

Chemtop[®]2[™] *by* FORMICA[®]

CHEMICAL RESISTANT LAMINATES

T E C H N I C A L D A T A

RECOMMENDED APPLICATION

Chemtop2 by Formica is intended for application to interior horizontal and vertical surfaces where design, appearance, quality, durability, and resistance to relatively harsh acids, alkalis, corrosive salts, and other destructive or staining substances are required. Horizontal surfaces include sink, counter, lab benches, tabletops, and other work surfaces in chemical, medical, scientific, pathogenic laboratories, clinics, photographic laboratories, mortuaries, nursing stations, and other institutional uses, as well as commercial or light-duty manufacturing operations. Vertical surfaces include cabinets, casework fronts, wall backsplash panels, or screens.

Chemtop2 chemical resistant laminates are available in a postformable grade (Grade 12), and may be postformed around a minimum 1/2" (12.7mm) outside radius and a minimum 3/16" (4.8mm) inside cove radius. Postforming provides an ergonomic edge and excellent protection against chemicals attacking a fabricated seam.

FABRICATION AND ASSEMBLY

Limitations

Chemtop2 chemical resistant laminates are not recommended for application directly to plaster, gypsum board, or concrete. It should not be used in areas where temperatures exceed 275°F (135°C) for prolonged periods of time, or for exterior applications. Do not expose to continuous direct sunlight. Do not chop, slice, pound or hammer on Chemtop2 surface.

NOTE: Chemtop2 chemical resistant laminates should be protected from damage caused by high heat, such as heat created from Bunsen burners. The Bunsen burner should be placed on a trivet to protect the laminate surface.

NOTE: Chemtop2 chemical resistant laminates incorporate a special integrated coating which gives the product its chemical resistant properties and a slightly different hue from its corresponding standard high-pressure laminate (HPL) item. This color difference does not constitute a defect. Make sure to review actual Chemtop2 chemical resistant laminate samples before specifying. Butt joint matches between Chemtop2 chemical resistant laminates and standard high pressure laminates (HPL) are not recommended, while horizontal/vertical matches are acceptable. It is highly recommended that Chemtop2 be used for entire project as standard HPL will not provide chemical resistance performance.

Storage

Chemtop2 chemical resistant laminates should be stored horizontally, face-to-face and back-to-back with the top sheet turned face down. A caul board should be placed on top to protect the material from possible damage and reduce the

chance of warpage of the top sheets. The material should be protected from light, heat and moisture and should never be stored in contact with the floor or an outside wall. It is important that Chemtop2 chemical resistant laminates be stored at a temperature not less than 60°F (16°C) and a relative humidity not less than 40%.

Preconditioning

Chemtop2 chemical resistant laminates and substrates gain moisture and expand under high relative humidity conditions, and lose moisture and shrink under dry relative humidity conditions. Prior to fabrication, allow the Chemtop2 chemical resistant laminates and the substrate to acclimate for at least 48 hours at the same ambient conditions. Optimum conditions are approximately 75°F (24°C) and relative humidity of 45% to 55%. Provisions should be made for the circulation of air around the components. Chemtop2 chemical resistant laminates move about twice as much across the grain as it does in the length direction (sanding direction). Whenever possible minimize the dimension of the cross-grain direction. Note: Stress cracking can result when high-moisture material is glued and subsequently exposed to low humidity conditions. Excessively dry material may expand and cause bubbling if improperly glued.

Cutting

Chemtop2 laminates have a special chemical resistant surface. We recommend the use of sharp, carbide tipped cutting blades with low or negative hook profiles. Low feed speeds and high tool speeds are also suggested. A featherboard should be clamped to the saw fence to stabilize the stock and prevent chatter, producing safer, cleaner cuts.

Substrates

The recommended cores for Chemtop2 are 45# density, industrial grade particleboard (CS 236-66; Type 1, Grade B, Class 2), Medium Density Fiberboard (MDF), or cabinet grade plywood. The substrates should be sanded smooth, clean, free of oil or grease, and uniform in thickness. Do not use drywall (gypsum), plaster, concrete, solid lumber, or underlayment.

Adhesives

The strength of the bond between Chemtop2 and the substrate determines the amount of stress that may be transmitted to the substrate. Contact adhesives are not recommended adhesives because of their elastomeric nature. PVAc (white glue), urea and resorcinol adhesives distribute much more of the stress to the substrate, making these assemblies more crack resistant. Follow the adhesive manufacturer's recommendations.

