

Wilsonart® Custom Laminate Technical Data

1. Manufacturer

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2. Product Description

Recommended Uses

Custom Laminate is suitable for use on fine quality residential and contract furniture and casework and for architectural application on columns, wainscoting, valances, cornices, interior doors and divider systems.

Most applications of Custom Laminate are made with one of these basic laminate types:

- **General Purpose (HGS) 173, 174** are 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.
- **Vertical Surface (VGP) 363, 364** are intended for vertical applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface. They often appear on the vertical surfaces of cabinet walls, doors and drawer panels, desks, restaurant booths and maitre d' stations and as architectural cladding.
- Silk-Screen Process uses types 173 and 363.
- Graphic Image Process uses Types 174 and 364.

Product Composition

Wilsonart Custom Laminate 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 and temperatures approaching 300°F (149°C). Finished sheets are trimmed and the backs sanded to facilitate bonding.

Wilsonart Custom Laminate creates a unique sheet of laminate from two processes:

- **Silk-Screen:** A multi-colored detailed image is screen-printed onto a sheet of decorative paper, which is then formed into a laminate sheet.
- **Graphic Image:** Paintings, digital images and/or photography are printed onto special decorative paper to be used for lamination.

Basic Limitations

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

Do not subject Wilsonart Laminate to extremes in humidity, temperatures over 275° F (135°C) for sustained periods of time, or intense, continuous, direct sunlight.

Finishes

- ❖ #01 High Gloss - Premium
A mirror sheen finish, which gives a smooth, brilliant appearance. #01-High Gloss finish also features AEON™ technology and can be used for horizontal applications such as countertops and light-to-medium commercial applications. Excellent for vertical application. Carries a premium upcharge. *Glossometer reading: MD and CD 110 ± 10.*
- ❖ #07 Textured Gloss - Premium
A textured finish which reproduces the high sheen of waxed wood furniture. Recommended for horizontal and vertical application. #07 finish features AEON technology and carries a premium upcharge. *Glossometer reading: MD and CD 42 ± 4.*
- ❖ #38 Fine Velvet Texture
A smooth textured finish with moderate reflective value. *Glossometer reading: MD and CD 14*
- ❖ #60 Matte
Textured finish with a moderate reflective quality. Recommended for horizontal and vertical application. *Glossometer reading: MD and CD 10 ± 2.*
- ❖ #90 Crystal - Premium
A very finely beaded texture that minimizes smudges and finger marks and improves scratch resistance. Recommended for horizontal and vertical application. *Glossometer reading: MD and CD 13 ± 3.*

NOTE: Glossometer readings are made at a 60° angle of incidence. MD refers to the machine direction of a laminate sheet, and CD refers to the cross direction.

Wilsonart® Custom Laminate may be specified in other optional designer finishes. Contact your local representative for availability.

***Patterns & Colors**

Solid Colors	Yes
Woodgrains and Patterns	Yes

*Some limitations apply by process.

***Sheet Widths**

36"	48"
(914mm)	(1219mm)

*For wider images, contact the Custom Laminate Department.

Sheet Lengths

96"	120"	*144"
(2438mm)	(3048mm)	(3658mm)

Sheet Thicknesses

	Typical Wilsonart Thickness	NEMA Thickness	Weight PSF
General Purpose (HGS) 173, 174	0.048" ± 0.005" (1.22mm ± 0.13mm)	0.048" ± 0.005" (1.2mm ± 0.12mm)	0.322#
Vertical Surface Type (VGS) 363, 364	0.028" + 0.001" - 0.004" (0.71mm + 0.03 - 0.1mm)	0.028" ± 0.004" (0.7mm ± 0.10mm)	0.196#

3. Technical Data

NOTE: Each Typical Wilsonart Value should be compared to the NEMA Standard next to it. For physical properties of Wilsonart Laminate Types 107 and 335, please refer to the Basic Types Tech Data.

