



# SYSTEM OVERVIEW



**CLADDING**

Engineered. Compliant. Optimized.

## GET TO KNOW ECO

Through 20 years of technical expertise, industry relationships and real-life experience, ECO Cladding continues to offer engineered, single source solutions for any rainscreen.

Our approach to rainscreen sub-framing gives designers the ability to seamlessly interchange multiple cladding materials on the same project and/or elevation with a unified substructure assembly. Design materials such as ACM, metal panels, FRP, fiber cement, HPL, terracotta, natural stone, porcelain ceramic and fiber concrete can all be integrated into a rainscreen wall assembly with one uniform attachment approach.

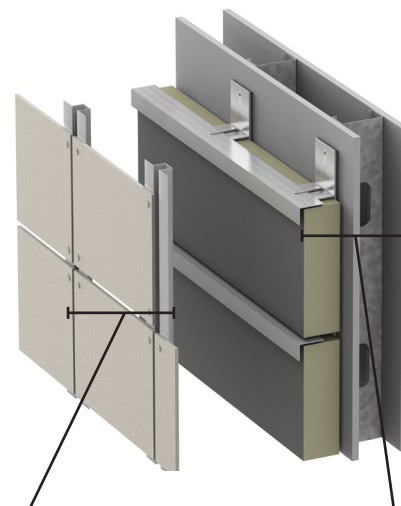
ECO Cladding offers a turn-key solution for the increasingly rigorous demands of engineering and thermal performance.



## SUB-FRAMING SOLUTIONS

Wall design has matured. Building designers and owners want a complete, cost-effective wall where all components work together to maximize the wall's performance. Substrate, air-vapor barrier, insulation, sub-framing and exterior facade panels need to be designed as one wall assembly with each element complimenting the other. ECO Cladding sees sub-framing or attachment systems as two parts, what we call "C.I. Sub-framing" and "Panel Sub-framing," working in harmony to create one wall assembly.

With a variety of solutions being offered, ECO Cladding believes that our aluminum "C.I. Sub-framing" provides the best combination of fire safety, engineering and thermal performance at a cost-effective price. When the "Panel Sub-framing" is incorporated into the system, the wall assembly will address all of the wall's design requirements and ensure the façade's exterior panels achieve maximum performance.



### PANEL SUB-FRAMING

Panel Sub-framing is incorporated for a full "system" approach to address all of the wall's design requirements and ensure maximum performance for the facade panels.

### C.I. SUB-FRAMING

C.I. Sub-framing addresses fire safety, engineering and thermal performance. ECO Cladding creates an attachment plane for vertical or horizontal panel layout.



# INTRODUCTION

## OUR NAME SPEAKS FOR ITSELF: ENGINEERED. COMPLIANT. OPTIMIZED.

### E - ENGINEERED

**ENGINEERED SYSTEMS** - A well-designed wall requires a holistic approach to the building's exterior envelope. ECO Cladding's ECO Calculator engineering tool gives designers immediate project-specific sub-framing layouts. Our engineered solutions allow maximum spanning capability, while simultaneously addressing deadload, windload, seismic concerns, thermal requirements and material deflection.

**DESIGNED TO LIMIT MATERIAL STRESS** - Our systems address material movements associated with the expansion and contraction inherent to the rainscreen environment. Connections at brackets, profiles and panel fasteners are detailed to limit panel stresses associated with these thermal movements.

### C - COMPLIANT

**NON-COMBUSTIBLE** - The first hurdle is fire. Non-combustible aluminum is the logical choice. Deemed NFPA 285 compliant when tested with several of our partner manufacturers, these brackets are an ideal product to address smoke and fire concerns.

**THERMAL CODE COMPLIANT** - Give us the U-value and we will give you your solution. Alpha brackets are thermally modeled by Morrison Hershfield to provide designers with charts to demonstrate what insulation material thickness is required to meet or exceed the continuous insulation (c.i.) requirements of ASHRAE 90.1. By utilizing a system that incorporates brackets, designers minimize thermal shorts in the building envelope.

