

# 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**

- #60 Matte  
Textured finish with a moderate reflective quality. Recommended for horizontal and vertical application. Glossometer reading: MD and CD 10 ± 2.
- #90 Crystal  
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**

	<b>Typical Wilsonart Thickness</b>	NEMA Thickness	Weight PSF
<b>General Purpose (HGS) 173, 174</b>	0.048" ± 0.005" (1.22mm ± 0.13mm)	0.048" ± 0.005" (1.2mm ± 0.12mm)	0.322#
<b>Vertical Surface Type (VGS) 363, 364</b>	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	<b>0.048" ± 0.005"</b> <b>(1.2mm ± 0.13mm)</b>	0.048" ± 0.005 (1.2mm ± 0.12mm)	<b>0.028" ± 0.004"</b> <b>(0.71mm ± 0.1mm)</b>	0.028" ± 0.004" (0.7mm ± 0.1mm)
Appearance	<b>No ABC defects</b>	No ABC defects	<b>No ABC defects</b>	No ABC defects
Light Resistance	<b>Slight effect</b>	Slight effect	<b>Slight effect</b>	Slight effect
Cleanability (cycles)	<b>10</b>	20 (max.)	<b>10</b>	20 (max.)
Stain Resistance Reagents 1-10 Reagents 11-15	<b>No effect</b> <b>Slight effect</b>	No effect Moderate effect	<b>No effect</b> <b>Slight effect</b>	No effect Moderate effect
Boiling Water Resistance	<b>No effect</b>	No effect	<b>No effect</b>	Slight effect
High Temperature Resistance	<b>Slight effect</b>	Slight effect	<b>Slight effect</b>	Slight effect
Impact Resistance	<b>65" (1651mm)</b>	50" (1270mm)	<b>45" (1143mm)</b>	20" (508mm)
Radiant Heat Resistance	<b>160 seconds</b>	125 sec. (min.)	<b>120 seconds</b>	80 sec. (min.)
Dimensional Stability Machine Direction Cross Direction	<b>0.3%</b> <b>0.7%</b>	0.5% (max.) 0.9% (max.)	<b>0.5%</b> <b>0.8%</b>	1.1% (max.) 1.4% (max.)
Surface Wear Resistance (cycles)	<b>700</b>	400 (min.)	<b>700</b>	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 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**

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](http://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 International warrants that, under normal use and service, the material and workmanship of its laminate shall conform to the standards set forth on the applicable technical data sheets for a period of one (1) year from the date of sale to the first consumer 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 laminate product does not perform as warranted, the first consumer 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; and
2. Purchased by the first consumer purchaser.

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

This warranty shall not apply to defects or damage arising for any of the following:

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

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE MADE, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL WILSONART INTERNATIONAL, INC. 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, INC. HAS THE AUTHORITY TO MODIFY THE OBLIGATIONS OR LIMITATIONS OF THIS WARRANTY.

This warranty gives you specific legal rights, and you also may have other rights that 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.

## 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, 7 am –7 pm, CST.

Specification Form:

Surface shall be Wilsonart® Custom Laminate,  
produced by Wilsonart International, Inc.,  
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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