

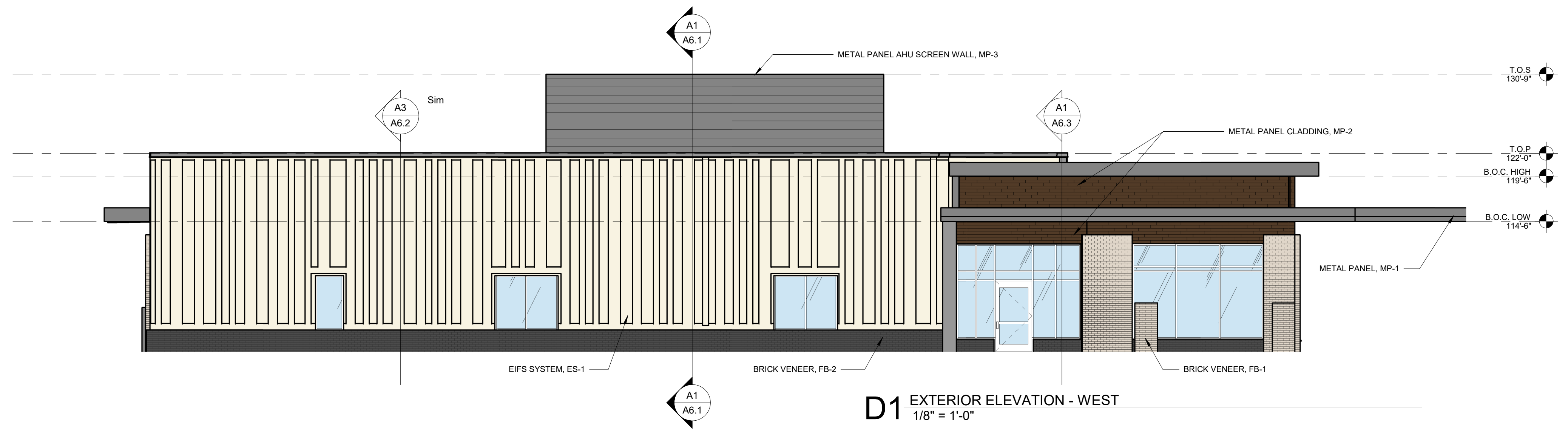
12/13/2022 10:17:47 AM

**EXTERIOR FINISH LEGEND**

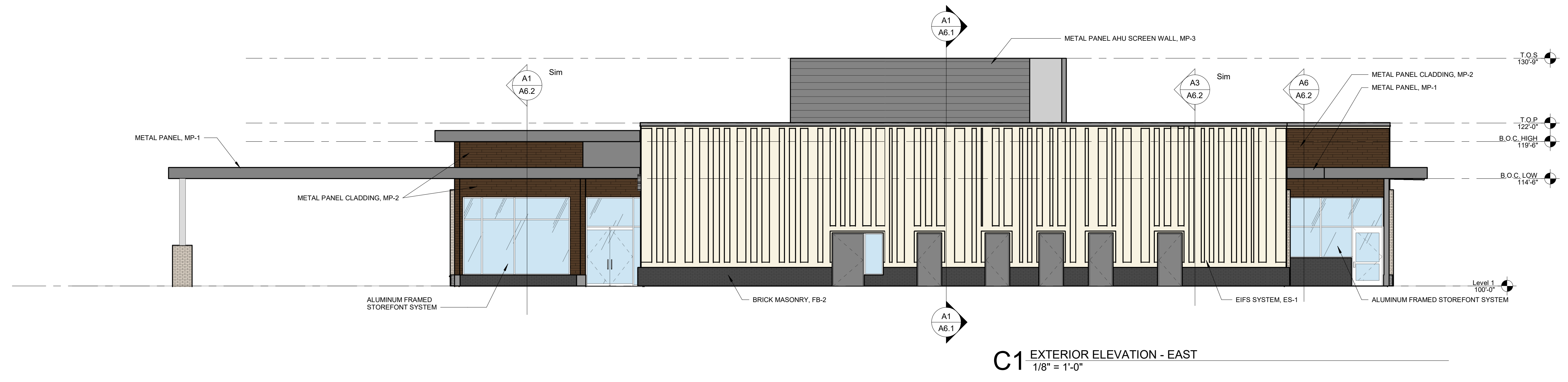
MARK	MATERIAL	MANUFACTURER	COLOR/PATTERN	DIMENSION
ES-1	EIFS SYSTEM	AS SPECIFIED	TBD	2' & 3"
FB-1	TAN BRICK	GLEN GERY	PEARL RIVER IRONSPOT	2 1/4" x 7 5/8" x 3 5/8"
FB-2	DARK BRICK	ENDCOTT	MANGANESE IRONSPOT, SMOOTH	2 1/4" x 7 5/8" x 3 5/8"
MP-1	METAL PANEL	SIM PANEL	CITYSCOPE	VARIES
MP-2	METAL PANEL	KNOTWOOD	WALNUT	VARIES
MP-3	METAL PANEL	BERRIDGE	HR-16, GRAY ZINC	VARIES

