



**PRIEST & ASSOCIATES
CONSULTING, LLC**

ENGINEERING EVALUATION

Engineering Evaluation of ProChannel CI™
with TruFast Grip-Deck® TubeSeal® Fastening System
for Compliance to NFPA 285

Project No. 11721, Revision 1

Prepared for:

ClarkDietrich
9050 Centre Pointe Drive, Suite 400
West Chester, OH 45241

Date Issued: October 24, 2025

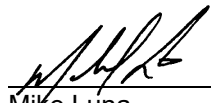
Expiration Date: December 31, 2026

Abstract

The ClarkDietrich ProChannel CI™ system is a cold-formed steel sub-framing assembly used to attach exterior cladding over continuous insulation while maintaining the integrity of the air, water, and thermal barrier. Its TruFast Grip-Deck® TubeSeal® fasteners include small polymer sleeves that provide a self-gasketing seal without introducing a continuous combustible path. The system was incorporated into a full-scale NFPA 285 test assembly containing combustible insulation and combustible fiber-cement cladding, which achieved full compliance with the test's flame-propagation limits. The results substantiate the use of the ProChannel CI™ system in NFPA 285-compliant wall assemblies for Types I–IV construction. Analysis confirms that the limited, encapsulated combustible material within the TubeSeal sleeves contributes negligible fuel and does not alter fire performance, supporting its acceptance for use in exterior wall assemblies containing combustible components.

The conclusions reached by this evaluation are true and correct, within the bounds of sound engineering practice. All reasoning for our decisions is contained within this document.

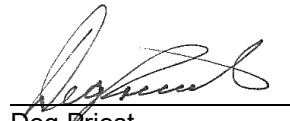
Submitted by,



Mike Luna
President
(830) 581-1455

October 24, 2025

Reviewed and approved,



Deg Priest
Chief Executive Officer

October 24, 2025



INTRODUCTION

NFPA 285 testing evaluates the performance of complete exterior wall assemblies containing combustible components rather than individual materials. In most tests, the focus is placed on claddings, insulation, and weather-resistive barriers, while attachment systems are treated as ancillary elements. Because the standard is a system test and not a component test, manufacturers typically evaluate worst-case wall configurations to establish a defensible basis for extending results to alternate materials and configurations used in real construction. Each exterior wall includes multiple interchangeable components, such as interior sheathing, framing, cavity insulation, exterior sheathing, WRB, continuous insulation, cladding, and attachment systems, making it impractical to test every possible combination.

This Engineering Evaluation applies that principle to the ClarkDietrich ProChannel CI™ system, a thermally efficient cold-formed steel sub-framing assembly used to attach exterior cladding over continuous insulation. By referencing full-scale NFPA 285 test data and analyzing the ProChannel CI™ system's minimal and encapsulated combustible content, this evaluation demonstrates that its inclusion does not negatively affect wall system fire performance. The findings support the use of the ProChannel CI™ system as part of NFPA 285-compliant exterior wall designs for Types I through IV construction, allowing architects and engineers to confidently specify the system in projects requiring fire-tested, code-compliant façade assemblies.

REFERENCE DOCUMENTS

- 1) *ProChannel Ci Product Submittal Sheet*
- 2) *ProChannel Ci Vertical Product Submittal Sheet*
- 3) *ProChannel Ci Product Installation Guidelines*
- 4) *ProChannel Ci Vertical Product Installation Guidelines*
- 5) *ICC-ES Test Report No. NCA040325-98(R1)*
- 6) *NFPA 285-25 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components*

BACKGROUND

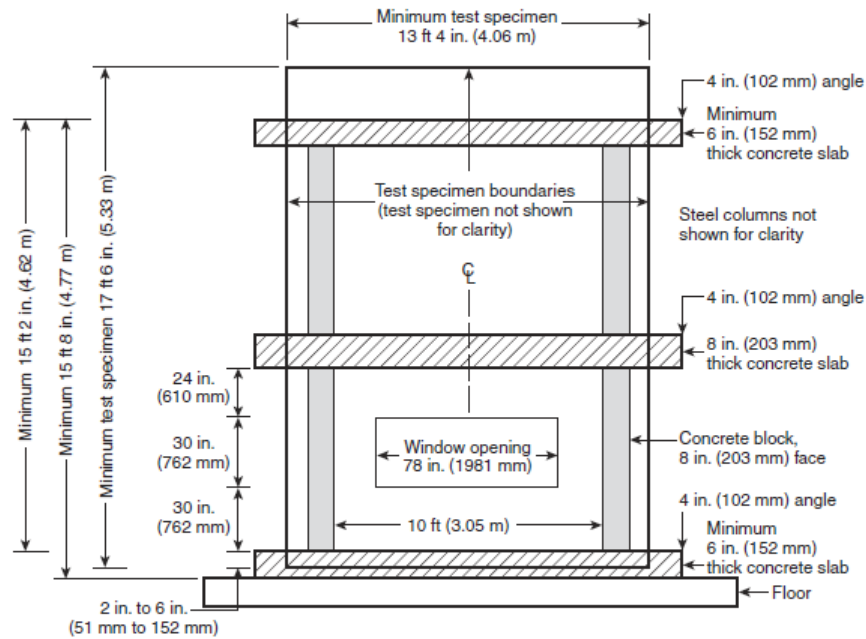
NFPA 285 Criteria

The NFPA 285 test evaluates the vertical and lateral flame-propagation characteristics of exterior wall assemblies containing combustible components. The test configuration consists of two stacked, noncombustible rooms that simulate two stories of a multi-story building. The wall assembly under evaluation is attached to the exterior face of the stacked rooms, which contains a window opening in the first-floor room measuring approximately 30 in. × 78 in., as illustrated in Figures 1.0 and 2.0.

A typical test wall measures approximately 14 ft × 18 ft, with the window opening located on the lower level. Thermocouples are placed at strategic locations on the wall surface, within the wall cavity, and in the upper story to monitor temperature as an indicator of flame spread. In the illustration in Figure 3.0, thermocouples 1–10 and 20–27 are not used for compliance purposes; the remaining thermocouples are used to evaluate vertical and horizontal flame spread and potential penetration into the upper story.

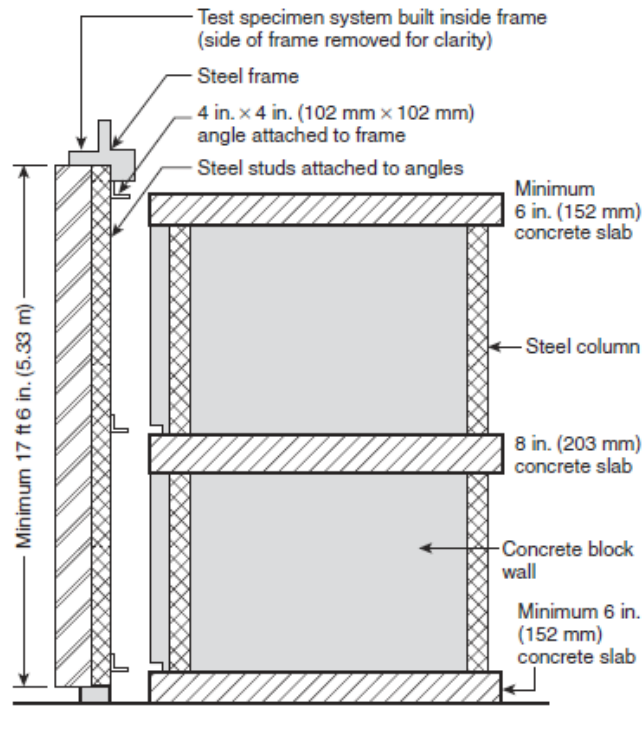
During testing, a calibrated gas burner inside the lower room is ignited to generate a controlled interior fire exposure. After five minutes, a second burner positioned outside the window is ignited to apply a specified radiant heat flux and flame exposure to the exterior wall surface. Both burners operate for the 30-minute test duration, following a prescribed time-temperature curve. The burners are automatically regulated to maintain consistent heat output and are verified through pre-test calibration of temperature and radiant flux measurements, as shown in Figures 4.0 and 5.0.