### O - OPTIMIZED

**INSTALLATION EASE MEANS LABOR SAVINGS** - Our systems are easy to install and more cost-effective in labor man-hours because the strength of Alpha brackets reduces the number of attachment points. Alpha brackets allow materials to be rapidly set even when backup walls are not plumb or true. The bracket's "thumb hold" also allows installers to quickly install the brackets, temporarily set the L-profile and then make adjustments of +/- 3/4", without the need for plastic shims.

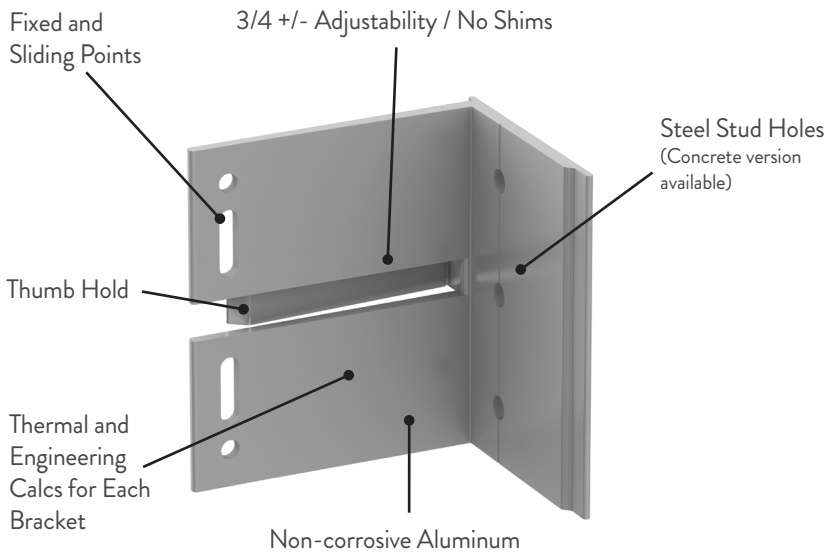
**MAXIMIZING AIR BARRIER PERFORMANCE** - Alpha brackets maximize the distance between attachment points on the wall, creating fewer penetrations through the continuous insulation (c.i.) plane and the weather protective membrane, thereby reducing opportunities for air and water leakage. Alpha brackets are also designed so that they create a seal between the bracket and membrane, providing better protection.

## VERTICAL SOLUTION

Alpha brackets are designed to simplify the process of building rainscreen walls of all types. Our Vertical Alpha V brackets are available in twelve sizes to create various cavity depths. The number of fasteners back into the sub-structure will be optimized based on load requirements and back-up wall type.

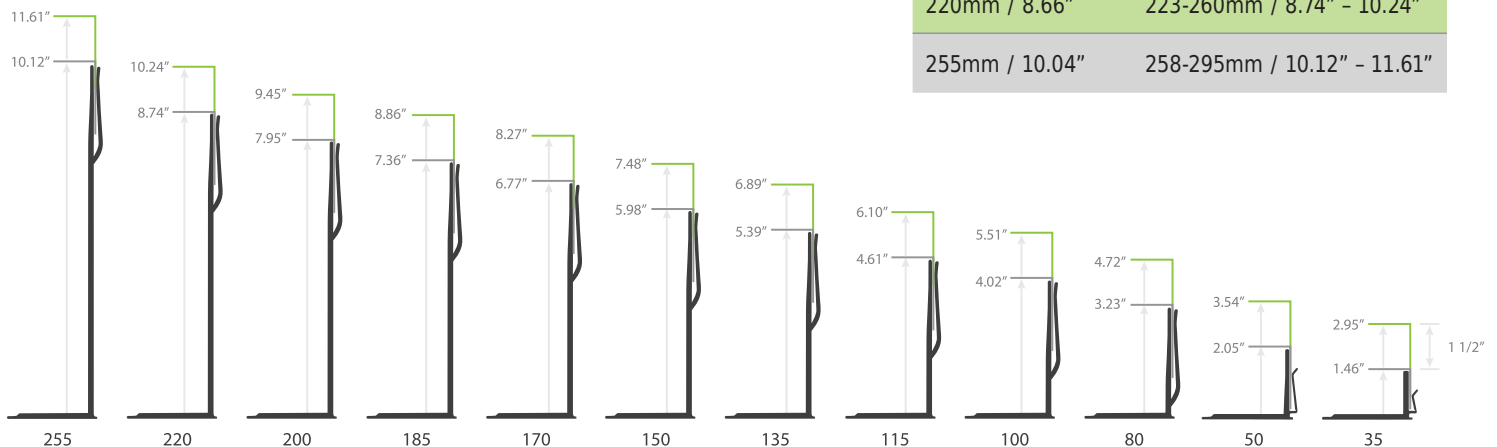
Alpha V+ brackets allow more fastener points and can be used in combination with standard Alpha V brackets to address the cladding material's deadload.

