

Attaching CERACLAD over Continuous Insulation and Non-Structural Substrates:

Horizontally Oriented Panels



Overview:

With changes to energy and building codes, the exterior building envelope is also changing to incorporate continuous exterior insulation, additional gypsum sheathing, and other non-structural elements. This guide is meant to serve as a reference for the different methods for attaching horizontally oriented CERACLAD fiber cement panels and 18" corner products over various thicknesses of non-structural materials, such as insulation.

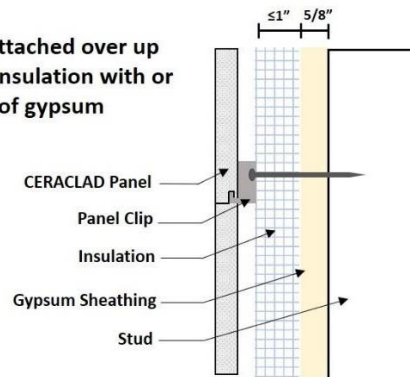
CERACLAD can be attached over up to 1" of rigid foam insulation with or without up to 5/8" of gypsum sheathing.

For increased thicknesses of insulation, or to attach CERACLAD through mineral wool of any thickness, an alternative attachment solution is necessary. Alternative attachment solutions include proprietary continuous insulation attachment systems, continuous Z-girts, or wood or steel furring attached back to the structure. This guide will discuss how to properly detail CERACLAD both with direct attachment and using an alternative attachment method.

Method 1. Attaching CERACLAD directly through non-structural substrates

*Note: Non-structural materials include any material that doesn't provide significant resistance to the combined live and dead loads of the cladding. These include, but aren't limited to- gypsum sheathing, EPS, XPS, and polyisocyanurate insulation boards.

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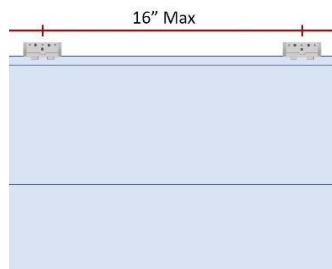


For attaching CERACLAD directly through non-structural substrates, the following criteria must be followed:

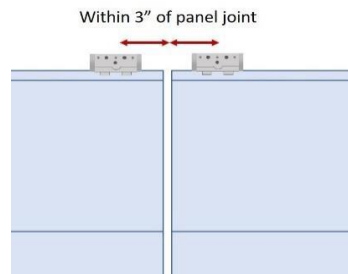
1. Combined thickness of non-structural substrates must be 1-5/8" or less.
2. Foam insulation with a compressive strength of 25 psi or more is highly encouraged.
3. Attaching CERACLAD directly over mineral wool or spray foam is prohibited. An alternative attachment solution is required in conjunction with any thicknesses of these products.

Attachment Requirements:

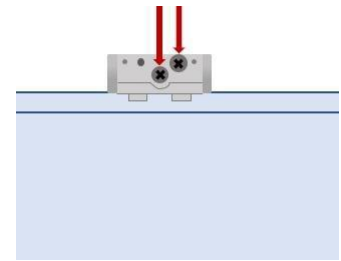
Clips



Panel clips shall be spaced 16" OC or less along the panel edge






Clips shall be placed within 3" of each panel end. Additional blocking at joints may be required to accomplish this



Use 2 screws per clip

Screws

Screws should be **#10 Stainless Steel**. Screws must penetrate the following approved substrates by the given measurement or criteria.