Front View of Test Specimen Superimposed over Test Apparatus (not to scale).

Figure 1.0 Front View of Specimen on Apparatus



Side View of Test Apparatus with Test Specimen in Movable Test Frame (not to scale).

Figure 2.0 Side View of Specimen and Apparatus



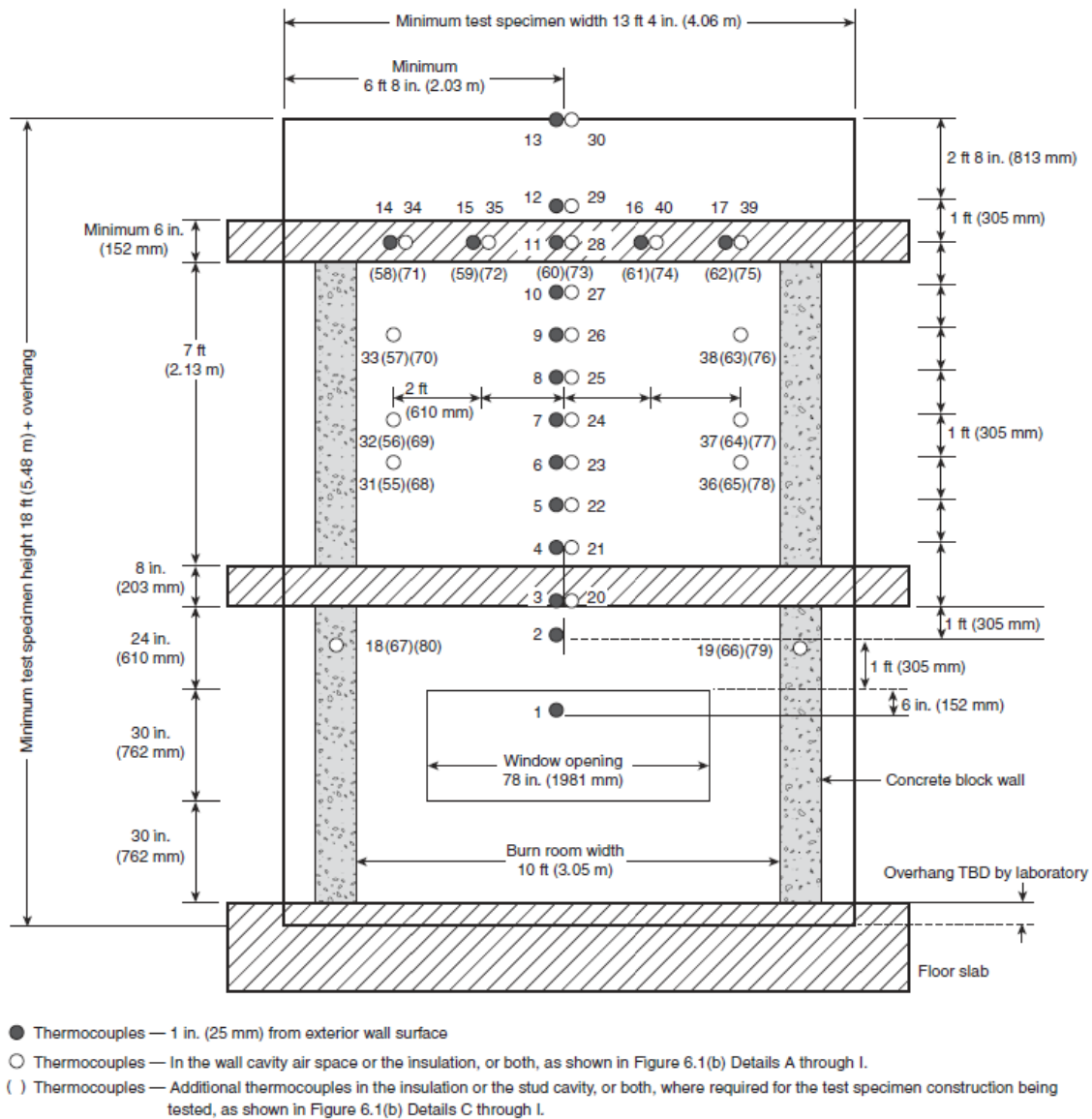


Figure not to scale

Figure 3.0 Thermocouple Locations on Test Sample



Calibration Average Values for Time Periods Indicated

Thermocouple Location and Numbers	Temperature											
	0–5 min		5–10 min		10–15 min		15–20 min		20–25 min		25–30 min	
	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C
Test room ceiling; Nos. 18–22	1151	622	1346	730	1482	806	1600	871	1597	869	1648	898
Interior wall surface of test room; Nos. 15–17	1065	574	1298	703	1433	778	1578	859	1576	858	1655	902
1 ft (305 mm) above top of window opening; No. 2	602	317	870	466	952	511	992	533	1046	563	1078	581
2 ft (610 mm) above top of window opening; No. 3	679	359	1015	546	1121	605	1183	639	1245	674	1296	702
3 ft (914 mm) above top of window opening; No. 4	646	341	971	521	1096	591	1174	634	1245	674	1314	712
4 ft (1219 mm) above top of window opening; No. 5	577	302	858	459	982	528	1063	573	1135	613	1224	662
5 ft (1524 mm) above top of window opening; No. 6	521	272	765	407	875	469	949	509	1007	542	1106	597
6 ft (1829 mm) above top of window opening; No. 7	472	244	690	366	787	419	856	458	913	489	1010	543

Figure 4.0 Calibration Targets for Temperatures

Calorimeter Locations and Numbers	Heat Flux (W/cm ²)					
	0–5 min	5–10 min	10–15 min	15–20 min	20–25 min	25–30 min
2 ft (610 mm) above top of window opening; Letter C–2ft	0.9 ± 0.2	1.9 ± 0.4	2.5 ± 0.5	2.9 ± 0.6	3.4 ± 0.7	3.8 ± 0.8
3 ft (914 mm) above top of window opening; Letter C–3ft	1.0 ± 0.2	2.0 ± 0.4	2.6 ± 0.5	3.2 ± 0.6	3.7 ± 0.7	4.0 ± 0.8
4 ft (1219 mm) above top of window opening; Letter C–4ft	0.8 ± 0.2	1.5 ± 0.3	2.0 ± 0.4	2.5 ± 0.5	3.0 ± 0.6	3.4 ± 0.7

Figure 5.0 Calibration Targets for Heat Flux

Thermocouples continuously record temperatures throughout the test, while personnel visually observe flame behavior. The test is considered successful when all of the following conditions are met:

1. **Vertical Flame Spread:** Flames do not extend 10 ft or more above the window opening; thermocouples at that height remain below 1000 °F.
2. **Horizontal Flame Spread:** Flames do not extend more than 5 ft horizontally from the window opening centerline.
3. **Within-Wall Flame Spread:** Temperatures in the wall cavity remain below 750 °F above ambient, indicating no concealed flame propagation.
4. **Cavity Horizontal Spread:** Flames do not progress beyond the width of the interior room as indicated by in-wall thermocouples.
5. **Second-Story Room Exposure:** Interior surface thermocouples in the upper room remain below 500 °F above ambient, with no visible flame entry.
6. **No Flame Escape:** Flames do not emerge at the intersection of interior and exterior wall surfaces.

