

Wilsonart® High Wear Laminate

Technical Data

1. Manufacturer

Wilsonart International
2400 Wilson Place
P.O. Box 6110
Temple, Texas 76503-6110
Phone: (254) 207-7000; (800) 433-3222
Fax: (254) 207-2384
Web Site: www.wilsonartlaminates.com

2. Product Description

Recommended Uses: Wilsonart® High Wear Laminate offers five times the abrasion and scuff resistance of conventional laminate. It is produced for commercial, contract and institutional applications where a decorative surface must withstand more than normal wear. Typical applications of High Wear Laminate include checkout counters in retail stores; restaurant and fast food fixtures and casework; tabletops; change counters; bank deal plates and tellers' desks; wall panels, wainscoting and institutional furniture.

High Wear Laminate is manufactured in three extra-high wear (HW) types:

- General Purpose (HGS) Type 107HW is produced for both horizontal and vertical interior applications such as commercial interior doors, walls and wainscoting, which must combine a pleasing appearance with enhanced resistance to both impact and abrasion.
- Vertical Surface (VGS) Type 335HW is intended for vertical applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface.
- Postforming (HGP) Type 350HW is intended for use on vertical and horizontal interior surfaces where it is necessary or desirable to roll the laminate on a simple radius over the edge of a substrate. This eliminates seams and leaves an attractive surface.

Product Composition: High Wear surface papers impregnated with melamine resin are pressed over core sheets impregnated with phenolic resin. These sheets then are bonded at pressures greater than 1000 pounds per square inch at temperatures approaching 300°F (149°C). Finished sheets are trimmed and the backs sanded to facilitate bonding.

Basic Limitations: Wilsonart High Wear Laminates are interior surfacing, not structural materials. They must be bonded to suitable substrates.

Do not subject these laminates to extremes in humidity or to temperatures over 275°F (135°C) for sustained periods of time.

Laminate should not be exposed to flame, molten metal, metallic sparks or intense, continuous direct sunlight. They should not be used as cutting surfaces.

Wilsonart High Wear Laminate is for interior use only and should not be subjected to extremes in humidity or to temperatures over 275°F (135°C) for sustained periods of time. It also should not be exposed to intense, continuous, direct sunlight.

Pattern and Color Availability:

Wilsonart High Wear Laminate is available in most **Standard Line (DG1)** patterns.

Please verify pattern, size and finish availability by checking the Laminate Pattern Availability Search @ www.wilsonart.com/design/patternavail

Finishes

#60 Matte ONLY

A textured finish with a moderate reflective quality. Glossometer reading: MD and CD 10 ± 2.

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

Product Type & Size Availability

General Purpose Type	107HW
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Postforming Types	335HW	350HW
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Sheet Width	36" (914mm)	48" (1219mm)	60" (1524mm)
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Sheet Length	96" (2438mm)	120" 3048mm	144" (3658mm)
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Sheet Thicknesses

Product Type	Typical Wilsonart Thickness	NEMA Thickness	Weight PSF
General Purpose Type 107HW (HGS)	0.048" ± 0.005" (1.22mm± 0.13mm)	0.048" ± 0.005" (1.2mm± 0.12mm)	0.322#
Vertical Surface Type 335HW (VGP & VGS)	0.028" + 0.001" - 0.004" (0.71mm + 0.03 - 0.10mm)	0.028" ± 0.004" (0.7mm ± 0.10mm)	0.186#
Postforming Type 350HW (HGP & HGL)	0.039" ± 0.005" (0.99mm ± 0.13mm)	0.039" ± 0.005" (1.0mm ± 0.12mm)	0.260#

Technical Data

Physical Properties of High Wear Laminate

NEMA Test	Wilsonart High Wear Laminate	Typical Wilsonart High Wear Laminate Value	NEMA Standard*
Wear Resistance (cycles)	All types	3,200	3,000
Boiling Water Resistance	All types	No effect	No effect
High Temperature Resistance	All types	Slight effect	Slight effect
Radiant Heat Resistance			
HGS	General Purpose 107HW	140 seconds	125 seconds
VGS	Vertical Surface 335HW	85 seconds	80 seconds
HGP	Postforming 350HW	110 seconds	100 seconds
Stain Resistance Reagents			
1-10	All types	No effect	No effect
11-15	All types	Moderate effect	Moderate effect
Light Resistance	All types	Slight effect	Slight effect

Impact Resistance HGS	General Purpose 107HW	60" (1524mm)	50" (1270mm)
VGS	Vertical Surface 335HW	24" (609mm)	20" (508mm)
HGP	Postforming 350HW	50" (1270mm)	30" (762mm)
Cleanability (cycles)	All types	10	20 (max.)
Appearance	All types	No ABC defects	No ABC defects
Formability**	Postforming Type	9/16" face (14mm) 3/16" back (5mm)	5/8" face (16mm)

*NEMA Standards given are for standard high-pressure decorative laminates.

**Radius listed for face is actually the radius of the form around which the laminate is postformed. The radius for back is actually the radius to which the decorative face is postformed.

Dimensional Stability: Gross Dimensional Change

Wilsonart High Wear Laminate	Direction of Change	Typical Wilsonart High Wear Laminate Value	NEMA Standard*
HGS: General Purpose (107HW)	Machine Direction	0.3%	0.5%
	Cross Direction	0.7%	0.9%
VGS: Vertical Surface (335HW)	Machine Direction	0.5%	0.7%
	Cross Direction	0.8%	1.2%
HGP: Postforming (350HW)	Machine Direction	0.5%	1.1%
	Cross Direction	0.8%	1.4%

*NEMA Standards given are for standard high-pressure decorative laminates.

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.

Here is typical data for Wilsonart High Wear Laminates:

Typical Flame Spread and Smoke Developed Properties

Product Type	Test Condition	Flame Spread	Smoke Developed
General Purpose Type 107HW	Unbonded	55	55
Vertical Surface Type 335HW	Unbonded	40	40
Postforming Type 350HW	Unbonded	45	55

When you wish to specify decorative laminate for a Class I or A fire rating, please refer to the Fire-Rated Laminate Tech Data.

Model Code Designations used to determine flame spread classification

Flame Spread Classification (Maximum Rating)	International (IBC)	Life Safety (NFPA 101)
25	A	A
75	B	B
200	C	C

(Reference: 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

All Wilsonart Laminates are manufactured to meet or exceed relevant standards of the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD3-2005 as well as appropriate governmental and professional codes.

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.

All Wilsonart Laminate products are tested regularly for code compliance for building construction and other applications. Here are some examples of frequently encountered regulations:

Basic Construction

U.S. Federal Specification L-P 508H, April 9, 1977, "Plastic Sheets, Laminated, Decorative and Nondecorative" spells out criteria for general purpose, vertical and postforming types, as well as backing sheets for federal installation. High Wear Laminate types in compliance include 107HW General Purpose, 335HW Vertical Surface and 350HW Postforming.

NSF International (NSF) #35, "Laminated Plastic for Surfacing for Food Service Equipment." All solid colors and printed patterns in Basic Types 107, 335 and 350, with #60 finish comply.

Mobile Homes. U.S. Federal Register August 9, 1984, Housing and Urban Development Mobile Home Construction and Safety Standard, (24CFR), Part 3280.203. High Wear Laminate Type 107HW General Purpose complies with paragraphs 1, 4 and 6.

Motor Vehicles/Interiors. U.S. Federal Motor Vehicle Safety Standard (FMVSS) 302, "Flammability of Interior Materials." High Wear Laminate types in compliance include patterns in 107HW General Purpose, 335HW Vertical Surface and 350HW Postforming types.

3. Installation: Fabrication and Assembly Recommendations

Fabrication should follow approved methods. Assembled pieces should meet the specifications of KCMA (Kitchen Cabinetmakers Manufacturers Association), ANSI A-161.2-1998 (revised), and "Architectural Woodwork Quality Standards Guide Specification and Quality Certification Program" guidelines of the Architectural Woodwork Institute where applicable.

Wilsonart laminates must be bonded to a substrate of reliable quality, such as particleboard, medium density fiberboard or plywood with one A face. High-pressure laminate, plaster, concrete and gypsum board should not be considered suitable substrates. High Wear laminate may not be used as structural members.

Bond with adhesives and follow the techniques recommended by the adhesive manufacturer. Recommended adhesives are permanent types, such as urea and polyvinyl acetate (PVA), and contact types. Wilsonart adhesives are recommended for most bonding conditions.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (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.

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

Recommended conditioning temperature is approximately 75°F (24°C). Laminates should be conditioned at 45% to 55% relative humidity.

With postforming machinery, Wilsonart 335HW and 350HW will postform at a nominal sheet temperature range of 325°F to 338°F (163°C to 170°C) in 20 ± 5 seconds.

Carbide-tipped saw and router blades should be used for cutting. High tool speed and low feed speed are advisable. Cutting blades should be kept sharp. Use a hold-down to prevent any vibration.

4. 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.

5. 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 1 1/2-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
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

Free copies of the “Care and Maintenance Guide,” which covers all Wilsonart products, are available. The guide can be accessed at <http://www.wilsonartlamine.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.

6. 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 Laminate, produced by Wilsonart International, Temple, Texas 76503-6110.	
Type: 107HW, 335HW or 350HW	
Surface	Color Number: _____ Color Name: _____
Finish	Number: _____ Name: _____
Edge Trim	Color Number: _____ Color Name: _____
Adhesive	Name: _____ Grade/Type: _____ Brand: Wilsonart Adhesive
Material shall equal or exceed performance standards set by the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD3-2005 for high-pressure laminate. Fabrication shall comply with "Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program" guidelines of the Architectural Woodwork Institute.	

High Wear TD (TD1901)
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