iZone CHPL Technical Specifications

Product information, recommended applications, finishes, and fabrication guidelines for iZone Imaging Custom High Pressure Laminate.

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.

Recommended Uses

iZone Imaging’s CHPL products are designed for interior and exterior signage, exhibit panels, and decorative surfaces. Applications include 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.

Finish Availability

Finish	Surface characteristics	Recommended applications
*MATTE	Premium, fine-grain finish with a subtle, narrow grain pattern and low glare.	Horizontal and vertical applications.
SATIN	Smooth finish with a medium sheen.	Primarily interior horizontal and vertical applications.
ICE	Finely stippled texture that minimizes visible smudges and fingerprints while improving scratch resistance.	Horizontal and vertical applications.

*Matte standard industry finish

Sheet and Panel Sizes

Specification	Availability
Standard maximum size	48” × 144”
Oversized panels	Up to 60” × 144”, available upon request, extended lead times, press partner
Large murals	Multiple panels tiled with index-cut seams

Technical Data and Fabrication Guidelines

0.040 Inch Sanded Back Laminate

Sheets must be bonded to a suitable substrate using an adhesive appropriate for the application. Follow the adhesive manufacturer’s recommended bonding procedures. Avoid cutout openings whenever possible. Where openings are necessary, design the layout with seams along all sides of the opening. Custom graphic laminates are somewhat more brittle than standard commercial-grade laminates.

0.040” sanded-back laminate is not recommended for exterior use.

Interior Grade Exposure Limits

Do not expose interior-grade laminates to extreme humidity, temperatures above 275°F (135°C), or prolonged direct sunlight.

Fabrication and Bonding

To help prevent stress cracking, avoid square-cut inside corners. All inside corners must have a minimum radius of 1/8”, and all edges must be routed smooth.

Pay particular attention to corners, edges, and seams. When using contact adhesive, reinforce these areas with a suitable permanent adhesive compatible with the bonding system, following the adhesive manufacturer’s recommendations.

Always drill oversized holes for screws or bolts to allow for expansion and contraction. Do not countersink screws or bolts into the face side of a laminate-clad substrate.

Material Conditioning

Before fabrication, acclimate the face laminate, backing laminate, and substrate in the same environment for at least 48 hours. The recommended conditioning temperature is approximately 75°F (24°C). For interior installation, condition laminate at 45% to 55% relative humidity.

Cutting and Routing

Use carbide-tipped saw blades and router bits to help prevent chipping. High tool speeds and low feed rates are recommended. Keep blades and bits sharp and replace them as needed. Use hold-down methods to prevent vibration.

Standards and Performance

NEMA

iZone CHPL panels meet or exceed the standard for decorative laminates established by the National Electrical Manufacturers Association, NEMA LD3. These standards establish minimum criteria for resistance to wear, boiling water, high temperature, cigarette burns, fading, dimensional stability, staining, and appearance.

Surface Burning Characteristics

iZone CHPL interior panels are suitable for applications where fire-resistant properties are required by building codes. Class A and Class B rated materials are available under the ASTM E84 test method. Class B is standard unless otherwise requested.

Toxicity Test

iZone CHPL is assembled using FSC-certified brown kraft paper. It meets LC50 Pittsburgh Protocol Toxicity Test requirements and is no more toxic than wood or paper.

Dimensional Change

Property	Specification
Thickness range	0.040”–0.750”
Standard and grade	NEMA LD3 • HGS
Machine direction	0.50% maximum
Cross direction	0.80% maximum

NSF Product Listing

NSF/ANSI Standard 35 — Laminated Plastics for Surfacing Food Service Equipment.

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.