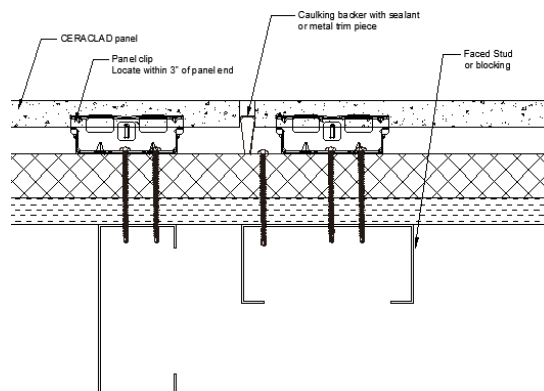
	<u>Substrate</u>	<u>Screw Type</u>	<u>Minimum screw penetration</u>
	Wood	#8 wood screw	1" into the stud
	Steel, 18 or 16 ga	#8 self-tapping	3 full threads
	Plywood/OSB, 1/2" min	#8 wood screw	Must penetrate through sheet with full diameter of the screw

Joints

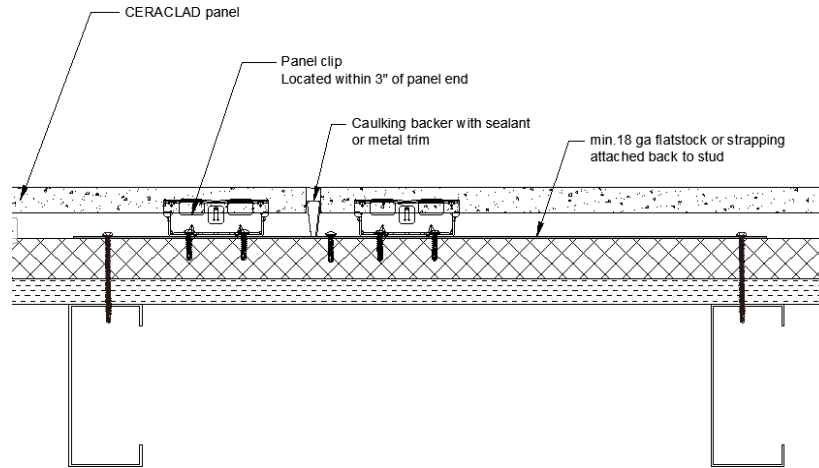
CERACLAD must be fastened with a clip within 3" of each panel end. When attaching CERACLAD to a typical 16" OC framed wall without structural sheathing, additional blocking will be necessary to provide an attachment surface for clips and the caulking backer (or metal trim) at the panel joint.

See examples for detailing joints below.

When CERACLAD panel joints align close to a stud, a faced stud, or series of studs, can be added.



When joints fall in between studs, metal strapping or flatstock can be added to span the studs. The minimum acceptable gauge for this flat stock is 18 gauge.



Method 2. Detailing a cladding attachment support system (subframe) over CI

*Disclaimer: KMEW USA is not responsible for the engineering or ultimate design of the attachment support system (ie-furring) for CERACLAD over continuous insulation or any other non-structural substrates. It is important to consider all live and dead loads, insulation thickness, and the applicable building codes for your region when choosing an appropriate sub-framing system and fastening schedule. This guide is meant to help with the layout of the subframe or furring system to provide an adequate amount of attachment points for CERACLAD. Please consult your project architect or engineer for further direction.

Quick Facts

Allowable attachment specifications for furring material:

- **Proprietary Exterior Insulation Attachment system (Ex: Cascade clips, Knight Wall, NVELOPE, etc)**
- **Steel hat channel, rails, or Z shaped furring: 18-16 gauge**
- **Pressure Treated Wood**
- **Other material as approved by project engineer**

CERACLAD panels are 3030 mm wide by 455 mm tall. Nominally, that is 10' by 18". When measuring out furring or sub-framing, it's important to use the metric dimensions to avoid compounding small measurement variations.

For CERACLAD attachment in the horizontal orientation, there are 2 ways to lay out the support frame.

