

FORMICA® LAMINATE BY FORMICA GROUP



TECHNICAL DATA

GENERAL PURPOSE GRADE 10 AND POST-FORMING GRADES 12 & 20

PRODUCT DESCRIPTION

Melamine-impregnated decorative surface papers are combined with phenolic-treated kraft paper and consolidated in a press at high pressures. The sheet back is sanded to maintain a uniform thickness and facilitate bonding.

COLORS AND FINISH

Formica® Brand Laminate sheets (horizontal general purpose grade 10/HGS) are available in a broad selection of designs and colors. Standard finishes for each pattern are detailed in the Formica Corporation - National Product Guide. Not all finishes are available in all Solid Colors / Patterns / Wood-grains. All Grade 10 material is Make-to-Order, with the exception of Formica Architectural Doors

Formica® Brand Laminate sheets (horizontal post-forming grade 12/HGP and vertical post-forming grade 20/VGP) are available in a broad selection of designs and colors. Standard finishes for each pattern are detailed in the Formica Corporation - National Product Guide. Not all finishes are available in all Solid Colors / Patterns / Woodgrains.

RECOMMENDED APPLICATION

GRADE 10/HGS

Formica® Brand Laminate – general purpose grade 10/HGS is intended for application to interior horizontal or vertical surfaces where design, appearance, quality, durability, resistance to stain, and resistance to heat from ordinary sources are important considerations.

GRADE 12 /HGP

Formica® Brand Laminate – post-forming laminate grade 12/HGP is intended for application to interior horizontal or vertical surfaces requiring $\frac{5}{8}$ " (15.9 mm) or greater outside radiused edges, and/or $\frac{3}{16}$ " (4.8mm) cove radii, where design, appearance, quality, durability, resistance to stain, and resistance to heat from ordinary sources are important considerations.

GRADE 20/ VGP

Formica® Brand Laminate – post-forming grade 20/VGP is intended for application to interior vertical surfaces requiring

$\frac{1}{2}$ " (12.7 mm) or greater outside radiused edges, where design, appearance, quality, durability, resistance to stain, and resistance to heat from ordinary sources are important considerations.

FABRICATION AND ASSEMBLY

LIMITATIONS

Formica® Brand Laminate is designed for interior use only. Do not adhere directly to plaster, drywall (gypsum board), or concrete. Do not use in areas exposed to temperatures exceeding 275°F (135°C) or for exterior applications. When using Grade 20, finished panel widths should not exceed 24" (610mm) maximum, unless the adhesive system is a rigid set adhesive like PVA (wood glue). We do not recommend contact adhesive for Grade 20 panels wider than 24" (610mm). When using Grade 20-90 gloss finish on a panel application, there will be a degree of telegraphing on the surface. Formica Corporation recommends using Grade 10-90 or 12-90 gloss for these applications.

MACHINING LOW SHEEN L AMINATE SHEETS

Formica® Brand Laminate with low sheen surfaces are subject to marring. Fabricating with peel coat on surface (if applicable) is recommended. Router base should be clean and free of burrs and debris. Table saws should be clean, flat, and free of burrs.

STORAGE

Formica® Brand Laminate should be stored horizontally, with a caul board or other protective sheet placed on top to protect the material from possible damage. The material should be protected from moisture, and should never be stored in contact with the floor or an outside wall. Optimum conditions for storage are approximately 75°F (24°C), and 45% to 55% relative humidity.

PRECONDITIONING

Prior to fabrication, allow laminate sheet and 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 materials.

SUBSTRATES

Formica® Brand Laminate sheet should be bonded to an appropriate substrate such as Medium Density Fiberboard (MDF), or #45 density particleboard (ANSI A208.1 - 1999). A marginal substrate such as plywood may be used; however it must meet APA standards and be "A" faced, hardwood veneer or multi-ply core plywood. If you choose to use plywood Formica Corporation recommends F200, F270 or PVAc adhesives to bond HPL. Refer to the Substrate Tech Guide. Substrates should be sanded smooth, and should be clean, free of oil or grease, and uniform in thickness.

Formica® Brand Laminate sheet (grade 10/HGS) can be bonded to metal substrates using contact adhesive (see recommendations below, under Adhesives). Refer to Formica® Laminate Brief - Veneered to Metal Substrates for General Information, Materials, Conditions and Methods. Formica Corporation does not warranty this particular application.

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ADHESIVES

Contact, semi-rigid (PVAc), or rigid (urea, resorcinol) adhesives may be used. Follow the adhesive manufacturer's recommendations. Certain combinations of finish, substrate, and adhesive can cause telegraphing.

