SECTION 07 70 00

ROOF AND WALL SPECIALTIES AND ACCESSORIES

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\*\* NOTE TO SPECIFIER \*\* North Shore Sheet Metals; custom sheet metal fabrication.
This section is based on the products of North Shore Sheet Metals, which is located at:
418 Mercantile Ct.
Wheeling, IL 60090
Tel: 847-947-6797
Email: [request info (martin@abedward.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=North+Shore+Sheet+Metals&coid=52832&rep=&fax=&message=RE:%20Spec%20Question%20(07700nss):%20%20&mf=)
Web: <https://northshoresheetmetals.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos52/arc52832.html) ] for additional information.
Our highly experienced sheet metal craftsmen will fabricate custom metal products from your ideas and drawings or from our readily available selection including dormers, finials, spires and more. We service both residential and commercial clients. From our design phase to installation, our design and installation experts work together in collaboration to tackle all the challenges of your construction project.
North Shore Sheet Metals combines old world craftsmanship with modern day technology and equipment to provide high quality, cost advantage architectural products. Also Our 10,000 Sq Ft. facility has state-of-the-art machinery and experienced craftsman awaiting your order. Every order is handled specifically by your dedicated project manager and tailor-made to fit the exact specifications of the project.
Our office team is skilled, hardworking, and friendly and your complete satisfaction is their ultimate goal. Their value-added customer service raises the industry standard to a level you not only expect but deserve.

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Metal Fascia Systems
		2. Metal Manufactured Copings
		3. Snow guards for metal roofs.
			1. Non-penetrating and face fastened attachment systems.
	1. RELATED SECTIONS

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

* + 1. Section 05 12 13 - Architecturally-Exposed Structural Steel Framing.
		2. Section 05 36 00 - Composite Metal Decking.
		3. Section 05 50 00 - Metal Fabrications.
		4. Section 06 10 00 - Rough Carpentry.
		5. Section 07 21 19 - Foamed-In-Place Insulation.
		6. Section 07 42 00 - Wall Panels.
		7. Section 07 61 00 - Sheet Metal Roofing.
		8. Section 07 60 00 - Flashing and Sheet Metal.
		9. Section 07 90 00 - Joint Protection.
	1. REFERENCES

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

* + 1. Aluminum Association (AA) - Aluminum Standards and Data, 2003 Edition.
		2. ASTM International (ASTM):
			1. ASTM B85-03 - Standard Specification for Aluminum-Alloy Die Castings.
			2. ASTM B221-04a - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
		2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* 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-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. 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.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
		2. Protect from damage due to weather, excessive temperature, and construction operations.
	3. 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.
	4. WARRANTY
		1. Manufacturer's standard limited warranty unless indicated otherwise.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: North Shore Sheet Metals, which is located at: 418 Mercantile Ct.; Wheeling, IL 60090; Tel: 847-947-6797; Email: [request info (martin@abedward.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=North+Shore+Sheet+Metals&coid=52832&rep=&fax=&message=RE:%20Spec%20Question%20(07700nss):%20%20&mf=); Web: <https://northshoresheetmetals.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.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required or delete basis of design paragraphs not required,

* 1. METAL FASCIA SYSTEMS
		1. Basis of Design: Snap Edge Extended Fascia:
			1. Standards Compliance:
				1. ANSI/SPRI/FM 4435 ES-1 Standard to comply with the International Building Code.
				2. Factory Mutual approved.

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

* + - 1. Version: Built-Up Modified:
			2. Version: Fully Adhered or Mechanically Attached single Ply.
			3. Features:
				1. Length: 12 ft (3658 mm).
				2. Mounting: Pre-punched, slotted holes for precise fastener placement.
				3. Reusable and recyclable material.
				4. No need for stripping in/heat welding.
				5. Factory fabricated miters and scuppers available.
				6. All fasteners are included.