**EXTERIOR MATERIALS**

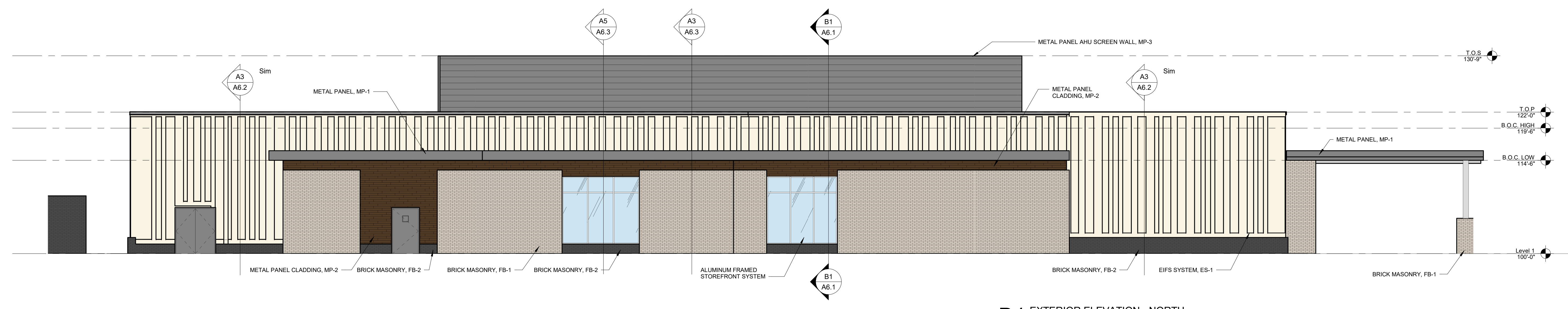
	EAST	WEST	SOUTH
METAL PANEL	19%	17%	29%
EIFS	51%	53%	40%
MASONRY	8%	12%	18%
STOREFRONT	17%	18%	13%
DOORS/OPENINGS	5%	N/A	N/A



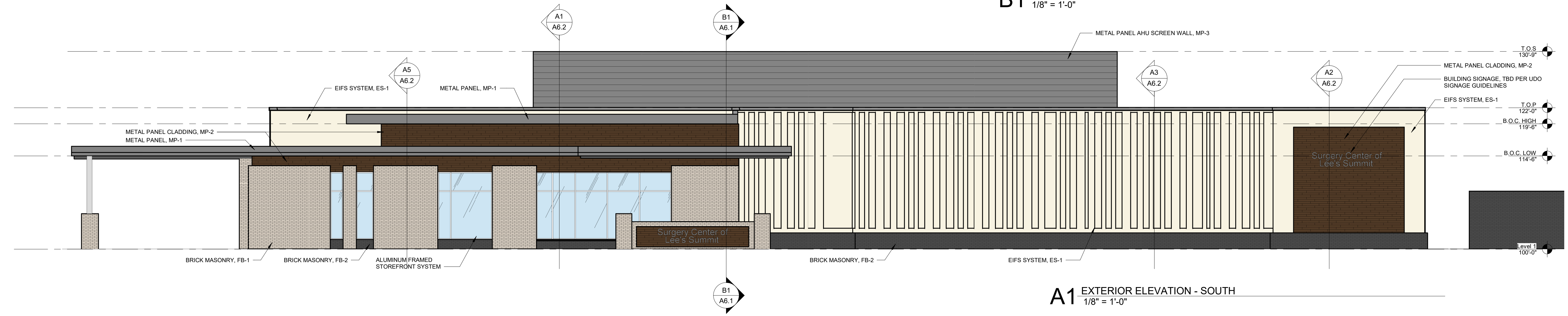
**D1 EXTERIOR ELEVATION - WEST**  
1/8" = 1'-0"



**C1 EXTERIOR ELEVATION - EAST**  
1/8" = 1'-0"



**B1 EXTERIOR ELEVATION - NORTH**  
1/8" = 1'-0"



**A1 EXTERIOR ELEVATION - SOUTH**  
1/8" = 1'-0"

PRELIMINARY,  
NOT FOR  
CONSTRUCTION,  
RECORDING  
PURPOSES, OR  
IMPLEMENTATION

**ACI**  
**BOLAND**  
ARCHITECTS

1710 Wyandotte  
Kansas City, MO 64108  
T: 816.763.9600

ACI/Boland, Inc.  
Kansas City | St. Louis  
Licensee's Certificate of Authority Number:

**CIVIL CONSULTANT**  
BHC  
7101 College Blvd. Ste. 400  
Overland Park, KS 66210  
913.663.1900

**STRUCTURAL CONSULTANT**  
Bob D. Campbell & Co.  
4338 Belleview  
Kansas City, MO 64111  
816.531.4144

**MEP CONSULTANT**  
Branch Pattern  
1508 Grand Boulevard  
Kansas City, MO 64108  
913.951.8311

**Surgery Center of Lee's Summit**  
**1950 SE Shenandoah Drive**  
**Lee's Summit, MO 64063**

Date	12/12/22
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Number	Date	Description



