SECTION 07 05 43

CLADDING SUPPORT SYSTEMS

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\*\* NOTE TO SPECIFIER \*\* CLADIATOR; cladding support systems.
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This section is based on the products of CLADIATOR, which is located at:3114 Tonnelle Ave., 1st FloorNorth Bergen, NJ 07047Toll Free Tel: 800-917-6237 Email: [request info (sales@cladiator.com)](https://arcat.com/rfi?action=email&company=CLADIATOR&message=RE%253A%2520Spec%2520Question%2520(07050cld)%253A%2520&coid=51516&spec=07050cld&rep=&fax=)
Web: <https://www.cladiator.com>
 [ [Click Here](https://arcat.com/company/cladiator-51516) ] for additional information.
CLADIATOR - Built to Conquer New Challenges. CLADIATOR is a manufacturer of thermally isolated structural cladding attachment systems. Our mission is to accelerate the advancement of smart building design and construction by providing unique and cleverly engineered systems. For Architects and Engineers it means a simple yet robust solution where one core design offers the freedom of limitless creativity. For Installers, working with intuitive installation components means faster, more cost-effective, and ease-of-mind options to complete projects on time. Our universal systems offer improved thermal efficiencies while achieving rainscreen principles such as air and moisture ventilation with the use of long-lasting globally responsible materials. We remain dedicated and driven by our commitment to continuous improvement.
For rainscreen and continuous insulation assemblies, our CL 300 and SLOTTED-Z systems are thermally isolated and can bear the weight of any cladding material. These systems can integrate horizontal and vertical tracks for attachment on the same plane, making it easier and faster to install any assembly pattern without additional components. Our SLOTTED-Z Fiberglass Girt provides added air and moisture ventilation which facilitates the regulation of moisture content, reducing the risk of water damage, rot, and mold. In addition, the use of optional ROCKETStick insulation securement will secure all types of insulation while creating an air gap.
Additional CLADIATOR information:
Creates 1/2 to 1 inch of air space without additional attachment components.
Fabricated with slots of a specific size that act as weep holes for ventilation and egress for moisture.
Insulation securement system replaces the need for stick pins / mechanical fasteners.
Passes ULC S-134 in addition to NFPA 285.
Performance properties that exceed similar products.
Additional components include termination tracks for window and door conditions utilizing adjustability and removing the necessity for shim.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Cladding support systems for exterior cladding. (CL300)
		2. Thermally-isolated cladding support systems for exterior cladding. (SLOTTED-Z)
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 05 40 00 - Cold-Formed Metal Framing. Exterior wall framing.
		2. Section 06 16 36 - Sheathing. Exterior wall sheathing.
		3. Section 07 21 16 - Blanket Insulation. Exterior insulation.
		4. Section 07 27 00 - Air Barriers. Air and vapor retarders.
		5. Section 07 40 00 - Exterior cladding assemblies.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. AAMA:
			1. AAMA TIR-A8 - Structural Performance of Composite Thermal Barrier Framing Systems.
		2. ASTM International (ASTM):
			1. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
			2. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
			3. ASTM E283/E283M - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
			4. ASTM E330/E330M - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.
			5. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
		3. National Fire Protection Association (NFPA):
			1. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation: Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.
		4. ULC Standards Council of Canada:
			1. CAN/ULC S134 - Standard Method of Fire Test of Exterior Wall Assemblies.
			2. ULC/S-134 - Standard Method of Fire Test of Exterior Wall Assemblies.
	1. Design Requirements
		1. System Description: Products are intended for use in exterior wall assemblies including wall framing, sheathing as applicable, weather resistant/air barrier, mineral fiber insulation, thermally broken rainscreen attachment system, exterior cladding.
		2. Delegated Design: Manufacturer is responsible for designing system, including anchorage to structural system and necessary modifications to meet specified requirements and maintain visual design concepts. Employ registered professional engineer, licensed to practice engineering in jurisdiction where Project is located, to engineer each component of rainscreen attachment system.
		3. Structural Design: Exterior-insulated rainscreen wall assembly capable of withstanding effects of load and stresses from dead loads, wind loads, ice loads (if applicable) as indicated on Structural General Notes on Structural Drawings, and normal thermal movement without evidence of permanent defects of assemblies or components.
		4. Thermal Movements: Provide assemblies that allow for thermal movements resulting from the following maximum ambient temperatures by preventing overstressing of components and other detrimental effects:
			1. Temperature Change (range): 120 degrees Fahrenheit (67 degrees C), ambient:
			2. Support Framing/Attachment System:
				1. Frequency and spacing of brackets as indicated by manufacture in project specific engineering package.
		5. Performance Requirements:
			1. Rainscreen Attachment System Performance: Comply with ANSI/ASHRAE 90.1-2010 maximum U-Value for walls.
			2. Thermal Performance:
				1. Wall Assembly effective R-Value (U-Factor): [INSERT R-VALUE (U-0.XXX)]
				2. Full constructed assembly must have a minimum 90% EFFECTIVE R-value when compared to the insulation's rated R-Value.

