RAINSCREEN SUBFRAME SOLUTIONS

ECO CLADDING
Engineered. Compliant. Optimized.

GET TO KNOW ECO CLADDING

Through more than 25 years of technical expertise, industry relationships and real-life experience, ECO Cladding continues to offer engineered, single source solutions for any rainscreen.

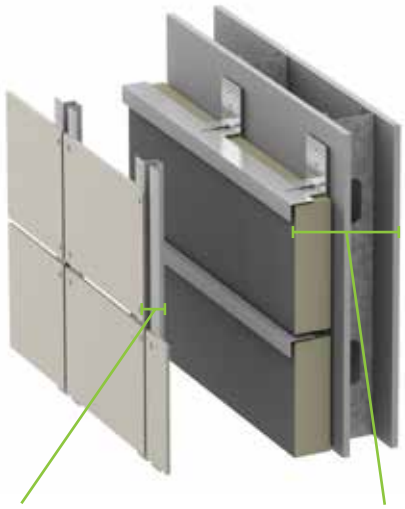
Our approach to rainscreen subframing gives designers the ability to seemlessly interchange multiple cladding materials on the same project and/or elevation with a unified substructure assembly. Design materials such as ACM, metal panels, FRP, fiber cement, HPL, terracotta, natural stone, porcelain ceramic 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.

SUBFRAMING SOLUTIONS

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

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



PANEL SUBFRAMING
Panel Subframing is incorporated for a full “system” approach to address the design requirements and ensure maximum performance for the facade panels.

C.I. SUBFRAMING
C.I. Subframing addresses fire safety, engineering and thermal performance. ECO Cladding creates an attachment plane for vertical or horizontal panel layouts.

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WHY USE ECO CLADDING?

ENGINEERED DESIGN

- Fully Engineered
- Optimized Layout - Increased Spanning Distances
- Variety of Panels and Weights

THERMALLY EFFICIENT

- ASHRAE Compliant
- Continuous Insulation
- Project Specific Thermal Modeling
- Passive House Certified

BRACKET ADVANTAGES

- 1.5" Adjustability
- Internal Shimming
- Fixed and Sliding Points
- Variable Cavity Depths
- Thumb Hold Feature

MATERIAL PROPERTIES

- Non-Corrosive Material
- Fire Resistant – NFPA 285
- Lifetime Material Consistency
- Recycled Content – 75%

MINIMIZED BREACH OF AIR BARRIER

- Greater Spans - Less Penetration
- Addresses Vulnerability Caused by Shimming
- Limit Penetration of Air and Vapor Barriers

SUPPORT

- 25+ Years of Experience
- In-house Support and Shop Drawings
- ECO Calculator
- Installer Training

ENGINEERED DESIGN

FULLY ENGINEERED

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

OPTIMIZED LAYOUT - INCREASED SPANNING DISTANCES

ECO Cladding's engineered solutions allow maximum spanning capability, while simultaneously addressing deadload, windload, seismic concerns, thermal requirements and material deflection. Also, greater spans means less material to install for lowered labor costs.

VARIETY OF PANELS AND WEIGHTS

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 thermally compliant substructure components and bracket assembly.

THERMALLY EFFICIENT

ASHRAE COMPLIANT

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 by ASHRAE 90.1.

CONTINUOUS INSULATION

Non-continuous, thermally broken Alpha brackets enable increased spanning that allows for less penetrations in the air vapor barrier, decreasing thermal bridging. The strength of Alpha brackets maximizes the distance between attachment points creating fewer penetrations through the continuous insulation (C.I.) plane thus reducing the opportunity for air and water leakage.

PROJECT SPECIFIC THERMAL MODELING

U-Value

Give us the required U-value and we will give you your solution. Each project is thermally modeled and a report is generated to demonstrate your specific wall's U-value.

PASSIVE HOUSE CERTIFIED

Sigma stainless steel brackets can be used to provide a certified Passive House solution. ECO Cladding is the first North American company to have a Passive House certified façade anchor system for rainscreen.

BRACKET ADVANTAGES

1.5" ADJUSTABILITY

¾" +/-

Gain control and ease in creating level and plumb facades using Alpha brackets. Each bracket has the ability to adjust +/- ¾", to create a total of 1.5" of adjustability.

INTERNAL SHIMMING

Alpha brackets are internally adjustable without using shims allowing them to sit flat against the substrate.