Passing results demonstrate that the tested wall assembly restricts vertical and lateral flame propagation and protects adjacent stories in accordance with NFPA 285 acceptance criteria.

Purpose of the Test



The purpose of the NFPA 285 test is to verify that exterior wall assemblies containing combustible components can limit fire propagation both within the wall cavity and along the façade when exposed to a realistic multi-story fire scenario. Successful compliance demonstrates that the assembly configuration, including its materials, joint details, and attachment systems, maintains vertical and horizontal flame spread within acceptable limits. For the ClarkDietrich ProChannel CI™ system, the test serves to substantiate that its inclusion does not alter the fire performance of an otherwise compliant wall assembly, providing architects and engineers with confidence that the system can be safely specified in projects requiring NFPA 285-compliant construction.

RESEARCH AND ANALYSIS

Testing was conducted at the ICC-ES Laboratory in Bryan, Texas, under controlled conditions in accordance with NFPA 285-25. The assembly was constructed per the approved test plan and observed by representatives of Priest & Associates Consulting, LLC. The results of this test form the technical basis for the following analysis and engineering evaluation of the ClarkDietrich ProChannel CI™ system.

Analysis of NFPA 285 Wall System Components

When evaluating wall assemblies for compliance with NFPA 285, it is essential to consider the potential of each component to influence flame spread and heat transfer. Because NFPA 285 evaluates the performance of the entire wall system, engineering analyses focus on how individual elements may be substituted, reduced, or interchanged without increasing the fire risk. The following discussion provides context for component substitutions in assemblies incorporating the ClarkDietrich ProChannel CI™ system.

1. **Interior Gypsum Wallboard** – Most NFPA 285-compliant designs specify 5/8-in. type X gypsum wallboard on the interior face. Testing and field experience confirm that thinner or non-type X gypsum products can lead to premature failure of the GWB. Therefore, interior sheathing shall be a minimum of 5/8-inch type X gypsum board in accordance with ASTM C1396, installed in accordance with ASTM C1280 or in a tested configuration.
2. **Studs and Framing** – The standard NFPA 285 test configuration typically employs 35/8-in., 20-gauge steel studs spaced 24 in. on-center (OC), with horizontal bracing at 4-ft intervals, considered a worst-case arrangement. Thicker gauges, deeper studs, or reduced spacing (e.g., 16 in. OC) are acceptable variations that do not increase fire risk. Testing conducted with steel stud base walls is considered conservative and supports substitution with concrete or CMU masonry base walls without additional qualification.
3. **Cavity Insulation** – NFPA 285 tests may include no cavity insulation or use mineral fiber, fiberglass, or spray polyurethane foam (SPF). Testing without insulation represents a conservative condition, allowing substitution with mineral wool or fiberglass insulation. If tests are conducted with SPF, other less-flammable types of the same manufacturer verified by cone calorimeter data may be allowed. Other SPF manufacturers in a similar configuration must have test data to review before approval for use in NFPA 285-compliant wall systems.
4. **Exterior Sheathing** – Most assemblies use 1/2- to 5/8-in. glass-mat gypsum sheathing such as DensGlass® or equivalent in accordance with ASTM C1177. Alternatively, sheathing with equal or greater fire resistance may be used, provided it is listed or has been previously tested in a compliant system. Eliminating the exterior sheathing can expose insulation or WRB materials to direct flame and is not recommended unless the corresponding certification permits it.

Note: When the wall assembly is sheathed with gypsum board on both sides, the base wall performs independently from the exterior components of the system. The interior and exterior gypsum layers act as effective fire barriers, preventing direct ignition of cavity insulation and limiting vertical flame spread when proper floor-line firestopping is installed.



5. **Weather-Resistive Barrier (WRB) over Exterior Sheathing** – When a WRB is applied to the exterior sheathing, substitution is limited to materials of equal or better fire performance. Comparative analysis using ASTM E1354 cone-calorimeter data is an accepted method to justify equivalency.
6. **Continuous Exterior Insulation** – The ClarkDietrich ProChannel CI™ system is designed for use exclusively with continuous exterior insulation (CI). The NFPA 285 test assembly incorporated 4 in. Atlas EnergyShield® XR polyisocyanurate insulation as a representative configuration for combustible CI materials. Because the ProChannel CI™ sub-framing and TubeSeal® fasteners have been demonstrated not to contribute to vertical or lateral flame spread, their use does not adversely affect the fire performance of the wall assembly. Accordingly, any continuous insulation product that has been independently tested and approved for use in an NFPA 285-compliant wall system—whether mineral fiber, SPF, polyisocyanurate, EPS, or XPS—may be utilized with the ProChannel CI™ system without compromising compliance. Reducing insulation thickness may further lower the potential fuel load. Each WRB and insulation combination must continue to meet the requirements of its respective listing or evaluation report.
7. **WRB over Exterior Insulation** – In some wall designs, an additional WRB or air-barrier membrane may be installed over the continuous insulation. Substitution is limited to materials of equal or better fire performance. Comparative analysis using ASTM E1354 cone calorimeter data is an accepted method to justify equivalency.
8. **Air Cavity (Rainscreen Gap)** – The tested assembly incorporated a 1¼-in. air gap between the exterior cladding and the continuous insulation. Air cavities ranging from ½ in. to 2¼ in. are common and acceptable, provided they do not exceed the dimensions established in the approved NFPA 285 configuration, as greater depths can increase the chimney effect within the façade cavity. Because the ProChannel CI™ system is composed primarily of noncombustible steel components, and the only limited combustible element, the TruFast Grip-Deck® TubeSeal® sleeve, is encapsulated within and behind the insulation, the system does not contribute to flame spread or cavity ignition. Consequently, the air gap performance is governed by the approved spacing and configuration associated with the selected insulation and cladding system, rather than by the ProChannel CI™ sub-framing itself.
9. **Exterior Cladding** – NFPA 285 approvals commonly use brick or aluminum composite material (ACM) claddings as baseline systems, since these represent the most challenging conditions for flame propagation. In the ClarkDietrich/Nichiha test, fiber-cement cladding was used as part of the partnered test program, and the assembly achieved full compliance with NFPA 285 criteria. Although fiber-cement is less combustible than ACM, the results remain significant because the ProChannel CI™ system was proven not to contribute to flame spread within the highly combustible air cavity formed by the cladding and continuous insulation. This confirms that the system's performance is independent of the specific cladding material used.

The ClarkDietrich ProChannel CI™ system is specifically engineered to support rainscreen-type claddings installed over continuous exterior insulation (CI). It is intended for use with lightweight to moderately weighted cladding materials such as fiber-cement panels or siding, metal panels, aluminum composite material (ACM), high-pressure laminate (HPL), thin brick veneer, thin stone, and lightweight terracotta or ceramic rainscreen panels. These cladding types share similar attachment requirements and distributed loads that fall within the structural capacity of the ProChannel CI™ sub-framing. The system is not designed for full-depth masonry, stone, or other heavy hand-set claddings, which exceed its intended load range.

Accordingly, any cladding that has been independently tested and approved for use in an NFPA 285-compliant wall assembly, whether combustible (e.g., ACM, HPL) or noncombustible (e.g., fiber cement, metal, thin brick, thin stone, or lightweight terracotta), may be installed over the ProChannel CI™ system without adversely affecting fire performance. The governing factor for compliance is the combined behavior of the approved insulation and cladding, not the ProChannel



CI™ sub-framing, which has been demonstrated to remain inert and non-contributory under full-scale fire exposure.

