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**SECTION 07 05 46 - RAINSCREEN ATTACHMENT SYSTEM**

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by the following method in Microsoft Word:

 Display the FILE tab on the ribbon, click OPTIONS, then DISPLAY. Select of deselect HIDDEN TEXT.

This guide specification section has been prepared by Knight Wall Systems for use in the preparation of a project specification section covering the ThermaZee thermally isolated cladding attachment system.

The following should be noted in using this specification:

Hypertext links to manufacturer websites are included after manufacturer names to assist in product selection and further research. Hypertext links are shown in blue text, e.g.:

www.acme.com

Optional text requiring a selection by the user is enclosed within brackets and shown in red text, e.g.: “Color: [Red.] [Black.]”

Items requiring user input are enclosed within brackets and shown in red text, e.g.: “Section [\_\_ \_\_ \_\_ - \_\_\_\_\_\_\_\_].”

For assistance in the use of products in this section, contact Knight Wall Systems by calling 855-597-9255 or visit their website at [www.knightwallsystems.com](http://www.knightwallsystems.com)

This specification has been prepared based on ***SimpleSpecs***™ specification templates. The ***SimpleSpecs***™ Master Guide Specification system comprises a full architectural master specification that can be used to specify all project requirements. For additional information on ***SimpleSpecs***™ products visit the ZeroDocs.com website at .

1. **GENERAL**
	1. ADMINISTRATIVE REQUIREMENTS
		1. Pre-Installation Conference:
			1. Attendance: [Architect,] [Owner,] [Contractor,] [Construction Manager,] [Design/Builder,] installer, and related trades.
			2. Review: Project conditions, manufacturer requirements, delivery and storage, staging and sequencing, and protection of completed work.
	2. SUBMITTALS
		1. Action Submittals:
			1. Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.
			2. Product Data: Manufacturer’s descriptive data and product attributes.
			3. Samples: [Selection samples.] [Verification samples.]
		2. Informational Submittals:
			1. Structural calculations: Manufacturer's comprehensive structural design analysis prepared by registered professional engineer.
			2. Three-dimensional thermal modeling indicating framing system’s impact on exterior insulation rated R-value.
			3. Certificate of Compliance: Installer’s certification that installed products meet specified design and performance requirements.
	3. QUALITY ASSURANCE

The following paragraph specifies a minimum level of experience required of the parties performing the work of this section. Retain if required, and edit to suit project requirements.

* + 1. Installer Qualifications: Firm specializing in work of this Section, with minimum [2] [\_\_] years’ experience.
		2. Design furring system to withstand:
			1. Movement caused by an ambient temperature range of [120] [\_\_] degrees F and a surface temperature range of [160] [\_\_] degrees F.
			2. Live and dead loads in accordance with [Building Code.] [\_\_\_\_.]
	1. SYSTEM DESCRIPTION
		1. Employ qualified professional engineer licensed in State of [\_\_\_\_] to perform system design.
	2. WARRANTY
		1. Manufacturer’s 10 year warranty against structural failure of system, including cost of removal and replacement of overlying cladding materials as required to access defective materials.
		2. Installer’s 2 year warranty against defects in installation of system.
1. **PRODUCTS**
	1. MANUFACTURERS
		1. Contract Documents are based on products by Knight Wall Systems. [www.knightwallsystems.com](http://www.knightwallsystems.com)
		2. Substitutions: [Refer to Division 01.] [Not permitted.]
	2. MATERIALS
		1. Steel Sheet:
			1. Steel classification: Structural steel, 50 ksi yield strength.
			2. Corrosion protection coating: ASTM A1046, zinc-aluminum-magnesium, minimum thickness ZM40.
	3. COMPONENTS
		1. Comply with ANSI/ASHRAE 90.1.

Girts may be spaced up to 32 inches on center when oriented vertically, or 48 inches on center when oriented horizontally. Girts can support claddings that weigh up to 15 pounds per square foot. Spacing and maximum dead load is dependent on girt depth, orientation, cladding weight, design wind pressures, and tension forces on fasteners. Maximum allowable spacing and dead load is determined for each project.