FIXED AND SLIDING POINTS

The bracket fixed point carries the deadload and windloads to the load-bearing wall. The bracket's sliding point is designed for thermal linear expansion and contraction. Only wind pressure loads are carried to the load-bearing wall.

VARIABLE CAVITY DEPTHS

Shallow or deep, Alpha brackets can accommodate your wall'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"

THUMB HOLD FEATURE

The thumb hold design creates a substantial labor savings. Alpha brackets give installers an "extra hand" while they ensure the wall is level and plumb.

MATERIAL PROPERTIES

NON-CORROSIVE MATERIAL

A drained and back-ventilated rainscreen is a damp and dynamic environment requiring the highest quality material. ECO Cladding's aluminum is a 6063 T6 architectural marine grade product that provides a level of corrosion resistance superior to galvanized steel or galvalume.

FIRE RESISTANCE – NFPA 285

The non-combustible material properties of aluminum, unlike their fiberglass counterparts, are the ideal sub-framing solution to address fire and smoke concerns. In fact, all Alpha brackets are deemed NFPA 285 compliant by the National Fire Protection Association when tested with several manufacturers over multiple surfaces.

LIFETIME MATERIAL CONSISTENCY

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

RECYCLED CONTENT

Alpha brackets use 75% post-consumer recycled content making them the environmental choice.

MINIMIZED BREACH OF AIR BARRIER

GREATER SPANS - LESS PENETRATION

Alpha brackets enable increased spanning that allows for less penetrations in the air vapor barrier. The strength of Alpha brackets maximizes the distance between attachment points creating fewer penetrations through the continuous insulation (C.I.) plane thus reducing the opportunity for air and water leakage.

ADDRESSES VULNERABILITY CAUSED BY SHIMMING

Facade consultants are concerned over the use of shims on the backside of zees or clips. After testing various wall designs that incorporate shims, it has been clearly demonstrated that the use of external shims creates a vulnerable point on the backside of zees or clips for penetration of water and/or air breaches.

LIMIT PENETRATION OF AIR AND VAPOR BARRIERS

All manufacturers of air and vapor barriers state that architects should minimize the number of penetrations through the air barrier. The fewer the penetrations, the better your wall will perform.

SUPPORT

25+ YEARS OF RAINSCREEN EXPERIENCE

For over 25 years, ECO Cladding has developed US-based technical expertise, industry relationships and actual project experience. With the completion of hundreds of rainscreen installations with a variety of products, we are here to serve you.

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 life-long performance.

ECO CALCULATOR

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

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.

