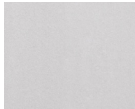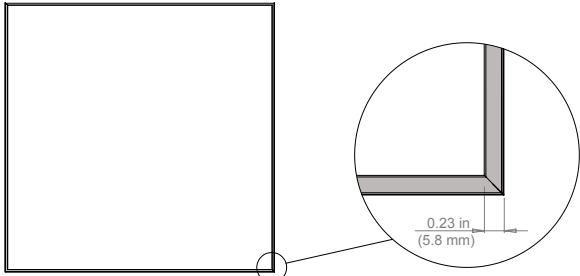**FORMS+**SURFACES®

LIGHTPLANE™ PANELS

LightPlane Panels are engineered, edge-lit LED panels that allow you to seamlessly illuminate a wall, column, elevator interior, or standalone panel. This innovative product combines our cutting-edge lighting technology, our VividGlass laminated glass or BermanGlass Levels Kiln Cast Glass, and a highly engineered framing system to create an illuminated panel unlike any other.

With a remarkably thin profile and a minimal bezel, LightPlane Panels offer uniform light output, energy efficiency, and the unparalleled performance of Cree® LEDs, delivering up to 100,000 hours of worry-free illumination. Each panel is manufactured with a size-specific algorithm to ensure the look of even, natural light, and eliminate hot spots, haloes or dark areas. LightPlane Panels represent a complete system that is designed to be easily configured to meet your project needs.

STANDARD COMPONENTS

Panel with Edge-lit LED Lighting, Panel Subsystem, Power Source and Installation Hardware

LIGHTPLANE PANEL

STANDARD FRAME OPTIONS

- Panel frames are extruded aluminum. All panel frame corners are mitered.
- LightPlane panel frames are available in Clear, Black, or Antique Bronze anodized finishes.

CLEAR ANODIZED

BLACK ANODIZED

ANTIQUE BRONZE ANODIZED

FRONT VIEW

0.23 in
(5.8 mm)

