# Wilsonart® HPL Laminate - Chemsurf

TECHNICAL DATA SHEET FOR CHEMICAL RESISTANT LAMINATE



## DESCRIPTION

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

Wilsonart® Chemsurf® may be applied to horizontal and vertical surfaces where a functional, durable, decorative material should also be chemical-resistant.

## APPLICATION

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 wall panelling in these areas.

Wilsonart® Chemsurf® is intended for horizontal, vertical surfaces and postforming applications 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, and ease of cleaning.

## SURFACE FINISHES

Wilsonart® Chemsurf® laminate is stocked locally in one surface texture offered across a limited range of décors. Recommended for horizontal and vertical applications.

**# 60** **Matte**
A lightly textured finish with a moderate reflective quality.

Nominal Glossometer Reading = 10

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

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Wilsonart Asia-Pacific by AICA Group

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## TECHNICAL DATA

| Chemsurf HPL | | Type 390 postforming | ISO 4586-3 |
|---|---|---|---|
| Décor | | Sheet Size mm | |
| Atlantis | D25-60 | 3660x1220 | |
| Black | 1596-60 | 3660x1530 / 3660x1220 | |
| Designer White | D354-60 | 3660x1530 / 3660x1220 | |
| Fashion Grey | D381-60 | 3660x1530 / 3660x1220 | |
| Frosty White | 1573-60 | 3660x1530 / 3660x1220 | |
| Graphite Nebula | 4623-60 | 3660x1530 / 3660x1220 | |
| Island | D498-60 | 3050x1220 | |
| North Sea | D90-60 | 3660x1220 | |
| Orange Grove | D501-60 | 3050x1220 | |
| Nominal Thickness | | 0.86mm | |
| Thickness Tolerance | | ± 0.13mm | |
| Scratch resistance (N*) | | 2.5 | 3 |
| Wear Resistance Cycles | | | |
| Frosty White & Black ONLY | | ≥1,500 | 350 |
| All other colours | | ≥700 | |
| Boiling water Resistance | | No effect | No effect |
| Stain Resistance | | | |
| Reagents 1-10 | | No effect | No effect |
| Reagents 11-15 | | No effect | Slight effect |
| High Temperature Resistance | | Slight effect | Slight effect |
| Radiant Heat Resistance | | 200 seconds | ≥200 seconds |
| Impact Resistance | | 1016mm | 508mm |
| Dimensional Stability | | | |
| Machine Direction | | 0.5% | 1.1% (max) |
| Cross Direction | | 0.8% | 1.4% (max) |

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## TECHNICAL DATA - Continued

| Chemsurf HPL | Type 390 postforming | ISO 4586-3 |
|---|---|---|
| Ball Impact Resistance | 1524mm | 800mm |
| Cleanability Cycles | 10 | 20 (max) |
| Blistering | 70 seconds | ≥40 seconds |
| Formability‡ | 15mm face<br>5mm back | 14.27mm face<br>10.05mm back |
| Appearance | No ABC defects | N/A |

‡ 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.

## CHEMICAL & STAIN RESISTANCE

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

| Acid | Effect | Acid | Effect |
|---|---|---|---|
| Acetic Acid (all concentrations) | | Nitric Acid (all concentrations) | ** |
| Aqua Regia | | Perchloric Acid (concentrated) | |
| Chromic Trioxide<br>(Chromic Acid Cleaning Solution) | * | Phosphoric Acid (all concentrations) | |
| Formic Acid (all concentrations) | | Picric Acid 1.2% (0.05M) | |
| Glacial Acetic Acid 99% concentrated) | | Sulfuric Acid (all concentrations) | ** |
| Hydrochloric Acid (all concentrations) | | Tannic Acid (sat.) | |
| Hydrofluoric Acid 48% (concentrated) | * | Uric Acid (sat.) | |

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## CHEMICAL & STAIN RESISTANCE

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

| Solvents | Effect | Solvents | Effect |
|---|---|---|---|
| Acetone | | Ethyl Alcohol | |
| Amyl Acetate | | Formaldehyde | |
| Amyl Alcohol | | Methanol | |
| Butyl Alcohol | | Methyl Ethyl Ketone | |
| Carbon Disulfide | | Methylene Chloride | |
| Carbon Tetrachloride | | Naphthalene | |
| Chlorobenzene | | n-Hexane | |
| Chloroform | | Phenol (all concentrations) | * |
| Cresol | | Tetrahydrofuran | |
| Dimethylformamide | | Toluene | |
| Dioxane | | Trichloroethane | |
| EDTA | | Xylene | |
| Ethyl Acetate | | | |

| Bases | Effect |
|---|---|
| Ammonium Hydroxide (all concentrations) | |
| Sodium Hydroxide (all concentrations) | ** |
| Sodium Sulfide 15% | |