10. **Attachment System (ProChannel CI™)** – Most NFPA 285 tests incorporate generic cladding attachment systems, such as brick ties or metal furring, that are not the primary focus of the evaluation. In tests using heavy masonry claddings like brick or stone, these attachment components are shielded from direct flame exposure and do not influence fire performance. Failures, when they occur, are typically driven by ignition or sustained combustion of the wall-core insulation rather than deterioration of the attachment system itself. In hundreds of full-scale tests observed or reviewed by Priest & Associates Consulting, no cladding collapse or flame propagation has ever been attributed to an attachment system failure.

For panelized claddings such as ACM or HPL, there is no standardized attachment design, and most manufacturers rely on fabricators to engineer proprietary sub-framing methods. Because the possible variations are extensive, NFPA 285 approvals generally reference wall system performance rather than specific attachment components. Engineering evaluations, such as this report, therefore, address the acceptability of attachment systems on a case-by-case basis using established test data and sound engineering analysis.

The ClarkDietrich ProChannel CI™ Vertical system functions as a structural sub-framing assembly consisting primarily of noncombustible galvanized steel channels fastened through continuous insulation using TruFast Grip-Deck® TubeSeal® fasteners. The TubeSeal® sleeves contain a minimal amount of polymeric material (less than 1 gram per fastener) that is fully encapsulated behind the cladding and continuous insulation. Testing confirmed that this limited combustible component did not contribute to flame spread, ignition, or cavity propagation. Because the ProChannel CI™ system remains protected within the wall cavity and demonstrates no thermal or structural degradation under fire exposure, it does not influence pass/fail outcomes of NFPA 285 tests.

Testing further demonstrated that the ProChannel CI™ Vertical system is fully capable of structurally supporting the heavy fiber-cement panels used in the NFPA 285 assembly without deformation or compromise. Although the system is not intended for use with full-depth brick, stone, or other heavy masonry claddings, it is suitable for use with thin brick, adhered stone, or other comparable lightweight veneer systems having similar mass and attachment characteristics to fiber cement. Accordingly, the ProChannel CI™ sub-framing may be used with any NFPA 285-approved combination of insulation and cladding within this scope without adversely affecting fire performance. The behavior of the wall assembly is governed by the combustible materials present, namely, the insulation and exterior cladding, rather than by the noncombustible ProChannel CI™ attachment system itself.

Because the tested assembly used vertically oriented ProChannel CI™ Vertical rails, representing a worst-case configuration for potential flame travel, the results confirm that the system can also be used in horizontal or mixed orientations without increasing fire risk.

CONCLUSIONS

Based on the analysis, supporting test data, and engineering review presented herein, Priest & Associates Consulting, LLC concludes that the ClarkDietrich ProChannel CI™ system may be utilized in previously approved NFPA 285-compliant wall assemblies without adversely affecting fire performance. The NFPA 285 test conducted in partnership with Nichiha Corporation demonstrated that the ProChannel CI™ Vertical sub-framing, constructed primarily of noncombustible galvanized steel with limited encapsulated polymer components, did not contribute to vertical or lateral flame spread within the wall assembly. Post-test observations confirmed that the small polymer TubeSeal® sleeves remained protected within the insulation layer and did not participate in ignition, sustained flaming, or flame propagation.

The test also verified that the ProChannel CI™ system provided full structural support for the fiber-cement cladding without deformation or detachment during fire exposure. Because the ProChannel CI™ system is



primarily noncombustible, structurally robust, and thermally isolated from direct flame contact, it can be confidently used with a wide range of lightweight to moderately weighted rainscreen claddings, including fiber cement, metal panels, aluminum composite material (ACM), high-pressure laminate (HPL), thin brick, thin stone, and lightweight terracotta panels. The system is not intended for full-depth masonry, stone, or other heavy claddings that exceed its design load capacity.

The wall system's performance under NFPA 285 is governed by the combustible components —namely, the insulation and exterior cladding —rather than by the noncombustible attachment system. Because ProChannel CI™ has been demonstrated to be inert under full-scale fire exposure, it does not influence pass/fail outcomes. It may therefore be incorporated into any NFPA 285–approved combination of insulation, WRB, and cladding within the parameters outlined in Table 1.0 – NFPA 285 Allowed Components of this report.

The following table summarizes the allowable wall components and substitutions that may be used with the ClarkDietrich ProChannel CI™ system in NFPA 285–compliant assemblies. Refer to the NFPA 285 approval tables published by the respective cladding, foam insulation, or WRB manufacturer for confirmation of compatibility with this table. Approvals issued by ICC-ES, Intertek, UL, DrJ Engineering, or IAPMO are recognized as valid sources for approvals used for this evaluation.

Table 1.0
NFPA 285 Allowed Components

Wall Component	Specific Component
Base Wall Use 1, 2, or 3	<ol style="list-style-type: none"> 1) Concrete 2) CMU 3) One layer of 5/8 inch thick type X gypsum wallboard installed on the interior side of minimum 3 5/8 inch deep (min.), minimum 33 mil (20 GA.) galvanized steel studs spaced a maximum of 24 inches on center, minimum of 1 layer of 1/2-inch thick exterior gypsum sheathing installed on the exterior side. Lateral bracing is installed a minimum of every 4 ft vertically or as required.
Fire Stopping in Stud Cavity at floor line	4-inch, 4 lbs./ft ³ mineral wool insulation in each stud cavity at every floor line. The insulation is a friction fit between studs.
Base Wall Cavity Insulation Use 1, 2, 3, 4, or 5	<ol style="list-style-type: none"> 1) None (see Note 2) 2) Fiberglass (faced or unfaced) 3) Mineral wool insulation (faced or unfaced) 4) Any other noncombustible insulation material (faced or unfaced) 5) Any approved SPF spray foam insulation approved for use in stud cavities in NFPA 285-compliant assemblies. See Note 1 for approval agencies. <p><i>Note 1: Approvals from DrJ Engineering, ICC-ES, Intertek, UL, and IAPMO are considered valid for this report.</i></p> <p><i>Note 2: See special requirement below if exterior sheathing is not used.</i></p>



Wall Component	Specific Component
Exterior Sheathing Use 1, 2, or 3	<ol style="list-style-type: none"> 1) Minimum ½ or ⅝ inch thick listed or certified exterior-type gypsum sheathing (see Note 1). 2) NONE - only for those approvals that allow no exterior sheathing and specific cavity insulations (including no cavity insulation). For those cases where no exterior sheathing is allowed, use the specific cavity insulation in the approval. <p><i>Note 1: Specific approvals require specific minimum exterior sheathings and brands/types.</i></p> <p><i>Note 2: When SPF is used as cavity insulation, ⅝ inch exterior gypsum sheathing must be used.</i></p>
WRB over Base Wall (Exterior Sheathing) Use 1, 2, or 3	<ol style="list-style-type: none"> 1) None 2) Any WRB/AVB barrier that has been approved to be used in an NFPA 285 compliant assembly paired with mineral wool, Polyisocyanurate, EPS, or XPS insulation. See Note 1 for approval agencies. 3) Any WRB that meets the 2015 IBC Exceptions for WRBs (Only for walls in which the WRB is the only combustible). Cladding must be 1a below. <p><i>Note 1: Approvals from DrJ Engineering, ICC-ES, Intertek, UL, and IAPMO are considered valid for this report.</i></p>
Exterior Insulation – Use either 1, 2, 3, or 4	<ol style="list-style-type: none"> 1) None – For constructions requiring a WRB, the construction must incorporate a WRB or AVB that meets the 2024 IBC exceptions for WRBs. These WRBs can only be used with noncombustible claddings and insulations per the 2024 code exceptions. 2) Minimum 2-in. thick, minimum 4 lbs./ft³ mineral fiber insulation allowed for use with WRB Item 2 or 3 above (Note - WRB Item 3 must use Cladding 1a below) 3) Any Polyisocyanurate, EPS, or XPS insulation that has been approved (see note) to be used in an NFPA 285 compliant assembly paired with the WRBs in item 2 above. 4) Any closed-cell SPF insulation that has been approved (see note) to be used in an NFPA 285 compliant assembly that has also qualified to be an effective WRB <p><i>Note 1: Approvals from DrJ Engineering, ICC-ES, Intertek, UL, and IAPMO are considered valid for this report.</i></p>