Assembly

Material, equipment and workmanship should conform to the industry standard practices, conditions, procedures and recommendations as specified by ANSI/NEMA LD3-1995, Section 4, Architectural Woodwork Quality Standards, DLPA (Decorative Laminate Products Association) and ANSI 161.2-1979 standards. Chemtop2 has a special chemical resistant surface. We recommend the use of sharp, carbide tipped cutting blades with low or negative hook profiles. Low feed speeds and high tool speeds are also suggested. A board should be clamped to the saw fence to hold the product down and prevent flutter/vibration while cutting. Panel assemblies should be laminated with a suitable balancing sheet to minimize warpage. Always align sanding marks in the same direction. All inside corners of cutouts must be radiused as large as possible (1/8" (3.18mm) minimum) to avoid stress cracking. The edges and corners should be filed smooth and free of chips or nicks.

Postforming

Chemtop2 chemical resistant laminates can be formed similarly to conventional HPL, but at a lower temperature. Ideal postforming temperature is 250°F (121°C). Tempilaq® (gray colored) can be used to determine the proper temperature. Chemtop2 chemical resistant laminates can be postformed to a minimum 1/2" (12.7mm) outside radius and 3/16" (4.8mm) inside cove radius. Slight color change in the cove is normal, and does not indicate a product defect. COVES SHOULD BE FORMED AT 300°-325°F (149°-163°C).

How To Specify

Surface shall be Chemtop2 chemical resistant laminates from Formica Corporation, Cincinnati, Ohio.

COLOR NUMBER _____

COLOR NAME _____

GRADE _____ CT _____

FINISH _____

Chemtop2 chemical resistant laminates meet the minimum performance standards of the International Organization of Standardization, ISO 4586-2, and of the National Electrical Manufacturers Association, ANSI/NEMA LD3-1995.

Use and Care

Chemtop2 chemical resistant laminates surfaces may be cleaned with a damp cloth and mild detergent. Use of abrasive cleaners, powders, scouring pads, steel wool, sandpaper, etc., will damage the finish and can permanently reduce the stain and chemical resistance of the laminate. Good laboratory practice dictates that all chemical spills should be wiped up promptly. Stubborn stains may be removed by use of organic solvent or hypochlorite bleach, followed by wiping with a soft, damp cloth. If in doubt about the suitability of a particular cleaner or detergent, check with its manufacturer.

Performance compliance of Chemtop2 by Formica
Chemical Resistance Laminates

ANSI/NEMA Standards Publication - INDOOR BROCHURE

Physical Properties	LD3 Test	Chemtop2 (12)	NEMA Standard
Appearance	3.1	No ABC Defects	No ABC Defects
Cleanability/Stain Resistance	3.4		
Reagents 1 - 10		No Effect	Slight Effect
Reagents 11 - 15		Slight Effect	Slight Effect
Boiling Water Resistance	3.5	Slight Effect	Slight Effect
High Temperature Resistance	3.6	Slight Effect	Slight Effect
Linear Glass Scratch	3.7	50-100 Moderate	50-100 Moderate
Ball Impact Resistance (in.)	3.8	30" (588 mm)	30" (508 mm)
Dart Impact Resistance (in.)	3.9	11.8" (300 mm)	11.8" (300 mm)
Radiant Heat Resistance (sec.)	3.10	55	100 (minimum)
Dimensional Change Machine Direction	3.11	1.0%	.1% (maximum)
Cross Direction)		1.2%	1.4% (maximum)
Wear Resistance (cycles)	3.13	400	400 (minimum)
Forming @ 288°F, 275-350°F	3.14	5/8" (16 mm)	5/8" (16 mm) minimum
Blister Resistance (sec.)	3.15	62	55 (minimum)

CODES AND SPECIFICATIONS

Formica® Laboratory Grade Laminate

U.S. Federal Specification, LP508-H, Style D, Type II, Class I
International Organization of Standardization ISO 4586-2

Technical Services at (513) 786-3048 or 1-800-FORMICA.™

Product Specifications

Thickness

GRADE A3 - POSTFORMING

.038" ± .005" (0.97mm ± 0.13mm),

Compact*: 1/2" (S6), 3/4" (S7), 1" (R3)

± .005" (12.7mm, 19.0mm, 25.4mm ± .13mm)

*All 1/2" Compact Structural Laminate will be factory ordered.

