NeaCera®

PANEL INSTALLATION GUIDE

AVENERE CLADDING LLC

IMPORTANT NOTE: All concrete and clay products - when machined or mechanically cut - will release dust which may contain quartz particles. Inhalation of high concentrations of dust may irritate the airways. Dust may also cause irritation of the eyes and/or skin. Inhalation of dust containing quartz, in particular the fine respirable size dust in high concentrations or over prolonged periods of time, can lead to lung disease (silicosis) and an increase risk of lung cancer.

SAFETY INSTRUCTIONS:

1. Avoid dust inhalation by using cutting equipment which has dust extraction or suppression.
2. Ensure adequate ventilation in the work place.
3. Avoid contact with the eyes, skin and inhaling dust by wearing appropriate personal protective clothing and an approved respirator.

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1.0 Overview

1.1 Preliminary Remarks

This information is provided as a basic guide of recommended techniques for the typical installation of NeaCera® Terra-cotta Rainscreen Panels. It is not intended to replace the requirements of applicable building codes. All work must be in accordance with the construction documents and "Field-Use" Drawings for the specific project. Accordingly, while these guidelines are intended as recommended general techniques to be followed, these techniques can be used only to the extent they do not conflict with building code requirements, construction documents and site conditions. Please contact your NeaCera® representative for conditions not clearly covered in this guide.

NeaCera® Shop Drawings are provided for the review and approval of the Purchaser, the Architect, and the Engineer of Record to verify and coordinate the panel layout, details and to check for correctness in relation to construction documents and specifications. NeaCera® Shop Drawings are based on the latest information provided to the Supplier which may differ from the contract documents. NeaCera® Panels are produced in strict accordance with the "Field-Use" Drawings and Quantity Confirmation Sheets, which the Purchaser must always use in conjunction with the construction documents.

The following procedures shall be considered standard. The sequence of work steps, as well as their implementation, may vary due to a wide variety of building conditions.

All Avenere Cladding products can be designed and adapted for a variety of applications within conventional wall cladding design. NeaCera® Panels are intended for installation by qualified specialty contractors familiar with industry standards and technology, and experienced in the installation of exterior wall cladding. As such, all documentation offered by Avenere Cladding, such as texts and drawings, relating to installation, must be considered non-binding recommendations aimed at providing the Installer with suggestions based on previously installed building projects.

Moreover, it is critical that the Installer verify whether the suggestions that are offered here are suitable for the specific project, given that these standard recommendations can never cover the full spectrum of installation and loading possibilities.

1.2 Ordering and Planning Instructions

When placing your order for NeaCera® Panels, Support Profiles and Joint Inserts, we recommend adding additional material (depending on project size, complexity, number of differnt colors, panel types, etc.) to cover contingencies, jobsite waste, attic stock, mock-ups and sample panels, etc. to avoid schedule and installation interruptions.

The design of the sub-construction must be determined in accordance with engineering calculations for the individual building project, taking into account the height of the building and the load due to wind pressure. All measurements and details must be determined by the installer who is responsible for their accuracy.

Avenere Cladding only supplies the NeaCera® Panels, Support Profiles and Joint Inserts, and upon specific request sub-construction and corner profiles.

1.3 Unloading, Storing and Handling

Delivery: NeaCera® Panels arrive in full container loads bundled, banded, and shrink-wrapped on pallets. (See Figure 1.3a.) Suitable access must be provided so that trucks can move under their own power. Proper equipment must be provided to unload all materials upon arrival.

Panel Identification: Each pallet of NeaCera® Panels is labeled with information identifying the Panel Mark and quantities. (See Figure 1.3b.)

Upon delivery, all materials must be inspected and accepted by the purchaser at the jobsite. All discrepancies, damages and claims must be submitted in writing within 24 hours of delivery.

Figure 1.3a

Figure 1.3c

Figure 1.3b

Storing: The NeaCera® Panels must be stored upright on a flat surface. (See Figure 1.3c) Pallets should be placed carefully to prevent damage. Care must be exercised at all times to avoid damage through careless handling during unloading, storing, and installing. Time will be saved during the installation process if, while unloading the pallets, they are placed in some organized fashion, either by mark or elevation with pallet labels all facing the same direction.