Continuous framing profiles (including C- or Z-shaped sections or furring) penetrating insulation not allowed.

Perform effective R-Value calculation or modeling in accordance with ASHRAE guidelines.

* + - 1. Structural Performance:
				1. Framing Members:

Test framing components to AAMA TIR- A8-[04] - Section 7.2 to determine structural performance and effective moment of inertia for each perforated component. Minimum Effective Moment of Inertia for Primary Rail: 0.0239 in4.

Localized bending stress for eccentrically loaded framing members must be evaluated with the maximum effective length of resisting element not more than 12 inches.

* + - * 1. Fasteners:

Tension shall be taken as sum of direct tension plus tension due to prying for eccentrically loaded connections. Prying may be reduced or eliminated if proven via engineering analysis or testing.

* + - * 1. Minimum Safety Factor of 3 for both tension and shear values.

Combined tension and shear shall be evaluated according to an interaction formula. Sum of terms shall not exceed 1.0.

* 1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
			1. This Section includes items identified by the Architect or Engineer of Record as Delegated Design or Deferred Submittal.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
		3. Shop Drawings: Submit complete shop drawings for approval prior to fabrication, including elevations, and sections of each condition. Such drawings shall also include metal thickness, finish, methods of installation, anchorage and expansion joints, width, bow, camber, and squareness tolerances necessary to accommodate thermal and moisture related movement.
		4. Contractor Delegated Design: Submit calculations and drawings stamped and sealed by an Engineer registered in the state which the project is located.
			1. Structural Calculations including dead loads, wind loads, seismic loads, snow, and ice loads as applicable.
		5. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product.
		6. Qualifications: Installer's qualification statement including names of recent projects using similar systems.
	2. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than two year of documented experience.
		2. Installer Qualifications: Company specializing in performing the work of this section with minimum two years of experience.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* 1. MOCK-UPS
		1. Construct mock-ups with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-ups as acceptable to Architect and provide temporary foundations and support.
			1. Mock-up shall include typical project conditions including corners and terminations.
			2. Intent of mock-ups are to demonstrate quality of workmanship and visual appearance.
			3. If mock-ups are not acceptable, rebuild mock-ups until satisfactory results are achieved.
			4. Retain mock-ups during construction as a standard for comparison with completed work.
			5. Do not alter or remove mock-ups until work is completed or removal is authorized.
	2. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
			1. Coordination: Coordinate the alignment of metal framing with size, location, and installation of metal cladding support.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
		2. Store products protected from exposure to harmful weather conditions and at temperature conditions recommended by manufacturer.
	4. SEQUENCING
		1. Comply with manufacturers' ordering instructions and lead time requirements to avoid construction delays.
		2. Coordinate construction to ensure that assemblies fit properly to supporting and adjoining construction.
	5. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	6. WARRANTY
