

1. **Manufacturer**

Wilsonart LLC
2501 Wilsonart Drive
P.O. Box 6110
Temple, Texas 76503-6110
Phone: (254) 207-7000; (800) 433-3222
Fax: (254) 207-2384
Web Site: www.wilsonart.com

2. **Product Description**

Recommended Uses

Wilsonart® Chemsurf® Chemical-Resistant Laminate is produced for work tops and cabinet surfacing in intermediate-type laboratories where weight or cost constraints rule out slate, epoxy or stainless steel; the possibility of chemical spills rules out conventional high-pressure decorative laminate; or where a trend-aware colored or patterned surface is desired. Chemsurf® is also recommended in areas where indiscriminate use of a variety of cleaning agents may be used.

Specific applications include laboratory cabinets, casework, counters and tabletops in hospitals, photographers' darkrooms, beauty salons and product testing facilities. Chemsurf® is ideal for nurses' stations, physicians' and dentists' examining and treatment rooms and pathologists' work rooms. It is also practical and attractive surfacing for wainscoting in any of these areas.

- Type 390 is intended for horizontal, vertical and postforming surfaces and applications, including those where it is necessary or desirable to roll the laminate on a simple radius over the edge of a substrate. This eliminates seams, which are otherwise vulnerable to chemical attack. This type also may be applied to horizontal and vertical surfaces where a functional, durable, decorative material should also be chemical-resistant.

Note: If a high-wear surface is needed, Wilsonart® High Wear Laminate is recommended.

Product Composition

A special resin formulation is applied over the decorative surface paper to achieve chemical resistance. The decorative paper is treated with melamine resin; and the core is composed of kraft papers 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 sanded to facilitate bonding.

Basic Limitations

Wilsonart® Chemsurf® Laminates are intended for interior surfacing only, and not as 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.

You should not expose these laminates to flame, molten metal, metallic sparks or intense, direct sunlight. They should not be used as cutting surfaces.

Note: Chemsurf® Laminate should be protected from damage caused by high heat, such as heat created by Bunsen burners. The burners should be placed on a trivet to protect the laminate surface.

Due to resin composition, a slight color-shift can occur in Chemsurf®. Please request a 'lab' sample for color confirmation.

Pattern and Color Availability

Wilsonart® Chemsurf® Chemical-Resistant Laminate is available in most patterns. Check Pattern Availability at www.wilsonart.com.

Please note the patterns that are not available in Chemsurf®:

WxY – Wilsonart By You & VDL – Virtual Design Library
Non-Promoted Line (DG2) patterns are NOT available

Finishes

#60 Matte

Textured finish with a moderate reflective quality. Recommended for horizontal and vertical applications.

Nominal Glossometer Reading = 10

NOTE: Nominal Glossometer Readings are made at a 60° angle of incidence.

Standard Sheet Widths

48"	60"
1219mm	1524mm

Standard Sheet Lengths

96"	120"	144"
2438mm	3048mm	3658mm

Note: An 8-sheet minimum order applies to 4'x10', 4'x12', 5'x8' and 5'x10' sizes.

Sheet Thicknesses

Type	Typical Wilsonart Thickness	Weight Per Square Foot
Postforming Type 390 (HGP)	0.034" ± 0.005" (0.86mm ± 0.13mm)	0.257#

3. Technical Data

Physical Properties of Wilsonart® Chemsurf® Chemical-Resistant Laminate

ISO 4586 Test	Type 390-60	ISO 4586-3
Scratch Resistance (N*)	2.5	3
Wear Resistance Cycles 1573 Frosty White & 1595 Black ONLY All other Wilsonart colors	≥1,500 ≥700	350
Boiling Water Resistance	No effect	No effect
High Temperature Resistance	Slight effect	Slight effect
Radiant Heat Resistance (seconds)	200	≥200
Stain Resistance† Reagents 1-10 11-15	No effect No effect	No effect Slight effect
Dimensional Change Machine Direction Cross Direction	0.50% 0.80%	1.1% (max.) 1.4% (max.)
Ball Impact Resistance	60" (1524mm)	31.5" (800mm)

Cleanability (cycles)	10	20 (max.)
Blister Resistance (seconds)	70	≥ 40 seconds
Formability‡ (Type 390 only)	5/8" (15mm) face 3/16" (5mm) back	*9/16" face (14.27mm) *3/4" back (19.05mm)
Appearance	No ABC defects	N/A

**(N) Newtons - measure of force*

† For a complete list of acids, bases, solvents, reagents, indicators and other lab materials safe for use on Chemsurf®, please see pages 4 and 5.

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

Codes and Certifications

Wilsonart® Chemsurf® conforms to typical standards of ANSI/ISO 4586 HGP postforming laminate. At present, there is no general industry standard for a high-pressure, chemical-resistant laminate.

The UL GREENGUARD Environmental Institute™ has awarded its UL GREENGUARD® Indoor Air Quality Certification to Wilsonart® Laminate. All Wilsonart Laminate product types were tested under the stringent UL GREENGUARD Standards for low-emitting products. All UL GREENGUARD Indoor Air Quality Certified products ensure minimal impact on the indoor environment. For a copy of the certificate, visit www.greenguard.org.

