical and Stain Resistance for Wilsonart® Chemsurf®

No effect was exhibited except as noted (* or **) on the following:

Acids

- | | | | |
|----|--|-----|--|
| 1. | Nitric Acid (all concentrations)** | 9. | Aqua Regia |
| 2. | Glacial Acetic Acid 99% (concentrated) | 10. | Chromic Trioxide (Chromic Acid Cleaning Solution)* |
| 3. | Sulfuric Acid (all concentrations)** | 11. | Perchloric Acid (concentrated) |
| 4. | Hydrochloric Acid (all concentrations) | 12. | Picric Acid 1.2% (0.05M) |
| 5. | Phosphoric Acid (all concentrations) | 13. | Tannic Acid (sat.) |
| 6. | Formic Acid (all concentrations) | 14. | Uric Acid (sat.) |
| 7. | Acetic Acid (all concentrations) | | |
| 8. | Hydrofluoric Acid 48% (concentrated)* | | |

Solvents

- | | | | |
|-----|------------------------------|-----|---------------------|
| 15. | Carbon Tetrachloride | 28. | Butyl Alcohol |
| 16. | Carbon Disulfide | 29. | Amyl Alcohol |
| 17. | Acetone | 30. | Amyl Acetate |
| 18. | Formaldehyde | 31. | Cresol |
| 19. | Methanol | 32. | Dioxane |
| 20. | Ethyl Acetate | 33. | Trichloroethane |
| 21. | Toluene | 34. | Chlorobenzene |
| 22. | n-Hexane | 35. | Dimethylformamide |
| 23. | Ethyl Alcohol | 36. | Methylene Chloride |
| 24. | Chloroform | 37. | Methyl Ethyl Ketone |
| 25. | Phenol (all concentrations)* | 38. | Naphthalene |
| 26. | EDTA | 39. | Tetrahydrofuran |
| 27. | Xylene | | |

Bases

- | | | | |
|-----|---|-----|---|
| 40. | Sodium Hydroxide (all concentrations)** | 42. | Ammonium Hydroxide (all concentrations) |
| 41. | Sodium Sulfide 15% | | |

General Reagents

- | | | | |
|-----|-------------------------------------|-----|--------------------------------------|
| 43. | Sodium Hypochlorite 5% | 67. | Methyl Methacrylate |
| 44. | Calcium Hypochlorite (concentrated) | 68. | Alconox (Lab. Detergent) |
| 45. | Hydrogen Peroxide 3% | 69. | Karl Fisher Reagent |
| 46. | Trisodium Phosphate 30% | 70. | Urea |
| 47. | Sodium Thiocyanate | 71. | Naphtha |
| 48. | Zinc Chloride | 72. | Cellosolve |
| 49. | Lactated Ringers | 73. | Ammonium Phosphate |
| 50. | Sucrose 50% | 74. | Iodine |
| 51. | Gasoline | 75. | Povidone Iodine |
| 52. | Kerosene | 76. | Tincture of Mercurochrome |
| 53. | Mineral Oil | 77. | Tincture of Iodine |
| 54. | Vegetable Oils | 78. | Tincture of Merthiolate |
| 55. | Water | 79. | Eucalyptol |
| 56. | Sodium Chromate | 80. | Procaine |
| 57. | Potassium Permanganate | 81. | Zephiran Chloride |
| 58. | Silver Nitrate | 82. | Zinc Oxide Ointment |
| 59. | Formalin | 83. | Lysol |
| 60. | Benedicts Solution | 84. | Aromatic Ammonia |
| 61. | Phosphate Buffered Saline (PBS) | 85. | Thymol & Alcohol |
| 62. | Copper Sulfate | 86. | Camphorated para-chlorophenol* |
| 63. | Petroleum Jelly | 87. | Quaternary Ammonia Compounds |
| 64. | Aluminum | 88. | Monse's Solution (Ferric Subsulfate) |
| 65. | Ethylene Glycol | 89. | Sodium Azide |
| 66. | Pine Oil | | |

Stains and Indicators

- | | | | |
|-----|-------------------------------|------|-----------------|
| 90. | Bromothymol Blue | 99. | Nigrosine |
| 91. | Phenolphthalein | 100. | Crystal Violet |
| 92. | Methyl Red | 101. | Malachite Green |
| 93. | Methyl Orange | 102. | Cresol Red |
| 94. | Ag Eosin Bluish 5% in Alcohol | 103. | Gram Stains |
| 95. | Gentian Violet 1% | 104. | Safranin O |
| 96. | Wright's Blood Stain | 105. | Thymol Blue |
| 97. | Methylene Blue | | |
| 98. | Sudan III | | |

Test procedure: Listed materials were placed in contact with Wilsonart® Chemsurf® Chemical-Resistant surface under 1" (25.4mm) diameter watch cover glass for **16 hours** duration 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.

Fire Rating on Solid Phenolic Core Panels

The basic standard to investigate products, in this category, is UL723, “Test for Surface Burning Characteristics of Building Materials”

Class A fire rated material is available in thicknesses - 1/4" – 1"

Classic Grade	Class B or 2	Results
1/2"	Flame Spread/Smoke Development	Class B
3/4"	Flame Spread/Smoke Development	Class B
1"	Flame Spread/Smoke Development	Class B
Fire Rated Grade	Class A or 1	Results
1/2"	Flame Spread/Smoke Development	Class A 25/200
3/4"	Flame Spread/Smoke Development	Class A 25/200
1"	Flame Spread/Smoke Development	Class A 25/200

Certifications and testing

Product Type	Test Method	Results
514 - 1/10"	ASTM E16, E662 & SMP 800	Pass
515 – 1/8"	ASTM E16, E662 & SMP 800	Pass
568 – 1/2"	ASTM E162 and E662	Pass
All Products	Greenguard Certified	Pass

Manufacturer:

Wilsonart International Fletcher NC Plant
2400 Wilson Place
Temple, Texas 76503-6110
Phone: (254) 207-7000; (800) 433-3222
Fax: (254) 207-2384
Web Site: www.wilsonartlaminare.com

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.

Core Color

Classic Grade, Fire Rated and Laboratory Grade panels are produced with a black core as the standard offering in 1/4" to 1" thicknesses. Product 117 is produced with a brown core except when ordered with a black melamine face.

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.

Fabrication:

Solid Phenolic decorative 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 16000 to 18000 RPM’s at 400 to 900 inches per minute. (dependent on thickness of panel and type of cut)

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

<u>Matte Finish</u>	<u>Satin</u>	<u>Semi gloss</u>
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 Solid Phenolic 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 Solid Phenolic 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.

Wilsonart Solid Phenolic Panel 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.

Specification Form:

Surface shall be Wilsonart® Solid Phenolic Core Laminate.

Type: Specify 114, 117, 514, 515, 568, 569, 571, 572, 575 and 590

Surface

Color Number: _____ Color Name: _____

Finish

Number: _____ Name: _____

Adhesive (if applicable on Types 114 and 117)

Grade/Type: _____

Brand: Wilsonart Adhesive