07 05 43
ADJUSTAKLIP™ GUIDE SPECIFICATION

SPEC NOTE: ADJUSTAKLIP SUPPORT SYSTEM

This guide specification is intended for use when specifying an exterior wall assembly consisting of a fully engineered, adjustable, thermally broken, highly corrosion resistant cladding support system fastened directly to the substrate for placement of exterior mineral fiber insulation between brackets.

This cladding support system is versatile and suitable for common face fastened rainscreen panel assemblies and concealed fastener panels such as (but not limited to) metal panels, fiber cement, High Pressure Laminate (HPL) panels, Metal Composite Material (MCM), terra cotta panels, stone cladding, and Portland cement plastering.

Thermally isolated brackets (ADJUSTAKLIP™) are attached to the substrate then the primary rail (an 'L' profile) is attached to the relevant brackets in a horizontal or vertical orientation.

Additional (optional) secondary rail components (PANELRAIL® and/or REVEALRAIL®) are available to meet additional requirements for cladding support, panel layout or to increase the air cavity/system depth.

The **ADJUSTAKLIP** brings the value of allowing the rail-to-bracket connection adjustability for substrate irregularities and help to install a straight and plumb façade installation.

The rail can be moved outward (adjusted) up to 1.5 inches from the zero position.

When the rail is fully adjusted 'in' on the bracket (zero position), the rail can plane out with the face of the insulation.

Please contact the manufacturer for further information or questions.

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HIDDEN TEXT: To access specifier notes that may assist in product selection and editing, ensure that hidden text is turned on in Display Options settings.

DISCLAIMER: The manufacturer has reviewed the product information contained in this guide specification. The information is organized and presented to assist the specification writer working on a construction project to select the appropriate products and to save time in writing the project specification Section. The specification writer is responsible for product selection as well as the use and application of this information, and should contact the manufacturer to ensure that all options are available and that the associated specification information is valid and correct.

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SECTION 07 05 43

CLADDING SUPPORT SYSTEMS (ADJUSTAKLIP™)

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes thermally broken cladding support system installed with mineral fiber insulation.

A. Related Requirements:

1. Division 05 Section for “Cold-Formed Metal Framing”.
2. Division 06 Section for “Rough Carpentry”.
3. Division 06 Section for “Sheathing”.
4. Division 07 Section for “Air Barriers”.
5. Division 07 Section for “<Insert Cladding Section Title>”.
6. Division 07 Section for “Thermal Insulation”.

1.2 ADMINISTRATIVE REQUIREMENTS

A. Coordination:

1. Coordinate component layout and support provisions.
2. Coordinate construction sequencing to ensure assemblies fit properly to supporting and adjoining construction
3. Coordinate schedule with construction in progress to avoid delays.

B. Preinstallation Meetings:

1. Discuss sequence and scheduling of work and interface with other trades.
2. Review support conditions and anchorage for potential interference and conflicts.
3. Review installation methods and procedures, including manufacturer’s written guidelines.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s product literature and descriptions of testing performed on system components to indicate meeting or exceeding specified performance.

B. Shop Drawings:

1. Submit connection details to the cladding manufacturer, showing interface of rainscreen attachment system to substrate and panels with adjacent construction, signed and sealed by Professional Engineer.
2. Show system installation and attachment, including fastener size and spacing.

C. Samples: Submit two (2) 12-inch-long samples of each rail profile and each bracket.

D. Delegated Design Submittals:

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1. Submit comprehensive structural design analysis and calculations for cladding support system components and fasteners sealed by a Professional Engineer.

E. Test Reports:

1. Submit documentation confirming each assembly meets the acceptance criteria of NFPA 285.

2. Comprehensive three-dimensional thermal modeling report demonstrating compliance with specified thermal performance requirements for each assembly.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in the manufacturing of cladding support systems with at least 5 years of documented experience.

B. Installer Qualifications: Company specializing in performing the work specified in this section with at least 3 years of experience and approved by manufacturer.

C. Professional Engineer Qualifications: Qualified professional engineer experienced in the design of cladding support systems and licensed in the jurisdiction where Project is located.

D. Mock-Ups: Construct mock-up for evaluation of workmanship.

1. Include cladding support system, water-resistive barrier, anchorage, flashings, and accessories[as shown in Drawings] <Insert Size>.

2. Approved mock-up may remain as part of the completed Work.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials and components in manufacturer's original, unopened and undamaged containers with labels intact. Exercise care to avoid damage during transportation and unloading.