### Alpha V WALL BRACKET



Alpha brackets install over multiple surfaces and are NFPA 285 compliant.

### Alpha V BRACKET ADJUSTABILITY



### Alpha V ADJUSTABILITY CHART

Gain control and ease in creating wall cavity depths. Use the appropriate bracket size to meet your exterior insulation requirements!

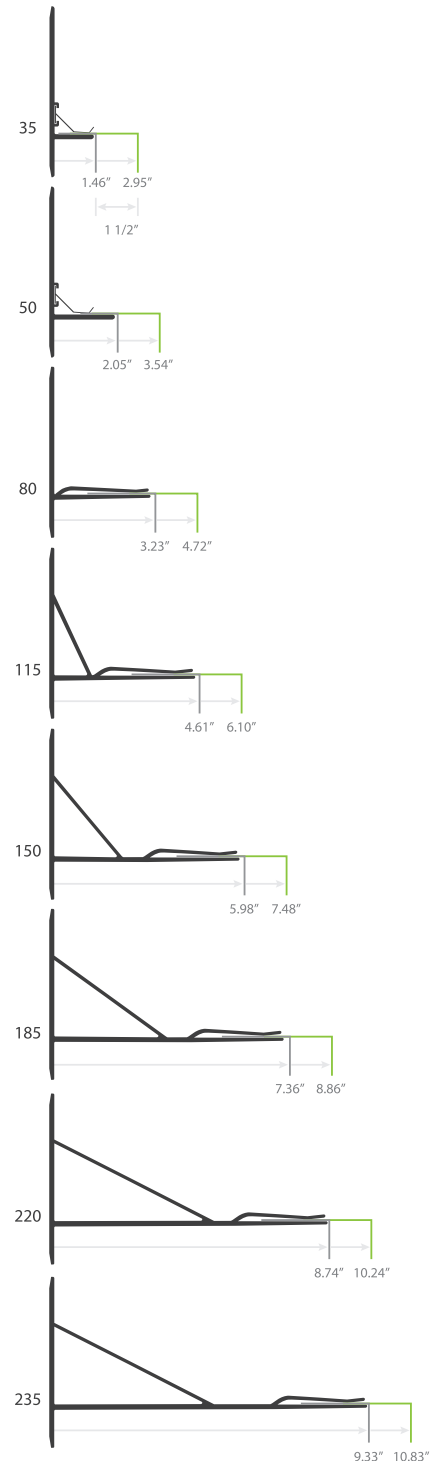
BRACKET DEPTH	DEGREE OF ADJUSTABILITY
35mm / 1.38"	38-75mm / 1.46" - 2.95"
50mm / 1.97"	53-90mm / 2.05" - 3.54"
80mm / 3.15"	83-120mm / 3.23" - 4.72"
100mm / 3.94"	103-140mm / 4.02" - 5.51"
115mm / 4.53"	118-155mm / 4.61" - 6.10"
135mm / 5.31"	138-175mm / 5.39" - 6.89"
150mm / 5.91"	153-190mm / 5.98" - 7.48"
170mm / 6.69"	173-210mm / 6.77" - 8.27"
185mm / 7.28"	188-225mm / 7.36" - 8.86"
200mm / 7.87"	203-240mm / 7.95" - 9.45"
220mm / 8.66"	223-260mm / 8.74" - 10.24"
255mm / 10.04"	258-295mm / 10.12" - 11.61"