STANDARD INSET OPTIONS

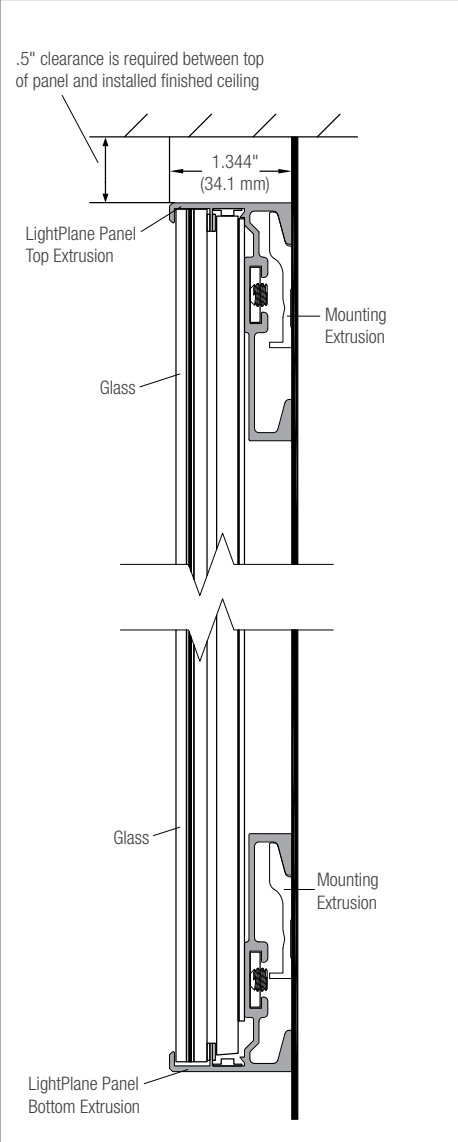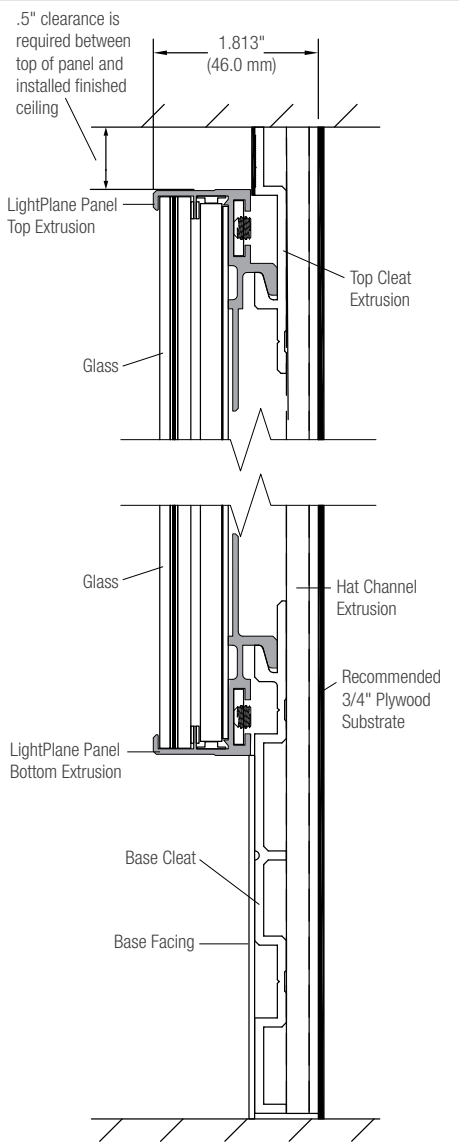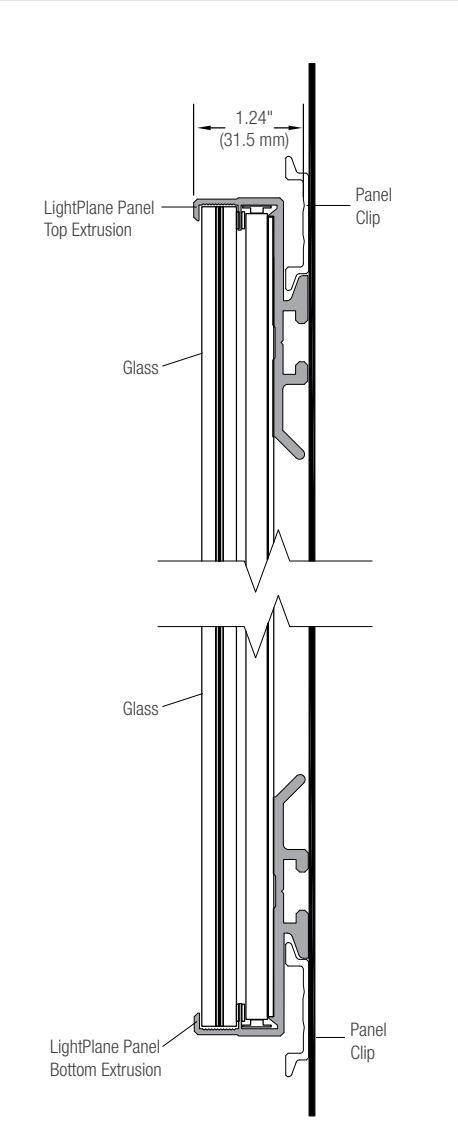| VIVICHROME	VIVISPECTRA	VIVISTONE	BERMANGLASS LEVELS KILN CAST GLASS
ViviChrome Chromis is designed to bring solid color to life and create visual depth within a space. Available with standard and custom color interlayers, Chromis must be specified with Opalex finish when used in LightPlane Panels.	**ViviSpectra Elements** reinterprets natural themes sourced from wood, stone and botanicals. Designed to subtly bring the outdoors in, Elements features a continuous tone image interlayer between two lites of glass. **ViviSpectra Spectrum** interlayers incorporate customer-supplied photos, digital files, and other continuous tone color imagery. Offering astounding creative potential, Spectrum can be used to bring a highly personalized look to any environment.	**ViviStone** combines the beauty of real stone with the convenience of architectural glass. ViviStone options include: Abalone Onyx, Cream Onyx, Honey Onyx, Opal Onyx, Pearl Onyx and White Onyx.	BermanGlass Levels glass is artisanal kiln cast glass laminated with color and graphic interlayers. Captivating and dynamic, Levels designs bring creative plays of texture, color and light to walls, columns, elevator interiors and more. Please refer to the BermanGlass Levels Kiln Cast Glass Product Data Sheet for design swatches and additional information.
VIVIGRAPHIX		**VIVISTRATA**	
ViviGraphix Graphica features precise graphic patterns between two lites of glass. Patterns consist of one or more graphic interlayers each with its own unique color. Standard and custom colors are available.	**ViviSpectra VEKTR** incorporates VEKTR images—images you create using virtually any digital artwork or photo and our VEKTR Digital Canvas to bring highly original designs to glass. VEKTR consists of continuous tone image interlayers between two lites of glass. **ViviSpectra Zoom** incorporates Zoom Images—our growing collection of large-scale, super-high-resolution photos accessible through our Zoom Digital Darkroom. ViviSpectra Zoom consists of a continuous tone Zoom image interlayer between two lites of glass.	LightPlane is available with **ViviStrata Layers** glass, which features one or more color graphic interlayers between two lites of glass, and etching on one or both lites. Each multi-layered pattern is a dynamic play between interlayer graphics, etched elements, and light.	