B. Store, protect and handle materials and components in accordance with manufacturer recommendations to prevent damage, contamination and deterioration. Keep materials clean, dry, and free of dirt and other foreign matter, and protect from damage due to weather or construction activities.

1.6 WARRANTY

A. Manufacturer Warranty: Provide 10-year Limited Warranty of cladding support system, including structural failure of components when supplied and installed per manufacturer's requirements, commencing on date of Substantial Completion.

1. Include labor and material for removal and replacement of defective material.

2. Include labor and material to remove and reinstall cladding, finish closures, and accessories necessary to access defective material.

B. Installer Warranty: Provide 2-year warranty covering repair of materials found to be defective as a result of installation errors, commencing on date of Substantial Completion.

C. Limitation of Warranties: Excludes repairs, replacement, and corrective work to the substrate, primary structure, cladding, and property, unless otherwise noted above. Warranties exclude mechanical damage due to abuse, neglect, primary structure failure, or forces of nature greater than normal weather conditions.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Knight Wall Systems; ADJUSTAKLIP™: www.knightwallsystems.com.

1. Substitutions: Not permitted.

B. Source Limitations: Furnish cladding support system components from a single manufacturer.

2.2 SYSTEM DESCRIPTION

A. Rainscreen assembly includes the following components from the substrate out:

1. Substrate: [Wall framing and sheathing] [Concrete masonry unit wall] [Concrete wall].
2. Water-Resistive Barrier/Air Barrier.
3. Mineral fiber insulation.
4. Cladding support system.
5. Exterior cladding.

B. Performance Requirements:

1. Thermal Performance:

a. Continuous framing profiles (including C- or Z-shaped sections or furring) penetrating the full depth of the exterior insulation are not allowed.

b. Wall Assembly U-Factor: (U-0.064) (U-0.055) (U-0.0XX).

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

2. Fire Propagation Requirements of Exterior Wall Assemblies: Complying with the acceptance criteria of NFPA 285.

C. Design Requirements: Provide manufacturer's professional engineering services to design cladding support system, including anchorage, to meet specified requirements.

1. Structural Design:

a. Design Loads: Capable of withstanding effects of load and stresses from dead loads, wind loads,[snow and ice loads,] and other loads indicated on [Structural Drawings] without evidence of permanent defects of assemblies or components.

b. Framing Members: Evaluate localized bending stress for eccentrically loaded framing members using maximum effective length of resisting element of 12 inches.

c. Fasteners:

1) Use minimum Safety Factor of 3 for both tension and shear values.

2) Evaluate combined tension and shear according to an interaction formula. Sum of terms shall not exceed 1.0.

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d. 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.

2.3 MINERAL FIBER INSULATION

A. Refer to Section [07 21 00 – Thermal Insulation].

2.4 CLADDING SUPPORT SYSTEM

A. Bracket Spacing: Comply with manufacturer's Professional Engineer's project specific calculations.

B. Wall Brackets: Minimum 0.074 inch thick (14 gauge) cold-formed steel with pre-punched attachment holes and allowing for adjustment to align and plumb of framing.

1. Bracket Depth: [2] [4] [6] inches [as indicated on the drawings]

2. Basis of Design: Knight Wall Systems ADJUSTAKLIP.

C. Primary [Horizontal] [Vertical] Rails: Minimum [0.054-inch thick (16 gauge)] [0.074-inch thick (14 gauge)] cold-formed steel.

1. Profile: L-channel.

2. Nominal Dimensions: 1 1/2-inch front leg and side leg dimension as necessary to meet cavity depth requirements.

3. Basis of Design: Knight Wall Systems ADJUSTAKLIP L-Rail.

D. Secondary [Horizontal] [Vertical] Rails: Nominal [0.046 inch thick (18 gauge)] [0.054-inch thick (16 gauge)] cold-formed steel.

1. Profile: Hat channel with stiffening lips.

2. Profile Depth: 3/4-inch [1-inch] [1-1/4 inches] [1-1/2 inches] [1-3/4 inches].

3. Fastening Face Width: 2 inches [3 inches] [4 inches] [5 inches].

4. Weeps: 3/4-inch diameter holes spaced at 4 inches on center along flanges to allow for free air flow.

5. Attachment Holes: Spaced at 2 inches on center for attachment to primary rail and sized to allow for thermal movements.

6. Finish: [Mill finish] [Black PVDF finish complying with AAMA 2605].

7. Basis of Design: Knight Wall Systems PANELRAIL®.

E. Secondary Vertical Reveal Rail: Nominal [0.046-inch thick (18 gauge)] [0.054-inch thick (16 gauge)] cold-formed steel.