\*\* NOTE TO SPECIFIER \*\* Delete materials not required. 0.040 inch ( mm) is available for built-up modified version

* + - * 1. Material: 22 gauge steel, 0.0299 inches (0.759 mm). 15 Stocked Finishes.
				2. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				3. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				4. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				5. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				7. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				8. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				9. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.

\*\* NOTE TO SPECIFIER \*\* Delete face height options not required.

* + - * 1. Face Height: 9.5 inches (241 mm). Nailer Coverage: 5 nailers.
				2. Face Height: 11 inches (279 mm). Nailer Coverage: 6 nailers.
				3. Face Height: 12.5 inches (317 mm). Nailer Coverage: 7 nailers.
				4. Accessories:

Miters: 90 degrees and non-90 degrees.

Scuppers: Downspout, spillout and overflow.

Drainage components.

* + - 1. Color: To be determined by the Architect from Manufacturer's standard range.
			2. Warranty: 5-Year Workmanship Warranty. Covers replacement or repair of products that are defective in material or workmanship.
		1. Basis of Design: Snap Edge Fascia
			1. Standards Compliance:
				1. ANSI/SPRI/FM 4435 ES-1 Standard to comply with the International Building Code.
				2. Factory Mutual approved.

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

* + - 1. Version: Built-Up Modified:

\*\* NOTE TO SPECIFIER \*\* Delete materials and face height options not required.

* + - * 1. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 43 Stocked Finishes.
				2. Material: 0.040 inch (1.02 mm) aluminum. 22 Stocked Finishes.
				3. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				4. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				5. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				7. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				8. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				9. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				10. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				11. Face Height: 5 inches (127 mm). Nailer Coverage: 2 nailers.
				12. Face Height: 6.5 inches (165 mm). Nailer Coverage: 3 nailers.
				13. Face Height: 8 inches (203 mm). Nailer Coverage: 4 nailers.
			1. Version: Fully Adhered or Mechanically Attached single Ply.

\*\* NOTE TO SPECIFIER \*\* Delete materials and face height options not required.

* + - * 1. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 37 Stocked Finishes.
				2. Material: 0.040 inch (1.02 mm) aluminum. 20 Stocked Finishes.
				3. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				4. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				5. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				7. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				8. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				9. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				10. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				11. Face Height: 4 inches (102 mm). Nailer Coverage: 1 nailer.
				12. Face Height: 5 inches (127 mm). Nailer Coverage: 2 nailers.
				13. Face Height: 6.5 inches (165 mm). Nailer Coverage: 3 nailers.
				14. Face Height: 8 inches (203 mm). Nailer Coverage: 4 nailers.
			1. Version: Stone Ballast Single Ply Version.

\*\* NOTE TO SPECIFIER \*\* Delete materials and face height options not required.

* + - * 1. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 43 Stocked Finishes.
				2. Material: 0.040 inch (1.02 mm) aluminum. 22 Stocked Finishes.
				3. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				4. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				5. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				7. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				8. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				9. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				10. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				11. Face Height: 5 inches (127 mm). Nailer Coverage: 2 nailers.
				12. Face Height: 6.5 inches (165 mm). Nailer Coverage: 3 nailers.
				13. Face Height: 8 inches (203 mm). Nailer Coverage: 4 nailers.
			1. Features:
				1. Length: 12 ft (3658 mm).
				2. Mounting: Pre-punched, slotted holes for precise fastener placement.
				3. Reusable and recyclable material.
				4. No need for stripping in/heat welding
				5. Factory fabricated miters and scuppers available.
				6. All fasteners are included.
			2. Color: To be determined by the Architect from Manufacturer's standard range.
			3. Warranty: 5-Year Workmanship Warranty. Covers replacement or repair of products that are defective in material or workmanship.
		1. Basis of Design: Fascia.
			1. Standards Compliance:
				1. ANSI/SPRI/FM 4435 ES-1 Standard to comply with the International Building Code.
				2. Factory Mutual approved.