LIGHTPLANE™ PANELS

PRODUCTS & APPLICATIONS

LightPlane Panels can be specified for wall systems, elevator interiors, column covers, accents or custom fabrications. All configurations of LightPlane Panels are suitable for dry, interior applications, including:

STANDALONE PANELS	LEVELe WALL & COLUMN SYSTEM PANELS	LEVELe ELEVATOR INTERIOR PANELS
LightPlane Panels can be specified as accents for existing walls or as unique design elements. These panels are mounted to existing walls using a cleat.	LightPlane Panels seamlessly integrate into our LEVELe Wall Cladding and Column Systems. LightPlane Panels have the same visible profile as LEVELe Capture panels.	LightPlane Panels are available as a standard option in our LEVELe Elevator Interiors. LightPlane Panels have the same visible profile as LEVELe Capture panels.

STANDALONE PANELS diagram:

.5" clearance is required between top of panel and installed finished ceiling

1.344" (34.1 mm)

LightPlane Panel Top Extrusion

Mounting Extrusion

Glass

Glass

Mounting Extrusion

LightPlane Panel Bottom Extrusion

LEVELe WALL & COLUMN SYSTEM PANELS diagram:

.5" clearance is required between top of panel and installed finished ceiling

1.813" (46.0 mm)

LightPlane Panel Top Extrusion

Top Cleat Extrusion

Glass

Glass

Hat Channel Extrusion

Recommended 3/4" Plywood Substrate

LightPlane Panel Bottom Extrusion

Base Cleat

Base Facing

LEVELe ELEVATOR INTERIOR PANELS diagram:

1.24" (31.5 mm)

LightPlane Panel Top Extrusion

Panel Clip

Glass

Glass

LightPlane Panel Bottom Extrusion

Panel Clip

Note: .5" lift off clearance is required for installation of Standalone or LEVELe Wall & Column System LightPlane panels. If LightPlane panels are installed in third-party frames, a minimum clearance of .125" is required on each side of the panel for assembly tolerance and thermal expansion of materials.

LIGHTPLANE™ PANELS

ADDITIONAL SYSTEM INFORMATION

INCLUDED COMPONENTS	INSTALLER PROVIDED
• Pre-assembled LightPlane Panels, each with a 12" electrical lead and integral quick connect assembly (to be connected with quick disconnect power box lead). **Note:** Electrical leads exit the middle of standalone LightPlane Panels, LEVELe Elevator Interior and Wall System LightPlane Panels, unless otherwise specified. • Power box with integral driver and dimmer with either 25 foot or 50 foot electrical leads with integral quick disconnect. **Note:** One power box can often supply power and dimming capabilities to more than one LightPlane Panel. In this case, more than one set of leads will exit the box.	• LightPlane installers must supply an accessible mounting surface or vented enclosure for the supplied power box within 25-50 running feet of the final LightPlane Panel location. • Installers are responsible for providing a 100-277 VAC power feed and electrical hook up to each supplied powerbox. • If a third-party dimming system is being used, customer must supply a 0-10V DC Circuit to each power box and land the wire on the designated connection. • If customer desires to switch the panels on and off, customer must supply a switch with a dry contact and add a separate wire to run to the switch connection provided in the box. WARNING: DO NOT SWITCH THE POWER CIRCUIT FEEDING THE POWER BOX.
LAMP	**POWER SUPPLY**
• Lamp type: Cree® LED* • Wattage: 0.25 watts • Color temperature: 5,000K (3,500K LEDs available upon request) • Rated life: 100,000 hours (at recommended illumination) • Running temperature: 72˚ F *Cree LEDs use less than 1/5th the total wattage used by fluorescent lamps, representing an 82% energy savings.	• Power box includes one or more high efficiency drivers (maximum power draw is 8.0A per power box) with dimming control(s), on/off switch and quick disconnects • Input voltage: 100-277 VAC • Output voltage: 15VDC • Maximum wattage per panel: 327 watts per 60" x 120" panel • Power box sizes: 18" L x 8" W x 3" H (2-Driver unit) and 18" L x 18" W x 3" H (5-Driver unit) • Clearance of at least 3" is recommended on all sides, except the rear, for proper airflow, access to electrical hook-ups, and wire entry/exit • Mounting provisions: 4x Ø.21 holes on rear of unit • Connection provided for a 0-10VDC signal from a third-party dimming system. • Connection provided for a remote switch to turn off power to all drivers in the power box. Switch and wire are to provide a dry contact and be rated for the same 100-277 VAC power coming into the box. WARNING: DO NOT SWITCH THE POWER CIRCUIT FEEDING THE POWER BOX. • Power box is provided with knockouts in side panels for wire connectors/conduit.