		1. Provide manufacturer's 12-year limited warranty against structural failure when CLADIATOR engineers and certifies the project; includes the labor and material cost for removal and replacement of failed attachment systems components; includes the labor cost for removal and reinstallation of overlying facade finish panels as required to access defective materials. All materials and components to be supplied and installed per manufacturer's requirements. Excludes repairs, replacement, and corrective work to the substrate, primary structure, finish panels, and property unless otherwise noted above.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: CLADIATOR, which is located at:3114 Tonnelle Ave., 1st FloorNorth Bergen, NJ 07047Toll Free Tel: 800-917-6237 Email: [request info (sales@cladiator.com)](https://arcat.com/rfi?action=email&company=CLADIATOR&message=RE%253A%2520Spec%2520Question%2520(07050cld)%253A%2520&coid=51516&spec=07050cld&rep=&fax=);Web: <https://www.cladiator.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
	1. PERFORMANCE REQUIREMENTS
		1. Components:
			1. Comply with ANSI/ASHRAE 90.1.
			2. Design and size components to withstand loads caused by positive and negative wind pressure acting normal to plane of wall as calculated in accordance with applicable code.
			3. Components to be designed and constructed to resist seismic and gravity loads in accordance with applicable codes.
			4. Design for thermal and moisture movement of cladding in accordance with applicable codes. Design so that local ambient temperature fluctuations do not result in evidence of permanent deformations of assemblies or components and prevent overstressing of the support structure.
		2. Standards Compliance As Applicable: ASTM B209, ASTM B221, ASTM E283/E283M, ASTM E330/E330M, ASTM E331, ASTM E84, NFPA 285, CAN/ULC S134, AAMA TIR-A8.
		3. Cladding Wall Assembly: Design systems and components to be in accordance with applicable codes and adequate to support the following.
			1. Dead loads, wind loads, seismic loads, and snow and ice loads as applicable:

\*\* NOTE TO SPECIFIER \*\* Delete option if not required.

* + - * 1. As shown on the Structural Drawings for the Project.
				2. As shown on cladding report for the project.

\*\* NOTE TO SPECIFIER \*\* Delete one of the two following paragraphs.

* + 1. Exterior Wall Assembly/Attachment System (CL-300):
			1. No framing component may penetrate the layer of continuous exterior insulation other than the THERMAClip polyamide clip and T-Track.
			2. Frequency and spacing of base track, T-track, flush mount and THERMAClip polyamide clip components shall be as indicated on the approved project specific shop drawings and in accordance with applicable codes and these specifications.
			3. Finishing accessories to be used as shown on approved project specific shop drawings and in accordance with applicable codes and these specifications.
		2. Exterior Wall Rainscreen Assembly/Attachment System (SLOTTED-Z):
			1. No framing component may penetrate the layer of continuous exterior insulation other than the SLOTTED-Z.
			2. Frequency and spacing of SLOTTED-Z as shown on the approved project specific shop drawings and in accordance with applicable codes and these specifications.
			3. Finishing Accessories to be used as shown on approved project specific shop drawings and in accordance with applicable codes and these specifications.
		3. Thermal Performance:
			1. Complete system to meet U-Value and R-Value requirements of the project.
			2. Cladding support products shall meet thermal target requirements as required for Project.
		4. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within cladding support system.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. Cladding Support System
		1. Basis of Design: CL 300 as manufactured by CLADIATOR.
		2. Performance Requirements:
			1. Air Leakage, ASTM E384:
				1. Infiltration at 75 Pa (1.57 psf), 0.5 L/s/m2. (0.09 cfm/ft2).
				2. Exfiltration at 300 Pa (6.27 psf), 1.2 L/s/m2 (0.23 cfm/ft2)
			2. Water Penetration, ASTM E331 at 720 Pa (15.04 psf): Pass. No Leakage.
			3. Uniform Load Deflection, ASTM E330:
				1. Deflections taken vertically on the panel between horizontal rails.