* + 1. Primary [Horizontal] [Vertical] Girts:
			1. Profile: ThermaZee; z-channel, front and back flanges of equal length, with attachment holes.

In the following paragraph 18 gage is standard for all finishes; 16 gage is available when required by design calculations, in mill finish.

* + - 1. Thickness: Minimum [18] [16] gage.
			2. Web perforations: Minimum 50 percent open area.

Minimum depth is determined by insulation thickness. Additional depth up to 4.5 inches can be added by design professional to create desired aesthetics.

* + - 1. Depth: [[1.5] [2] [2.5] [3] [3.5] [4] [4.5] inches.] [As indicated.]
			2. Thermal isolation:
				1. Located between back flange and substrate; continuous along length of channel
				2. Minimum 0.25 inch thickness.
				3. Thermal conductivity: Less than 0.18 Watts per Meter Kelvin.
				4. Designed to prevent accumulation of water on upper edge.
			3. Finish: [Mill.] [Black PVDF coated.]

Optional secondary girts attach to primary rails to provide additional panel support or to create reveals for panel design. Use of secondary girts is dependent on panel type, layout, orientation, and configuration. Contact Knight Wall Systems with questions.

2 inch PanelRail is typically used. If panel cladding has large clips that require additional material for attachment, rails are also available with 3, 4, or 5 inch faces for fastening.

* + 1. Secondary [Vertical] [Horizontal] Girts:
			1. Profile: PanelRail; square hat channel with stiffening lips, with weep drains and attachment holes.

In the following paragraph 18 gage is standard for all finishes; 16 gage is available when required by design calculations, in mill finish.

* + - 1. Thickness: Minimum [18] [16] gage.
			2. Web perforations: 3/4 inch diameter holes at maximum 4 inches on center.
			3. Fastening face width: [[2] [3] [4] [5] inches.] [As determined by structural analysis.]
			4. Depth: 3/4 inch.
			5. Finish: [Mill.] [Black PVDF coated.]

Reveal rail may be used at vertical joints at face fastened panels to create panel separation or shadow effects.

* + 1. Secondary Vertical Joint Rail:
			1. Profile: RevealRail; square hat channel with stiffening lips.

In the following paragraph 18 gage is standard for all finishes; 16 gage is available when required by design calculations, in mill finish.

* + - 1. Thickness: Minimum [18] [16] gage.
			2. Dimensions: 2.0 inches at web, 1.625 inches at each flange, with 0.25 stiffening lips.
			3. Depth: 3/4 inch.
			4. Finish: [Mill.] [Black PVDF coated.]
	1. ACCESSORIES

Mineral fiber insulation is recommended. Depth of insulation cannot exceed depth of ThermaZee girts.

* + 1. Thermal Insulation: Refer to Section [\_\_ \_\_ \_\_ - \_\_\_\_\_\_\_\_].
		2. [Siding] [Cladding] Panels: Refer to Section [\_\_ \_\_ \_\_ - \_\_\_\_\_\_\_\_].
		3. Wall Anchors: Corrosion resistant coated steel; thermally isolated with minimum 1/8 inch thick polymer washer.

* + 1. Bracing, Furring, Bridging, Plates, Gussets, and Clips: Formed sheet steel, thickness to meet structural requirements.
		2. Galvanic Protection: Utilize tapes and other methods to separate and prevent contact between dissimilar metals.
1. **EXECUTION**
	1. INSTALLATION
		1. Install in accordance with manufacturer’s instructions and approved Shop Drawings.
		2. Place girts at spacings indicated.
		3. Friction fit thermal insulation tight to girts.
		4. Install [siding] [cladding] as specified in Section [\_\_ \_\_ \_\_ - \_\_\_\_\_\_\_\_].
	2. ADJUSTING
		1. Clean and touch up damaged protective coatings with same coating as originally applied.

END OF SECTION