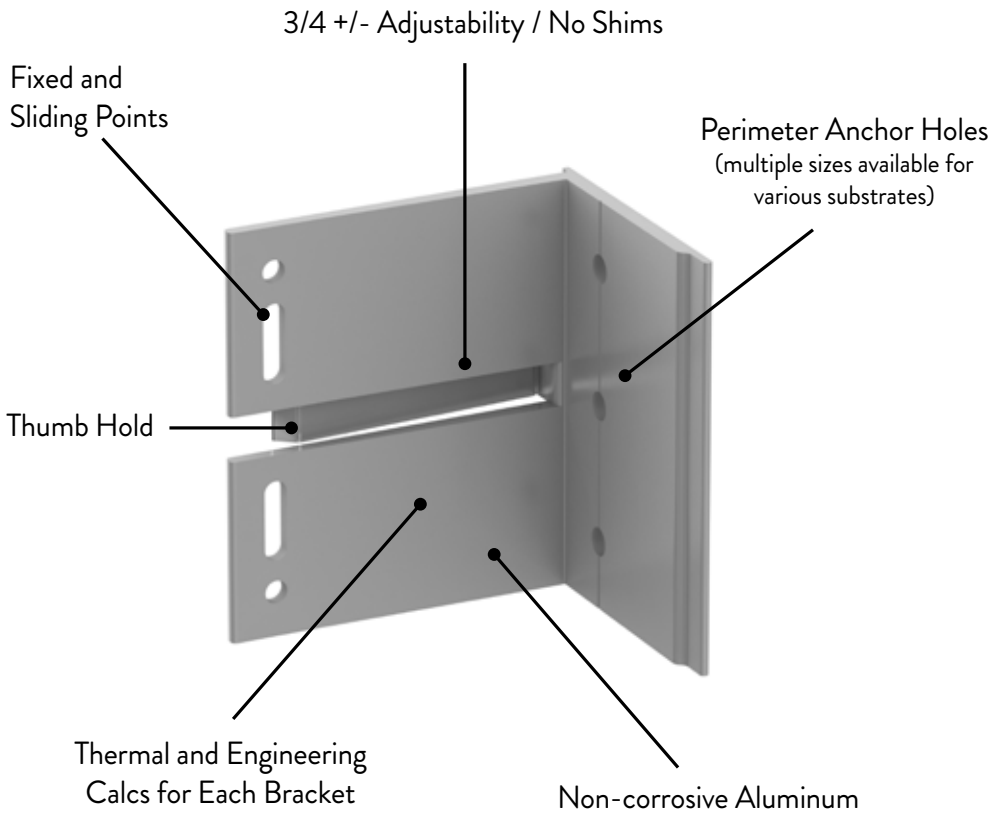
Alpha V BRACKETS

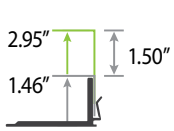
VERTICAL SOLUTION

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.

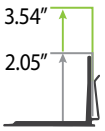
Alpha V+ brackets allow more fastener points and can be used in combination with standard Alpha V brackets to address the cladding material's deadload.

Alpha V Wall Bracket

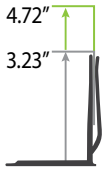




V.035*



V.050*



V.080

V.100

V.115

V.135

V.150

V.170

V.185

V.200

V.220

V.255

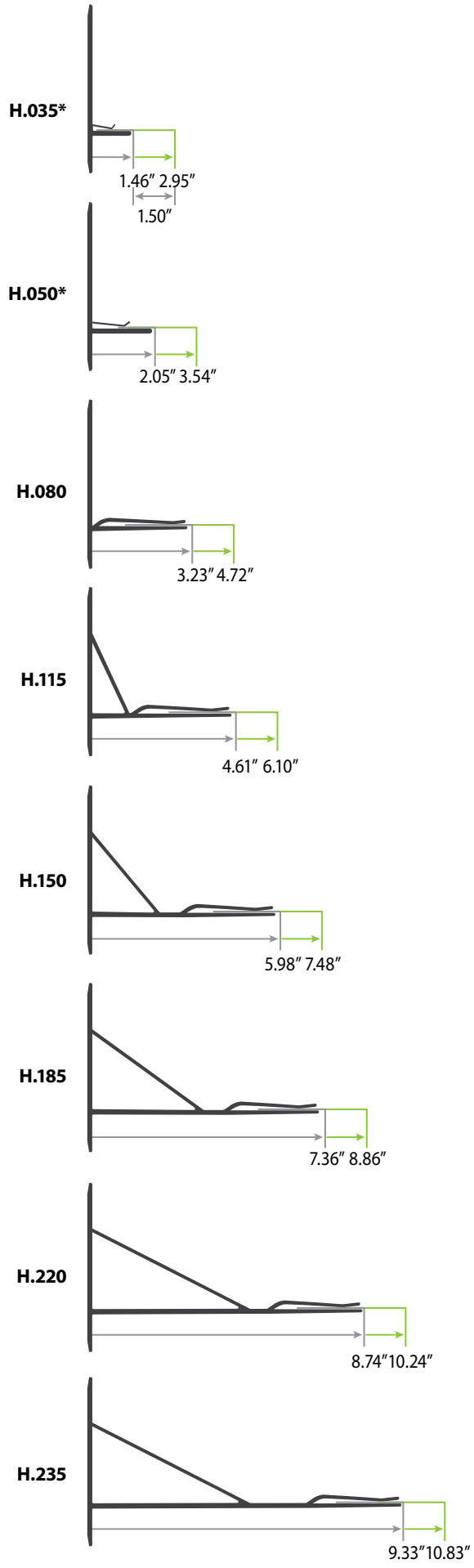
* NOTE: May require custom profile to achieve specified depth.