Wall Component	Specific Component
Exterior Cladding Use 1 or 2 with the cladding installation technique shown for ProChannel Ci	<ol style="list-style-type: none"> 1) Claddings below may only be used with noncombustible exterior insulation, Item 2 above (mineral fiber). <ol style="list-style-type: none"> a. Any noncombustible cladding. Any standard installation technique can be used. (Such as stone, terracotta, fiber cement, concrete, solid metal, etc.) b. Combustible cladding. Use any cladding that has been successfully tested by the panel manufacturer (or fabricator) via the NFPA 285 test method. Any standard installation technique can be used. c. Adhered Masonry (minimum ¾-in. thick clay brick or stone; ⅜ inch thick tile) bonded with cementitious mortar (standard or polymer-modified) to a minimum ½-in. thick cement board or gypsum sheathing. 2) Claddings below may be used with any approved (see note) exterior insulation. <p>Any cladding (combustible or noncombustible) approved to be used in an NFPA 285 compliant assembly paired with approved Polyisocyanurate, EPS, XPS, or SPF insulation. Each insulation must be specifically approved for the exact cladding types listed in the approval.</p> <p>Cladding Installation Technique All claddings listed above (or in the approvals, see Note 1) may use ProChannel CI installation systems.</p> <p>IMPORTANT: See next item (Window/Door Header/Jamb details) for specific insulation types that require special detailing.</p> <p><i>Note 1: Approvals from DrJ Engineering, ICC-ES, Intertek, UL, and IAPMO are considered valid for this report.</i></p>
Window/Door Headers/Jambs	<p>Must use approved design for specific system being considered (See Note 1)</p> <p><i>Note 1: EPS and XPS require specific door/window header and jamb details to be compliant with NFPA 285. Polyiso and SPF may or may not require specific header/jamb details. See approvals from DrJ Engineering, ICC-ES, Intertek, UL, and IAPMO for the specific header/jamb detail required for each insulation type.</i></p>



APPENDIX A

ProChannel Ci™

Submittal and Installation Guideline Sheets



Product Submittal Sheet

Technical Services: 888-437-3244, Engineering Services: 877-832-3206, Sales: 800-543-7140

07.48.00 (Rainscreen Attachment System)

ProChannel Ci Cladding Support with Grip-Deck TubeSeal® Technology

7/8" x 54mils (16ga) cladding support with Grip-Deck TubeSeal® Technology

ProChannel Ci Cladding Support is a thermally and structurally efficient wall cladding support system intended to minimize penetrations through the insulation to hold an exterior rainscreen in place. The Grip-Deck TubeSeal® fastening system from TruFast Walls helps seal the fastener penetrations against air and water leakage, and does not use any clips, girts, or other penetrations to affix the rainscreen to the structure. This system can be installed with the ProChannel Ci rail running horizontally,

- Creates a 7/8" rainscreen cavity
- Prepunched holes in flange at 1" o.c. for a wide variety of screw spacings.
- Slotted holes for moisture drainage and air movement.
- Grip-Deck TubeSeal fastening system for either metal or wood framing.
- Also available with a black finish for open joint cladding systems.

Product Data & Ordering Information

ProChannel Ci			
Material:	Grade 50ksi	Coating:	CP90
Thickness:	54mils (16ga)	Stock Lengths:	12'-0"
Design Thickness:	0.0566"	Packaging:	140 pieces per pallet
Min Thickness:	0.0538"	Packaging Weight:	13.96 lbs/piece

Grip-Deck TubeSeal® Fasteners			
Insulation Depth	SDS #10 Length **	PCS Per Box	PCS Per Bucket
1" *	3"	250	500
1-1/2"	3-1/2"	250	500
2"	4"	250	500
2-1/2" *	4-1/2"	250	500
3"	5-1/2"	250	500
3-1/2" *	6"	250	500
4"	6"	250	500

* Screw lengths not stocked at ClipExpress, please contact ClarkDietrich Sales for lead-time information

** HiLo (wood) screws are available upon request

Grip-Deck TubeSeal® Fastener Quantities per 12'-0" ProChannel Ci	
Horizontal Stud Spacing	# of Fasteners (2 per stud)
12" o.c.	26
16" o.c.	20
24" o.c.	18

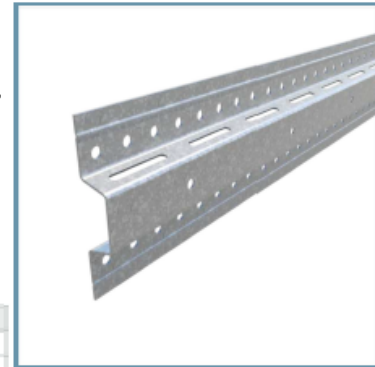
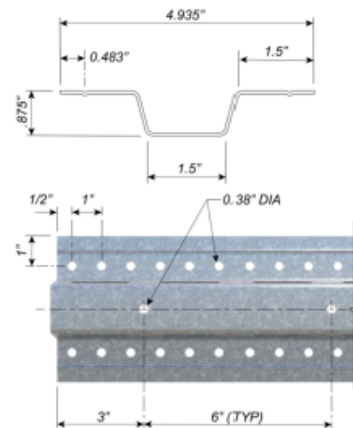
* HiLo (wood) screws are available upon request

Structural & Thermal Design Tables

- [ProChannel Ci Structural Design Tables](#)
- [ProChannel Ci Thermal Design Tables](#)

Code Approvals & Performance Standards

- [AISIS100-16 \(2020\) w/S2-20](#) North American Specification for the Design of Cold-Formed Steel Structural Members
- [AISIS240-20](#) North American Standard for Cold-Formed Steel Structural Framing
 - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
 - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
- [ASTM C1513](#) Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections
- [ASTM E331](#) Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- [ASTM E2357](#) Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies
- [SDS For ASTM A1003 Steel Framing Products](#) For Interior Framing, Exterior Framing and Clips/Accessories



ProChannel Ci™ The technical content of this literature is effective 10/31/24 and supersedes all previous information.





Product Submittal Sheet

Technical Services: 888-437-3244, Engineering Services: 877-832-3206, Sales 800-543-7140

07.48.00 (Rainscreen Attachment System)

ProChannel Ci Vertically Oriented Cladding Support with Grip-Deck TubeSeal® Technology

7/8" x 54mils (16ga) cladding support with Grip-Deck TubeSeal® Technology

ProChannel Ci Cladding Support is a thermally and structurally efficient wall cladding support system intended to minimize penetrations through the insulation to hold an exterior rainscreen in place. The Grip-Deck TubeSeal® fastening system from TruFast Walls helps seal the fastener penetrations against air and water leakage, and does not use any clips, girts, or other penetrations to affix the rainscreen to the structure. This system can be installed with the ProChannel Ci rail running horizontally.

- Creates a 7/8" rainscreen cavity
- Prepunched holes in flange at 1" o.c. for a wide variety of screw spacings.
- Slotted holes for moisture drainage and air movement.
- Grip-Deck TubeSeal fastening system for either metal or wood framing.
- Also available with a black finish for open joint cladding systems.