Damaged panels, regardless of the reason, may impair the performance and safety of the system and must be replaced prior to installation.

2. 0 Installation Checklist

2.1 Recommended Tools/Equipment

A. Mast-Climbing Work Platform or other scaffolding
B. Compact Drill
C. Tile Wet Saw
D. Compound Miter Saw
E. Chalk Line
F. Levels and Lasers for Layout
G. Tape Measure
H. Rubber Mallet

2.2 General Rainscreen Applications

The NeaCera® Panels are part of an open-joint rainscreen system that inherently requires a weather/water/vapor/air infiltration barrier behind the panels prior to installation.

Important Note: NeaCera® is a back ventilated rainscreen which requires a minimum distance of unrestricted airflow behind the panels of 20mm (3/4") as well as ventilation openings above and below of at least 10mm (3/8").

Grid Survey: We recommend marking the main grids on the wall elevation based on the "Field-Use" Drawings prior to starting the installation. At least two grids on each wall should be marked in a way that future sections can be measured from. The layout of installed windows or other cladding materials should be checked to see whether they have been installed in the prescribed grid position.

All measurements should be permanently marked on the building for the purpose of checking measurements at a future date.

Building Tolerances: The existing structure should be verified for conformance to the allowable tolerances. Deviations should be reported to the general contractor, architect and/or building owner.

Adjoining Work: Attention should be paid to ensure windows, doors, expansion joints and other adjoining work have been professionally installed and sealed.

Important Note: The sub-construction, Support Profiles and The NeaCera® Panels must not span across expansion joints.

3.0 Installing the Sub-construction (Horizontal Sub-constructions)

3.1 Locating and Mark the Building Wall Studs

Accurately locate and mark the building wall studs or framing members on the weather barrier with a chalk line (or any other non-penetrating method).

3.2 Installing the Initial/Reference Row of Horizontal Sub-frames

A. Beginning at the lowest elevation of the wall section, locate and level the first horizontal sub-frames along the wall according to the dimensions shown on the The NeaCera® "Field-Use" drawings. Mark this location on the wall with a chalk line (or any other non-intrusive method). (See Figure 3.2a)

Figure 3.2a (Initial Sub-construction Installation)

B. Securely fasten the horizontal sub-construction to the structural supports using the approved type and quantity of anchors.

C. Repeat this process for the entire horizontal span of the building at that elevation. Subconstruction should be spliced at, and secured to, the structure, leaving room for thermal expansion. It is recommended that the maximum length of the sub-frames be limited to 10' due to thermal expansion.

NOTE: Apply coat of bituminous paint or other isolation membrane on concealed aluminum surfaces t o be in contact with steel, cementitious or dissimilar materials.

3.3 Installing remaining Upper Rows of Horizontal Sub-construction

Continue installing according to the layout provided. Position each Horizontal Sub-construction, level and secure. Horizontal Sub-constructions are typically installed at 24" o.c. However, please pay close attention to the Field Use drawings as there will be Sub-constructions spaced at non typical dimensions.

4.0 Installing External Thermal Insulation (if applicable)

Where external insulation is used, install insulation per construction documents and manufacturer recommendations.

5.0 Installing ADS Support Profiles and Joint Inserts

Support Profiles and Joint Inserts are shipped in stock lengths and will require field cutting based on the dimensions provided in the cutting schedule on the NeaCera® Field Use drawings. Support Profiles and Joint Inserts for standard panel heights, (150mm, 175mm, 200mm, 250mm, 300mm and 400mm) have notches to indicate where to cut. (See Figure 5.0)