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

* + - 1. Fascia 2000: Single Ply roofing Systems:
			2. Fascia 3000: Built-Up or Modified roofing Systems:
				1. Length: 12 ft (3657 mm).
				2. Non-penetrating design eliminates stripping-in.
				3. Snap-on configuration eliminates field crimping.
				4. Dual attachment points accommodates roof irregularities.
				5. Concealed splice plates.
				6. Extruded aluminum anchor bar securely terminates membrane.
				7. Pre-punched holes for precise fastener placement.
				8. Raised buttonhole on water dam vertical face.
				9. Reusable and recyclable material.
				10. Custom and radius capabilities.

\*\* NOTE TO SPECIFIER \*\* Delete material and face height options not required.

* + - * 1. Material: 22 gauge steel, 0.0299 inches (0.759 mm). 15 Stocked Finishes.
				2. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 43 Stocked Finishes.
				3. Material: 0.040 inch (1.02 mm) aluminum. 22 Stocked Finishes.
				4. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				5. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				6. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				7. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				8. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				9. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				10. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				11. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				12. Face Height: 5.25 inches (133 mm). Nailer Coverage: 1 nailer.
				13. Face Height: 6.75 inches (171 mm). Nailer Coverage: 2 nailers.
				14. Face Height: 8.25 inches (210 mm). Nailer Coverage: 3 nailers.
				15. Face Height: 9.75 inches (248 mm). Nailer Coverage: 4 nailers.
				16. Face Height: 11.25 inches (286 mm). Nailer Coverage: 5 nailers.
				17. Face Height: 12.75 inches (324 mm). Nailer Coverage: 6 nailers.
				18. Accessories:

Miters: 90 degrees and non-90 degrees.

Scuppers: Downspout, spillout and overflow.

Drainage components.

* + - 1. Color: To be determined by the Architect from Manufacturer's standard range.
			2. Warranty: 20-year, 120 mph wind warranty is available. It provides coverage for the repair or replacement of any portion of the roof edge system that has failed due to a defect in supplied materials.
		1. Basis of Design: Angular Fascia

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

* + - 1. Version: Fully Adhered or Mechanically Attached Single-Ply Version:
			2. Version: Built-up Modified.
			3. Standards Compliance:
				1. ANSI-SPRI/FM 4435/ES-1 Standard to a design pressure of 290 lbs/ft2 to comply with the International Building Code.
				2. Factory Mutual approved.
				3. Miami-Dade Approved to comply with the "High Velocity Hurricane Zone" of the Florida Building Code.
			4. Features:
				1. Length: 12 ft (3658 mm).
				2. Non-penetrating design eliminates need to strip-in deck flange.
				3. Superior watertight integrity of the installation.
				4. Extruded aluminum anchor bar allows for vertical face attachment without penetration of horizontal flange.
				5. Minimizes potential delamination between asphalt and metal deck flange.
				6. Pre-punched holes for precise fastener placement and quick installation.
				7. Slotted holes allow for thermal movement.
				8. Custom and radius capabilities.
				9. Reusable and recyclable.

\*\* NOTE TO SPECIFIER \*\* Delete material and face height options not required.

* + - * 1. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 43 Stocked Finishes.
				2. Material: 0.040 inch (1.02 mm) aluminum. 22 Stocked Finishes.
				3. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				4. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				5. Face Height: 5.50 inches (140 mm). Nailer Coverage: 1 nailer.
				6. Face Height: 7.00 inches (178 mm). Nailer Coverage: 2 nailers.
				7. Face Height: 8.50 inches (216 mm). Nailer Coverage: 4 nailers.
				8. Accessories:

Miters: 90 degrees and non-90 degrees.

Scuppers: Downspout, spillout and overflow.

Drainage components.