When bonding Formica® Brand Laminate sheet (grade 10/ HGS) to metal substrates using contact adhesive, use Formica® Brand flammable solvent-based #155 or non-flammable solvent-based #120M contact adhesives. Do not use water-based or SBR types of contact adhesive when bonding laminate sheets to metal substrates.

ASSEMBLY

Material, equipment, and workmanship should conform to the Formica Corporation recommended standard practices, conditions, procedures, and recommendations as specified by ANSI/ NEMA LD3-2005, Architectural Woodwork Quality Standards and ANSI 161.2-1998 Standards.

Formica® Brand Laminate sheets (grade 10, 12, and 20) can be sawed, drilled, routed, and fabricated using standard carbide tipped cutting tools.

Holes for screws or bolts should be drilled oversized.

Panel assemblies should be laminated with the appropriate backing sheet to minimize warpage. Formica® Brand backing sheets (grade 91/BKV or 92/BKH) are recommended for less critical applications. Optimum balancing is obtained by bonding the same surface laminate on both sides of the assembly with the same adhesive. 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 routed, sanded, or filed smooth and free of chips or nicks. Panels fabricated using metal substrates, which are more dimensionally stable than wood-based materials, should be installed in a framing system, which captures the perimeter of the panel yet allows for the normal dimensional movement of the laminate. This is to protect the panel edge and prevent edge lifting or separation from the substrate, which can occur under dry conditions.

TECHNICAL DATA

Performance compliance of Formica® Brand Laminate General purpose grade 10 and Post-forming grades 12 and 20

ANSI / NEMA STANDARDS PUBLICATION – LD3-2005

PHYSICAL PROPERTIES	LD3 TEST	10/HGS
Appearance	3.1	No ABC Defects
Light Resistance	3.3	Slight
Cleanability	3.4	20 (max.)
Stain Resistance Reagents 1 - 10 Reagents 11 - 15	3.4	No Effect Moderate
Boiling Water Resistance	3.5	No Effect
High Temperature Resistance	3.6	Slight
Ball Impact Resistance - in - mm	3.8	50 (min.) 1270 (min.)
Radiant Heat Resistance - sec	3.10	125 (min.)
Dimensional Change Machine Direction - % Cross Direction - %	3.11	0.50 (max.) 0.90 (max.)
Wear Resistance - cycles	3.13	400 (min.)

PHYSICAL PROPERTIES	LD3 TEST	12/HGP	20/VGP
Appearance	3.1	No ABC Defects	No ABC Defects
Light Resistance	3.3	Slight	Slight
Cleanability	3.4	20 (max.)	20 (max.)
Stain Resistance Reagents 1 - 10 Reagents 11 - 15	3.4	No Effect Moderate	No Effect Moderate
Boiling Water Resistance	3.5	Slight	Slight
High Temperature Resistance	3.6	Slight	Slight
Ball Impact Resistance - in - mm	3.8	30 (min.) 762 (min.)	20 (min.) 508 (min.)
Radiant Heat Resistance - sec	3.10	100 (min.)	80 (min.)
Dimensional Change Machine Direction - % Cross Direction - %	3.11	1.1 (max.) 1.4 (max.)	1.1 (max.) 1.4 (max.)
Wear Resistance - cycles	3.13	400 (min.)	400 (min.)
Formability - in - mm	3.14	5/8 16	1/2 12
Blister Resistance - sec	3.15	55	40

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FIRE TEST DATA – ASTM E- 84

Formica Corporation conducts and maintains an active fire testing program to provide code regulators, architects, and designers with current information on a variety of panel assemblies. Fire test data using Formica® Brand Laminate sheets (grades 10/HGS, 12HGP, and 20/VGP) is available upon request. Contact Formica® Corporation Technical Services at 1-800-FORMICA™ (option 3) or 513-786- 3578 for assistance.

CODES AND SPECIFICATIONS

FORMICA® BRAND LAMINATE

(GENERAL PURPOSE — GRADE 10/HGS/HORIZONTAL APPLICATION)

FMVSS 302
NSF Standard 35
ASTM-G22 Approved
Greenguard Certification

FORMICA® BRAND LAMINATE

(POST-FORMING — GRADE 12/HGP/HORIZONTAL APPLICATION)

U.S. Federal Specification, LP-508-H, Style D, Type II, Class FMVSS 302
NSF Standard 35
Greenguard Certification

FORMICA® BRAND LAMINATE

(POST-FORMING — GRADE 20/ VGP / VERTICAL APPLICATION)

U.S. Federal Specification, LP-508-H, Style D, Type II, Class 2 CFR Part 3280 Manufacturing Home Construction and Safety Standards FMVSS 302
NSF Standard 35
Greenguard Certification

SIZES

Sheet widths: 30" (762mm), 36" (914mm), 48" (1219mm), 60" (1524mm)

Sheet lengths: 96" (2438mm), 120" (3048mm), 144" (3658mm)

*Check National Product Guide for specific size options for a décor.