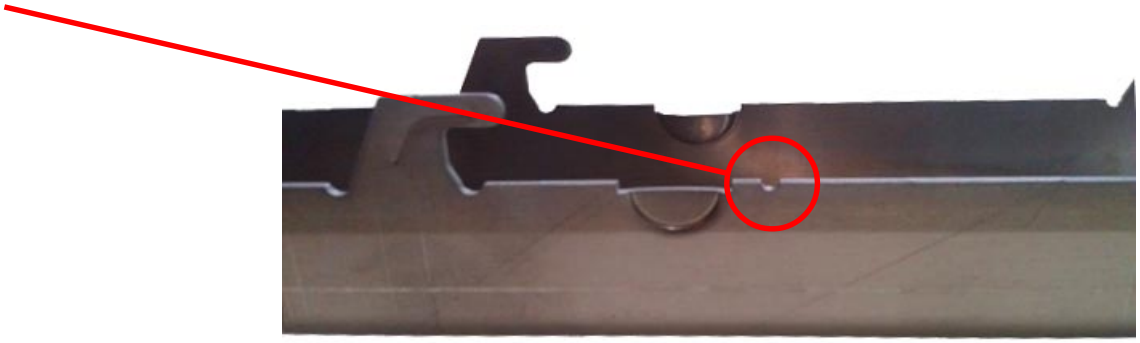


Figure 5.0

5.1 Installing the ADS Support Profiles

A. Start by locating the "S" dimension on the sub-construction layout of the The NeaCera® Field Use Drawings. The "S" dimension is a reference dimension based on a fixed point on the building (i.e. top of slab) to the first hook on the support profile. Once this starting point has been established, mark this point on the building for quick reference.(See Figure 5.1a)

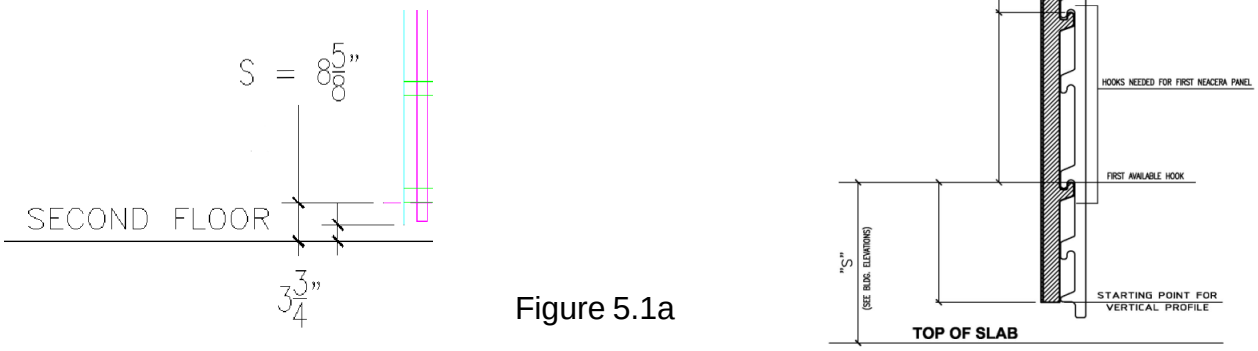


Figure 5.1a

B. Vertically plumb and fasten the Support Profiles at each horizontal sub-frame using the approved type and quantity of fasteners. (See Figure 5.1b) When installing the Support Profiles, pay close attention to ensure the Support Profiles do not exceed the allowable cantilever past the horizontal sub-frame. See Field-Use Drawings.

Figure 5.1b (Installing the Initial Support Profile)

5.2 Installing Remaining ADS Support Profiles

The distance between each Support Profile is shown on the Field Use Drawings. Note that the panels are installed to a tight tolerance with a 1mm gap at the end of each panel. The recommended procedure to horizontally locate the adjacent Support Profiles is to cut a spacer (wood or aluminum) to the exact length of the panel being installed.

Note that the length shown on the Field Use Drawings is typically a “grid” length not an actual panel length. To get an accurate length, measure the NeaCera® Panel itself.

Place a short length of the closed Joint Insert in the first Support Profile to ensure the spacer is in the correct position. Install another short length of closed joint insert in the next adjacent Support Profile and use the spacer to locate the next profile. Check the bottom, top and middle of each Support Profile to ensure accuracy. (See Figure 5.2)

The NeaCera® Profiles and Inserts are installed leaving a 1mm gap between the edge of the spacer or panel and the face of the closed Joint Insert.

Figure 5.2 (Installing Support Profile Using a Spacer)

There will be areas (jambs and corners etc.) where the Support Profiles are held back from the edge of the panel and the spacer will not be used. In these locations the Support Profiles will be located using the measurements shown on the Field Use drawings.