***SSM 900 Series Panel System***  
***Shamrock Corporate Head Quarters***  
***Overland Park, KS / Bell Knot Assoc.***

**STANDARD SHEET METAL / 420 NORTH OLIVE STREET / KANSAS CITY, MO 64120**

## SECTION 07 42 13 - FORMED METAL WALL PANELS

### 1. GENERAL

#### 1. SECTION INCLUDES

- A. Concealed fastener, post finished, rain-screen metal wall panels.

#### 2. REFERENCE STANDARDS

##### A. American Architectural Manufacturer's Association (AAMA):

- 1. AAMA 2605 - Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.

##### B. ASTM International (ASTM):

- 1. ASTM B 209 - Specification for Aluminum and Aluminum Alloy Sheet and Plate.
- 2. ASTM B 221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
- 3. ASTM D 3359 - Standard Test Methods for Measuring Adhesion by Tape Tests.
- 4. ASTM E 329 - Standard Specification for Agencies Engaged in Construction Inspection and/or Testing.

#### 3. PERFORMANCE REQUIREMENTS

- A. General: Provide metal wall panel system meeting performance requirements as determined by application of specified tests by a qualified testing agency on manufacturer's standard assemblies.

- B. Structural Performance: Design metal wall panel system fabricated to withstand the effects of wind loads under conditions indicated by structural engineer as required by the local building codes.

- 1. Wind Loads: Determine loads based on uniform pressure, building category, exposure category, and basic wind speed indicated by structural engineer as required by the local building codes.

- 2. Deflections Limits: For wind loads, no greater than 1/180 of the span.

- C. Air Infiltration: Per ASTM E283, panel system shall not exceed .06 CFM per square foot.

- D. Water Penetration under Static Pressure: Per ASTM E331, no uncontrolled water infiltration to the room side.

- E. Thermal Movements: Allow for thermal movements from variations in both ambient and internal temperatures. Accommodate movement of support structure caused by thermal expansion and contraction.
4. QUALITY ASSURANCE
- A. Metal Wall Panel Manufacturer Qualifications: Approved manufacturer listed in this Section with minimum 10 years' experience in manufacture of similar products.
  - B. Metal Wall Panel Installer Qualifications: Installer with minimum of 5 years' experience with completed projects of a similar type and scope.
  - C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
5. ACTION SUBMITTALS
- A. Product Data: For each type of product.
    - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finished for each type of panel and accessory.
  - B. Shop Drawings:
    - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details. Indicate points of supporting structure that must coordinate with modular metal panel system installation.
    - 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
  - C. Field Measurements: It is the panel installer's responsibility to verify locations of structural members, adjoining construction and wall openings dimensions by field measurement before panel fabrication and indicate measurements on final shop drawings.
  - D. Samples for Verification: For each type of exposed finish, prepared on samples of size indicated below:
    - 1. Metal Panels: 12 inches long by actual panel width. Include fasteners, closures, and other metal panel accessories.
6. INFORMATIONAL SUBMITTALS
- A. Test Report: Indicating compliance of materials with project requirements, based on testing from a qualified independent testing agency.
  - B. Qualification Data: For Installer.
  - C. Manufacturer's warranty: Submit sample warranty.

7. CLOSEOUT SUBMITTALS

- A. Maintenance Data: For metal panels to include in maintenance manuals.

8. DELIVERY, STORAGE, AND HANDLING

- A. Protect products of metal wall panel during shipping, handling, and storage to prevent staining, denting, deterioration of components or other damage.
1. Deliver, unload, store, and erect metal wall panel system and accessory items without damage from weather or construction operations.

9. WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
1. Metal Wall Panel Warranty Period: Standard warranty is five years from date of Substantial Completion. Additional warranties available on a per project basis and review.
  2. Finish Warranty: 10 years from date of Substantial Completion.
    - a. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
      - 1) Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      - 2) Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      - 3) Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2.PRODUCTS

1. CONCEALED-FASTENER, RAINSCREEN METAL WALL PANELS

A. Metal Plate Wall Panels: Provide factory-formed, metal plate wall panels fabricated from single sheets of metal formed into profile for installation method indicated. Include attachment assembly components, and accessories required for complete system.

1. Products: Subject to compliance with requirements, provide panels manufactured by the following:

- a. Standard Sheet Metal  
405 North Olive Street  
Kansas City, MO 64120  
(816) 221-5434

[www.ssm-kc.com](http://www.ssm-kc.com)

- b. Panel Depth: 1-1/4 inches nominal.

## 2.2 - MATERIALS

A. Aluminum Sheet: Tension-leveled, smooth aluminum sheet, ASTM B 209, not less than 0.090 inch thick.

- 1. Exterior Finish: High performance fluoropolymer powder coating.
  - a. Color: As selected by Architect from manufacturer's full range.