Alpha H BRACKETS

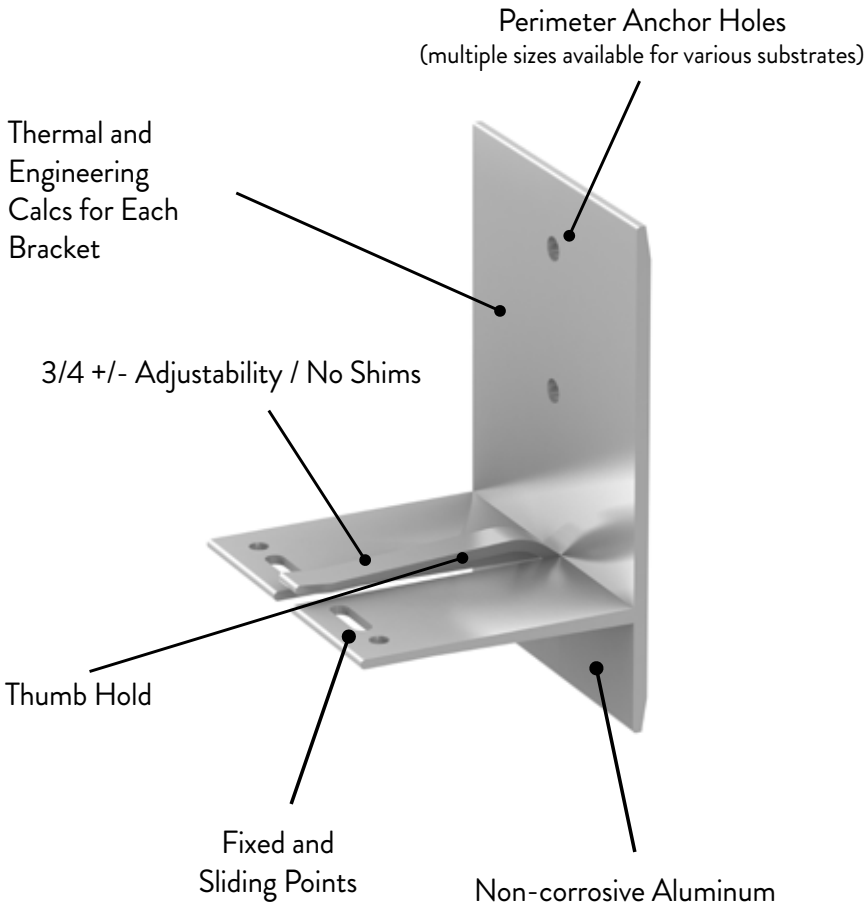
HORIZONTAL SOLUTION

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 Wall Bracket

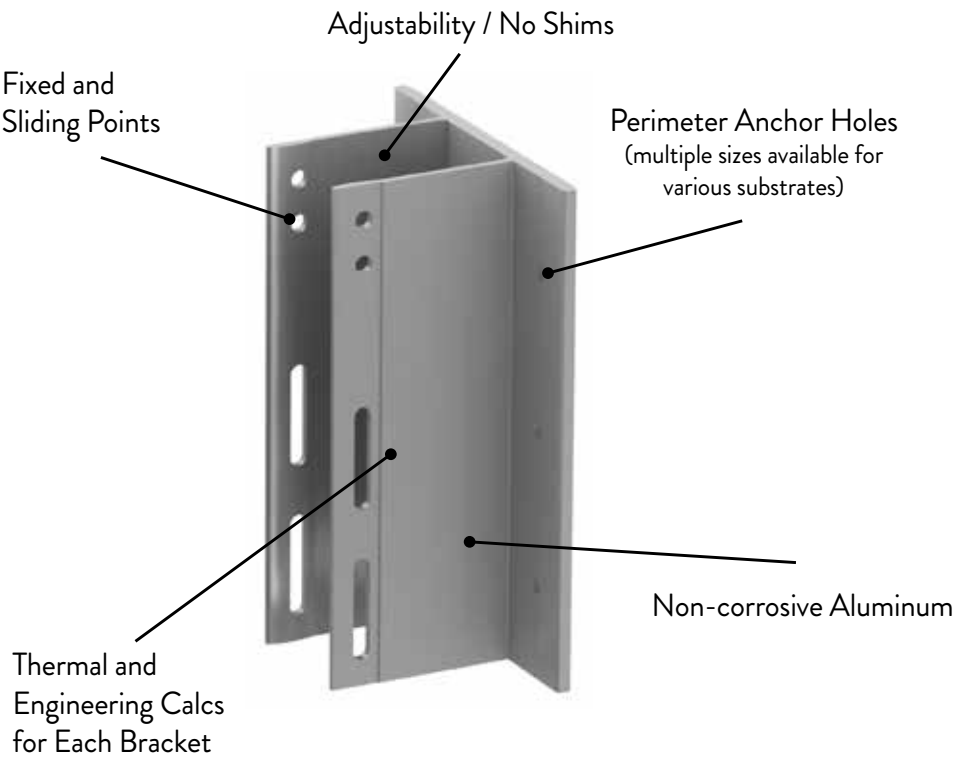


* NOTE: May require custom profile to achieve specified depth.