5.3 Installing Joint Inserts

The vertical joint between NeaCera® Panels must be backed with a Joint Insert to divert water and to maintain the alignment of the panels. The Joint Inserts will be either open, closed or blank.

A. The Joint Inserts (open, closed or blank) are snapped into the Support Profile. At the same time it will lock into the notches provided in the walls of Support Profile. The Inserts are secured against movement through the insertion of the NeaCera® Panels and do not require fasteners. (See Figure 5.3)

Figure 5.3 (Support Profiles with Joint Inserts)

When installing the Joint Inserts, please pay attention to the Security Tab located on the sides of the closed Joint Insert. Closed Joint Inserts must be installed to allow this tab to fold down where required. Also please make sure that the notches on the Joint Insert and the Support Profile are properly aligned.

When installing the closed Joint Inserts you will notice that once snapped into place, the lengths of the Profiles and Inserts are offset at both the top and bottom. This is normal and the correct location for the Joint Inserts.

Please note: When installing NeaCera® Panels in a soffit condition, it is recommended to mechanically fasten the Joint Insert into the Support Profile.

B. Blank Inserts are used when the Support Profile is held back from the panel edge (jamb, corner, etc). Blank Joist Inserts are installed similar to the closed Joint Insert.

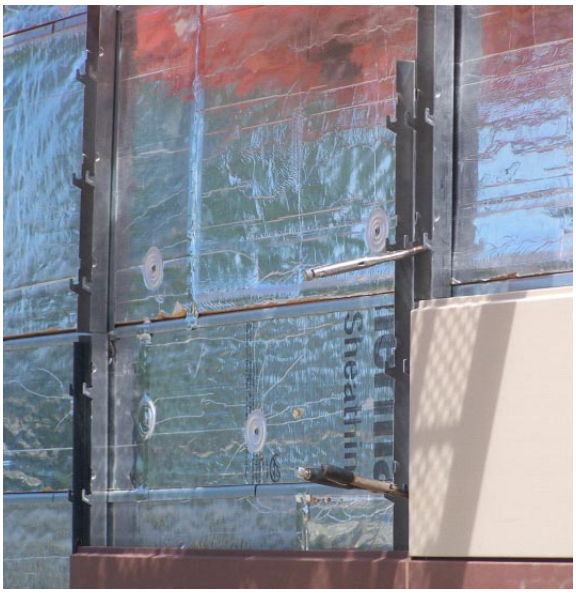
C. Continue installing the Joint Inserts in this manner throughout the building. Please remember that all Support Profiles have a Joint Insert, either open, closed or blank.

5.4 Installing Vertically Adjacent Support Profiles

A. Plumb and align the upper Support Profile above the Support Profile below it, leaving a 6mm (1/4") gap between the two sections. A simple method to maintain the correct gap is to clamp a small piece of Profile alongside the upper and lower sections aligning the hooks as a guide. Hold the guide in place using a clamp.

This will help maintain the gap between the Support Profiles correct and ensure the correct elevation of the supporting hooks. (See Figure 5.4)

Plumb vertically and fasten the Profile to the horizontal sub-constructions as before.



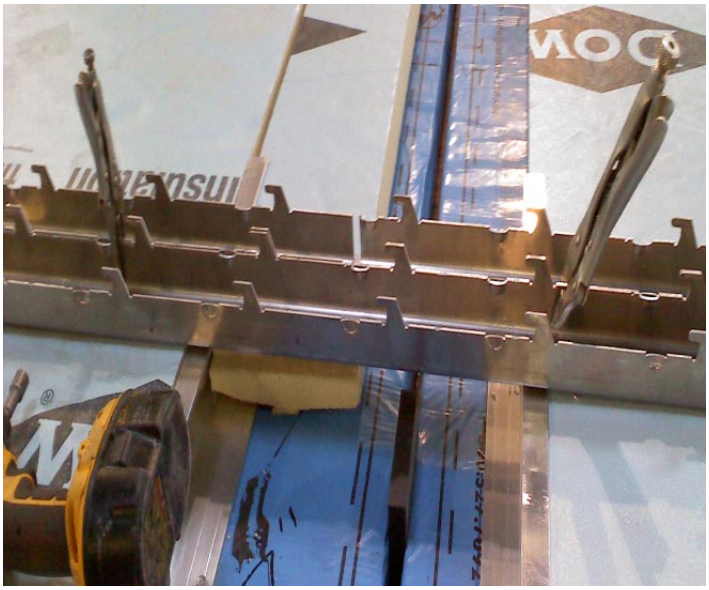


Figure 5.4 (Support Profiles with Joint Inserts)

B. This completed bottom row and column of Support Profiles can be used as a reference point when setting all of the remaining Support Profiles.