B. Exposed Trim, Flashings and Fastener Finish: Match panel finish unless otherwise noted.

- 1. Minimum Thickness: 0.040" nominal shop formed.

C. SECONDARY METAL FRAMING

- 1. Miscellaneous Framing Components, General: Cold-formed metallic-coated steel sheet, ASTM A 653/A 653M, G90 (Z180) hot-dip galvanized zinc coating.

D. PANEL ACCESSORIES- Provide components required for a complete panel system. Match panel finish unless otherwise noted.

- 1. Closures: Provide closures at eaves and rakes. Match panel finish. Nominal Thickness .040"

## 2.3 FABRICATION

A. General: Fabricate metal wall panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill performance requirements demonstrated by laboratory testing. Comply with indicated profiles and dimensional/structural requirements.

B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics.

- 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks that are true to line and levels indicated with exposed edges folded back to form hems.

C. Metal Wall Panels: Fabricate metal wall panels requiring no further fabrication or modification in field.

- a. Horizontal Joints: 3/4"
- b. Vertical Joints: 3/4"
- c. Standard System Depth: 1-1/4"

2. Maximum panel size: 48" wide x 120" tall. Other sizes available on a project by project review.

### 3.EXECUTION

#### 1. EXAMINATION

- A. Examine metal wall panel system substrate to verify that sheathing joints are supported by framing or blocking. Inspect for erection tolerances and other conditions that would affect installation of metal wall panel system.
  1. Examine wall framing that will support metal wall panel system to determine if support components are installed as indicated on approved shop drawings.
  2. Verify that adjacent are such as window, door, louver, electrical penetrations and other penetrations match layout on shop drawings.
- B. Advise General Contractor of out-of-tolerance work and other deficient conditions prior to proceeding with metal wall panel system installation.

#### 2. METAL PANEL INSTALLATION

- A. General: Install metal panels according to manufacturer's written instructions. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
  1. Shim or otherwise plumb substrates receiving metal panels.
  2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air or water-resistive barriers and flashings that will be concealed by the metal panels are installed.
  3. Locate and space fastenings in uniform vertical and horizontal alignment.
  4. Install flashing and trim as metal panel work proceeds.
  5. Fasten flashing and trim around openings and similar elements with self-tapping screws.
  6. Provide weathertight escutcheons for pipe and conduit-penetrating panels.
- B. Fasteners
  1. Aluminum Panels: Use stainless steel fasteners for surfaces exposed to the exterior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by wall panel manufacturer.
- D. Accessory Installation: Install accessories with positive anchorage to building and provide for thermal expansion. Coordinate installation of flashings and other components.

- E. Flashing and Trim: Comply with performance requirements, manufactures' written installation instructions and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible and set units true to line and level as necessary.
  - 1. Install exposed flashing and trim that is without buckling and tool marks, and that is true to line and levels indicated with exposed edges folded back to from hems. Install sheet metal flashing and trim to fit substrates and achieve watertight performance.
  - 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24" of corner or intersection.

3. FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a manufacturer's representative to inspect completed installation. Submit written report to owner.

4. CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films as metal wall panels are installed. Clean finished surfaces if required as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.
- B. Replace damaged panels and accessories that cannot be repaired by field repair.

END OF SECTION



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# CLADDING PROJECT GUIDE

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**KNOT WOOD**

It's Not Wood, It's Aluminum

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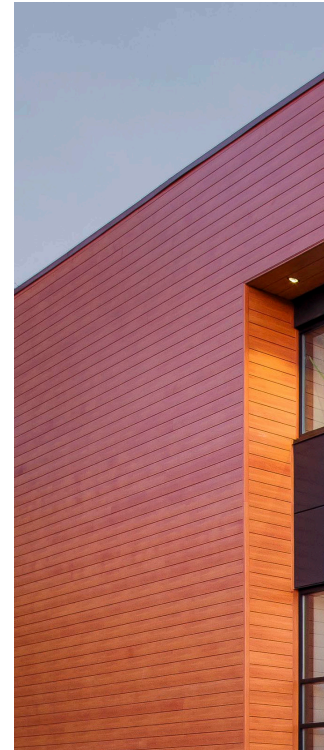
# Aluminum Cladding

Are you looking for a feature to set your project apart from the rest? Do you need cladding system that won't fuel a fire or swell and crack during the storm season? Why not try Knotwood Cladding?

Knotwood Cladding is made from 100% aluminum protected by a durable woodgrain powder coat finish. It's immune to fire, rust, rot, insects and will never warp, split or crack. Even extreme heat or freezing cold can't damage Knotwood. Coated in Knotwood's award winning woodgrain finish it meets the highest finishing standards in the world. Backed by an industry leading limited lifetime warranty you can be sure that Knotwood cladding won't let you down.