THICKNESS

	TYPICAL THICKNESS	NEMA THICKNESS RANGE
Grade 10 (HGS)	.044" (1.1mm)	.043" - .053" (1.08mm - 1.32mm)
Grade 12 (HGP)	.035" (0.9mm)	.034" - .044" (0.88mm - 1.12mm)
Grade 20 (VGP)	.027" (0.7mm)	.024" - .032" (0.6mm - 0.8mm)

WEIGHT PER SQUARE FOOT

Grade 10/HGS: 0.324 pounds
Grade 12/HGP: 0.252 pounds
Grade 20/VGP: 0.180 pounds

TO ORDER FORMICA® BRAND LAMINATE SAMPLES, PLEASE CALL:

U.S.: 1-800-FORMICA™ (select option 1)

Canada: 1-800-363-1405.

HOW TO SPECIFY

Surface (and appropriate backing sheet) shall be Formica® Brand Laminate by Formica Group, Cincinnati, Ohio.

COLOR NUMBER

COLOR NAME

GRADE

FINISH

SIZE

USE AND CARE GUIDELINES

Formica® Laminate surfacing are designed for beauty and durability. Like any surfacing materials they can be damaged by abuse and carelessness. When used as recommended with proper use and care, the end result is years of satisfaction.

PROTECTING THE SURFACE

Before selecting the surface material, consider the type of use it will receive, as well as its texture, color, and reflective values. A rough-textured surface has different advantages, depending upon use, than a smooth-textured surface. Dark colors tend to enhance scratches, marring and fingerprints.

SCRATCH AND IMPACT PROTECTION

Formica® Laminate surfacing materials are resistant to scratches and impacts under normal use conditions.

USE CUTTING BOARDS, CHOPPING BLOCKS, OR OTHER PROTECTIVE SURFACES.

- Do not chop, slice, pound, or hammer on any laminate surface.
- Knives or other sharp utensils may slice or scratch the surface.
- Heavy blows from a hammer or meat tenderizer may crack or gouge the surface.

USE PLACE MATS, DOILIES, AND TRIVETS ON LAMINATE SURFACES WHEN NECESSARY.

- Ceramics and abrasive objects can cause scratching and premature wear – do not slide these items across surface.

FOLLOW RECOMMENDATIONS FOR CLEANING – DO NOT USE ABRASIVE CLEANERS, STEEL WOOL, SANDPAPER, OR SCOTCH-BRITE® SCOURING PADS.

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HOT OBJECTS

Cookware still hot from the stove, oven or microwave, as well as electric skillets, waffle irons, curling irons and hot rollers, should not be placed directly on laminate surfaces. Prolonged exposure to temperatures of 140°F (60°C) or higher may cause the laminate to separate from the core material. Use a trivet, insulated hot pad or other protective device beneath all hot cookware, heat generating appliances, or other heated objects.

- Formica® Laminate surfacing material can withstand heat up to 275°F (135°C) for short periods of time.

AVOID IRONING OR PLACING A HOT IRON ON LAMINATE SURFACES. DO NOT PLACE LIGHTED CIGARETTES DIRECTLY ON LAMINATE SURFACES.

ORDINARY CLEANING

Formica® Laminate surfacing materials are very easy to clean.

- In most cases, you only need to use a clean, damp, non-abrasive cotton cloth and a mild liquid detergent or household cleaner.
- Rinse with clean water, using a clean, non-abrasive cotton cloth.
- Do not flood the laminate, especially near seams, since water can penetrate and cause the substrate to swell.
- Dry the surface with a soft, clean, non-abrasive cotton cloth.

For specific types of surfaces, use the following care guidelines.

DIMENSIONAL TEXTURED LAMINATES

These surfaces may require special attention to clean the depressed areas. Use a nylon-bristled hand or vegetable brush, along with a mild liquid detergent-and-water solution or household cleaner. Clean the soiled area, using a rotating motion. Rinse and dry the surface as indicated above.

HIGH GLOSS FINISH LAMINATES

If residual streaks and smears remain after normal cleaning, use a mild glass cleaner and then dry with a clean, non-abrasive cotton cloth. Avoid exterior glass cleaner.