6.0 Installing Cladding Panels

6.1 The Lift & Lock System

NeaCera® panels must be installed free of constraint forces between the support profiles. The NeaCera® panels should be installed leaving a 1mm gap between the edge of the panel and the face of the closed Joint Insert.

A. Starting from the bottom, Lift & Lock each panel into place (See Figure 6.1a).
Note: Typically minimal downward pressure is needed to lock the panels in place, however, if necessary, use a rubber mallet to gently tap the top of the panel to ensure that it is fully seated.

Figure 6.1 (Executing the Lift & Lock System)

B. The NeaCera® Panels are considered a non progressive system. The panels do not need to be installed continuously from the bottom to the top of the building. If there is an obstruction preventing a panel from being installed, move up to the next panel and continue setting the panels. You can come back and set intermediate panels at a later date if need be.

6.2 Field Cutting of NeaCera® Panels

Sometimes it will be necessary to cut panels in length, height or for other interruptions of the panel. Cutting of panels can be easily accomplished with the use of a diamond blade wet saw. After cutting the panels please remember to clean the panels with water to remove any dirt and dust from the cutting process. (See figure 6.2)

Figure 6.2 (Cutting NeaCera® Panels)

Health & Safety Note: Depending on the methods used, cutting panels can release dust which can irritate the airways and eyes. In addition, the inhalation of fine quartz containing dust, particularly in high concentrations or over prolonged periods can lead to lung disease and an increased risk of lung cancer. Adequate ventilation and machinery with dust extraction should be used.

6.3 The Security Tab

It may be required to utilize the security tab when installing the NeaCera® Panels. To do this, after each panel is set into place, bend down the tab located on the side of the closed joint insert. (See Figure 6.1c)

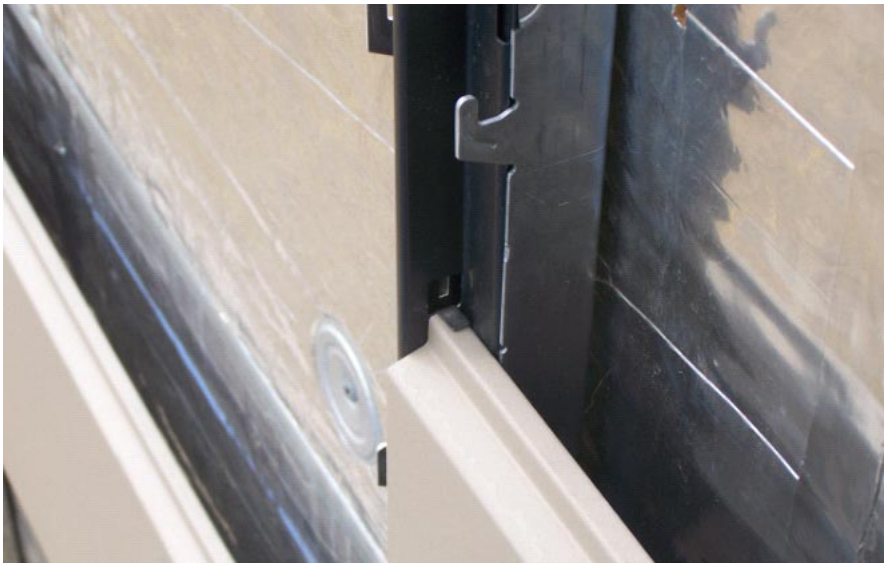


Figure 6.3 (Security Tab engaged, if required)

It is recommended that the security tab be used for the first 8'-0" of wall height to ensure that the panels will not easily be removed.