The unique hidden fastener system creates a clean finish that hides any unsightly screws or rivets. The interlocking system makes Knotwood cladding a smart choice when water penetration is a concern. In the event repairs are needed, Knotwood's unique top-down interlocking board system makes repairs fast and simple. In addition, Knotwood cladding requires next to no maintenance, just a quick wash with warm water will keep it looking brand new from the day it goes in.

Why wait for an inferior system to cost you time and money, damaging your building in the process? Let Knotwood cladding protect your investment, it won't let you down and it'll look great while doing it.





# Knotwood Colors

All Knotwood colors have been tested to withstand the most extreme environments and uphold the highest finishing standards in the world including the Australian, American and European standards. Backed by a limited lifetime warranty, it's no wonder Knotwood's award winning finish is coveted the world over. With a full range of color matched accessories available you can ensure a clean, uniform finish that will leave you breathless.

*Please note: These colors are a guide only contact our office for samples. Please be aware that Knotwood contains natural color variation consistent with that of real timber.*

## Stock Colors

Colors with a grey background are the Knotwood stock colors.

### WHITE SHADES



ASPEN



DRIFTWOOD



ASH



BEACH WOOD



ZEBRANO

### BLACK SHADES



BLACK ASH

### YELLOW SHADES



IROKO



TASSIE OAK



LIGHT OAK



KNOTTY PINE



SPOTTED GUM



HICKORY

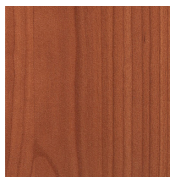


MAPLE



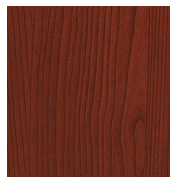
BLACKBUTT

## YELLOW SHADES



ATLANTIC  
CEDAR

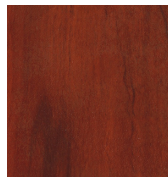
## ORANGE SHADES



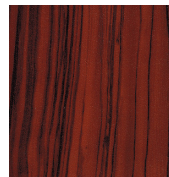
AUSTRALIAN  
CEDAR



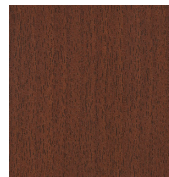
RED GUM



KOA



TIGER WOOD



MERBAU



IRON BARK

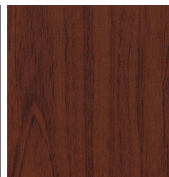
## LIGHT BROWN SHADES



EASTERN  
MAHOGANY



WESTERN RED  
CEDAR



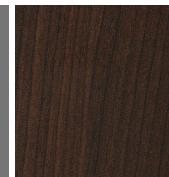
BUSH CHERRY



ELM



KWILA

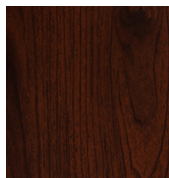


TEAK BROWN

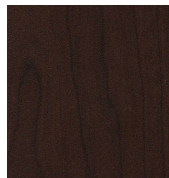
## DARK BROWN SHADES



OLIVE TREE

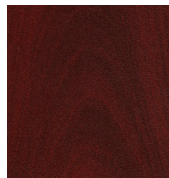


BLACK WALNUT



WENGE

## RED SHADES



JARRAH



SYDNEY BLUE



ROSE  
MAHOGANY

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## Powdercoat Colors

If you want the reliability and consistency of a solid color, you can't go past our huge range of powder-coat colors. With the full range of Colorbond colors on hand and a library of hundreds of custom colors only a phone call away, you can have exactly the look you want. All of our solid colors carry the same limited lifetime warranty as our premier woodgrain finish and are all applied by our experienced and accredited applicators to ensure you get the gold-standard of quality you deserve.



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## Frequently Asked Questions

### **Q. Is it waterproof?**

A. Knotwood cladding is designed as a façade fixed product and is not intended to be a total waterproofing system. The interlocking system lends itself well to easy waterproofing and it will not degrade if subjected to heavy rain or driving wind. Proper waterproofing measures should always be taken to prevent damage to your home. Please reference our installation guides for suggestions.

### **Q. How does it handle temperature changes?**

A. Aluminum is a thermally conductive material. The advantage of this is that high temperatures and freezing cold will not damage the material. It does mean however that it will expand and contract with temperature fluctuations. Our cladding system is designed with this in mind and uses specialised clips to conceal any possible thermal expansion or contraction without damaging the material. See the installation guide for details.

### **Q. Can it be used in hurricane areas?**

A. Knotwood's cladding is very durable when properly installed. When hurricanes are a likely or frequent occurrence in your area, engineering advice is always recommended. Knotwood Cladding is designed as an external fixing and relies largely on the strength of the surface it is fixed to in the event of a natural disaster.