SAFETY CERTIFICATION
LightPlane Panels have been ETL tested and certification has been met for the following: • UL 48 - UL Standard for Safety for (Interior) Electric Signs   • UL 8750 - UL Standard for Safety for Light Emitting Diodes (LED)   • CSA C22.2 - Canadian Standard for (Interior) Portable and Stationary Electric Signs and Displays

ORDERING & RECEIVING

ORDERING	DELIVERY	RECEIVING
• Plan the order to avoid off-site storage and to minimize rehandling and time in storage at the job site before installation. • Prepare boxing, trailer and floor loading schedules in consideration of weight limitations and handling and distribution needs.	• LightPlane Panels will be wrapped with foam corners and secure plastic wrap. The crate arrives with components neatly organized and includes the back system components and installation instructions. LightPlane Panels are shipped in A-frame crates and are grouped by similar sizes. The LightPlane power box will arrive packaged with the panels.	• Before unloading, inspect handling equipment, rigging and surrounding conditions for safety compliance and inspect the general condition of the shipment for load shifting or possible damage in transit. • Inspect the shipment for any shortage, abuse, wetness or other transit damage; note such on the bill of lading or delivery ticket and obtain the driver's signature as acknowledgment.

INSTALLATION AND MAINTENANCE

INSTALLATION	MAINTENANCE
• Install finished materials after completion of potentially damaging construction activities nearby—such as welding, sandblasting and fireproofing. If the construction schedule does not allow for this, protect the glazing from damage by other processes. • LightPlane Panels are designed with a horizontal extrusion channel that interlocks with the provided mounting cleats for easy installation on existing walls. • Simple, step-by-step installation instructions are provided when LightPlane Panels are used with LEVELe Elevator Interiors, LEVELe Wall Cladding System or the LEVELe Column System.	• The glass surface of LightPlane Panels can be maintained using standard commercial, non-streaking cleaners and polishes formulated for use on glass. • When cleaning the panels, avoid excessive amounts of liquid solution on the glass, as this can damage the lamps and electrical wiring in the panels. • Aluminum frames can be cleaned as needed using a soft brush or cloth with a minimal amount of warm water and a mild detergent. Do not use harsh abrasives, acids or chlorine-based cleaners or cleaning tools containing carbon steel, such as steel wool or wire brushes. • Do not let liquid sit on or near the panels for an extended period of time. Avoid puddling near the base of the panels.

STORAGE & HANDLING

STORAGE	HANDLING
• Store indoors at moderate temperature (above the dew point). • Support both sides of vertically stored cases. • Wet glass must be towel dried prior to storage as prolonged moisture exposure can cause permanent surface staining.	• During handling, wear hard-hats, safety shoes, gloves, and glazing gauntlets and follow all established safety procedure. • Exercise care to prevent damage to the glass; edge damage may lead to thermally associated glass breakage after installation. • Check finished surfaces and glass edges for damage before installation; set only acceptable material.

TECHNICAL SUPPORT & PROJECT MANAGEMENT

Because each project is unique, our knowledgeable support team is ready to help. Our technical sales, engineering, sustainability, and project management professionals regularly assist our clients worldwide. Please contact us at 800.451.0410 or sales@forms-surfaces.com to discuss your project.

HOW TO SPECIFY

A Design Guide is available to lead you through the specification process in a simple checkbox format. Design Guides are also available for each of our VividGlass and BermanGlass Levels Kiln Cast Glass products to lead you through the glass selection process. Please use the two Design Guides together to capture all the information needed to generate a quote: applications, dimensions, VividGlass or BermanGlass Levels Kiln Cast Glass selections and other options.