* + - 1. Color: To be determined by the Architect from Manufacturer's standard range.
			2. Warranty: A Lifetime 215 mph warranty is available. It covers replacement or repair of any portion of the roof edge system that has failed due to a defect in the supplied materials. The warranty covers the roof edge for the lifetime of the roof on which it was originally installed.
		1. Basis of Design: Canted Fascia:
			1. Version: Galvanized Waterdam Version.
			2. Standards Compliance:
				1. ANSI-SPRI/FM 4435/ES-1 Standard to a design pressure of 290 lbs/ft2 to comply with the International Building Code.
				2. Factory Mutual approved.
			3. Features:
				1. Length: 12 ft (3658 mm).
				2. Unique design keeps flange out of the waterline.
				3. Extruded aluminum anchor bar securely terminates the membrane.
				4. Snap-On cover eliminates crimping.
				5. Pre-punched holes for precise fastener placement.
				6. Includes anchor bar EPDM splice plates and required fasteners.
				7. Concealed splice plates.
				8. Non-penetrating design eliminates need for stripping in/heat welding.
				9. Slotted holes allow for thermal movement.
				10. Custom and radius capabilities.
				11. Reusable and recyclable.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required.

* + - * 1. Material: 22 gauge steel, 0.0299 inches (0.759 mm). 15 Stocked Finishes.
				2. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				3. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				4. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				5. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				7. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				8. Face Height: 5.50 inches (140 mm). Nailer Coverage: 1 nailer.
			1. Accessories:
				1. Miters: 90 degrees and non-90 degrees.
				2. Scuppers: Downspout, spillout and overflow.
				3. Drainage components.
			2. Color: To be determined by the Architect from Manufacturer's standard range.
			3. Warranty: A Lifetime 215 mph warranty is available. It covers replacement or repair of any portion of the roof edge system that has failed due to a defect in the supplied materials. The warranty covers the roof edge for the lifetime of the roof on which it was originally installed.
		1. Basis of Design: Extended Canted Fascia:
			1. Version: Galvanized Waterdam Version.
			2. Standards Compliance:
				1. ANSI-SPRI/FM 4435/ES-1 Standard to a design pressure of 290 lbs/ft2 to comply with the International Building Code.
				2. Factory Mutual approved.
			3. Features:
				1. Length: 12 ft (3658 mm).
				2. Unique design keeps flange out of the waterline.
				3. Extruded aluminum anchor bar securely terminates the membrane.
				4. Snap-On cover eliminates crimping.
				5. Pre-punched holes for precise fastener placement.
				6. Includes anchor bar EPDM splice plates and required fasteners.
				7. Concealed splice plates.
				8. Non-penetrating design eliminates need for stripping in/heat welding.
				9. Slotted holes allow for thermal movement.
				10. Custom and radius capabilities.
				11. Reusable and recyclable.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required.

* + - * 1. Material: 22 gauge steel, 0.0299 inches (0.759 mm). 15 Stocked Finishes.
				2. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				3. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				4. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				5. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				7. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				8. Face Height: 9.00 inches (229 mm). Nailer Coverage: 1 nailer.
				9. Face Height: 10.50 inches (267 mm). Nailer Coverage: 2 nailers.
				10. Face Height: 12.00 inches (305 mm). Nailer Coverage: 3 nailers.
				11. Face Height: 13.50 inches (343 mm). Nailer Coverage: 4 nailers.
			1. Accessories:
				1. Miters: 90 Degrees and Non-90 Degrees.
				2. Scuppers: Downspout, Spillout, and Overflow.
				3. Drainage components.
			2. Color: To be determined by the Architect from Manufacturer's standard range.
			3. Warranty: A Lifetime 215 mph warranty is available. It covers replacement or repair of any portion of the roof edge system that has failed due to a defect in the supplied materials. The warranty covers the roof edge for the lifetime of the roof on which it was originally installed.
		1. Basis of Design: Fascia

\*\* NOTE TO SPECIFIER \*\* Delete version and face heights not required.