### **Q. Is it fire-rated?**

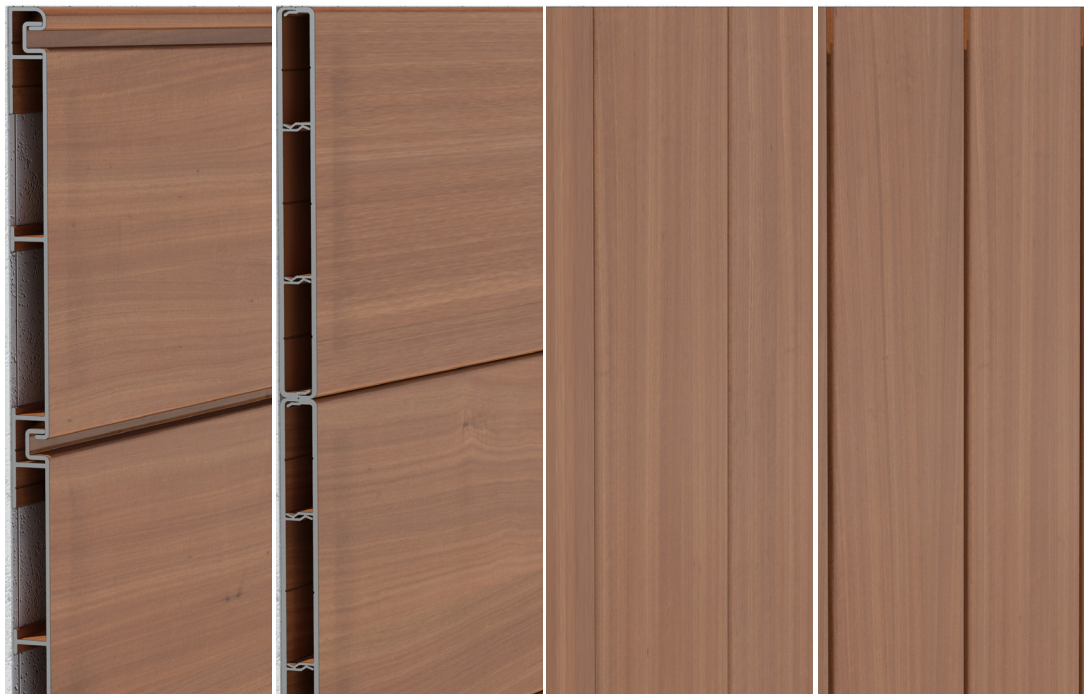
A. Knotwood is ideal for fire-danger areas. Aluminum does not ignite under normal circumstances and the coating used contains no combustible fuels or flammable materials. Please refer to our website for more information.

### **Q. How can I get it?**

A. Your local supplier of Knotwood can be contacted for information on pricing, lead times and any questions pertaining to your specific project. Please refer to our website for more information.

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Our  
**RANGE**





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## OUR STYLES

Knotwood Boards are as versatile as they are stunning. Easily fitted in external, internal horizontal or vertical applications, with or without a strong shadow line and in ribbed or smooth finish. Classic or contemporary style, Knotwood cladding hits the mark.

## BOARDS SIZES

Cladding boards are available in 18' 6". lengths. 4" and 6" smooth finish for when a smooth contemporary style is the best option.

