

# CHEMTOP2™ CHEMICAL RESISTANT LAMINATE BY FORMICA GROUP

## TECHNICAL DATA



### RECOMMENDED APPLICATION

Chemtop2™ by Formica Group laminate sheet 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 sinks, counters, 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 laminate sheets 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 laminate sheets 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 sheets 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 laminate sheets 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 sheets and standard high pressure laminate (HPL) sheets are not recommended, while horizontal/vertical matches are acceptable. It is highly recommended that Chemtop2 laminates sheets be used for entire project as standard HPL sheets will not provide chemical resistance performance.

### STORAGE

Chemtop2 chemical resistant laminate sheets 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 laminate sheets be stored at a temperature not less than 60°F (16°C) and a relative humidity not less than 40%.

### PRECONDITIONING

Chemtop2 chemical resistant laminate sheets and substrates gain moisture and expand under high relative humidity conditions, and lose moisture and shrink under low relative humidity conditions. Prior to fabrication, allow the Chemtop2 chemical resistant laminate sheets and the substrates 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 laminate sheet 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 laminate sheets 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 board), plaster, concrete, solid lumber, or underlayment.

### ADHESIVES

The strength of the bond between Chemtop2 laminate sheet 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.

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## TECHNICAL DATA CONTINUED



### 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 laminate sheet 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 laminate sheets 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 laminate sheets 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 laminate sheets from Formica Corporation, Cincinnati, Ohio.

### COLOR NUMBER

### COLOR NAME

### GRADE CT

### FINISH

Chemtop2 chemical resistant laminate sheets 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 laminate 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.

### TECHNICAL DATA

Performance compliance of Chemtop2 by Formica Group  
Chemical Resistance Laminates:

### ANSI/NEMA STANDARDS PUBLICATION – INDOOR BROCHURE

| PHYSICAL PROPERTIES            | LD3 TEST    | CHEMTOPT2 (12)  | NEMA STANDARD        |
|--------------------------------|-------------|-----------------|----------------------|
| Appearance                     | <b>3.1</b>  | No ABC Defects  | No ABC Defects       |
| Cleanability/Stain Resistance  | <b>3.4</b>  |                 |                      |
| Reagents 1 – 10                |             | No Effect       | Slight Effect        |
| Reagents 11 – 15               |             | Slight Effect   | Slight Effect        |
| Boiling Water Resistance       | <b>3.5</b>  | Slight Effect   | Slight Effect        |
| High Temperature Resistance    | <b>3.6</b>  | Slight Effect   | Slight Effect        |
| Linear Glass Scratch           | <b>3.7</b>  | 50–100 Moderate | 50–100 Moderate      |
| Ball Impact Resistance (in.)   | <b>3.8</b>  | 30" (588 mm)    | 30" (508 mm)         |
| Dart Impact Resistance (in.)   | <b>3.9</b>  | 11.8" (300 mm)  | 11.8" (300 mm)       |
| Radiant Heat Resistance (sec.) | <b>3.10</b> | 55              | 100 (minimum)        |
| Dimensional Change             | <b>3.11</b> |                 |                      |
| Machine Direction              |             | 1.0%            | 1% (maximum)         |
| Cross Direction                |             | 1.2%            | 1.4% (maximum)       |
| Wear Resistance (cycles)       | <b>3.13</b> | 400             | 400 (minimum)        |
| Forming @ 250°F, 225-275°F     | <b>3.14</b> | 1/2" (12.7 mm)  | 5/8" (16 mm) minimum |
| Blister Resistance (sec.)      | <b>3.15</b> | 62              | 55 (minimum)         |

### CODES AND SPECIFICATIONS

Formica® Laboratory Grade Laminate U.S. Federal Specification, LP508-H, Style D, Type II, Class 1 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 laminate sheets are available in 16 distinct colors and patterns.

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## TECHNICAL DATA CONTINUED



### Color Matching

Chemtop2 chemical resistant laminate sheets 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 laminate sheet and standard HPL sheet 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](http://www.formica.com).

### Chemical and Stain Resistance

The chemicals and reagents listed were placed in contact with the surface of the Chemtop2 laminate sheet 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 sheet. Those reagents marked with an asterisk(\*) may cause a slight change in gloss or color, depending upon the duration or exposure. Those reagents marked with a double asterisk (\*\*) may cause slight damage, 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                | Eugenol Fluoride 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 Compositum                    | 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 |  |

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## TECHNICAL DATA CONTINUED



### Harsh Household Products

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

### ANSI/NEMA Reagents

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

### LIMITED WARRANTY

FORMICA CORPORATION EXPRESSLY WARRANTS THAT, FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FIRST SALE, CHEMTOP2™ 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 CHEMTOP2 CHEMICAL RESISTANT LAMINATES WHICH ARE STORED, HANDLED, FABRICATED AND INSTALLED IN THE MANNER RECOMMENDED BY FORMICA CORPORATION. DUE TO THE VARIETY OF USES AND APPLICATIONS TO WHICH CHEMTOP2 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 CHEMTOP2 LAMINATES, OR AT THE OPTION OF FORMICA CORPORATION, RETURN OF THE PRODUCT AND REFUND OF THE PURCHASE PRICE. IN NO EVENT SHALL FORMICA CORPORATION BE LIABLE IN EITHER TORT OR CONTRACT FOR ANY LOSS OR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR EXEMPLARY DAMAGES. THIS LIMITED WARRANTY GIVES THE PURCHASER OF CHEMTOP2 SPECIFIC LEGAL RIGHTS. OTHER RIGHTS MAY BE AVAILABLE WHICH VARY FROM STATE TO STATE. ANY INFORMATION OR SUGGESTION CONCERNING APPLICATIONS, SPECIFICATIONS OR COMPLIANCES WITH CODES AND STANDARDS IS PROVIDED SOLELY FOR YOUR CONVENIENT REFERENCE AND WITHOUT ANY REPRESENTATION AS TO ACCURACY OR SUITABILITY. FORMICA CORPORATION DISCLAIMS ANY LEGAL RESPONSIBILITY. THE USER MUST VERIFY AND TEST THE SUITABILITY OF ANY INFORMATION OR PRODUCTS FOR THE SPECIFIC APPLICATION.

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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.

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