Product Data & Ordering Information

ProChannel Ci			
Material:	Grade 50ksi	Coating:	CP90
Thickness:	54mils (16ga)	Stock Lengths:	12'-0"
Design Thickness:	0.0566"	Packaging:	140 pieces per pallet
Min Thickness:	0.0538"	Packaging Weight:	14 lbs/piece

Grip-Deck TubeSeal® Fasteners			
Insulation Depth	SDS #10 Length **	PCS Per Box	PCS Per Bucket
1"	3"	250	500
1-1/2"	3-1/2"	250	500
2"	4"	250	500
2-1/2"	4-1/2"	250	500
3"	5-1/2"	250	500
3-1/2"	6"	250	500
4"	6"	250	500

* Screw lengths not stocked at ClipExpress, please contact ClarkDietrich Sales for lead-time information

** HiLo (wood) screws are available upon request

Grip-Deck TubeSeal® Fastener Quantities per 12'-0" ProChannel Ci	
Horizontal Stud Spacing	# of Fasteners (2 per stud)
12" o.c.	26
16" o.c.	20
24" o.c.	18

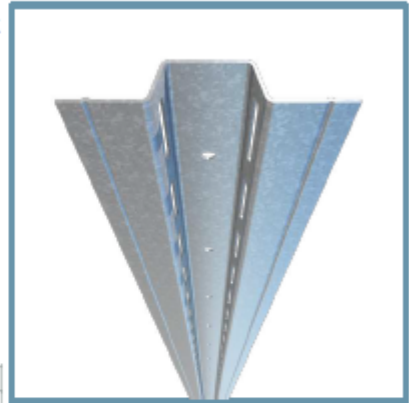
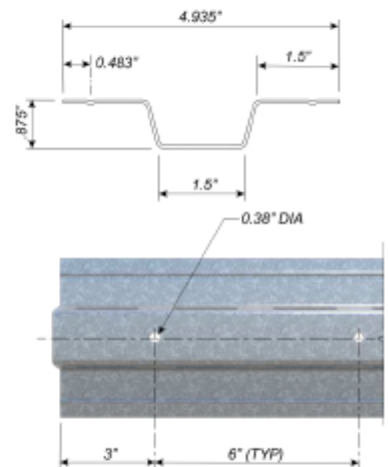
* HiLo (wood) screws are available upon request

Structural & Thermal Design Tables

- ProChannel Ci Vertical Structural Design Tables
- ProChannel Ci Vertical Thermal Design Tables

Code Approvals & Performance Standards

- AISI S100-16 (2020) w/S2-20 North American Specification for the Design of Cold-Formed Steel Structural Members
- AISI S240-20 North American Standard for Cold-Formed Steel Structural Framing
 - Section A3 Material - Chemical & mechanical requirements (Referencing ASTM A1003/A1003M)
 - Section A4 Corrosion Protection (Referencing ASTM A653/A653M)
- ASTM C1513 Standard Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections
- ASTM E331 Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- ASTM E2357 Standard Test Method for Determining Air Leakage Rate of Air Barrier Assemblies
- SDS For ASTM A1003 Steel Framing Products For Interior Framing, Exterior Framing and Clips/Accessories



ProChannel Ci Vertical The technical content of this literature is effective 05/23/25 and supersedes all previous information.





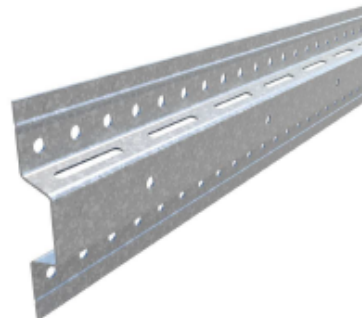
Product Installation Guidelines

Technical Services: 888-437-3244
Engineering Services: 877-832-3206

Sales: 800-543-7140
clarkdietrich.com

System Description

ProChannel Ci Cladding Support with Grip-Deck TubeSeal® Technology is to be installed as rainscreen framing over exterior continuous insulations, providing a minimal thermal footprint while providing a stable support system for exterior wall cladding construction on a ventilated rainscreen system. The ProChannel Ci meets the requirements of AISI S100-16 (2020) w/S2-20 and AISI S240-20. The Grip-Deck TubeSeal® meets the requirements of ASTM C1513. The fasteners are provided pre-assembled (screw and sleeve), the length will depend on the insulation thickness and back-up wall material. For a complete description of the ProChannel Ci and Grip-Deck TubeSeal® refer to the submittal sheet.



System Preparation

The ProChannel Ci is to be installed horizontally (perpendicular to studs), with the Grip-Deck TubeSeal® fastening it to the structure in pairs (see Figure 1), over the continuous mineral wool insulation.

Refer to the ProChannel Ci structural design tables at ClarkDietrich.com for recommended rail and fastener spacing. The maximum ProChannel Ci fastener spacing is 48" on center vertical and maximum 32" horizontal fastener spacing (see Figures 1 and 2 for details).

Prior to the installation, the installer must ensure that air/water barrier is fully installed, cured, and in accordance with the manufacturer's instructions and project-specific details. All fenestration, transitions, discontinuities, sills, and ledgers should be flashed and sealed to direct moisture away from the building's interior in accordance with the manufacturer's instructions and project-specific details. The designer shall consider thermal expansion and contraction effects when designing the wall system and include breaks according to established practice.

Ensure the channel is fastened to sound structure, structural steel studs shall be a minimum 33mil (20ga) CP60 as required by AISI S240-20. The designer of record shall determine the framing system required to meet the project load conditions (wind, rain, seismic, etc.).

The continuous insulation shall be Exterior Mineral Wool with a minimum compressive strength of 439 psf at a 10% compression per ASTM C165 or equal.

Step 1 Locate the first row of ProChannel Ci within 6 inches from the base of the wall making sure the channel is secured to the stud and not the track at the base of the wall.

Step 2 Determine starting point and plan working transition point over studs for each ProChannel Ci.

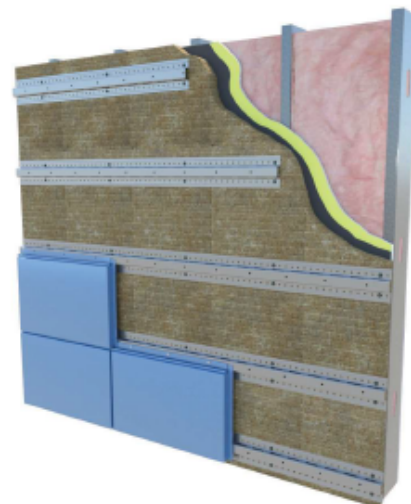
Step 3 Ensure Grip-Deck TubeSeal® fasteners are driven through the insulation and sheathing into the structure (stud framing system).

Step 4 Abutting ProChannel Ci channels shall have a min 1/16" to max 1/8" gap to accommodate for expansion and stepped to avoid concurrent joints on the vertical steel-stud. (see Fig. 3 for details).

Step 5 For Inside or outside corners, the ProChannel Ci may cantilever past the last fastening point; but it is recommended to stay within 6 inches for 2" insulation or 8 inches for 4" insulation from the corners. (see Fig. 4 and Figure 5 for details).