Scientific Equipment & Furniture Association SEFA No. 8.1 approved.

New York City Material Equipment Acceptance (MEA) number for Wilsonart® Chemsurf® Chemical-Resistant Laminate, Product Type 390, is 262-95-M.

ISO 4586 Standards

Various grades of Wilsonart Basic Type Laminates and Wilsonart Chemsurf® 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 I: Specifications."

Chemical and Stain Resistance for Wilsonart Chemsurf®

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

Acids

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

Solvents

Carbon Tetrachloride
Carbon Disulfide
Acetone
Formaldehyde
Methanol
Ethyl Acetate
Toluene
n-Hexane
Ethyl Alcohol
Chloroform
Phenol (all concentrations)*
EDTA
Xylene

Butyl Alcohol
Amyl Alcohol
Amyl Acetate
Cresol
Dioxane
Trichloroethane
Chlorobenzene
Dimethylformamide
Methylene Chloride
Methyl Ethyl Ketone
Naphthalene
Tetrahydrofuran

Bases

Sodium Hydroxide (all concentrations)**
Sodium Sulfide 15%
Ammonium Hydroxide (all concentrations)

General Reagents

1. Sodium Hypochlorite 5%
2. Calcium Hypochlorite (concentrated)
3. Hydrogen Peroxide 3%
4. Trisodium Phosphate 30%
5. Sodium Thiocyanate
6. Zinc Chloride
7. Lactated Ringers
8. Sucrose 50%
9. Gasoline
10. Kerosene
11. Mineral Oil
12. Vegetable Oils
13. Water
14. Sodium Chromate
15. Potassium Permanganate
16. Silver Nitrate
17. Formalin
18. Benedicts Solution
19. Phosphate Buffered Saline (PBS)
20. Copper Sulfate
21. Petroleum Jelly
22. Aluminon
23. Ethylene Glycol
24. Pine Oil
25. Methyl Methacrylate
26. Alconox (Lab. Detergent)
27. Karl Fisher Reagent
28. Urea
29. Naphtha
30. Cellosolve
31. Ammonium Phosphate
32. Iodine
33. Povidone Iodine
34. Tincture of Mercurochrome
35. Tincture of Iodine
36. Tincture of Merthiolate
37. Eucalyptol
38. Procaine
39. Zephiran Chloride
40. Zinc Oxide Ointment
41. Lysol
42. Aromatic Ammonia
43. Thymol & Alcohol
44. Camphorated para-chlorophenol*
45. Quaternary Ammonia Compounds
46. Monsel's Solution (Ferric Subsulfate)
47. Sodium Azide

Stains and Indicators

Bromothymol Blue
Phenolphthalein
Methyl Red
Methyl Orange
Ag Eosin Bluish 5% in Alcohol
Gentian Violet 1%
Wright's Blood Stain
Methylene Blue

Sudan III
Nigrosine
Crystal Violet
Malachite Green
Cresol Red
Gram Stains
Safranin O
Thymol Blue

Branded Cleaner and Sanitizer Resistance for Wilsonart® Chemsurf® per ISO 4586-2 Method 31 (B)
No effect was exhibited except as noted (* or **) on the following:

1. Beckart Environmental (Stabilized Chlorine Dioxide Mixed with Water at 3000ppm)
2. Benefect®
3. Claire® Germicidal Cleaner (Country Fresh Scent)
4. Claire® Disinfectant Spray Q (Country Fresh Scent)
5. Clean Republic – All Purpose Everyday Cleaner (Hypochlorous Acid – 0.003% Solution)
6. Clorox® Anywhere® Hard Surface Sanitizing Spray
7. Clorox® Clean-Up (Cleaner & Bleach)
8. Clorox® Disinfecting Bleach w/6% Sodium Hypochlorite (24:1/Water:Bleach)
9. Clorox® Disinfecting Spray
10. Clorox® Disinfecting Wipes
11. Clorox Healthcare® Bleach Germicidal Cleaner
12. Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant
13. Clorox Healthcare® Fuzion® Cleaner Disinfectant
14. Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes
15. Clorox® Total 360 Disinfectant Cleaner
16. Diversey™ Expose® II 256
17. Diversey™ Oxivir 1
18. Diversey™ Oxivir Tb Wipes
19. Diversey™ Stride® Floral Neutral Cleaner
20. Diversey™ Virex® II 256
21. Fabuloso® Complete (Multi-Purpose Cleaner)
22. Lysol® Professional Disinfectant Spray
23. Microban® 24 Hour (Multi-Purpose Cleaner)
24. PDI Sani-Prime® Germicidal Spray
25. PDI Super Sani-Cloth® Germicidal Disposable Wipes
26. PURELL® Advanced Hand Sanitizer Gel
27. Purell® Food Service Surface Sanitizer
28. Purell® Professional Surface Disinfectant
29. Purell® Healthcare Surface Disinfectant
30. Simple Green® Concentrated (All-Purpose Cleaner)
31. Spic and Span® Everyday (Antibacterial Cleaner)

Test procedure: Listed materials were placed in contact with Wilsonart® Chemsurf® surface under 1" (25.4mm) diameter watch cover glass for 16 hours duration prior to evaluation for effect. The branded cleaners and sanitizers listed above were cleaned with water only.