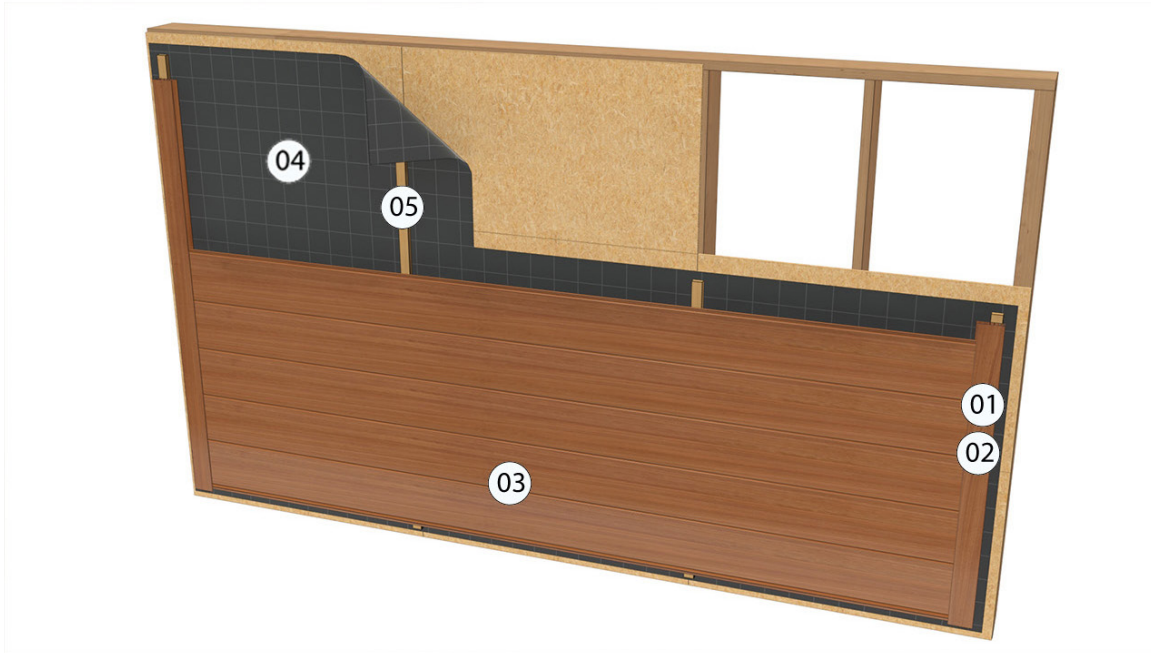
## WHY KNOTWOOD

Non-combustible, limited lifetime warranty, will never rust, warp or crack, low maintenance, natural woodgrain look, marine grade aluminum, concealed fasteners, huge range of colors and finishes.

## FINISHING CLIPS

Knotwood cladding is a system with a full range of finishing angles and clips for internal and external corners, joining boards and covering ends both around windows and doors and near walls. See the install guide for more information or visit our website.

[www.knotwood.com/siding/](http://www.knotwood.com/siding/)



- ① Finish Base
- ② Finishing Top
- ③ Cladding Board
- ④ Underlayment
- ⑤ Furring Strip

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## Easy Installation

We strive to make Knotwood as easy, simple and efficient as possible. All of our Installation guides and technical manuals are readily available.

Each manual contains step-by-step instructions and product codes. You can train yourself in minutes and our sales team are always on hand to answer any questions you might have.

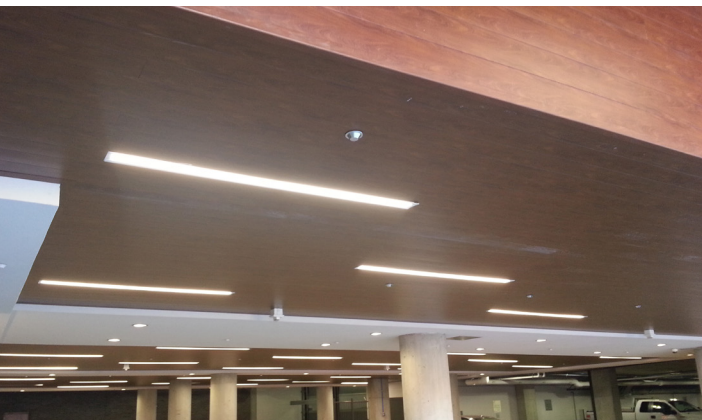
You can find the full list of guides by going to our website [www.knotwood.com](http://www.knotwood.com).

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Our  
**PRODUCT**







## 01 Thousand Spears – Denver, Colorado

The amount of work that went into this hotel in Colorado, quickly paid off when the cladding was installed. The beautiful ceiling cladding created a warm feel in the carparking area, that would have been cold and uninviting without it. Again the Low maintenance was really appealing and the results speak for themselves.



## 02 Farmhouse - Dallas, Texas

One of the most impressive residential projects to date, this farmhouse in Dallas, Texas, has been nicknamed “the house of Knotwood” after it’s almost total knotwood cladding. The log cabin fantasy was brought into the 21st century with the high-tech, low maintenance solution to the high exposure the house would surely face through the changing year round climate of the region.

# 03

## McDonald's Cladding - Coffs Harbour, AUS

Knotwood is the cladding of choice for many fast food outlets around the country. National chais and restaurants have flocked to it for it's low maintenance requirements and stunningly realistic looks. This project in Coffs Harbour was completed in our Light Oak color and works really well with the red brick work and black paneling.



# 04

## 1st Choice Liquor – Tweed Heads, AUS

This impressive project in Tweed heads uses the 'seamless' system to create a truly stunning look. The impressive facade would have been impossibly difficult to maintain had it been made from timber. The woodgrain look was something the owners couldn't do without, so Knotwood was their only option.





It's Not Wood, It's Aluminum

30 Tech Parkway South, Suite 400  
Peachtree Corners, GA 30092

Phone: **1.855.566.8966**

Web: **[www.knotwood.com](http://www.knotwood.com)**

E-mail: **[KnotwoodInfo@OmniMax.com](mailto:KnotwoodInfo@OmniMax.com)**

Fencing | Privacy Screens | Gates | Decking | Cladding | Battens | Soffits & Fascias