EDGE TO EDGE SOLUTION

This “edge to edge” bracket is specifically designed to be fixed to concrete floor slabs. This unique, engineered support system is capable of spanning story heights without the need of intermediate fixings. The system is individually constructed and fabricated for each project, making it ideal for over cladding medium and high rise buildings.

Alpha E Wall Bracket

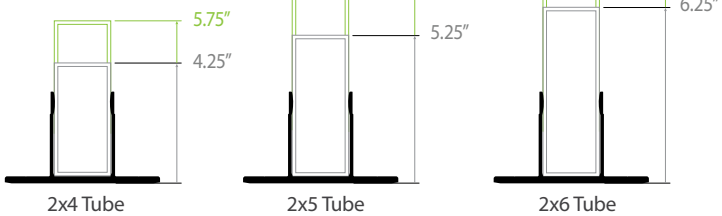


Alpha E Advantages:

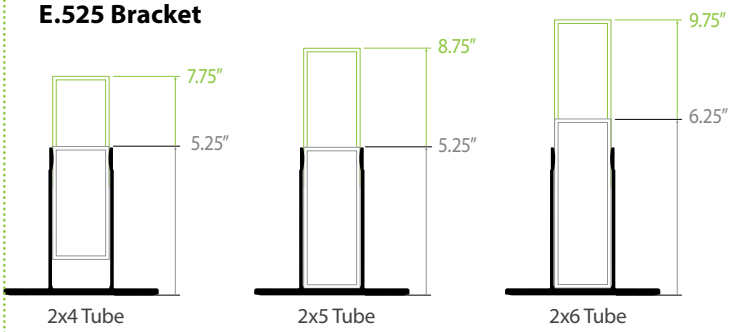
- High load carrying capacity
- Large spans can be achieved due to a solid supporting beam recess
- Floor to floor spans can be supported
- Each bracket is able to perform a fixed and sliding point function
- Enables more cost effective installation and more efficient thermal performance
- Adjustability range from 1.5” to 3.5” depending on bracket and tube size

Alpha E Bracket Adjustablity

E.325 Bracket



E.525 Bracket



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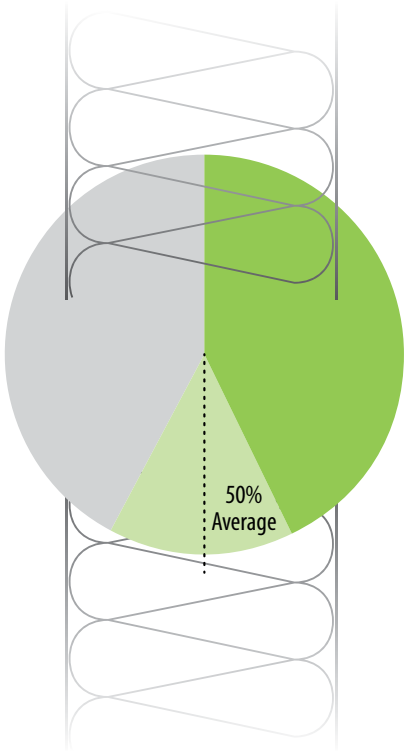
C.I. SUBFRAMING SOLUTIONS

C.I. just got a whole lot simpler.

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. Subframing" layer. The exterior "Panel Subframing" is then attached back to this layer to create a complete rainscreen system.

Morrison Hershfield, an industry leader in thermal modeling, analyzed the Alpha bracket configuration on steel stud walls with "C.I. Subframing" 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) were modeled. Using the ECO Calculator, the layout can be determined and the corresponding wall's U-Value can be provided.

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%

Alpha Vci

Alpha Hci

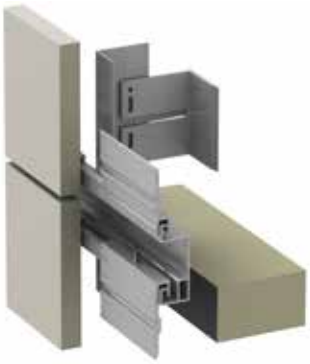
Alpha Eci

FACADE MATERIALS WE SUPPORT

- ✔ ACM
- ✔ Aluminum
- ✔ Ceramic
- ✔ Copper
- ✔ Fiber Cement
- ✔ Fiber Concrete
- ✔ FPR
- ✔ GFRC
- ✔ HPL
- ✔ Natural & Engineered Stone
- ✔ Stainless Steel
- ✔ Terracotta
- ✔ Thin Brick
- ✔ Timber
- ✔ Zinc