* + - 1. Version: Fully Adhered or Mechanically Attached Single-Ply.
				1. Face Height: 4.00 inches (102 mm). Nailer Coverage: 1 nailer.
				2. Face Height: 5.50 inches (140 mm). Nailer Coverage: 2 nailers.
				3. Face Height: 7.00 inches (178 mm). Nailer Coverage: 3 nailers.
			2. Version: Built-Up Modified.
				1. Face Height: 5.50 inches (140 mm). Nailer Coverage: 2 nailers.
				2. Face Height: 7.00 inches (178 mm). Nailer Coverage: 3 nailers.
			3. Standards Compliance:
				1. ANSI-SPRI/FM 4435/ES-1 Standard to a design pressure of 290 lbs/ft2 to comply with the International Building Code.
			4. Features:
				1. Length: 12 ft (3658 mm).
				2. Extruded aluminum anchor bar securely terminates the membrane.
				3. Concealed splice plates.
				4. Pre-punched holes for precise fastener placement.
				5. Includes anchor bar EPDM splice plates and required fasteners.
				6. Non-penetrating design eliminates need for stripping in/heat welding.
				7. Slotted holes allow for thermal movement.
				8. Custom and radius capabilities.
				9. Reusable and recyclable.

\*\* NOTE TO SPECIFIER \*\* Delete material options not required.

* + - * 1. Material: 22 gauge steel, 0.0299 inches (0.759 mm). 15 Stocked Finishes.
				2. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				3. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
				4. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				5. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				6. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				7. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
			1. Accessories:
				1. Miters: 90 Degrees and Non-90 Degrees.
				2. Scuppers: Downspout, Spillout, and Overflow.
				3. Drainage components.
			2. Color: To be determined by the Architect from Manufacturer's standard range.
			3. Warranty: A Lifetime 215 mph warranty is available. It covers replacement or repair of any portion of the roof edge system that has failed due to a defect in the supplied materials. The warranty covers the roof edge for the lifetime of the roof on which it was originally installed.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required or delete basis of design paragraphs not required.

* 1. METAL MANUFACTURED COPINGS
		1. Basis of Design: Continuous Cleat Coping: Permits installation of a sloped coping cap over extra-wide walls. The cleat reduces sagging, which can induce ponding and the possibility of leaks. Neoprene strips are factory applied to each hold-down cleat. Factory-supplied fasteners assure proper attachment of cleats to the wood nailer. Field-crimping on the inside leg of the coping to the inside hold-down cleat completes the installation.
			1. Standards Compliance: ANSI/SPRI/FM 4435/ES-1 Standard to comply with the International Building Code Factory Mutual approved for wind uplift protection
			2. Lengths: 12 ft (3658 mm) full continuous cleat.
				1. Can be custom-fabricated to meet specific job requirements.

\*\* NOTE TO SPECIFIER \*\* Delete material and wall width options not required.