* Causes slight change of gloss or color.

** Causes slight damage, with degree of damage proportionate to length of exposure and concentration.

Branded Cleaner and Sanitizer Resistance for Wilsonart® Chemsurf® per BIFMA HCF 8.1-2014
(Section 6 / Modified)

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

1. Beckart Environmental, Inc. (Stabilized Chlorine Dioxide Mixed with Water at 3000ppm)
2. Benefect®
3. Claire® Germicidal Cleaner (Country Fresh Scent)
4. Claire® Disinfectant Spray Q (Country Fresh Scent)
5. Clean Republic – All Purpose Everyday Cleaner (Hypochlorous Acid – 0.003% Solution)
6. Clorox® Anywhere® Hard Surface Sanitizing Spray
7. Clorox® Clean-Up (Cleaner & Bleach)
8. Clorox® Disinfecting Bleach w/6% Sodium Hypochlorite (24:1/Water:Bleach)
9. Clorox® Disinfecting Spray
10. Clorox® Disinfecting Wipes
11. Clorox Healthcare® Bleach Germicidal Cleaner
12. Clorox Healthcare® Hydrogen Peroxide Cleaner Disinfectant

13. Clorox Healthcare® Fuzion® Cleaner Disinfectant
14. Clorox Healthcare® VersaSure® Cleaner Disinfectant Wipes
15. Clorox® Total 360 Disinfectant Cleaner
16. Diversey™ Expose II 256
17. Diversey™ Oxivir 1
18. Diversey™ Stride® Floral Neutral Cleaner
19. Diversey™ Tb Wipes
20. Diversey™ Virex II 256
21. Fabuloso® Complete (Multi-Purpose Cleaner)
22. Lysol® Professional Disinfectant Spray
23. Microban® 24 Hour (Multi-Purpose Cleaner)
24. PDI Sani-Prime® Germicidal Spray
25. PDI Super Sani-Cloth® Germicidal Disposable Wipes
26. PURELL® Advanced Hand Sanitizer Gel
27. Purell® Food Service Surface Sanitizer
28. Purell® Professional Surface Disinfectant
29. Purell® Healthcare Surface Disinfectant
30. Simple Green® Concentrated (All-Purpose Cleaner)
31. Spic and Span® Everyday (Antibacterial Cleaner)

Test procedure: Listed reagent materials were placed in contact with Wilsonart® Chemsurf® surface with a one-inch square 100% cotton cloth completely saturated and covered with a 2" (50.8mm) diameter watch cover glass for 15 minute duration. The reagents listed above were removed with clean cloth and the area was then cleaned with clean cloth and distilled water only. The surface area was allowed to dry for 1-hour 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.

4. Installation: Fabrication and Assembly Recommendations

Wilsonart® Chemsurf® Chemical-Resistant Laminate must be bonded to a substrate of reliable quality such as particleboard, medium density fiberboard, or plywood with one A-face. Incombustible cement board may be used for appropriate fire rating requirements. Bond with adhesives, and follow the techniques recommended by the adhesive manufacturer. Permanent adhesives are recommended. Specialized PVAs epoxy or contact cement, such as Wilsonart® Adhesives, also may be used.

The substrate of a performance laminate, such as Chemsurf®, should be balanced with a high-pressure phenolic laminate sheet as a backer, to reduce warping and to provide additional protection to the substrate against chemical attack from condensing fumes and runoff.

Take care to ensure an appropriate acclimation balance 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 50% relative humidity.

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.

Methods

Assembled pieces should meet KCMA (Kitchen Cabinetmakers Manufacturers Association), ANSI-161.2-1998 specifications. Drill oversized holes for screws or bolts. Screws or bolts should be slightly countersunk into the face side of a laminate-clad substrate.

Wilsonart® Chemsurf® sheets should be cut oversize prior to layup, using a carbide-tipped saw as described in American National Standards Institute & Architectural Woodwork Standards. After bonding, laminate should be machined flush on all edges.

Postforming

Postforming is the preferred edge treatment for counters vulnerable to repeated chemical attack. Wilsonart® Chemsurf® provides excellent chemical and stain resistance as stated herein and postformed edges protect the surface from chemicals accumulating in the seam. Chemsurf® sheets may be formed successfully with conventional postforming machinery. Optimum bending temperature for outside radius bends is 275°F (135°C). For inside radius or cove bends, maximum recommended temperature is 325°F (163°C).

- 5. [Warranty](#)
- 6. [Maintenance](#)
- 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® Chemsurf® Chemical-Resistant Laminate, produced by Wilsonart LLC, Temple, Texas 76503-6110.	
Type: 390 Postforming Grade	
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.	

Wilsonart® Chemsurf® Chemical-Resistant Laminate Technical Data
Revised: June 18, 2020
© 1998-2020, Wilsonart LLC