+4320 Pa (+90.23 psf): 7.4 mm (0.29 inches).

-4320 Pa (-90.23 psf): 4.1 mm (0.16 inches).

* + - * 1. Deflections taken at the center of the panel.

+4320 Pa (+90.23 psf): 17.8 mm (0.70 inches).

-4320 Pa (-90.23 psf): 23.6 mm (0.93 inches).

* + - 1. Uniform Load Structural, ASTM E330:
				1. Permanent set taken vertically on the panel between horizontal rails.

+7200 Pa (+150.38 psf): Less than 0.3 mm (less than 0.01 inch).

-6480 Pa (-135.34 psf): 0.5 mm (0.02 inch).

* + - * 1. Permanent set taken at the center of the panel.

+7200 Pa (+150.38 psf): 5.8 mm (0.23 inch).

-6480 Pa (-135.34 psf): 6.4 mm (0.25 inch).

* + - 1. Uniform Static Air Pressure Difference, ASTM E330: Negative Design Pressure: -8622 Pa (-180.00 psf).
			2. Gravity Load Testing (Uniform Distributed Static Vertical Load), Deflection at 1163 Pa (24.3 psf): 1.0 mm (0.04 inch).
			3. Gravity Load Testing (Uniform Distributed Static Vertical Load), Permanent Set at 1163 Pa (24.3 psf): 0.3 mm (0.01 inch).
			4. Gravity Load Testing (Uniform Distributed Static Vertical Load), Deflection at 2940 Pa (61.4 psf): 3.0 mm (0.12 inch).
			5. Gravity Load Testing (Uniform Distributed Static Vertical Load), Permanent Set at 2940 Pa (61.4 psf): 0.5 mm (0.02 inch).
		1. Base Track:
			1. Material: Extruded 6063-T6 aluminum profile with dimension marks.

\*\* NOTE TO SPECIFIER \*\* Delete finish option not required. Mill finish is standard.

* + - 1. Finish: Mill finish.
			2. Finish: Black anodized.
		1. Termination Track (Windows & Doors) / Corner Track (Corner Conditions)
			1. Termination Track for flush finishes around window/door conditions.
			2. Flush mount track to achieve additional horizontal support in same plane as T-track without extending wall cavity.
			3. Corner Attachments to achieve corner conditions under same system installation methods.
		2. THERMAclip Thermally Isolated Polyamide Clips:
			1. Engineered support system designed to integrate with exterior insulation and minimize thermal bridging.
			2. Tested in accordance with NFPA 285.

\*\* NOTE TO SPECIFIER \*\* Delete height option if not required. 4 inches is standard.

* + - 1. Height: 4 inches (102 mm).
			2. Height: 6 inches (152 mm).
			3. Depth: 3-1/4 inch (83 mm). Accommodates 2 inches (51 mm) to 4 inches (102 mm) of insulation when connected with t-track.
			4. Material: Polyamide - PA 6.6.

\*\* NOTE TO SPECIFIER \*\* Delete color option not required. Black is standard.

* + - 1. Color: Black.
			2. Color: Purple.
		1. T-Track:
			1. Material: Extruded 6063-T6 aluminum profile with dimension marks.

\*\* NOTE TO SPECIFIER \*\* Delete finish option if not required. Mill finish is standard.

* + - 1. Finish: Mill finish.
			2. Finish: Black anodized.
			3. Length: 120 inches (3048 mm) typical, and as required by project configuration.

\*\* NOTE TO SPECIFIER \*\* Flush Mount is Optional. Specialized aluminum mounting components are available to fit greater than or less than 16 inches (406 mm) on center at 0.090 inches (2.3 mm) in thickness. Contact CLADIATOR for more information. Delete if not required.

* + 1. Flush-Mount:
			1. Material: Extruded 6063-T6 aluminum profile to fit with t-track 16 Inches (406 mm) on center.

