



Formica®

Brand Laminate



High Pressure Laminate

Q What is High Pressure Laminate (HPL)?

A High Pressure Laminate is a thermoset paper/plastic composite, where decorative papers impregnated with melamine are consolidated over phenolic-impregnated kraft papers at high temperature and pressure to form a homogenous laminate.

Q What is the difference between horizontal, vertical, and postforming grades of HPL?

A Horizontal grade 10/HGS is thicker, .048" (1.2mm), and not intended to be postformed to a tight radius. Horizontal surfaces include countertops, vanity tops, store fixtures, windowsills, desks, tabletops, convector covers, furniture and casework.

Vertical grade 20/VGP is thinner, .028" (0.7mm), and does not have the impact resistance of a horizontal grade. Vertical surfaces include wall panels, elevator cabs, toilet compartments, etc.

Postforming grade 12/HGP, .039" (1.0 mm), is designed for horizontal use with tight inside and outside bends.

Q What do the letters following the grade number mean?

A As a worldwide manufacturer, Formica Corporation utilizes the International Organization for Standardization (ISO) nomenclature.

Examples are:

- Grade 10/HGSHorizontal, General Purpose, Standard
- Grade 12/HGPHorizontal, General Purpose, Postformable
- Grade 20/VGPVertical, General Purpose, Postformable
- Grade 50/HGFHorizontal, General Purpose, Fire-Rated
- Grade 32/VGFVertical, General Purpose, Fire-Rated
- Grade 72/CLSCabinet Liner, Standard
- Grade 91/BKLBacker, Light Duty

Q What causes expansion and contraction of laminates after fabrication? How can this be prevented?

A High Pressure Laminate is a wood (paper) product and, like all wood products, moves with changes in humidity. Laminates expand in high humidity and contract in low humidity. Laminate and core should be conditioned at 45% to 50% relative humidity at least 48 hours prior to laminating. Pick a substrate that moves at the same dimensional change rate as HPL, such as Medium Density Fiberboard (MDF) or 45# industrial grade particleboard.

Q What causes laminated panels to warp?

A Panel warpage is caused by a difference in movement between the laminate and the substrate. To minimize warpage, acclimate the laminate and core prior to bonding. Panels that require flatness should be balanced by bonding the same grade of laminate to both sides. Refer to the Technical Brief *Avoiding Warpage of Laminate-Clad Panels* (Form No. 01-075) for additional information.

Q What adhesives should be used to bond laminates?

A Formica® brand contact adhesives are available in brush, spray, flammable, and non-flammable formulations. Resorcinols, ureas, and PVAc (white glue) type adhesives yield stronger bonds.

Q What causes stress cracking? How can it be eliminated?

A Excessive dimensional movement of the laminate can cause stress, especially on inside corners, which is relieved by the cracking. To eliminate cracking: acclimate the laminate and core, minimize cross-directional dimensions, use the thickest laminate possible for the application, use the strongest adhesive possible for the application, and rout inside corners (1/8" (3.18mm) minimum).

Q Can surface scratches be repaired?

A No. Melamine is one of the hardest plastics known, but it can be scratched. Like glass, melamine scratches white, so scratches are more apparent on dark solid colors. Because the finish is pressed into the laminate, it is impossible to repair. Superficial scratches can be hidden with the use of furniture polish.

Q Do laminates fade?

A Laminates will fade if exposed to direct sunlight. Bright chromatics fade more easily than earthtones. All Formica brand laminate colors surpass industry fade requirements.

Q Can you resurface laminate over laminate?

A Yes, self-edge or flat surfaces can be resurfaced. Follow the recommended procedures in the Technical Brief *Resurfacing Laminated Assemblies with Formica® Brand Products* (Form No. 02-122).

Q Can HPL be used for exterior applications?

A No.

Q Can laminates be painted?

A Yes. However, the laminate surface has trace amounts of a release agent which prevents paint adhesion. Lightly sanding the surface removes this agent and provides tooth for the paint. Epoxy paint adheres the best. Painted surfaces do not have the durability of laminate.

Q How should laminate be cleaned?

A There is a thin layer of melamine resin on the surface of HPL, which is very hard and stain resistant, but there are many modern household reagents that will attack it. Do not use acids, alkalis, bleaches, or abrasive cleaners on laminate. Surfaces should be cleaned with a clean, soft cotton cloth and mild detergent such as Fantastik®, Formula 409® or Pine-Sol.

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Cincinnati, Ohio 45241
Printed in the U.S.A.
Form No. 02-064 (3/97)

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