Physical Properties of Custom Laminate

NEMA Test	Typical Wilsonart Type 107 Value	NEMA Standard HGS	Typical Wilsonart Type 335 Value	NEMA Standard VGP
Thickness	0.048" ± 0.005" (1.2mm ± 0.13mm)	0.048" ± 0.005 (1.2mm ± 0.12mm)	0.028" ± 0.004" (0.71mm ± 0.1mm)	0.028" ± 0.004" (0.7mm ± 0.1mm)
Appearance	No ABC defects	No ABC defects	No ABC defects	No ABC defects
Light Resistance	Slight effect	Slight effect	Slight effect	Slight effect
Cleanability (cycles)	10	20 (max.)	10	20 (max.)
Stain Resistance Reagents 1-10 Reagents 11-15	No effect Slight effect	No effect Moderate effect	No effect Slight effect	No effect Moderate effect
Boiling Water Resistance	No effect	No effect	No effect	Slight effect
High Temperature Resistance	Slight effect	Slight effect	Slight effect	Slight effect
Impact Resistance	65" (1651mm)	50" (1270mm)	45" (1143mm)	20" (508mm)
Radiant Heat Resistance	160 seconds	125 sec. (min.)	120 seconds	80 sec. (min.)
Dimensional Stability Machine Direction Cross Direction	0.3% 0.7%	0.5% (max.) 0.9% (max.)	0.5% 0.8%	1.1% (max.) 1.4% (max.)
Surface Wear Resistance (cycles)	700	400 (min.)	700	400 (min.)

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.

Typical Frame Spread and Smoke Developed Properties Silk-Screen Process

Product Type	Test Condition	Flame Spread	Smoke Developed
Vertical Surface Type 363	Unbonded	30	15

Specific Flame Spread and Smoke Developed properties for Silk-Screen and Graphic Image types will depend on the specific design selected. Testing on individual designs will be required to verify these values.

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 Standards, 1st Edition, Version 1.0, - 2009)

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

Wilsonart Custom Laminate conforms to the relevant standards of the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD 3-2005, for thickness, performance properties and appearance. Various grades of Wilsonart Custom Laminate 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 1: Specifications."

The GREENGUARD Environmental Institute™ has awarded its GREENGUARD Indoor Air Quality Certification to Wilsonart Laminate. All Wilsonart 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.

4. Installation: Fabrication and Assembly Recommendations

Wilsonart Specialty Laminate tends to be more brittle than conventional laminate, so it must be handled more carefully.

Both the laminate sheet and the substrate material should be ordered sufficiently in advance of fabrication to allow time to reduce internal moisture. During cold months, store laminate sheets and substrate material in a heated room with moving air. During periods of warm weather with high humidity, still air is preferable.

For best results, the room where fabrication takes place, as well as all materials, should be preconditioned to 65°F (18°C) or above. The ideal climate is 75°F (24°C) at 45% relative humidity.

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

Materials

Desirable substrate materials include particleboard, fiberboard and plywood with one A face. Any substrate material should have a density of at least 45 pounds per cubic foot.

Proper adhesive selection is critical to achieving a correct bond for all Wilsonart Laminates since glue lines must not show color. Rigid-set, permanent-type adhesives, such as white glue (PVAc), and uncolored contact adhesives are recommended. Wilsonart® Adhesives, available from your Wilsonart

product distributor, meet the majority of bonding conditions. Permanent PVAc types include Wilsonart WA10 and WA20. Contact adhesives include WA950.

Methods

Fabrication of components should be done using approved methods. Assembled pieces should meet specifications of DLPA (Decorative Laminate Products Association), ANSI-A-161.2-1979, and "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute where applicable.

Give special attention to edges and seams. To prevent stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of one-eighth inch (3.18mm) 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.

Use permanent adhesive to reinforce contact adhesive at corners, along all edges, and at seams.

5. Warranty

Wilsonart LLC warrants to the original consumer purchaser for one (1) year after date of purchase ("Warranty Period") that, under normal use and service, Wilsonart® Laminate Sheets are free from manufacturing defects and conform to published specifications. This warranty applies only to a Wilsonart Laminate Sheet which has been installed in an interior application and remains installed at that location ("Warranted Product") and is extended only to, and may be enforced only by, the original consumer purchaser. THIS WARRANTY IS NOT TRANSFERABLE. This warranty is expressly conditioned upon submission of proof of date of purchase.

WHAT IS EXCLUDED:

This warranty shall not apply to damage arising from any of the following:

1. Accidents, abuse or misuse;
2. Exposure to extreme temperature;
3. Improper fabrication or installation; or
4. Improper maintenance or repair.

WHAT WILSONART WILL DO IF YOUR CLAIM IS COVERED BY THIS WARRANTY

Wilsonart will provide, at no cost and with delivery prepaid, a Wilsonart® Laminate Sheet to replace the Warranted Product. Wilsonart will not pay for removal of the Warranted Product or for fabrication or installation of the replacement laminate or any other costs. No replacement under the warranty shall extend the Warranty Period.