\*\* NOTE TO SPECIFIER \*\* Delete finish option not required. Mill finish is standard.

* + - 1. Finish: Mill finish.
			2. Finish: Black anodized.

\*\* NOTE TO SPECIFIER \*\* Flush Mount EXT is optional. Delete if not required.

* + 1. Flush-Mount EXT:
			1. Material: Extruded 6063-T6 aluminum profile. May be cut on site or pre-cut to fit dimensions up to 32 inches (813 mm) on center.

\*\* NOTE TO SPECIFIER \*\* Delete finish option if not required. Mill finish is standard.

* + - 1. Finish: Mill finish.
			2. Finish: Black anodized.
		1. Fasteners: Verify type of screws with Engineer for meeting or exceeding project specific wind loads, gravity loads, seismic loads, and code requirements for each wall type.
			1. Steel Stud Wall Screws:
				1. 1/4 inch No. 14 x 1 inch (25 mm) or 1-1/2 inch (38 mm) HWH SS for installing base track and THERMAClip to 16 gauge steel studs over sheathing.
				2. No. 10 x 3/4 inch (19 mm) or 1 inch (25 mm) HWH SS screws to connect adjustable T-track or with THERMAClip and flush mounts.
			2. Concrete Wall Screws:
				1. 1/4 inch No. 14 x 1 inch (25 mm) or 1-1/2 inch (38 mm) HWH SS for installing base track and THERMAClip to concrete walls.
				2. No. 10 x 3/4 inch (19 mm) or 1 inch (25 mm) HWH SS screws to connect adjustable T-track with THERMAClip and flush mounts.
			3. Finishing Accessory Screws:
				1. Termination track for windows, doors and termination points used same as screws for T-Track.
				2. Screws for corner base track used same as screws for Base Track.
				3. Screws for corner T-Stem and corner Half-T used same as screws for T-Track.
		2. Finishing Accessories; Doors, Windows, and Terminations:
			1. Material: Extruded 6063-T6 aluminum profile.

\*\* NOTE TO SPECIFIER \*\* Delete finish option if not required. Mill finish is standard.

* + - 1. Finish: Mill finish.
			2. Finish: Black anodized.
			3. Length: 120 inches (3048 mm) typical, and as required by project configuration.
		1. Corner Supports:
			1. Material: Extruded 6063-T6 aluminum profile.
				1. Corner Base Track.
				2. Corner T-Stem.
				3. Corner Half-T.

\*\* NOTE TO SPECIFIER \*\* Delete finish option if not required. Mill finish is standard.

* + - 1. Finish: Mill finish.
			2. Finish: Black anodized.
			3. Length: 120 inches (3048 mm) typical, and as required by project configuration.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. RAINSCREEN Thermally Isolated Cladding Support System
		1. Basis of Design: SLOTTED-Z as manufactured by CLADIATOR.
		2. Performance Requirements:
			1. Air Leakage, ASTM E283:
				1. Air Infiltration at 6.27 pfs: Less than 0.01 cfm/ft2.
				2. Air Exfiltration at 6.27 pfs: Less than 0.01 cfm/ft2.
			2. Water Penetration, ASTM E331: Test @ 15.04 psf: Pass. No Leakage.
			3. Uniform Load Deflection (at the center of the panel), ASTM E330:
				1. +4788 Pa (+100.0 pfs): 10.92 mm (0.43 inch).
				2. +6943 Pa (+145.0 pfs): 25.91 mm (1.02 inch).
			4. Uniform Load Structural (permanent set at the center of the panel), ASTM E330:
				1. +4788 Pa (+100.0 pfs): 1.02 mm (0.04 inch).
				2. -4070 Pa (-85.0 pfs): 2.03 mm (0.08 inch).
				3. +6943 Pa (+145.0 pfs): 4.57 mm (0.18 inch).
				4. -5506 Pa (-115.0 pfs): 15.24 mm (0.60 inch).
			5. Gravity Load Testing (Uniform Distributed Static Vertical Load, Permanent Set at 3035 Pa 50 pfs: 0.254 mm (0.01 inch).
			6. Gravity Load Testing (Uniform Distributed Static Vertical Load, Deflection at 3035 Pa 50 pfs: 0.508 mm (0.02 inch).
			7. Fire Test, Exterior Non-Load-Bearing Wall Assembly, NFPA 285: Pass.
			8. Standard Method of Fire Test of Exterior Wall Assemblies, CAN/ULC-S134: Pass.
			9. Thermal Performance: The Effectiveness of The Overall Assembly - Exterior Insulated Steel Stud Wall: 2 inch mineral wool or 4 inch mineral wool: Fiberglass standard performance is 95-99 percent effective.
			10. Screw Pull Out Load, ASTM D1761: 866 lbf (392.8 kgf).
			11. Bearing Load, ASTM D5961 (Proc. A): 1438 lbf (652.3 kgf).
			12. Screw head Pull-Through Load, ASTM D7332 (Proc. B): 1645 lbf (746.2 kgf).
		3. Z-Girts: SLOTTED Z.
			1. Material: Fiberglass.