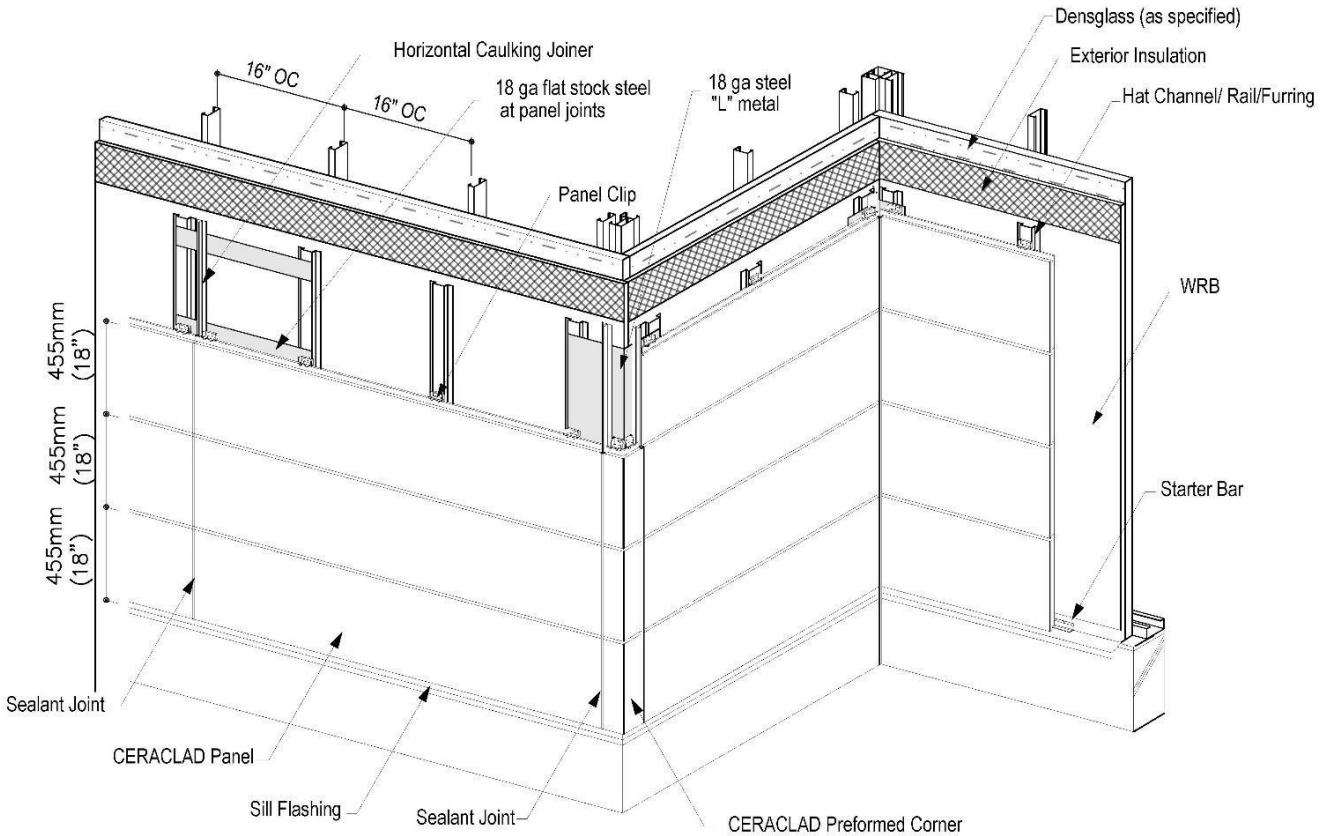
1. Vertical supports, spaced every 16"
2. Horizontal supports, spaced every 455mm (18")

1. Vertical Supports.

Vertical supports (hat channels, furring, Z channels, etc) should be spaced 16" OC max running vertically and attached back to the structure. This method works well with standard 16" stud spacing.

Additional furring or backing will need to be arranged to provide enough support for additional clips, caulking joiners or metal trim at panel butt joints and corners. This can be accomplished using flat stock, L shaped metal at corners, or additional blocking and/or furring.