7.0 Care and Cleaning

Cleaning the Panels of Cutting Dust

After cutting the panels at the construction site, the tiles are to be cleaned of the cutting residue. This can be done by washing with water. Please observe that only clean tiles should be installed. After the installation, if there are tiles still covered by cutting dust, it can also be removed in dry condition by means of a dry microfiber cloth. It is important in this context that the tile and the cloth are dry in order to avoid any residue on the tile.

In the event of concrete and other mortar residues remaining on the tile, these can be removed by using a laitance remover.

Care and Cleaning

The façade is resistant to normal environmental effects, even in the long term. Simple soiling caused by environmental effects can be removed using a mild soap solution and rinsed with clear water.

7.1 Panels with Graffiti Protection

NeaCera® Panels in the Matt, Satin and Glazed finishes include graffiti protection. The graffiti protection is baked into the panels in the course of the “Keralis” procedure. The protective effect exists as of the first day. The NeaCera® graffiti protection will last the serviceable life of the product. The NeaCera® graffiti protection does not need to be renewed. In the event of graffiti, the panels should be cleaned using denatured alcohol.

7.2 Cleaning of the NeaCera® Aluminum Profiles

The NeaCera®Support Profiles and Joint Inserts can be cleaned using a chlorine free cleansing agent (a mild soap solution and rinsed with clear water). The cleaning work should done using only a cloth or a sponge without abrasives.

7.3 Storage

Suitable storage must be observed for the purpose of avoiding soiling of the panels before their installation. NeaCera® Panels must be stored and transported on a level, dry surface and seated solidly all-over. Previous to their installation, the panels must be protected against moisture, soiling and direct sunlight by means of construction foil or similar covers.

Soiled panels must be cleaned accordingly before being installed.

----- END OF GUIDE -----

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NEACERA®

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NEACERA® Terra-cotta is backed by an industry-leading warranty - up to 30 YEARS!

SOLID WALL means LIGHTER WEIGHT yet remarkably STRONG! Weighs only 7.5lbs/SF!

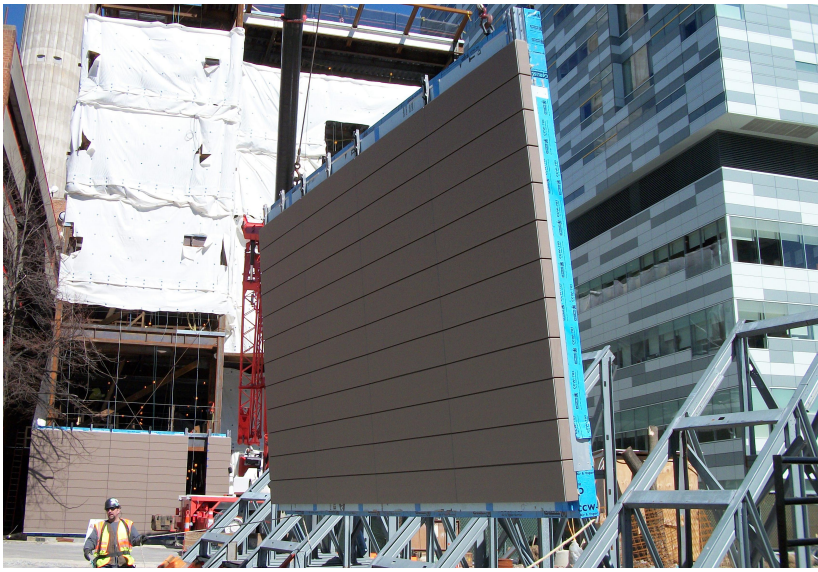
Available in a wide variety of COLORS, SHAPES, FINISHES, SIZES, DETAILS & CONFIGURATIONS!

Easily installed in all weather conditions thanks to LIFT & LOCK installation! NO CLIPS OR GASKETS!

LIFETIME GRAFFITI PROTECTION on all panels - EFFICIENT, LONG-LASTING & IMMEDIATELY EFFECTIVE!

The AFFORDABLE Terra-cotta Solution! Starting at the mid $30s/SF on the wall!

VIZOR™ Sunscreens also available - an effective means of protection from the intense ultraviolet rays of the sun!



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