NOTES:

- Gypsum sheathing is a nonstructural component, and the fasteners must connect to the studs.
- When fastener spacing is identified at 32" or 48" on center, stud spacing is 12", 16" or 24" on center, respectively.
- To avoid screw stripping or improper screw attachment, do not back out screws and re-drill them.
- If fastener misses stud during installation (known as a "shiner") refer to air/water barrier manufacturer's recommendation for sealing the penetration.
- When base wall's stud flange is less than 2", splice abutting channel joints with 1½"x 4" Cold Rolled Channel (CRC) and 2 (two) pan head screws per side to attach the Cold Rolled Channel (CRC) (see Fig. 3)
- When securing the ProChannel Ci, avoid over-tightening the fasteners beyond the manufacturer's recommendations. Fasteners should be tightened snugly to allow for expansion and contraction without stripping or tearing the TubeSeal®. (see Fig. 6 for details).
- When installing on wood studs, ensure that the Grip-Deck TubeSeal® fastener is HiLo wood type screw (available upon request). If using wood framing or sheathing it will compromise the combustibility and may drive requirements for combustible construction, not evaluated with the ProChannel Ci system.





ClarkDietrich.

Product Installation Guidelines

Technical Services: 888-437-3244
Engineering Services: 877-832-3206

Sales: 800-543-7140
clarkdietrich.com

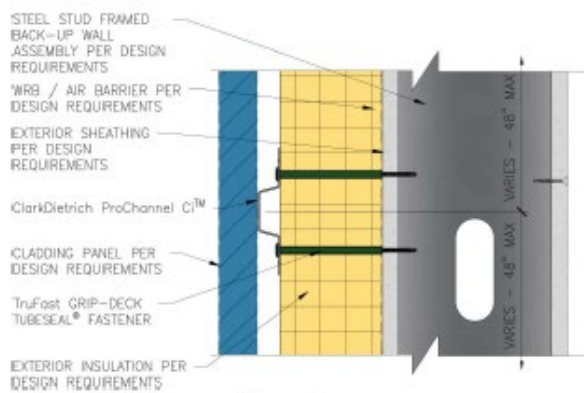


Figure 1

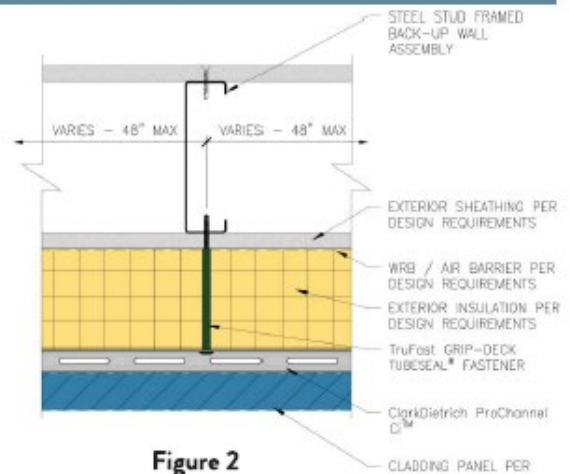


Figure 2

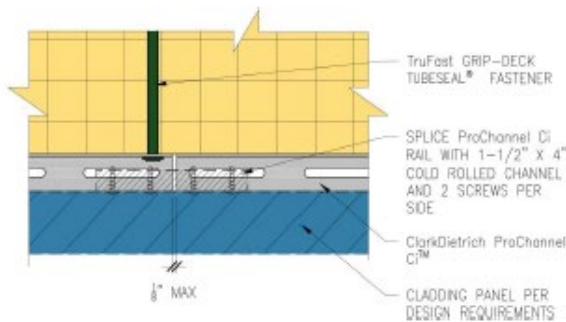


Figure 3

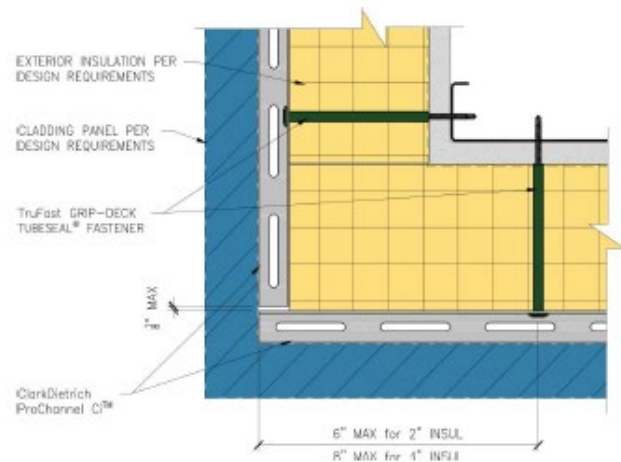


Figure 4

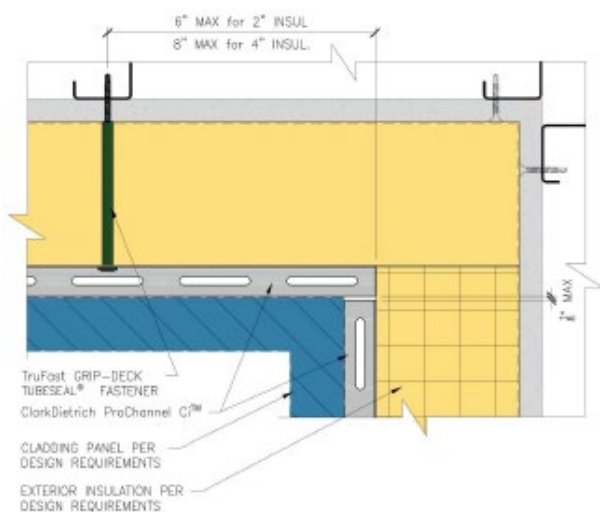


Figure 5



Underdriven



Properly Driven



Overdriven

Figure 6





ClarkDietrich.

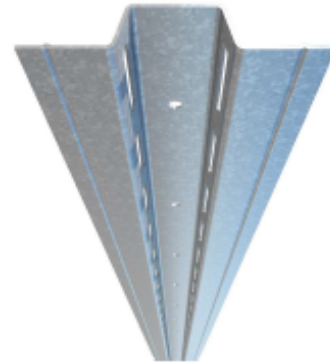
Product Installation Guidelines

Technical Services: 888-437-3244
Engineering Services: 877-832-3206

Sales: 800-543-7140
clarkdietrich.com

System Description

ProChannel Ci™ Cladding Support with Grip-Deck TubeSeal® Technology are to be installed over exterior insulated steel-framed buildings, providing a minimal thermal footprint while providing a stable support system for exterior wall cladding construction on a ventilated rainscreen system. The ProChannel Ci™ meets the requirements of AISI S100-16 (2020) w/S2-20 and AISI S240-20. The Grip-Deck TubeSeal® meets the requirements of ASTM C1513. The fasteners are provided pre-assembled (screw and sleeve) the length will depend on the insulation thickness and back-up wall material. For a complete description of the ProChannel Ci™ and Grip-Deck TubeSeal® refer to the submittal sheet.



System Preparation

The ProChannel Ci™ is to be installed vertically (aligned with studs), with the Grip-Deck TubeSeal® fastening it to the structure (see Fig 1) over the continuous mineral wool insulation.

Refer to the ProChannel Ci™ structural design tables at ClarkDietrich.com for recommended rail and fastener spacing. The maximum ProChannel Ci™ fastener spacing is 24" on center vertical and maximum 32" horizontal fastener spacing (see Fig 1 and 3 for details).

Prior to the installation, the installer must ensure that air/water barrier is fully installed, cured, and in accordance with the manufacturer's instructions and project-specific details. All fenestration, transitions, discontinuities, sills, and ledgers should be flashed and sealed to direct moisture away from the building's interior in accordance with the manufacturer's instructions and project-specific details. The designer shall consider thermal expansion and contraction effects when designing the wall system and include breaks according to established practice.