\*\* NOTE TO SPECIFIER \*\* Delete finish option if not required. Purple is standard.

* + - 1. Finish: Purple.
			2. Finish: Black.
			3. Length: 120 inches (3048 mm) typical, and as required by project configuration.
			4. Perforations: Perforated holes/slots have been added specifically for insulation securement and may also provide for additional ventilation and moisture/water egress.
		1. Profiles: Re-engineered slotted Z-girt with 1-1/2 inch (39 mm) wide exterior face designed to accommodate thickness of insulation and provide adequate exterior panel fastening area. Slotted z shall be designed to allow 1/2" to 1" gap minimum from face of insulation to facade.

\*\* NOTE TO SPECIFIER \*\* Select profile depths from the following 9 options based upon insulation specified.

* + - 1. Depth: 1.5 inches (37 mm).
			2. Depth: 2 inches (51 mm).
			3. Depth: 2.5 inches (64 mm).
			4. Depth: 3 inches (76 mm).
			5. Depth: 3.5 inches (89 mm).
			6. Depth: 4 inches (102 mm).
			7. Depth: 4.5 inches (114 mm).
			8. Depth: 5 inches (127 mm).
			9. Depth: 5.5 inches (140 mm).
			10. Depth: 6 inches (152 mm).
		1. Fasteners: Verify type of screws with engineer for meeting or exceeding project specific wind loads, gravity loads, seismic loads, and code requirements for each wall type.
			1. Steel Stud Wall Screws:
				1. 1/4 inch No. 14 x 1 inch (25 mm) or 1-1/2 inch (38 mm) HWH SS for installing SLOTTED-Z to 16 gauge steel studs over sheathing.
			2. Concrete Wall Screws:
				1. 1/4 inch No. 14 HWH SS No. 12 x 1 inch (25 mm) or 1-1/2 inch (38 mm) HWH SS for installing SLOTTED-Z to concrete walls.
	1. Accessories

\*\* NOTE TO SPECIFIER \*\* ROCKETStick is an optional component that integrates with all SLOTTED-Z cladding attachment systems to secure insulation away from the waterproofing layer. Delete if ROCKETStick is not required or a Thermally Isolated Cladding Support System is not specified.

* + 1. ROCKETStick - Insulation Securement:
			1. Material: Extruded 6063-T6 aluminum profile.
			2. Finish: Mill finish with painted black outward facing side.
			3. Profile Dimensions: 1 inch width by 2.796 inch height (25 mm x 71.02 mm).
			4. Placement: ROCKETStick insulation securement extends 1.5 inches (39 mm) above SLOTTED-Z -profile surface and extends 1 (25 mm) below the SLOTTED-Z profile surface.
			5. ROCKETStick is designed to secure insulation utilizing perforated slots within the design of the SLOTTED-Z products.
				1. Slots, 1 inch (25 mm) wide are spaced every 3 inches (76 mm) along the length of the SLOTTED-Z to accommodate the ROCKETStick.
				2. Two rows of 1 inch (25 mm) wide slots starting at the outer flange and at 1/2 inch (13 mm) inward secure insulation and allow for a 1/2 inch (13 mm) adjustment in insulation depth.