Any replacement is limited to colors and styles of Wilsonart® Laminate Sheets available at the time of replacement. Exact color matches may not be possible. If the original color or style is no longer available, Wilsonart has the right to substitute another Wilsonart Laminate Sheet of equal or greater value than the Warranted Product.

WHAT YOU NEED TO DO

To make a claim under this warranty, you must contact the Wilsonart Warranty Center at the address listed below before the end of the Warranty Period. You must provide proof of date of purchase, photographs of the Warranted Product and access for inspection for warranty determination by a Wilsonart representative, and thereafter Wilsonart will provide you a determination on your claim.

Wilsonart Warranty Center
2400 Wilson Place
Temple, Texas 76504
877-537-0533... Toll Free

THE FOREGOING SHALL CONSTITUTE THE EXCLUSIVE REMEDY OF THE PURCHASER AND THE EXCLUSIVE LIABILITY OF WILSONART.

THE ABOVE WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS WARRANTIES WHETHER ORAL OR WRITTEN. ANY IMPLIED WARRANTIES WHICH MAY ARISE BY OPERATION OF LAW, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE PERIOD OF THE WRITTEN WARRANTY SET FORTH HEREIN.

WILSONART SHALL NOT, UNDER ANY CIRCUMSTANCES OR UNDER ANY LEGAL THEORY, BE LIABLE TO THE PURCHASER OR ANY OTHER PERSON FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE, INCLUDING WITHOUT LIMITATION DAMAGES TO, OR LOSS OF USE OF, PROPERTY, DAMAGES FOR LOSS OF PROFITS OR REVENUES OR ANY OTHER DAMAGES ARISING FROM THE PURCHASE. WILSONART'S LIABILITY WILL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE WILSONART® PRODUCT.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

No agent, dealer, employee or representative of Wilsonart nor any installer, fabricator or other person is authorized to modify the warranty in any respect.

The invalidity of all or a part of any of the provisions of the Limited Warranty shall not affect or invalidate any other provision of the Limited Warranty.

For further assistance or questions, contact Wilsonart at the address or telephone number listed above or at www.wilsonart.com.

6. Maintenance*

The decorative surface may be cleaned with warm water and mild soaps, such as those used for hands or dishes. Do not use cleansers that contain abrasives, acids or alkalis; they will damage the decorative surface. Remove stubborn stains with a 2-minute exposure to hypochlorite bleach such as Clorox®, followed by a clean water rinse.

We recommend that you **not** allow any of the following reagents to **remain** in contact with the decorative surface:

1. Hypochlorite bleach, except as described above
2. Hydrogen peroxide solution
3. Mineral acids, hydrochloric acid such as Lime-A-Way™, sulfuric or nitric acid
4. Caustic solutions containing greater than 2% lye, such as Drano®
5. Sodium bisulfate, such as Sani-Flush®
6. Potassium permanganate
7. Berry juices
8. Silver nitrate, in 1% concentration or greater
9. Gentian violet
10. Mild silver protein, such as 20% argyrol
11. Bluing
12. Fabric dye, such as Tintex® or Rit®
13. Alcohol containing 1% iodine in solution

If you require a decorative laminate that can withstand these and other chemicals, please refer to the Tech Data for Wilsonart® Chemsurf® Chemical-Resistant Laminates.

Free copies of the "Care and Maintenance Guide," which covers all Wilsonart products, are available. The guide can be accessed at <http://www.wilsonartlaminate.com> or by calling our hotline at: 800-433-3222. It can be used for your own information, for project manuals, and for provision to clients and contractors involved with interior construction and finishing.

*Not applicable for Phenolic Laminate Backing Sheet.

7. 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.

Specification Form:

Surface shall be Wilsonart® Custom Laminate,
produced by Wilsonart LLC,
Temple, Texas 76503-6110

Type: Specify

Silk-Screen (Types 173 and 363)

Graphic Image (Types 174 and 364)

Surface (Silk-Screen only)

Color Number: _____

Color Name: _____

Edge Trim

Color Number: _____

Color Name: _____

Adhesive

Name: _____

Grade/Type: _____

Brand: Wilsonart Adhesive

Note: Please consult with the Custom Laminate Department (800-433-3222) for instructions to complete this document.

CustomLam (TD0391)

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