* + - 1. Material: 24 gauge steel. 43 stocked colors.
				1. Wall Width: 16 inches (406 mm) maximum. FM I-90.
			2. Material: 22 gauge steel. 15 stocked colors.
				1. Wall Width: 16 inches (406 mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 15 inches (381 mm) maximum. FM I-90, FM I-105, and FM I-120
			3. Material: 0.032 inch (0.81 mm) thick aluminum. 36 stocked colors.
			4. Material: 0.040 inch (1.02 mm) thick aluminum. 22 stocked colors.
			5. Material: 0.050 inch (1.27 mm) thick aluminum. 29 stocked colors.
				1. Wall Width: 24 inches (610 mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 16 inches (406 mm) maximum. FM I-90, FM I-105, FM I-120, and FM I-165.
				3. Wall Width: 15 inches (381 mm) maximum. FM I-90, FM I-105, FM I-120, FM I-165, and FM I-180.
			6. Material: 0.063 inch (1.60 mm) thick aluminum. 6 stocked colors.
				1. Wall Width: 24 inches ( mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 16 inches ( mm) maximum. FM I-90, FM I-105, FM I-120, and FM I-165.
				3. Wall Width: 15 inches ( mm) maximum. FM I-90, FM I-105, FM I-120, FM I-165, and FM I-180.
			7. Material: 0.040 inch (1.02 mm) thick aluminum. Mill finish. FM I-90.
			8. Material: 0.050 inch (1.27 mm) thick aluminum. Mill finish. FM I-90.
				1. Wall Width: 24 inches (610 mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 16 inches (406 mm) maximum. FM I-90, FM I-105, FM I-120, and FM I-165.
				3. Wall Width: 15 inches (381 mm) maximum. FM I-90, FM I-105, FM I-120, FM I-165, and FM I-180.
			9. Material: 0.063 inch (1.60 mm) thick aluminum. Mill finish. FM I-90.
				1. Wall Width: 24 inches (610 mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 16 inches (406 mm) maximum. FM I-90, FM I-105, FM I-120, and FM I-165.
				3. Wall Width: 15 inches (381 mm) maximum. FM I-90, FM I-105, FM I-120, FM I-165, and FM I-180.
			10. Material: 0.040 inch (1.02 mm) thick aluminum. Clear and colored anodized.
			11. Material: 0.050 inch (1.27 mm) thick aluminum. Clear and colored anodized.
				1. Wall Width: 24 inches (610 mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 16 inches (406 mm) maximum. FM I-90, FM I-105, FM I-120, and FM I-165.
				3. Wall Width: 15 inches ( mm) maximum. FM I-90, FM I-105, FM I-120, FM I-165, and FM I-180.
			12. Material: 0.063 inch (1.60 mm) thick aluminum. Clear and colored anodized.
				1. Wall Width: 24 inches (610 mm) maximum. FM I-90 and FM I-105.
				2. Wall Width: 16 inches (406 mm) maximum. FM I-90, FM I-105, FM I-120, and FM I-165.
				3. Wall Width: 15 inches (381 mm) maximum. FM I-90, FM I-105, FM I-120, FM I-165, and FM I-180.
			13. Color: To be determined by the Architect from Manufacturer's standard range.
			14. Warranty: 20-year, 120 mph wind warranty is available. It provides coverage for the repair or replacement of any portion of the roof edge system that has failed due to a defect in supplied materials.
		1. Basis of Design: Coping: Efficient design for ease of installation. Custom fabrication available for job-specific details.

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

* + - 1. Version: Flat.
			2. Version: Tapered.
			3. Version: Existing slope with nailer version.
			4. Standards Compliance:
				1. ANSI/SPRI/FM ES-1 Standard to comply with the International Building Code.
				2. Factory Mutual approved
				3. Miami-Dade Approved to comply with the High Velocity Hurricane Zone of the Florida Building Code.
			5. Features:
				1. Accommodates wall widths up to 34 inches (864 mm). Length; 12 ft (3658 mm).
				2. Snap-on Design: Eliminates field-crimping.
				3. Concealed Splice Plates: Provide watertight installation.
				4. Pre-Fabricated miters and accessories for proper system fit.
				5. Stainless Steel Springs: Factory attached to 12 inch (305 mm) wide, pre-punched anchor clips.
				6. Recyclable material.
				7. Custom and radius capabilities available.
				8. All fasteners, splice plates and anchor clips are included.

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

* + - * 1. Material: 22 gauge steel, 0.0299 inches (0.759 mm). 15 Stocked Finishes.
				2. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 43 Stocked Finishes.
				3. Material: 0.040 inch (1.02 mm) aluminum. 22 Stocked Finishes.
				4. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
				5. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked PAC-CLAD Finishes.
				6. Material: 0.040 inch (1.02 mm) aluminum. Mill Finish Aluminum.
				7. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
				8. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
				9. Material: 0.040 inch (1.02 mm) aluminum. Clear and Colored Anodized.
				10. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
				11. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
				12. Accessories:

Miters: 90 Degrees and Non-90 Degrees, Welded or Quicklocked.