ABRASIVES

Abrasive pads, scouring powders or cleaners may permanently dull and scratch the laminate surface making it susceptible to staining.

Ceramics, including unglazed materials and other abrasive objects, can cause scratching and premature wear – do not slide these items across surface.

CHEMICAL DAMAGE

Never use cleaners containing acid, or alkali. These cleaners will mar, etch, corrode, and permanently discolor the laminate surface. Also, make sure that bottles, rags, and other materials contaminated with these cleaners never contact the laminate surface. Accidental spills or splatters from these compounds should be wiped off immediately, and the area rinsed thoroughly with water.

EXAMPLES OF CLEANERS CONTAINING ACID, OR ALKALI INCLUDE, BUT ARE NOT LIMITED TO:

ceramic cooktop cleaners	oven cleaners
rust removers	coffeepot cleaners
drain cleaners	lime scale removers
toilet bowl cleaners	metal cleaners
tub and tile cleaners	

SPECIAL CLEANING RECOMMENDATIONS

RESIDUAL GLUE

Sometimes new decorative laminate has a streaky appearance caused by contact adhesive used during fabrication. Clean with a non-abrasive cotton cloth and an adhesive solvent such as Formica® Brand Non-flammable Contact Adhesive Solvent. Use solvent sparingly, as excessive amounts may delaminate edges. Read and follow all warnings and instructions on the labels of all solvent products.

PAINT AND VARNISH

Remove most oil-base paints, varnishes and lacquers from decorative laminate surfaces with a suitable solvent. Read and follow all warnings and instructions on the labels of all solvent products, and remember that most solvents are extremely flammable. Use solvent sparingly, as excessive amounts may delaminate edges. Remove most water-based paints with an ammoniated household cleaner. For stubborn paint spots, gently use a plastic, non-metallic, non-abrasive pad. Never use steel wool or other abrasive scouring pads.

STAINS

To remove or minimize stains, use full strength Fantastik® All Purpose Cleaner, Formula 409®, Pine-Sol® (original formulation) or other mild household cleaner on the affected area, and allow it to draw out the stain. Blot with a clean, damp, non-abrasive cotton cloth, and then rinse with clean water. When a recommended cleaner changes its formulation, the change may be harmful to the laminate surface. Formica Corporation cannot be held responsible for these changes. Solvents such as denatured alcohol can also be used. Follow all directions and warnings on the solvent label because many are extremely flammable.

STUBBORN OR “FUGITIVE” STAINS THAT MAY DISAPPEAR ON THEIR OWN, AFTER A SHORT TIME OR AFTER REPEATED CLEANINGS, INCLUDE:

coffee and tea stains	food stains
fingerprints	glass rings
food dyes	water marks

STAINS WHICH ARE STUBBORN OR EVEN PERMANENT, AND MAY NOT DISAPPEAR, INCLUDE:

cash register inks	lemon juice
food pricing ink	marking pen inks
indelible inks	newsprint
label inks	wood stains

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SOME MATERIALS AND LIQUIDS, SUCH AS DYES AND PHARMACEUTICAL PRODUCTS, WILL PERMANENTLY STAIN LAMINATE. EXAMPLES INCLUDE:

dermatological	povidone-iodine
hair dyes and rinses	Red-2B dye
laundry bluing	silver nitrate
Mercurochrome®	tannic acid
tar compounds	

These stains may be reduced by applying a paste of baking soda and water on the area to pull out the stain. Periodic application of a self-cleaning wax can help minimize future staining.

DISINFECTING RECOMMENDATIONS

The following branded cleaners and disinfectants are approved for Formica® Laminate when used according to recommended guidelines. The products are grouped by active ingredient type. All products on these lists meet the EPA's criteria for use against SARS-CoV-2, the virus that causes COVID-19. To avoid surface damage or discoloration, wipe the surface clean to avoid leaving disinfecting liquid open on the surface. It is also recommended to follow disinfecting with a warm water wash using a soft cloth and then dry the surface. Always follow the manufacturers' guidelines and safety precautions for these products.