## HORIZONTAL SOLUTION

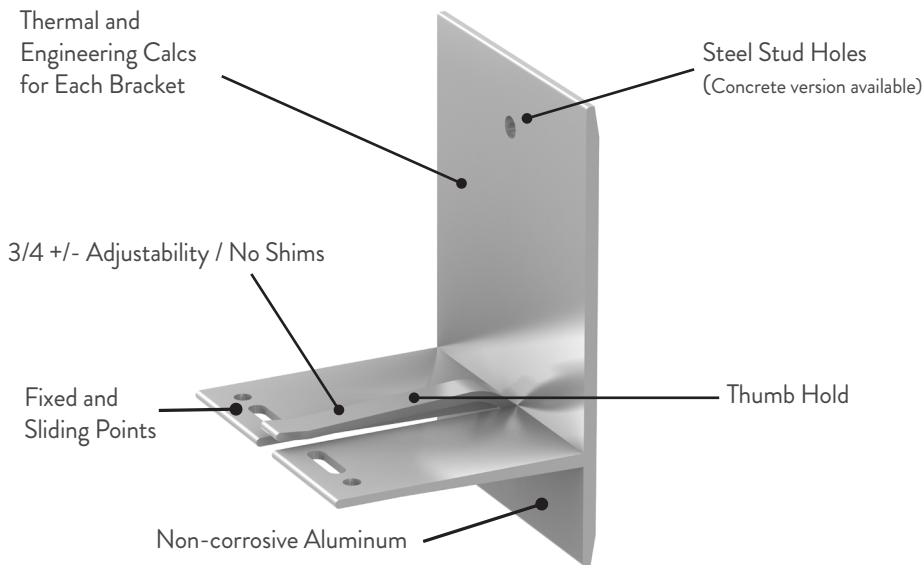
Alpha brackets are designed to simplify the process of building rainscreen walls of all types. Our Horizontal Alpha H brackets are available in eight sizes to create various system cavity depths. The number of fasteners back into the sub-structure will be optimized based on load requirements and back-up wall type.

Alpha H+ brackets allow more fastener points and can be used in combination with standard Alpha H brackets to address the cladding material's deadload, specifically for concrete block construction.

### Alpha H BRACKET ADJUSTABILITY



### Alpha H WALL BRACKET



Alpha brackets install over multiple surfaces and are NFPA 285 compliant.

### Alpha H ADJUSTABILITY CHART

Gain control and ease in creating wall cavity depths using Alpha Hci wall brackets. Use the appropriate bracket size to meet your exterior insulation requirements!

BRACKET DEPTH	DEGREE OF ADJUSTABILITY	BRACKET DEPTH	DEGREE OF ADJUSTABILITY
35mm / 1.38"	38-75mm / 1.46" - 2.95"	150mm / 5.91"	153-190mm / 5.98" - 7.48"
50mm / 1.97"	53-90mm / 2.05" - 3.54"	185mm / 7.28"	188-225mm / 7.36" - 8.86"
80mm / 3.15"	83-120mm / 3.23" - 4.72"	220mm / 8.66"	223-260mm / 8.74" - 10.24"
115mm / 4.53"	118-155mm / 4.61" - 6.10"	235mm / 9.25"	238-275mm / 9.33" - 10.83"

## C.I. IS ALL ABOUT U

Industry confusion around continuous insulation or (c.i) continues to persist. The best, most comprehensive approach to evaluating a wall's thermal performance is to thermally model the wall's U-Value. The required U-Value depends on the building's location and corresponding code adoption. All ECO Cladding systems incorporate intermittent Alpha brackets with aluminum rails to create the "C.I. Sub-framing" layer. The exterior "Panel Sub-framing" is then attached back to this layer to create a complete rainscreen system.