CERACLAD installed over vertically oriented supports



Fiberglass clips (Cascadia Clips) with vertically oriented rails



Z-girts oriented vertically with spray foam

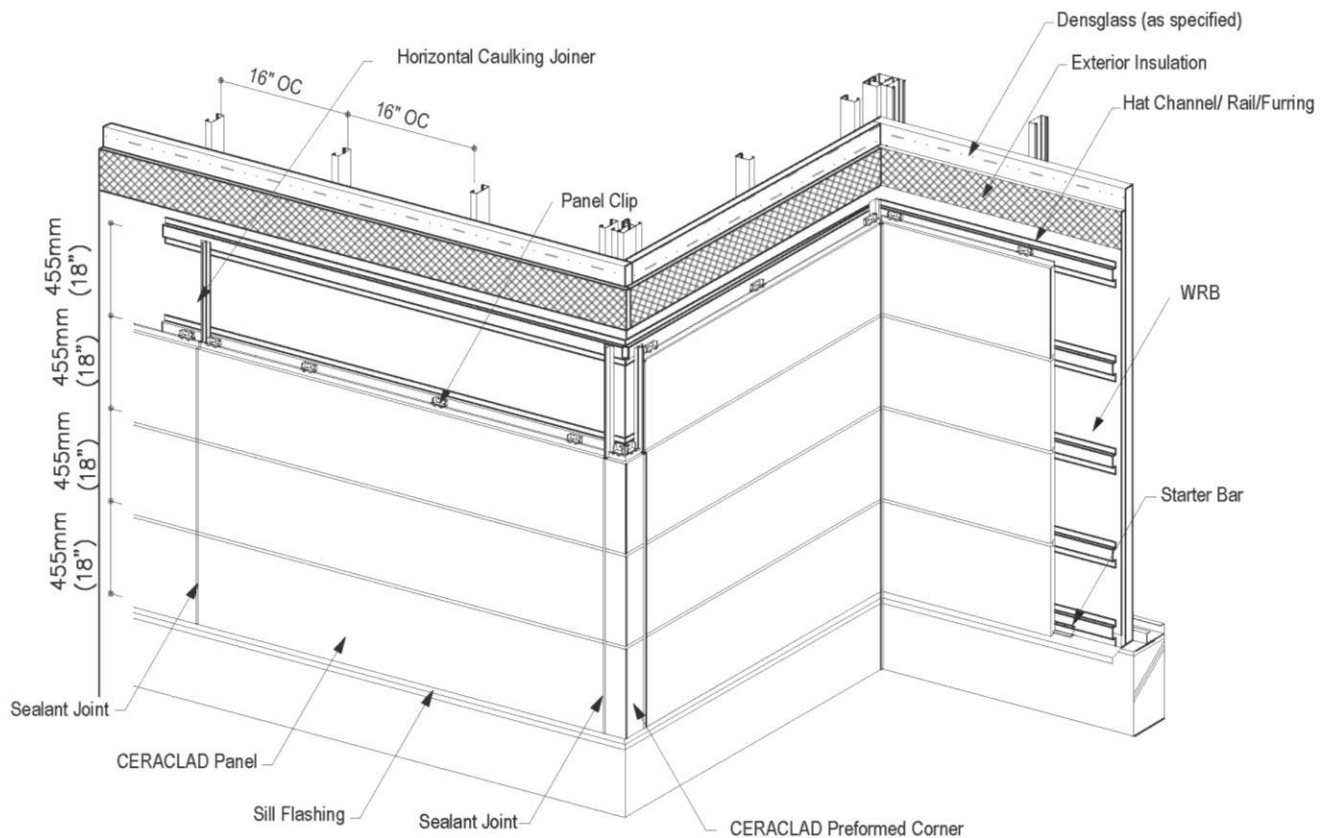


Hat channels installed over mineral wool. Extra "L" shaped metal at the corner.

2. Horizontal Supports

Horizontal supports (furring, hat channels, Z channels, etc) can be oriented horizontally and spaced every 455 mm (18") to match the panel size. This method works well with furring installed over insulation but can be difficult to use with systems where the insulation fits between the supports, like Z-furring. This is because insulation typically comes in either 16" or 24" sheets.

CERACLAD installed over horizontally oriented supports



For questions regarding detailing over exterior insulation, contact the CERACLAD Technical department:

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