Sizes

30," 36," 48," 60" x 96," 120," 144"

(76.2cm, 91.4cm, 121.9cm, 152.4cm x 243.8cm,
304.8cm, 365.8cm)

Colors and Patterns

Chemtop2 chemical resistant laminates are available in 16 distinct colors and patterns.

Colors Matching

Chemtop2 chemical resistant laminates incorporate a special integrated coating which gives the product its chemical resistant properties and a slightly different hue from its corresponding standard high-pressure laminate (HPL) item. This color difference does not constitute a defect. Review actual Chemtop2 chemical resistant laminate sample before specifying. Side-by-side matches between Chemtop2 and standard HPL are not recommended, WHILE HORIZONTAL/ VERTICAL MATCHES ARE ACCEPTABLE. Samples are available from Formica Corporation specification representatives or directly from Formica Corporation. Call 1-800-FORMICA™ or visit www.formica.com.

Chemical and Stain Resistance

The chemicals and reagents listed were placed in contact with the surface of the Chemtop2 laminate in a covered method (watch glass cover) for a period of 16 hours prior to visual examination and evaluation. The reagents listed below did not damage the surface of the Chemtop2 laminate. Those reagents marked with an asterisk(*) may cause a slight change in gloss or color, depending upon the duration or exposure. As with all fine cabinetry surfaces, Formica Corporation recommends prompt cleanup of all spills, using a damp cloth and mild detergent. If in doubt about the suitability of a particular chemical not listed below, contact Formica Sales Technical Services at (513) 786-3048 or 1-800-FORMICA.™

Science Laboratories

Acids

Acetic Acid 98%	Hydrochloric Acid, 37%
Carbolic Acid (phenol), 85%	Nitric Acid, 20%
Chromic Acid, 60%	Nitric Acid, 70%*
Citric Acid, 10%	Perchloric Acid, 60%
Dichromate Cleaning Solution*	Phosphoric Acid, 85%
Formic Acid, 90%*	Sulfuric Acid, 77%
Glacial Acetic Acidion	Sulfuric Acid, 96%*

Alkalis

Ammonium Hydroxide, 28%	Sodium Hydroxide, 40%
Potassium Hydroxide, 15%	Sodium Sulfide, 15%
Sodium Carbonate, saturated	

Dental Supplies

Acrylic Bonding Cement	Enthat Phosphoric Acid Etch, 37%
Amalgam	EugenolFluoride Rinse
Disclosing Tablets	Germicidal Disposable Cloth

Photo Lab Supplies

D-76 Developer	Hypo Clearing Agent
General Purpose Fixer	Indicator Stop Bath
Rapid Fixer with Hardener	Rapid E-6 for color slides
C-41 Processing (developer A, developer B, developer C, BLIX A, BLIX B, BLIX C, stabilizer)	(1st developer, color developer A, color developer B, BLIX A, BLIX B, BLIX C)

Solvents

Acetone	Methyl Ethyl Ketone
Amyl Acetate	Methylene Chloride
Benzene	Mineral Spirits
Carbon Tetrachloride	Naphtha
Cresol	Phenol 85%, (Carbolic Acid)
Denatured Alcohol	Tetrahydrofuran
Dioxane	Trichloroethylene
Ethyl Acetate	Toluene
Furfural	Xylene

General Reagents

Cellosolve	Pine Oil
Detergent	Sodium Hypochlorite, 5% (Clorox®)
Gasoline	Trisodium Phosphate, 30%
Kerosene	Urea, 6.6%
Lysol® brand disinfectant	Vegetable Oil
Nail Polish Remover	

Other Reagents

Calcium Hypochlorite	Potassium Permanganate, 2%*
Copper Sulfate, 10%	Sodium Bisulfite
Ferric Chloride, 10%	Sodium Chloride
Phenolphthalein, 1%	Zinc Chloride

Hospital and Health Care

Amyl Alcohol	Iodine Tincture, USP, 2%
Aniline Blue, 2.5%	Isopropyl Alcohol
Bromocresol Green Solution	Mercurochrome®
Chloroform	Methyl Alcohol
Coal Tar Solution, 20%	Methylene Blue
Detachol Adhesive Remover	Mineral Oil
Eosin Solution	Petroleum Jelly
Ethyl Alcohol	Povidine Iodine
Ethyl Ether	PVP Iodine Swab
Eucalyptol Ferric Subsulfate Purified, 13-14%	Silver Nitrate, 10%*
Formaldehyde, 37%	Steri-strip, 1544 Benzoin Tincture
Gentian Violet, 1% solution	Thimerosal
Giemsa Bloodstain	Tincture Benzoin Compound
Glycerinum Iodi Composilum	Tincture Merthiolate
Hematoxylin	Wrights Blood Stain*
Hydrogen Peroxide, 3%	Zephiran Chloride, 17%
Hydrogen Peroxide, 20%	Zinc Oxide