Morrison Hershfield, an industry leader in thermal modeling, has analyzed the Alpha bracket configuration on steel stud walls with "C.I. Sub-framing" on two wall types: split insulation and exterior only insulation. To assist the design community, multiple thicknesses of the three most common insulation materials (mineral wool, polyiso exterior boards and polyiso spray foam) have been modeled. Using the ECO Calculator, the layout can be determined and the corresponding wall's U-Value can be provided.

C.I. just got a whole lot simpler.

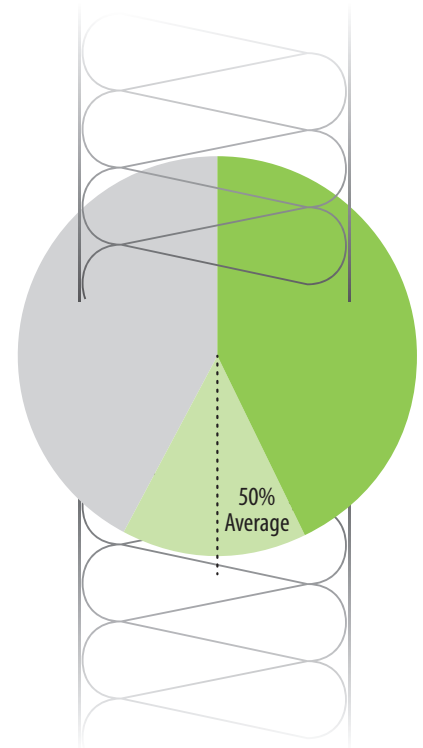
## ALPHA BRACKET EFFICIENCY

The best way to isolate the impact of interior framing on a wall's thermal performance is to evaluate a wall without batt insulation, so that the thermal analysis can focus on the impact of exterior insulation. For years, the construction industry has used continuous galvanized girt systems, attaching at every stud (16" o.c.) and at every 24" o.c. moving up the façade. Unfortunately, this approach causes an average insulation effectiveness of 50%, and half of the wall's thermal performance is wasted. The strength of aluminum Alpha brackets allows spacing of brackets to typically be twice the range of other sub-framing systems. In addition, the smaller bracket sizes enable a very low impact on the wall's thermal conductivity. Alpha brackets can move insulation's effectiveness up to 93%.

Consult your ECO Cladding representative for the appropriate bracket layout for your project based on the wall's desired U-Value.

\* Results in ASHRAE 1365-RP Final Report and Building Envelope Thermal Bridging Guide

### Continuous Galvanized Girt System



#### R Value Performance

- Lost R Value
- Minimum Efficiency = 43%
- Maximum Efficiency = 58%

**Alpha wall brackets  
can impact insulation  
effectiveness up to 93%**



# ECO INSTALLED

## ENGINEERED. COMPLIANT. OPTIMIZED

With reference projects throughout North America, ECO Cladding continually demonstrates its ability to create high performance, thermally designed rainscreen exteriors. We have been honored to work with many industry-leading architects and installers. Below are a few of our projects- contact your ECO Cladding representative for a full reference list of the hundreds of installations we have completed over the past 20 years.



Alice Tully Hall (New York, NY) - FX FOWLE / Fiber Cement



SUNY Maritime College (Bronx, NY) - EYP Architecture & Engineering / Stone



National Museum of African American History and Culture (Washington, DC) - Freelon Adjaye Bond & Smithgroup / Fiber Concrete



Harford Hospital Medical Office Building (Hartford, CT) Perkins + Will / ACM



U of Arkansas Garland Avenue Center (Fayetteville, AR) - HLKB Architecture / Terracotta / Fiber Cement