For EPA updates on the current List N and Frequently Asked Questions about disinfectants related to coronavirus visit:

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

QUATERNARY AMMONIUM

- Clorox® Disinfecting Wipes
- Clorox Healthcare® VersaSure® Wipes
- Lysol® Brand All Purpose Cleaner
- Lysol® Kitchen Pro Antibacterial Cleaner
- Virex™ II
- Fantastik® Multi-Surface Disinfectant Degreaser
- Maquats®

QUATERNARY AMMONIUM: ISOPROPANOL

- Super Sani-Cloth® Germicidal Disposable Wipe
- Cavicide™ Wipes
- Sani-Prime® Germicidal Spray
- Opti-Cide3® Wipes

ISOPROPANOL, IPA, RUBBING ALCOHOL

SODIUM HYPOCHLORITE (BLEACH)

- Clorox Healthcare® Bleach Germicidal Wipes
- Clorox® Brand Regular Bleach
- Sani-Cloth® Bleach Germicidal Wipe
- Caviwipes™ Bleach
- Dispatch®
- Lysol® Brand Bleach Mold/Mildew Remover
- All related brands containing bleach

HYDROGEN PEROXIDE

- Clorox® Commercial Solutions® Hydrogen Peroxide Disinfectant and wipes
- Oxivir™ Tb and wipes
- Accel® TB and wipes
- Peroxide Multi Surface Cleaner and Disinfectant
- Suretouch®
- Oxy-Team™ Disinfectant Cleaner

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LIMITED WARRANTY

Formica Corporation expressly warrants that, for a period of one (1) year from the date of first sale, these products will be reasonably free of defects in materials and workmanship, and that when properly handled and fabricated, will conform, within accepted tolerance, to applicable manufacturing specifications. Colors subject to dye lot variations. This limited warranty only applies to Formica® Brand Laminate which is stored, handled, fabricated and installed in the manner recommended by Formica Corporation. Due to the variety of uses and applications to which Formica® Brand Laminate may be put, FORMICA CORPORATION CAN MAKE NO WARRANTY THAT THIS PRODUCT IS SUITABLE FOR ANY PARTICULAR PURPOSE AND CAN MAKE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE SET FORTH ABOVE.

DISCLAIMER OF WARRANTIES

THE WARRANTIES SET FORTH HEREIN OR IN FORMICA CORPORATION'S WARRANTY DOCUMENTS WITH RESPECT TO A PRODUCT ARE THE ONLY WARRANTIES MADE BY FORMICA CORPORATION IN CONNECTION WITH THESE PRODUCTS, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PRODUCTS SOLD BY FORMICA CORPORATION ARE SOLD ONLY TO THE SPECIFICATIONS SPECIFICALLY SET FORTH BY FORMICA CORPORATION IN WRITING. FORMICA CORPORATION'S SOLE OBLIGATION FOR A REMEDY TO BUYER SHALL BE REPAIR OR REPLACEMENT OF NON-CONFORMING PRODUCTS, OR AT THE OPTION OF FORMICA CORPORATION, RETURN OF THE PRODUCT AND REFUND OF THE PURCHASE PRICE. BUYER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCTS PURCHASED, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES.

LIMITATION OF LIABILITY

No claim by buyer of any kind, including claims for indemnification, whether as to quality or amount of products delivered or for non-delivery of products, shall be greater in amount than the purchase price of the products in respect of which damages are claimed. IN NO EVENT SHALL FORMICA CORPORATION BE LIABLE TO BUYER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, RELIANCE, EXEMPLARY, OR CONSEQUENTIAL DAMAGES OR COVER, OR LOSS OF PROFIT, REVENUE OR USE, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, SERVICING, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF BUYER TO ANY THIRD PARTY WITH RESPECT THERETO. BUYER SHALL INSPECT FOR NONCONFORMITY PROMPTLY UPON RECEIPT. Failure by buyer to give Formica Corporation written notice of claim within 30 days from date of delivery or, in the case of non-delivery from the date fixed for delivery, shall constitute a waiver by buyer of all claims in respect of such products.

This limited warranty gives purchaser of Formica® Brand Laminate specific legal rights. Other rights may be available and vary from state to state.

Any information or suggestion concerning application, 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 their own particular purpose of specific application.

MANUFACTURER

Formica® Brand Laminate sheets are manufactured by Formica Corporation.

TECHNICAL SERVICES

Technical assistance may be obtained through your local Formica® Brand Products Distributor or from Formica Corporation trained representatives in sales offices throughout the country. To assist these representatives, Formica Corporation maintains a sales and technical services staff in Cincinnati, Ohio. For technical assistance, contact your distributor or sales representative; write the company directly at Formica Corporation Technical Services Department, 10155 Reading Road, Cincinnati, OH, 45241; call (513) 786-3578 or 1-800-FORMICA™; or fax (513) 786-3195. In Canada, call 1-800-363-1405. In Mexico, call (525) 530-3135.

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For warranty information, please visit www.formica.com or call 1-800-FORMICA™.

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