Transitions.

Endcaps.

Endwall Flashing.

* + - 1. Color: To be determined by the Architect from Manufacturer's standard range.
			2. Warranty: 20-year, 120 mph wind warranty is available. It provides coverage for the repair or replacement of any portion of the roof edge system that has failed due to a defect in supplied materials.
		1. Basis of Design: Gold Coping: Efficient design for easy installation.
			1. Standards compliance:
				1. ANSI/SPRI/FM 4435/ES-1 Standard to comply with the International Building Code.
				2. Factory Mutual approved for wind uplift protection
			2. Elimination of field-crimping for certain products.
			3. Compliant with most relevant building codes.
			4. Custom fabricated to the specific job requirements to ensure superior fit.
			5. Extensively tested for reliable, long-term performance.
			6. Convenient 12 ft (3658 mm) lengths.
			7. Reusable and recyclable material.
			8. Custom and radius capabilities available.

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

* + - 1. Material: 24 gauge steel, 0.0239 inches (0.607 mm). 43 Stocked Finishes.
			2. Material: 0.040 inch (1.02 mm) aluminum. 22 Stocked Finishes.
			3. Material: 0.050 inch (1.27 mm) aluminum. 29 Stocked Finishes.
			4. Material: 0.063 inch (1.60 mm) aluminum. 6 Stocked Finishes.
			5. Material: 0.050 inch (1.27 mm) aluminum. Mill Finish Aluminum.
			6. Material: 0.063 inch (1.60 mm) aluminum. Mill Finish Aluminum.
			7. Material: 0.050 inch (1.27 mm) aluminum. Clear and Colored Anodized.
			8. Material: 0.063 inch (1.60 mm) aluminum. Clear and Colored Anodized.
			9. Warranty: Lifetime 215 mph warranty is available. It covers replacement or repair of any portion of the roof edge system that has failed due to a defect in the supplied materials. The warranty covers the roof edge for the lifetime of the roof on which it was originally installed.

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

* 1. BAR/RAIL-TYPE SNOW RETENTION SYSTEMS FOR STANDING SEAM METAL ROOFS
	2. Include the following for roofs using S-5! non-penetrating attachment clamps. Do not use S-5! Mini Clamps for the attachment of ColorGard.
		1. Basis of Design: ColorGard,
			1. Clamps: 6061-T6 aluminum extrusions conforming to ASTM B221 or aluminum castings conforming to ASTM B85 and to AA Aluminum Standards and Data.

\*\* NOTE TO SPECIFIER \*\* Delete model options not required.

* + - * 1. Model: S-5-U.
				2. Model: S-5-S.
				3. Model: S-5-T.
				4. Model: S-5-Z.
				5. Model: S-5-E.
				6. Model: S-5-B.
				7. Model: S-5-Q.
				8. Model: S-5-H.
				9. Model: S-5-K700.
				10. Model: S-5-H90.
				11. Model: S-5-N.
				12. Model: S-5-N 1.5.
				13. Model: S-5-KHD.
				14. Model: S-5-V.
				15. Model: S-5-K Grip.
				16. Model: S-5-R465.
			1. Set screws: 300 Series stainless steel, 18-8 alloy, 3/8 inch (9.5 mm) diameter, with round nose point.
			2. Attachment bolts: 300 Series stainless steel, 18-8 alloy, 8 mm or 10 mm diameter, hex flange bolt.
			3. Include the following for exposed fastener metal panels or metal tiles and shingles using a face-fastened (penetrating) attachment.
			4. Brackets: 6061-T6 or 6005-T5 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data or cast aluminum.
				1. Model: No. VersaBracket 47.
				2. Model: No. VersaBracket 67.
				3. Model: No. CorruBracket.
				4. The following screws are not provided by Metal Roof Innovations, Ltd., but must be compatible with VersaBracket.
				5. Screws for attachment of brackets to roof: Type best suited to application: Metal to metal applications: 1/4-14 self-drilling point, 2 inch (51 mm) length, 3/8 inch (9.5 mm) hex washer head, Zinc/Aluminum cap. Metal to wood applications: 1/4-14 type 17 AB milled point, 2 inch (51 mm) length, 3/8 inch (9.5mm) hex washer head, Zinc/Aluminum cap.
			5. Cross Members:
				1. Manufactured from 6061-T6 or 6005-T5 alloy and temper aluminum extrusions conforming to ASTM B221 and AA Aluminum Standards and Data.
				2. Receptacle in face to receive color-matched metal strips.
				3. Provide splice connectors ensuring alignment and structural continuity at end joints.
			6. Color Strips: Same material and finish as roof panels; obtained from roof panel manufacturer.
			7. Snow and ice clips are required for standing seam roofs with seam heights of 2 inches or more and are optional for seam heights less than 2 inches.
			8. Snow and Ice Clips: Aluminum, with rubber foot, minimum 3 inches wide.
				1. For Standing Seam Heights of 1 to 1.75 inches (25 to 44 mm) :