Cleveland State College of Education (Cleveland, OH) - NBBJ / Fiber Cement



Goodwin College Academy (East Hartford, CT) - Amenta Emma Architects / HPL



Del Lago Academy (Escondido, CA) - Baker Nowicki Design Studio / Ceramic



HMI Research Center (Ashburn, VA) - WDG Architects / Metal / Fiber Cement

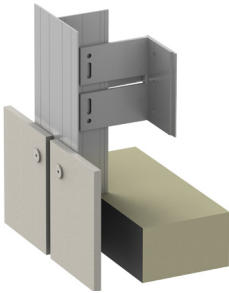




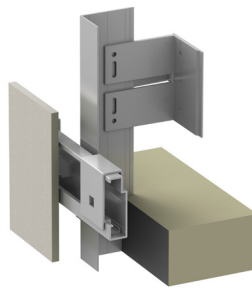
## PANEL SUB-FRAMING SOLUTIONS

Panel Sub-framing is incorporated for a full “systems” approach to address all of the wall design’s requirements and ensure maximum performance for the facade panels. Below are some of the standard Panel Sub-framing systems we offer:

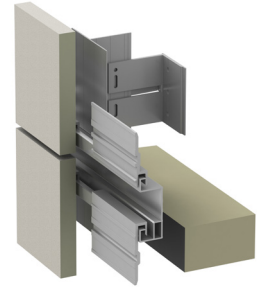
Alpha Vci.10



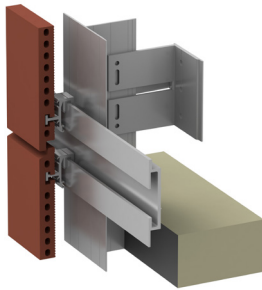
Alpha Vci.40



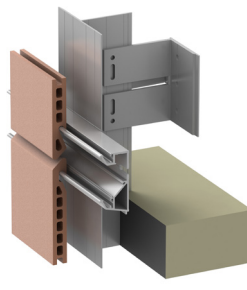
Alpha Vci.44



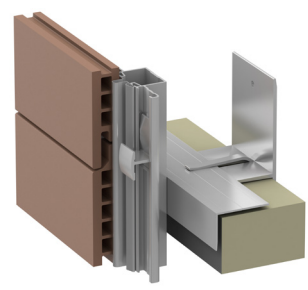
Alpha Vci.45



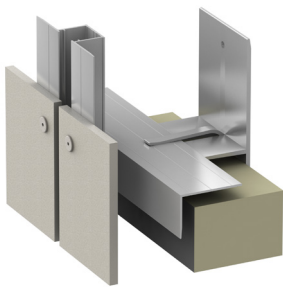
Alpha Vci.55



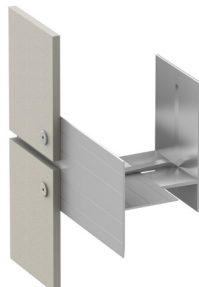
Alpha Hci.22



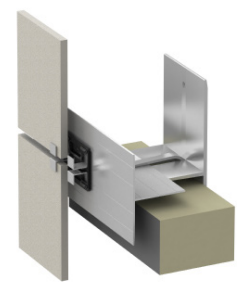
Alpha Hci.10



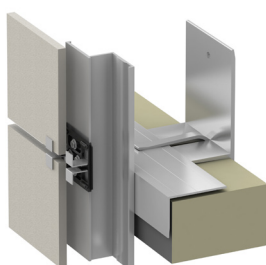
Alpha Hci.11



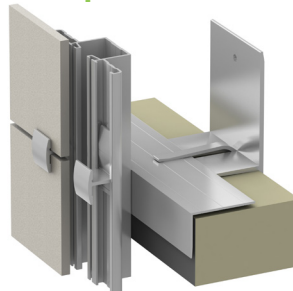
Alpha Hci.12



Alpha Hci.13



Alpha Hci.20



### Questions?

Not sure which system is right for you? Contact an ECO Cladding representative. We have additional systems and custom configurations to meet your design requirements.

## ALUMINUM ADVANTAGE



### Non-Corrosive Material

A drained and back-ventilated rainscreen is a damp and dynamic environment which requires the highest quality materials. Our aluminum is a 6063 T6 architectural marine grade product, which provides a level of corrosion resistance that is superior to other rainscreen attachment metals, such as galvanized steel or galvalume. This is especially important for open-joint systems that allow moisture into the ventilated cavity.