Mortician Supplies

Formalin 65%	Inr-Tone Dye #3
Cavres Cavity Trioxin	Jaundice Spec. Arterial Fluid
Coloro Dye #1	NuLeco Chemical Cauterant & Preservative
Dri-Cav Cavity Fluid	Plasdo-25 Arterial Fluid
Glo-Tone Arterial Fluid	PLX Arterial Fluid
Hexaphene MA 37 Autopsy Gel	

Harsh Household Products

Bluing: Mrs. Stewart's® concentrated liquid bluing™	Liquid Drain Openers: Liquid Plumber®, Drano®
Ceramic Cooktop Cleaners: Cook Top cleaning creme for smooth top ranges	Metal Cleaners: Cameo® copper cleaner, Tarn-X®
Chlorine Bleaches: Clorox regular, Mr. Clean® with bleach, Comet® cleaner with bleach	Mildew Removers: Tilex® instant mildew remover, Johnson Wax® Vanish Mildew Plus stain remover with bleach + cleaner
Coffeepot Cleaners: Mr. Coffee® cleaner	Oven Cleaners: Easy-Off® heavy-duty oven cleaner, Rust Removers: Duro Naval® Jelly rust dissolver
Countertop Cleaners: Lysol antibacterial kitchen cleaner	Toilet Bowl Cleaners: Lysol® toilet bowl cleaner, SNOBOL® liquid disinfectant toilet bowl cleaner, Sani-Flush® chlorine thick liquid bowl cleaner, The Works® liquid toilet bowl cleaner
Crystal Drain Openers: Lewis Red® Devil Lye® drain opener	
Hair Colorings: Miss Clairol® creme formula - black velvet, Clairol Pure White® creme developer	
Lime Removers: Lime-A-Way® extra, Comet® non-abrasive lime scale remover, CLR®	

ANSI/NEMA Reagents

Acetone	#2 Pencil
Betadine®	Purple Supermarket Stamp Pad Ink
Catsup	Shoe Polish
Citric Acid, 10%	Tea Bag
Distilled Water	Vegetable Oil
Ethanol, 50%	Wax Crayon
Fresh Coffee	Yellow Mustard
Household Ammonia	

LIMITED WARRANTY

FORMICA CORPORATION EXPRESSLY WARRANTS THAT, FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FIRST SALE, CHEMTOPI2 BY FORMICA CHEMICAL RESISTANT LAMINATES WILL BE REASONABLY FREE OF DEFECTS IN MATERIALS AND WORKMANSHIP AND THAT WHEN PROPERLY HANDLED AND FABRICATED WILL CONFORM, WITHIN ACCEPTED TOLERANCES, TO APPLICABLE MANUFACTURING SPECIFICATIONS. THIS LIMITED WARRANTY ONLY APPLIES TO CHEMTOPI2 CHEMICAL RESISTANT LAMINATES WHICH IS STORED, HANDLED, FABRICATED AND INSTALLED IN THE MANNER RECOMMENDED BY FORMICA CORPORATION. DUE TO THE VARIETY OF USES AND APPLICATIONS TO WHICH CHEMTOPI2 PRODUCTS MAY BE PUT, FORMICA CORPORATION CAN MAKE NO WARRANTY THAT THIS PRODUCT IS SUITABLE FOR ANY PARTICULAR PURPOSE AND CAN MAKE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, OTHER THAN THOSE SET FORTH ABOVE. BUYER'S EXCLUSIVE REMEDY FOR ANY LOSS OR CLAIM RESULTING FROM THE USE OR INABILITY TO USE THIS PRODUCT SHALL BE REPLACEMENT OF THE DEFECTIVE CHEMTOPI2 LAMINATES, OR AT THE OPTION OF FORMICA CORPORATION, RETURN OF THE PRODUCT AND REFUND OF THE PURCHASE

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U.S. Green Building Council
Formica Corporation is a member of the U.S. Green Building Council.



Greenguard Environmental Institute
Formica® high-pressure laminate (HPL) is GreenGuard Indoor Air Quality Certified under the GreenGuard Standard for Low-Emitting Products.