1. Profile: Square hat channel with stiffening lips.

2. Profile Depth: 3/4-inch [1-inch] [1-1/4 inches] [1-1/2 inches] [1-3/4 inches].

3. Finish: [Mill finish] [Black PVDF finish complying with AAMA 2605].

4. Basis of Design: Knight Wall Systems RevealRail.

F. Steel Classification: Structural Steel (SS), Grade 50, 50 ksi Yield.

1. Coating Material: ASTM A1046, Zinc-Aluminum-Magnesium, minimum thickness ZM40.

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2. ASTM A653 Galvanized steel is not acceptable.

G. Thermal Isolators: Manufacturer's recommended injection-molded polymer isolators.

1. Wall Bracket Isolation: Minimum 3/8-inch thick at each wall bracket.

2. Wall Bracket Shims: Matching wall bracket isolator profile to maintain the integrity of the connection.

H. Fasteners:

1. General: Provide manufacturer's recommended non-corrosive type of sufficient strength to provide solid attachment to structure.

a. Minimum 1,000-hour salt-spray coating (ASTM B117).

2.5 [SIDING] [CLADDING]

A. Refer to Section <Insert Cladding Section Number>.

2.6 ACCESSORIES

A. Bracing, Furring, Bridging, Plates, Gussets, and Clips: Formed sheet steel, thickness as necessary to meet structural requirements for special conditions encountered.

B. Galvanic Protection Materials: Tapes and bituminous coatings intended to prevent contact between dissimilar metals.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions for compliance with manufacturer requirements for installation conditions affecting performance of the Work.

1. Ensure water-resistive barrier (WRB) and rigid insulation are completely and correctly installed prior to installing cladding support system.

2. Ensure fenestration, transitions, discontinuities, sills, and ledgers are flashed and sealed to move moisture to the exterior of the building.

B. Examine architectural details and penetration locations relative to support locations prior to installation.

C. Do not proceed with installation until unsatisfactory conditions have been corrected.

D. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

3.2 PREPARATION

A. Metal Protection: Where dissimilar metals will contact each other, protect against galvanic action by use of coatings or by other means of permanent separation.

3.3 CLADDING SUPPORT SYSTEM INSTALLATION

A. Wall Brackets and Primary Rails: Install in accordance with manufacturer's installation instructions and approved shop drawings.

1. Mount wall brackets at spacing indicated in shop drawings to structural substrate.

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2. Tighten fasteners to substructure to a snug tight condition and not stripped. Do not over-torque. If installed using hand tools, verify for each installer at beginning of project using snug-tight criteria. Do not use stripped holes.
3. Thermally isolate wall bracket attachments by sandwiching thermal break material between metal bracket and support wall substrate.
4. Attach primary rails to wall brackets. Check that rails align plumb and true. Account for irregularities in support wall.
5. Minimum Rail Length: 12 inches. Ensure that rails are attached to at least two separate wall brackets to prevent rotation. Unsupported cantilever must not exceed 6 inches unless specified differently by manufacturer's engineer.
6. Mineral Fiber Insulation: Install to expand into and friction fit between wall brackets [and as as specified in Section 072100] prior to installing rails.

B. Secondary Rails: Install in accordance with manufacturer's installation instructions and approved shop drawings.
1. Minimum Rail Length: 12 inches. Ensure that rails are attached to at least two separate primary rails.
2. Tighten screws to snug tight. Verify equivalent snug tight condition for installers using hand tools.

C. Touch-up shop-applied protective coatings damaged during handling and installation.

D. Provide 3/8-inch to 1/2-inch gaps between girts for expansion when multiple lengths of girts are installed.

3.4 ERECTION TOLERANCES

A. Maximum Framing Member Variation from True Position: 1/4 inch.

B. Maximum Framing Member Variation from Plane:
1. Individual Framing Members: Do not exceed 1/4 inch in 10 foot.
2. Accumulative Over-all Variation for Wall and Floor System: Do not exceed 1/4 inch.

3.5 ADJUSTING

A. Adjust as necessary to accommodate cladding system tolerances. Do not reuse pre-drilled holes unless fastener size is increased.

B. Replace or repair defective work.

3.6 [SIDING] [CLADDING] INSTALLATION – REFER TO SECTION [INSERT SECTION NUMBER].

A. Ensure that cavity remains clear of air flow and drainage obstructions.

END OF SECTION

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