### Lifetime Material Consistency

Aluminum does not become brittle over time like fiber glass or plastic products. For the life of the building, Alpha brackets have the aluminum advantage.



### Better Spanning Distances

ECO Cladding's engineered solutions allow maximum spanning capability, while simultaneously addressing deadload, windload, seismic concerns, thermal requirements and material deflection. Aluminum's strength-to-weight ratio is an exceptional structural material, weighing up to 65% less than steel.



### Recycled Content

Alpha brackets use 75% post-consumer recycled content, making them the environmental choice. Aluminum is infinitely recyclable, in fact 75% of all aluminum ever produced is still in use today.

## BRACKET DESIGN BENEFITS



### Fixed and Sliding Points

The Alpha bracket fixed point carries the deadload and windloads to the load-bearing wall. The connection between the wall bracket and profile is fastened immovable in the "round hole". The connection between the Alpha bracket sliding point and the profile is designed for thermal linear expansion and contraction. For a sliding point, only wind pressure loads are carried to the load-bearing wall.



### Thumb Hold Feature

Two advantages in one! The thumb hold design feature creates a substantial labor savings. Alpha brackets give installers an "extra hand" while they get the wall level and plumb, and the "thumb-hold" feature of our brackets allows the system to have a +/- 3/4" adjustment, without the need for external shims.



### Bracket Sizes

Shallow or deep, Alpha brackets can accommodate your building's system depth. Alpha V brackets are available in 12 sizes to accommodate depths of 1.46" to 11.61". Alpha H brackets are available in 8 sizes to accommodate depths of 1.46" to 10.83"



### Engineered System

ECO Cladding is committed to providing a fully-engineered system (both C.I. Sub-framing and Panel Sub-framing) in which the entire wall is engineered to accommodate project windloads, seismic loads, building slab to slab deflections and thermal movements of materials.

# ADVANTAGES

## COST EFFECTIVE



### Fewer Holes in Air Vapor Barrier

Alpha bracket's strength maximizes the distance between attachment points on the walls, creating fewer penetrations through the continuous insulation (c.i.) plane and weather protective membrane, thereby reducing opportunities for air and water leakage. In addition, our system brackets are detailed so that they create a seal between the bracket and membrane.



### The Cost Effective Sub-Framing!

Alpha brackets are easy to install and more cost-effective in labor man-hours. Alpha brackets allow materials to be rapidly set even when backup walls are not plumb or true. Since Alpha brackets have better spanning distances compared to competitors, labor time can be cut in half.



### In Stock / Short Lead Times!

Time is money. ECO Cladding stocks Alpha brackets, profiles and accessories ready to ship for your project. Our in-house technical team can get your project moving forward quickly.



### 20 Years of Rainscreen Experience

The team at ECO Cladding has over 20 years of USA-based technical expertise, industry relationships and real-life experience. With the completion of hundreds of rainscreen installations across the USA, and with a variety of products, we are here to serve you..

## ECO SUPPORT TEAM



### ECO Calculator

The ECO Calculator is an engineering tool that gives immediate, project-specific sub-framing layouts. Every Alpha bracket has both engineering and thermal calculations. Through the ECO Calculator, the architect can see the sub-framing's layout and the installer is able to get approximate material counts and labor information.



### We Embrace Various Claddings on the Same Building

With our Alpha bracket-based approach to substructure, designers now have the ability to interchange multiple cladding materials on the same elevation seamlessly, with the same thermal compliant substructure components and bracket assembly.



### In-House Support

From initial design and detailing assistance, to shop drawings and engineered calculations, to jobsite training and final installation, ECO Cladding provides a full range of services as part of our "systems approach" that guarantee proper installation and long-life performance.



### Installer Training

ECO Cladding is committed to our sub-contractors during every stage of the project installation. As part of our approach, we offer onsite support and training sessions for all of our systems and products. For more information regarding on-site support and training, contact your ECO Cladding sales representative.





**ECO CLADDING**  
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A CLADDING CORP PARTNER COMPANY

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