Model: SnoClip II.

Model: SnapClip II.

* + - * 1. For Standing Seam Heights of 1.75 to 3 inches (44 to 76 mm):

Model: SnoClip III.

Model: SnapClip III.

1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until substrates have been properly constructed and prepared.
		2. 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.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.

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

* + 1. ColorGard Snow Retention System:
			1. Place clamps at maximum 32 inches (813 mm) on center or as required by in-service loads.
			2. Place clamps in straight, aligned rows.
			3. Place both set screws on same side of clamp.
			4. Tighten set screws to manufacturer's recommended torque. Randomly test set screw torque using calibrated torque wrench.
			5. Insert color-matched metal strips into cross members, staggering strips to cover cross member joints.
			6. Attach cross members to clamps; tighten bolts to manufacturer's recommended torque.
			7. Install splice connectors at cross member end joints.
			8. Do not cantilever cross members more than 4 inches (102 mm) beyond last clamp at ends.

\*\* NOTE TO SPECIFIER \*\* Delete whichever of the following two paragraphs is not applicable.

* + - 1. Install one SnoClip or SnapClip per panel for panels up to and including 24 inch (610 mm) seam spacing.
			2. Install two SnoClips or SnapClips per panel over 24 inch (610 mm) seam spacing.
				1. SnoClips: Slide onto cross member before securing cross member to clamps
				2. SnapClips: Secure SnapClip II or SnapClip III to back side of cross member using stainless steel No. 10 x 1/2 inch (13 mm) screw

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

* + 1. ColorGard Snow Retention System: For roofs using thru fasten bracket attachment; VersaBracket 67, VersaBracket 47, or Corrubracket.
			1. Place brackets at maximum 32 inches (813 mm) on center or as required by in-service loads.
			2. Clean roof area to receive bracket. Remove protective seal on butyl tape
			3. Place brackets in straight rows along underlying substrate.
			4. Insert color-matched metal strips into cross members.
			5. Place brackets at spot of attachment and fasten with screws best suited for type of attachment
			6. Attach cross members to brackets using self-drilling screws.
			7. Install splice connectors at cross member end joints.
			8. Do not cantilever cross members more than 4 inches (102 mm) beyond last bracket at ends.

\*\* NOTE TO SPECIFIER \*\* Delete whichever of the following two paragraphs is not applicable.

* + - 1. Install one SnoClip or SnapClip per panel for panels up to and including 24 inch (610 mm) seam spacing.
			2. Install two SnoClips or SnapClips per panel over 24 inch (610 mm) seam spacing.
				1. SnoClips: Slide onto cross member before securing cross member to clamps
				2. SnapClips: Secure SnapClip II or SnapClip III to back side of cross member using stainless steel No. 10 x 1/2 inch (13 mm) screw
	1. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturer's recommendations.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION