

Wilsonart® Laminate Basic Types (#105, #107, #331, #335) Technical Data

Manufacturer

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Recommended Uses

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

- **General Purpose (HGS) Type 105/107** is 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. Type 105/107 is produced for both horizontal and vertical interior applications where the surface must be functional, durable and decorative.
- **Vertical Surface (VGP) Type 331/335** is the usual choice to surface cabinet walls, doors and drawer panels. It often appears on the vertical surfaces of desks, restaurants booths and maîfred' stations, and as architectural cladding. Type 331/335 is intended for vertical applications where a functional, durable, decorative surface must absorb somewhat less impact than a comparable horizontal surface. VGP surfaces may be postformed to achieve radiused edges. It may be applied to the work surfaces on counters, islands, vanities, desks and tables.

Product Composition

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

Basic Limitations

Wilsonart® Laminate is for interior use only and is not recommended for direct application to plaster, 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 higher than 275°F (135°C) for substantial periods of time, or intense, continuous, direct sunlight.

Patterns & Colors

Available in the full range of Wilsonart solid colors, wood grains, and custom patterns. Please see actual sample before specifying.

Finishes

Finish	English Name
#01	Gloss Finish

#03	Silky Finish
#07	Painting Finish
#20	Silk-Matt Finish
#41	Diagonal Finish
#60	Textured Finish
#83	Metallic Line Finish
#86	New Fine Line Finish
#89	New Leather Finish
#CH	Chess Finish
#DM	Diamond Finish
#L	Leather Finish
#ML	Microline Finish
#TX	Textile Finish
#WH	Wood Spirit Finish (Horizontal)
#WM	Wood Matt Finish
#WS	Wood Spirit Finish
#WV	Wave Vertical Finish
#82	Natural Wood Grain Finish
#87	EM Finish
#NM	Natural Matt Finish
#NW	New Wood Grain Finish
#SH	Saw Horizontal Finish
#FP	Novelty Finish
#ST	Stone Finish

Size by Finish: Some finish options have limited size availability. Minimums apply to non-standard finishes in sizes other than 1220mmx2440mm (4' x 8'). Please check with your Wilsonart representative to verify size availability by finish type.

Standard Sheet Widths

3	4'	5'
915mm	1220mm	1525mm

Standard Sheet Lengths

7'	8'	10'	12'
2135mm	2440mm	3050mm	3660mm

NOTE: Not all sizes are available from stock; contact your Wilsonart representative for details on local availability. Minimums apply to non-standard designs and finishes in sizes other than 4'x8'. Please check with your Wilsonart representative.

Thickness

Description	105 Type	107 Type	331 Type	335 Type
Thickness	0.039" ± 0.005" (1.0mm±0.12mm)	0.048" ± 0.005" (1.22mm ± 0.12mm)	0.031" ±0.004" (0.8mm±0.10mm)	0.028" ±0.004" (0.7mm±0.10mm)

Technical Data

Physical Properties of General Purpose Laminates

NEMA Test	Typical Value Wilsonart Type 105*	NEMA Standard Type HGL	Typical Value Wilsonart Type 107*	NEMA Standard Type HGS
Thickness	0.038" (0.96 mm)	0.039" ± 0.005" (1.00mm ± 0.12mm)	0.044" (1.13mm)	0.048" ± 0.005" (1.2mm ±0.12mm)
Appearance	No ABC def.	No ABC def.	No ABC def.	No ABC def.
Light Resistance	No effect	Slight effect	No effect	Slight effect
Cleanability	12 rating	20 rating (max.)	12 rating	20 rating (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	No effect
High Temperature Resistance	No effect	Slight effect	No effect	Slight effect
Impact Resistance	45"(1150mm)	50" (1270mm)	59" (1500mm)	50" (1270mm)
Radiant Heat Resistance	140 seconds	100 sec. (min.)	150 seconds	125 sec. (min.)
Dimensional Stability Machine Direction Cross Direction	0.3% 0.5%	0.6% 1%	0.25% 0.4%	0.5% 0.8%
Surface Wear Resistance Solid color	700cycles	400 cycles(min.)	700 cycles	400 cycles (min.)
Patterns	400 cycles	400 cycles(min.)	400 cycles	400 cycles (min.)

Physical Properties of Vertical Surface Laminates

NEMA Test	Typical Value Wilsonart Type 331*	Typical Value Wilsonart Type 335*	NEMA Standard VGP
Thickness	0.031" (0.8mm)	0.025" (0.64mm)	0.028" ± 0.004" (0.7mm ± 0.10mm)
Appearance	No ABC def.	No ABC def.	No ABC def.
Light Resistance	No effect	No effect	Slight effect
Cleanability	12 rating	12 rating	20 rating (max.)
Stain Resistance Reagents 1-10 Reagents 11-15	No effect Slight effect	No effect Slight effect	No effect Moderate effect
Boiling Water Resistance	No effect	No effect	Slight effect
High Temperature Resistance	No effect	No effect	Slight effect
Impact Resistance	20" (508mm)	20" (508mm)	20" (508mm)
Radiant Heat Resistance	120 seconds	120 seconds	80 seconds (min.)

Dimensional Stability			
Machine Direction	0.3%	0.3%	1.1% (max.)
Cross Direction	0.7%	0.7%	1.4% (max.)
Surface Wear Resistance			
Solid color	700 cycles	700 cycles	400 cycles (min.)
Patterns	400 cycles	400 cycles	400 cycles (min.)
Formability	0.28"-0.39"radius (7-10mm)	0.24"-0.31"radius (6-8mm)	1/2" radius (13mm)

* Typical data explanation: All values are measured under standard test method. Variations within normal tolerances may be expected. Typical data is only for reference and not to be used for quality complaint.

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 GB/T 8624-2012. Burning behavior test method is in accordance with EN 13501-1:2002 (*Fire classification of construction products and building elements, Part 1 Classification using data from reaction to fire tests*).

Typical data for Wilsonart laminates below are averaged from two specific tests:

Typical Flame Spread and Smoke Developed Properties

Test item	Unit	Classification	GB/T Standard	Type 105	Type 335
FIGRA	W/s	B2(D)	≤750	743	552
SMOGRA	m ² /s ²	s2	≤180	42	28
TSP600s	m ²	s2	≤200	80	74

FIGRA: Fire growth rate index used for classification purposes

SMOGRA: Smoke growth rate

TSP600s: Total smoke production within 600s

Codes and Certifications

General Standards

Wilsonart laminates conform to the voluntary standards of the American National Standards Institute/National Electrical Manufacturers Association (ANSI/NEMA) LD3-2005, for thickness, performance properties and appearance. Various grades of Wilsonart laminates meet or exceed the International Standards Organization specifications as found in GB/T 7911 and ISO 4586.

Specific Product Standards

Forest Stewardship Council, SA-CW-003174, June 15, 2012~June 14, 2017, FSC-STD-40-005 v2-1.

Installation: Fabrication and Assembly Recommendations

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. Basic Types 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.

To avoid stress cracking, do not use square-cut inside corners. All inside corners should have a minimum of 1/8" (3.175mm) 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 about 75°F (24°C). Laminates should be conditioned at 45% to 55% relative humidity.

With postforming machinery, Wilsonart 335 and 331 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.

Warranty

Wilsonart (Shanghai) Co., Ltd warrants that, under normal use and service, this 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 first consumer purchaser. Dealers and distributors are provided with the technical data sheets that contain specific standards of performance for the products. In the event that this 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 that is defective, at the manufacturer's sole discretion.

This warranty applies only to product:

1. In its original installation;
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;
4. Improper maintenance.

NO OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE MADE. UNDER NO CIRCUMSTANCES SHALL WILSONART (SHANGHAI) CO., LTD. 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 (SHANGHAI) CO. LTD. 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.

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 agents 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

Free copies of the “Care and Maintenance Guide,” which covers all Wilsonart[®] products, are available. The guide can be accessed at <http://www.wilsonart.com.cn>. 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.*

Technical Services

For samples, literature, questions or technical assistance, please contact our Hotline at 86-21-39815950, Monday through Friday, 8:30 am – 4:30 pm, GMT+8.

Basic Types HPL
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