Ensure the channel is fastened to sound structure, structural steel studs shall be a minimum 33mil (20ga) CP60 as required by AISI S240-20. The designer of record shall determine the framing system required to meet the project load conditions (wind, rain, seismic, etc.).

The continuous insulation shall be Exterior Mineral Wool with a minimum compressive strength of 439 psf at a 10% compression per ASTM C165 or equal.

Step 1 Locate ProChannel Ci™ at the base of the wall making sure the channel is secured to the stud and not the track at the base of the wall. Fasten within 3" of bottom track or design requirements (see Fig. 2).

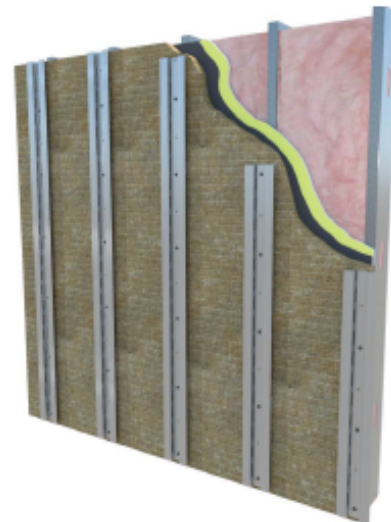
Step 2 Ensure Grip-Deck TubeSeal® fasteners are driven through the insulation and sheathing into the structure (stud framing system).

Step 3 Abutting ProChannel Ci™ channels shall have a min 1/16" to max 1/8" gap to accommodate for expansion and stepped to avoid concurrent joints on the vertical steel-stud. (see Fig. 3 for details).

Step 4 For inside or outside corner details, see Fig. 4 and Figure 5.

NOTES:

- Gypsum sheathing is a nonstructural component, and the fasteners shall connect to the framing members.
- To avoid screw stripping or improper screw attachment, do not back out screws and re-drill them.
- If fastener misses stud during installation (known as a "shiner") refer to air/water barrier manufacturers recommendation for sealing the penetration.
- When securing the ProChannel Ci™, avoid over-tightening the fasteners beyond the manufacturer's recommendations. Fasteners should be tightened snugly to allow for expansion and contraction without stripping or tearing the TubeSeal®. (see Fig. 6 for details).
- When installing on wood framing members ensure that the Grip-Deck TubeSeal® fastener is Hi-Lo wood type screw (available upon request). If using wood framing or sheathing it will compromise the combustibility and may drive requirements for combustible construction, not evaluated with the ProChannel Ci™ system.





Product Installation Guidelines

Technical Services: 888-437-3244
Engineering Services: 877-832-3206

Sales: 800-543-7140
clarkdietrich.com

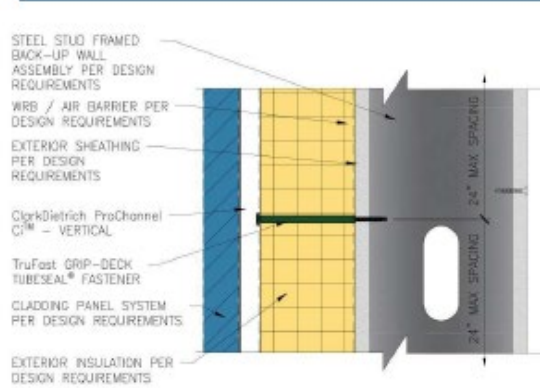


Figure 1

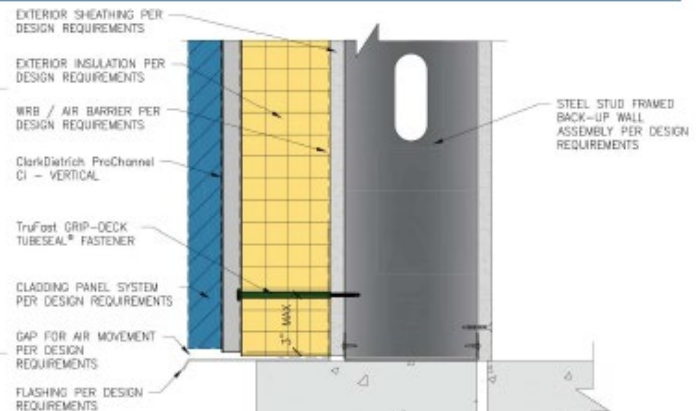


Figure 2

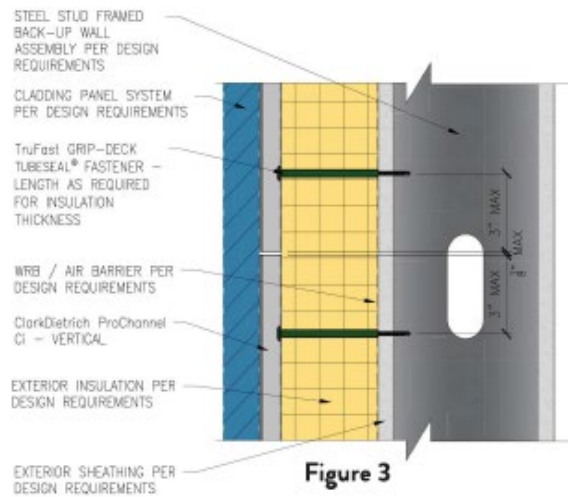


Figure 3

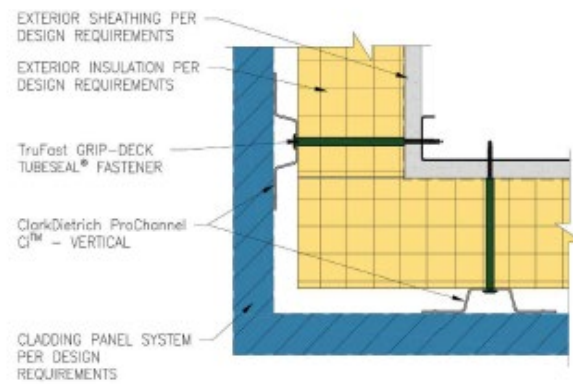


Figure 4

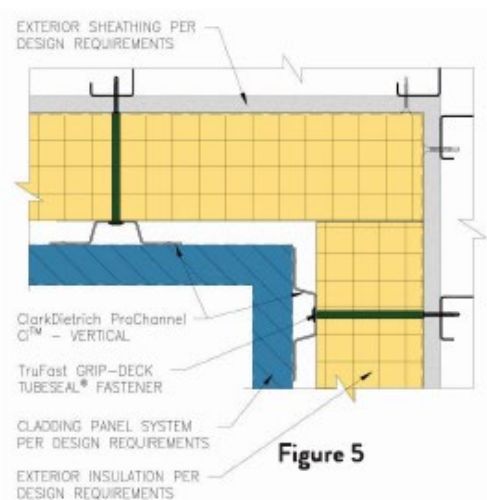


Figure 5

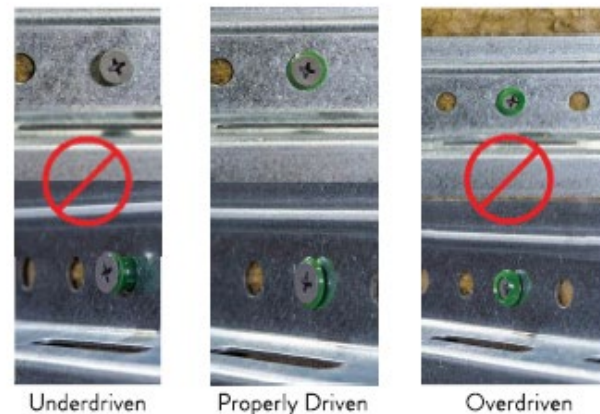


Figure 6

END OF REPORT and APPENDIX A

