iZone CHPL Product and Installation Guide

Product Description

Custom High Pressure Laminate (CHPL) is manufactured by encapsulating digitally printed papers in melamine resins over a phenolic resin paper core. These layers are bonded at pressures exceeding 1,200 pounds per square inch and temperatures approaching 300°F (149°C). Finished sheets are trimmed to size or precision-cut to custom shapes using computer-controlled equipment.

Available thicknesses range from 0.040" sanded-back laminate to 0.750" compact laminate panels. Panels can be cut into virtually any shape, including human and animal silhouettes, arched tops, ovals, circles, and free-form designs. If you can draw it, we can cut it. Double-sided panels with graphics on both faces are also available.

Compact laminate panels in 3/8", 1/2" and 3/4" thicknesses are self-supporting and can be machined with threaded holes for concealed fastening to walls, railings, and posts. iZone also offers a complete line of pedestals and mounting hardware.

iZone CHPL is manufactured entirely in Temple, Texas, using domestic and imported materials.

Panel Thickness Options

iZone Imaging's CHPL products are used for interior and exterior signage, exhibit panels, and decorative surfaces in museums, zoos, parks, schools, airports, hotels, restaurants, and retail environments.

Grade	Common applications	Support and mounting
0.040" Sanded-Back Laminate	Interior countertops, islands, vanities, desks, tables, and other work surfaces; wall panels, murals, teller enclosures, and workstation fronts in hospitals, airports, and restaurants.	Sanded back promotes adhesive bonding. Must be bonded to a suitable substrate. Not recommended for exterior use.
0.125" Compact Laminate	Double-sided flip-books, wayfinding signs, interpretive graphics, and directional signage.	Requires mechanical attachment using screws, frames, or other suitable mounting systems. Suitable for exterior use when properly mounted.
0.250" Compact Laminate	Double-sided flip-books, wayfinding signs, interpretive graphics, and directional signage.	Requires mechanical attachment to a supporting substrate or support along the edges using screws, frames, or other suitable mounting systems. Suitable for exterior use when properly mounted.
0.375" Compact Laminate	Freestanding elements and custom-shaped panels; commonly specified for exterior applications requiring durability.	Self-supporting with a smooth black back. Double-sided graphics available. May be drilled and tapped for 1/4"-20 bolts for concealed mounting or drilled through for front mounting.
0.500" Compact Laminate	Freestanding elements and custom-shaped panels; commonly specified for exterior applications requiring durability.	Self-supporting with a smooth black back. Double-sided graphics available. May be drilled and tapped for 1/4"-20 bolts for concealed mounting or drilled through for front mounting.
0.750" Compact Laminate	Freestanding elements and custom-shaped panels; commonly specified for exterior applications requiring durability.	Self-supporting with a smooth black back. Double-sided graphics available. May be drilled and tapped for 1/4"-20 bolts for concealed mounting or drilled through for front mounting.

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0.040 Inch Sanded Back Laminate

Follow these guidelines for proper fabrication and installation of sanded-back laminate.

1. **Conditioning and storage.** Proper conditioning minimizes warping, shrinkage, and expansion of assembled panels. Store panels horizontally. Ideally, condition all components at 70°F to 75°F and 45% relative humidity for 48 hours. Due to the organic composition of CHPL, expansion, contraction, and warping caused by environmental factors are natural and are not covered by warranty. Selecting the appropriate thickness and using proper installation methods will minimize these effects.

2. **Bonding and trimming.** Bond iZone laminate to substrates according to proven laminating practices. Typically, laminate is bonded to the suitable substrate and then trimmed to final dimensions. Untrimmed materials are available upon request.

3. **Suitable substrates.** Always bond laminate to a suitable substrate, such as medium- to high-density fiberboard or particleboard. Not recommended substrates: plaster walls, gypsum wallboard, rough plywood, or concrete.

4. **Adhesives.** Recommended adhesives include solvent- or water-based contact cement, white glue (PVA), epoxy, and hot-melt glue. Consult your adhesive supplier for the requirements of your specific application.

5. **Cutting and surface protection.** Use carbide- or diamond-tipped saw blades and router bits. Use a slow feed rate and high tool speed. Before cutting, protect the panel surface with a peel coat or painter's tape to prevent surface damage.

6. **Edge finishing.** File all laminate edges smooth, directing the file toward the substrate to help prevent stress cracks and minimize chipping.

7. **Inside corners.** Provide a minimum 1/8" radius at inside corners of cutouts and file them smooth to reduce the likelihood of stress cracks.

8. **Fastener holes.** When using fasteners, predrill an oversized hole through the laminate to reduce the likelihood of stress cracks.

9. **Interior grades.** Do not use interior grades in humid conditions or direct sunlight.

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Compact Laminate

Applicable thicknesses: 1/8", 1/4", 3/8", 1/2", and 3/4". Follow these guidelines for proper fabrication and installation.

1. **Conditioning and spacing.** When fabricating or installing adjacent panels, proper conditioning of all components minimizes warping, expanding and contracting. Store panels horizontally. Ideally, condition all components at 70°F to 75°F and 45% to 50% relative humidity for 48 hours before assembly. Leave 1/8" of space around CHPL panels to allow for expansion and contraction. Due to the organic composition of CHPL, expansion, contraction, and warping caused by environmental factors are natural and are not covered by warranty. Selecting the appropriate thickness and using proper installation methods will minimize these effects.

2. **Machining.** Panels can be sawed, routed, drilled, and tapped using conventional woodworking equipment. Use sharp carbide- or diamond-tipped saw blades and router bits to produce chip-free edges. Use a slow feed rate and high tool speed. Protect the surface with a peel coat or painter's tape before cutting.

   Finish edges with coarse sandpaper (80 grit), followed by fine sandpaper (180–220 grit), to remove saw marks and create a smooth appearance. A final application of Thompson's® Waterproofing Wood Protector will further enhance and protect the appearance of the edges.

3. **Support for thinner panels.** Panels that are 1/8" or 1/4" thick must be enclosed in a frame with back support or mechanically fastened directly to a surface.

4. **Mounting thicker panels.** Panels that are 3/8", 1/2", or 3/4" thick must be mechanically fastened rather than glued or epoxied to a surface. Aluminum cleats are recommended for mounting graphics and mural panels to walls. When cleats are not used, install spacers between the panel and the mounting surface to help maintain panel flatness.

   When attaching panels to mounting plates using threaded screws, use the largest mounting plate possible to minimize warping.

5. **Interior grades.** Do not use interior grades in direct sunlight.

Manufacturing Tolerances

iZone takes pride in the quality and precision of its work. The following tolerances apply to printing, panel dimensions, fabrication, and visual appearance.

Category	Tolerance or requirement
Printing	Less than ±0.0208 per linear foot (less than 0.25” on a 12-foot panel).
Panel thickness	Less than ±5% per panel (0.025” on a 1/2” panel).
Machined panel finish dimensions	Less than ±0.060 per panel.
Fabrication	If your project uses iZone panel assembly components or requires critical cuts or tolerances, notify us when placing your order so we can achieve your desired results.
Visual appearance	Graphic panels and hardware will be free of visual imperfections that interfere with normal viewing and enjoyment.

Disclaimer

This information is presented to assist you in determining what grades for material may meet the requirements of your project. Purchaser shall determine the suitability of the product for its intended use, and purchaser assumes all risks and liability whatsoever in connection therewith. All statements, technical advice, and recommendations contained herein are based on tests and information believed to be reliable but the accuracy thereof is not guaranteed, and is made in lieu of all warranties, expressed or implied: seller’s and manufacturer’s only obligation shall be to replace the quantity of product proven defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product.