FULL PANEL SUBFRAMING SOLUTIONS

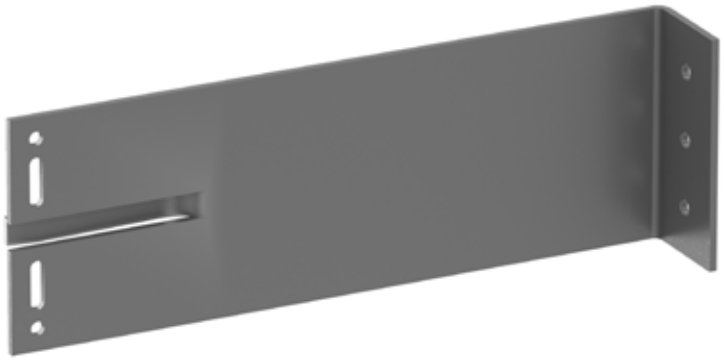
Panel subframing is incorporated for a full “systems” approach to address all of the requirements of the wall design and ensure maximum performance for the facade panels. Below are some of the standard panel subframing systems we offer.

Exposed Fiber Cement Fiber Concrete HPL	 **Hci.10**	 **Vci.10**	 **Eci.11**
Concealed Fiber Cement Fiber Concrete HPL Stone	 **Vci.40**	 **Vci.44**	 **Eci.40**
Concealed Terra Cotta	 **Hci.22**	 **Vci.29**	 **Eci.22**

Sigma BRACKETS

STAINLESS STEEL SOLUTIONS

Thermal bridging can be responsible for a structure's heat loss. ECO Cladding's Sigma stainless steel brackets have low thermal conductivity which reduces heat loss and significantly decreases thermal bridging. Sigma brackets are designed to simplify the building rainscreen walls of all types. Available in both vertical and horizontal designs Sigma brackets are available in multiple sizes to create various cavity depths. The number of fasteners back into the substructure will be optimized based on load requirements and back-up wall type. Sigma+ brackets allow more fastener points and can be used in combination with standard Sigma brackets to address the cladding material's deadload.



BRACKET DEPTH	ADJUSTABILITY	VERTICAL	HORIZONTAL
35mm / 1.38"*	1.46" - 2.95"	✔	✔
50mm / 1.97"*	2.05" - 3.54"	✔	✔
80mm / 3.15"	3.23" - 4.72"	✔	✔
100mm / 3.94"	4.02" - 5.51"	✔	
115mm / 4.53"	4.61" - 6.10"	✔	✔
135mm / 5.31"	5.39" - 6.89"	✔	
150mm / 5.91"	5.98" - 7.48"	✔	✔
170mm / 6.69"	6.77" - 8.27"	✔	
185mm / 7.28"	7.36" - 8.86"	✔	✔
200mm / 7.87"	7.95" - 9.45"	✔	
220mm / 8.66"	8.74" - 10.24"	✔	✔
235mm / 9.25"	9.33" - 10.83"		✔
255mm / 10.04"	10.12" - 11.61"	✔	
260mm / 10.24	10.35" - 11.85"	✔	

PASSIVE HOUSE CERTIFICATE

ECO Cladding is honored to announce that we were awarded the first Passive House certificate façade anchoring system for rainscreens in North America in 2020. Passive House certification is a building standard established by the Passive House Institute and recognized worldwide by the International Passive House Association that recognizes components and systems that achieve a high level of energy efficiency while providing comfort and affordability. Passive House is a path toward achieving a net zero building. A net zero energy building produces enough renewable energy to meet its own annual energy consumption requirements, thereby reducing the use of nonrenewable energy in the building sector.

cool, temperate climate

phC

CERTIFIED COMPONENT

Passive House Institute

ENGINEERED. COMPLIANT. OPTIMIZED.

With projects throughout North America, ECO Cladding continually demonstrates it ability to create high performance thermally designed rainscreen exteriors. We are honored to work with many industry-leading architects and installers.

Alice Tully Hall – New York City / 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

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

Uof Arkansas Garland Avenue Center – Fayetteville, AR / HLKB Architecture / Terracotta / Fiber Cement

400 K Street, NW, Washington, DC – Davis Carter Scott / Ceramic

Goodwin College Academy – East Hartford, CT / Amenta Emma Architects / HPL

Del Lago Academy – Escondido, CA / Baker Nowicki Design Studio / Ceramic

State Historical Society of Missouri - Gould Evans / Limestone

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855.237.3370
info@ecocladding.com
www.ecocladding.com

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