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TECHNICAL DATA SHEET FOR CHEMICAL RESISTANT LAMINATE



## CHEMICAL & STAIN RESISTANCE – Continued

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

| General Reagents | Effect | General Reagents | Effect |
|---|---|---|---|
| Alconox (Lab. Detergent) | | Methyl Methacrylate | |
| Aluminon | | Mineral Oil | |
| Ammonium Phosphate | | Monsel's Solution (Ferric Subsulfate) | |
| Aromatic Ammonia | | Petroleum Jelly | |
| Benedicts Solution | | Phosphate Buffered Saline (PBS) | |
| Calcium Hypochlorite (concentrated) | | Pine Oil | |
| Camphorated para-chlorophenol | * | Potassium Permanganate | |
| Cellosolve | | Povidone Iodine | |
| Copper Sulfate | | Procaine | |
| Ethylene Glycol | | Quaternary Ammonia Compounds | |
| Eucalyptol | | Silver Nitrate | |
| Formalin | | Sodium Azide | |
| Gasoline | | Sodium Chromate | |
| Hydrogen Peroxide 3% | | Sodium Hypochlorite 5% | |
| Iodine | | Sodium Thiocyanate | |
| Karl Fisher Reagent | | Sucrose 50% | |
| Kerosene | | Thymol & Alcohol | |
| Lactated Ringers | | Tincture of Iodine | |
| Lysol | | Tincture of Mercurochrome | |

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## CHEMICAL & STAIN RESISTANCE – Continued

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

| General Reagents | Effect | General Reagents | Effect |
|---|---|---|---|
| Tincture of Mercurochrome | | Water | |
| Tincture of Merthiolate | | Zephiran Chloride | |
| Trisodium Phosphate 30% | | Zinc Chloride | |
| Urea 29. Naphtha | | Zinc Oxide Ointment | |
| Vegetable Oils | | | |

| Stains & Indicators | Effect | Stains & Indicators | Effect |
|---|---|---|---|
| Ag Eosin Bluish 5% in Alcohol | | Methyl Red | |
| Bromothymol Blue | | Methylene Blue | |
| Cresol Red | | Nigrosine | |
| Crystal Violet | | Phenolphthalein | |
| Gentian Violet 1% | | Safranin O | |
| Gram Stains | | Sudan III | |
| Malachite Green | | Thymol Blue | |
| Methyl Orange | | Wright's Blood Stain | |

Test procedure: Listed reagent materials were placed in contact with Wilsonart® Chemsurf® surface with a 1” square 100% cotton cloth completely saturated and covered with a 2” diameter watch cover glass for a 15min duration. The reagents listed above were removed with a clean cloth and then cleaned with a clean cloth and distilled water only. The surface area was allowed to dry for 1hr prior to evaluation for effect.
***** Causes slight change of gloss or colour. ****** Causes slight damage, with degree of damage proportionate to length of exposure and concentration.

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## BRANDED CLEANER & SANITZER RESISTANCE

Branded cleaner and resistance per ISO 4586-2 Method 3-B & BIFMA HCF 8.1-2014 (Section 6 / Modified). No effect was exhibited except if 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)

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## FIRE PERFORMANCE

| | |
|---|---|
| Group Classification Number AS/NZS 3837-1998 | Group 3 |
| Average Specific Extinction Area | 75.3 $m^2$/kg |

## CODES & CERTIFICATIONS

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.

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”.

## FABRICATION & ASSEMBLY RECOMMENDATIONS

Wilsonart® Chemsurf® Chemical-Resistant Laminate must be bonded to a substrate of reliable quality such as particleboard, medium density fibreboard, 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.

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## FABRICATION & ASSEMBLY RECOMMENDATIONS - Continued

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 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 3.18mm radius, and all edges should be routed smooth.

### Methods

Assembled pieces should meet KCMA (Kitchen Cabinetmakers Manufacturers Association), ANSI161.2-1998 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 135°C. For inside radius or cove bends, maximum recommended temperature is 163°C.

### 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 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.

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## CONTACT

For further information on this product contact:

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