\*\* NOTE TO SPECIFIER \*\* Select the correct profile depth to match the type of insulation material and note the differences in net free area based on the position of the ROCKETStick. Delete profile depth options not required.

* + - 1. Profile Depth: 2 inches (51 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 2 inches (51 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 1.5 inches (38 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 1 inches (25 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 2.5 inches (64 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 2.5 inches (64 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 2 inches (51 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 1.5 inches (38 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 3 inches (76 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 3 inches (76 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 2.5 inches (64 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 2 inches (51 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 3.5 inches (89 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 3.5 inches (89 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 3 inches (76 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 2.5 inches (64 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 4 inches (102 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 4 inches (102 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 3.5 inches (89 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 3 inches (76 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 4.5 inches (114 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 4.5 inches (114 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 4 inches (102 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 3.5 inches (89 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 5 inches (127 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 5 inches (127 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 4.5 inches (114 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 4 inches (102 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 5.5 inches (140 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 5.5 inches (140 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 5 inches (127 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 4.5 inches (114 mm) thick.

Net Free Area: 1.00.

* + - 1. Profile Depth: 6 inches (152 mm).
				1. ROCKETStick Installed in Outer Slot:

Mineral Wool: 6 inches (152 mm) thick.

Net Free Area: None.

Mineral Wool, XPS, or Polyiso: 5.5 inches (140 mm) thick.

Net Free Area: 0.50.

* + - * 1. ROCKETStick Installed in Inner Slot:

Mineral Wool, XPS, or Polyiso: 5 inches (127 mm) thick.

Net Free Area: 1.00.

* + - 1. Typical Insulation Materials:
				1. Mineral Wool Semi-Rigid or Rigid Insulation.

CAVITYROCK.

CAVITYROCK Black.

RAINBARRIER 45.

* + - * 1. Semi-rigid or rigid foam board insulation.
1. EXECUTION
	1. EXAMINATION
		1. Verify that building framing members are ready to receive metal cladding support.
		2. Do not begin installation until substrates have been properly constructed and prepared.
		3. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

\*\* NOTE TO SPECIFIER \*\* Delete the next paragraph if CLADIATOR CL 300 is not required.

* 1. INSTALLATION - CLADDING SUPPORT SYSTEM (CL 300)
		1. Install per manufacturer's written instructions.
		2. Insulation: Install into the exterior cavity between the base track and THERMAClip polyamide clip and between the base track and T-track as indicated and in accordance with insulation manufacturer's instructions.
			1. Insert into the narrow slot provided in the THERMAClip polyamide clip and slide to adjust to the insulation depth and ventilation requirement as shown on Drawings and fasten in accordance with manufacturer's instructions.
			2. Complete final finite adjustments to plumb and level with the T-track.
			3. Ensure assembly is plumb, level, and free of warp or twist; maintain dimensional tolerances and alignment with adjacent work.
		3. Proprietary Panel Guidance, Secondary Structural Supports:
			1. Install girts, angles, and other secondary structural panel support members and anchorage according to the Light Gage Structural Institute's "Guide Specifications," and Division 07 Roof and Wall Panels Sections.
		4. Install sufficient anchorage devices to fasten system securely and rigidly to building in accordance with Drawings and approved Shop Drawings. Fasteners to be concealed.
		5. Provide anchors to be installed in other work, and setting details, in time for proper installation by trades concerned; verify correct placement.
		6. Spacing for Thermal Expansion/Contraction at 120 inch (3046 mm) Length:
			1. Base Track and Corner Base Track: 3/8 inch.
			2. T-Track & Corner Half-T: 3/8 inch (10 mm).
			3. Termination Track: 3/8 inch (10 mm).
			4. Corner T-Stem: 3/8 inch (10 mm).
		7. Built-In Work:
			1. As work progresses, build in anchor bolts, flashing and other items supplied by other trades.
			2. Install items plumb and true in accordance with manufacturer's instructions.
			3. Do not build in organic materials subject to rot or deterioration.