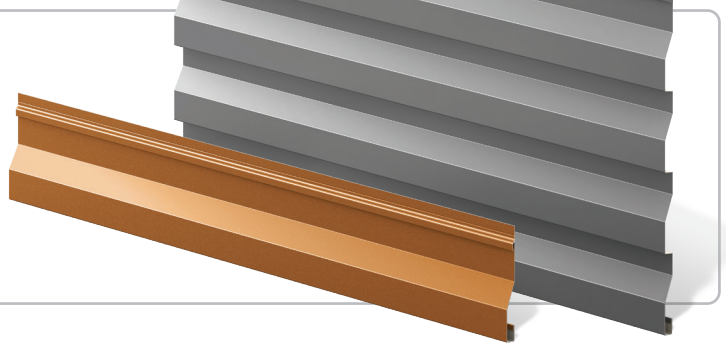


# Berridge HR-4 & HR-16 Panel

## WALL AND FASCIA PANEL SYSTEM



*The Berridge HR-4 Accent Wall Panel and the HR-16 Metal Wall panels are versatile and maintenance-free panels that can be installed horizontally or vertically. Both panels interlock with the HC-16, BR-12, HS-8, HS-12, and the Reveal Series panel profiles.*



### Materials

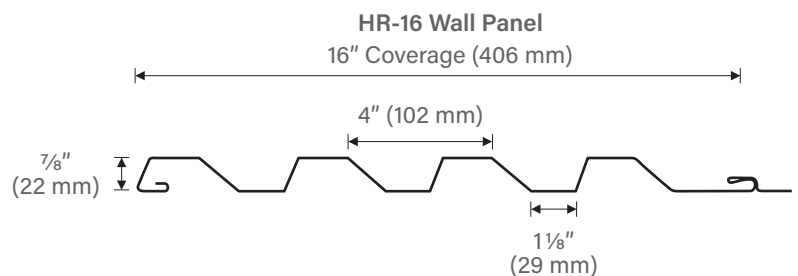
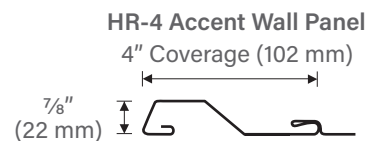
24 and 22 Gauge Steel  
0.032 Aluminum

### Specifications

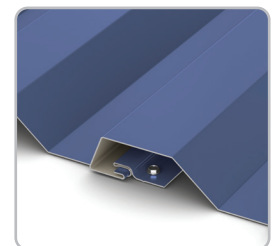
Uses: Wall, Fascia, Screen Wall, Berridge Fencing System  
Coverage: HR-4: 4"; HR-16: 16"  
Finishes: Smooth  
Fasteners: Concealed  
Applications: Vertical on fencing; horizontal or vertical over open framing or solid sheathing  
Pattern:  $\frac{7}{8}$ " height and 4" rib with 2" reveal

### Installation

- Panel is available from the factory in continuous lengths to a maximum of 40'
- Interlocks with HC-16, BR-12, HS-8, HS-12, and the Reveal Series panels
- Use siding starter strip to start panel at bottom of soffit or sill
- Use channel closure at inside and outside corners with or without rubber closures
- Use standard channel at jambs without rubber closures
- Use special channel at jambs without rubber closures
- Use HR rubber closures against air infiltration



*Pictured Above*  
Project: Strawberry Crest High School  
Installing Contractor: Ramcon  
Color: Zinc-Cote™



Detail of HR Panel Interlock

## BERRIDGE HR-4 & HR-16 PANEL TESTING AND CERTIFICATION SUMMARY CHART

CATEGORY	CHARACTERISTIC	TEST METHOD	PURPOSE	RESULT
PERFORMANCE	<input type="checkbox"/> Uplift Resistance	ASTM E-1592*	Test method to determine uplift resistance of open framing systems	See Load Chart on Berridge website
AIR AND MOISTURE	<input type="checkbox"/> Water Penetration	ASTM E-331**	Test method for water penetration of metal roofs by uniform static air pressure difference	No Leakage at 15.0 PSF Pressure Differential
	<input type="checkbox"/> Air Leakage	ASTM E-283**	Test method for rate of air leakage through exterior metal roofs	Less than 0.1 CFM at 6.24 PSF Pressure Differential
ROOF LISTINGS	<input type="checkbox"/> Florida Product Approval*	TAS 125	Local and state approval of products and systems for compliance with the structural requirements of the Florida Building Code	FL #17437.2 (24 GA or 0.032 AL - Steel Girts) FL #14082.2 HVHZ (24 GA - Steel Girts)
	<input checked="" type="checkbox"/> Miami Dade*	TAS 202 TAS 201 TAS 203 ASTM E8	Miami Dade County approval of building products directly related to the structural wind resistance	NOA #20-1013.12 (24 GA - Steel Girts)
	<input checked="" type="checkbox"/> TDI Listed*	ASTM E-1592	Texas Department of Insurance Listing for wind capacities	EC-84 (24 or 22 GA - Steel Girts) EC-121 (0.032 AL - Steel Girts)

■ - Steel only    □ - Steel and Aluminum

For further details please visit [www.Berridge.com](http://www.Berridge.com)

\* HR-16 approved only

\*\* See HR-16 Panel for test results on ASTM E-331 and ASTM E-283 with similar panel seams



**CORPORATE HEADQUARTERS**  
 2610 Harry Wurzbach Road  
 San Antonio, TX 78209  
 (800) 669-0009  
[www.Berridge.com](http://www.Berridge.com)