\*\* NOTE TO SPECIFIER \*\* Delete the next paragraph if SLOTTED-Z is not required.

* 1. Installation - Thermally Isolated Cladding Support System (SLOTTED-Z)
		1. Install per manufacturer's written instructions.
			1. SLOTTED-Z Horizontal or Vertical Installation:
				1. Install plumb and level to a uniform plane.
				2. Fasten SLOTTED-Z to the substrate directly to the steel stud, concrete, or wood as applicable, at intervals indicated in the Details for each specific project.
			2. Ensure assembly is plumb, level, and free of warp or twist; maintain dimensional tolerances and alignment with adjacent work.

\*\* NOTE TO SPECIFIER \*\* CLADIATOR recommends the use of one of the following Insulation materials: Mineral Wool/Mineral Fiber Insulation, Foil Faced Extruded Polystyrene (XPS), and Foil Faced Polyisocyanurate (ISO).

* + 1. Insulation:
			1. Install into the exterior cavity SLOTTED-Z and in accordance with insulation manufacturer's instructions.

\*\* NOTE TO SPECIFIER \*\* Insulation clips are optional. Delete the next paragraph if not required.

* + - 1. After placing the insulation material, use insulation clips for fixing the insulation.
			2. Accommodates semi-rigid mineral wool insulation or rigid foam board insulation.
		1. Proprietary Panel Guidance, Secondary Structural Supports:
			1. Install girts, angles, and other secondary structural panel support members and anchorage according to the Light Gage Structural Institute's guide specifications and related roof and wall panel sections.
		2. Install sufficient anchorage devices to fasten system securely and rigidly to building in accordance with Drawings and approved Shop Drawings. Fasteners to be concealed.
		3. Provide anchors to be installed in other work, and setting details, in time for proper installation by trades concerned; verify correct placement.
		4. Spacing for Thermal Expansion/Contraction at 120 inch (3046 mm) Length: 3/8 inch (10 mm).
		5. Built-In Work:
			1. As work progresses, build in anchor bolts, flashing and other items supplied by other trades.
			2. Install items plumb and true in accordance with manufacturer's instructions.
			3. Do not build in organic materials subject to rot or deterioration.
	1. ERECTION TOLERANCES
		1. Maximum Offset from True Alignment Between Adjacent Members Butting or In Line: 1/16 inch (1.6 mm).
		2. Maximum Variation from Plane or Location Indicated on Drawings: 1/4 inch (6mm).
		3. Tolerance: Accurately align and locate components to column lines and floor levels; adjust work to conform with following tolerances.
			1. Plumb: 1/8 inch (3 mm) in 10 feet (3046 mm) and 1/4-inch (6 mm) in 40 feet (12192 mm); non-cumulative.
			2. Level: 1/8 inch (3 mm) in 20 feet (6092 mm) and 1/4 inch (6 mm) in 40 feet (12192 mm); non-cumulative.
			3. Alignment:
				1. Limit offsets to 1/16 inch (1.6 mm) where surfaces are flush or less than 1/2 inch (13 mm) out of flush and separated by less than 2 inches (51 mm) by reveal or protruding work. Limit offsets to 1/8 inch (3 mm) in all other cases.
			4. Location: 3/8 inch (10 mm) maximum deviation from measured theoretical location of any member.
	2. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.
	3. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturers recommendations.
		2. Repair or replace damaged products before Substantial Completion.

END OF SECTION