SECTION 05 31 23

ARCHITECTURAL CEILING DECK SYSTEM

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\*\* NOTE TO SPECIFIER \*\* New Millennium Building Systems; architectural ceiling deck and accessory products.
This section is based on the products of New Millennium Building Systems, which is located at:
1690 Broadway St.
Bldg. 19, Ste. 160
Fort Wayne, IN 46802
Phone: 260-321-8080
Fax: 260-868-6002
Website: [www.newmill.com](http://www.newmill.com)
Email: info@newmill.com
New Millennium engineers and manufactures standard steel joists, architecturally unique "special profile" steel joists, and steel decking. The company is a nationwide leader in BIM-based steel joist design and BIM process management. New Millennium is also a manufacturer of Architectural Deck, Versa-Dek, Deep-Dek, Curve-Dek and Fab-Dek.
This specification includes New Millennium steel roof deck that is designed and manufactured nationwide at our six plant locations in accordance with the specifications of the Steel Deck Institute.

1. GENERAL
	1. SECTION INCLUDES

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

* + 1. Architecturally exposed ceiling-deck system and accessories.
	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 21 13 - Deep Longspan Steel Joist Framing.
		3. Section 05 31 13 - Steel Floor Decking.
		4. Section 05 50 00 - Metal Fabrications.
		5. Section 07 20 00 - Thermal Protection.
		6. Section 07 27 00 - Air Barriers.
		7. Section 07 81 00 - Applied Fireproofing.
	1. REFERENCES

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

* + 1. American Architectural Manufacturers Association (AAMA):
			1. AAMA 621 - Voluntary Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) & Zinc- Aluminum Coated Steel Substrates.
		2. American Iron and Steel Institute (AISI):
			1. AISI - North American Specification for the Design of Cold-Formed Steel Structural Members.
		3. ASTM International (ASTM):
			1. ASTM A621 - Standard Specification for Forming Steel (FS), Sheet and Strip, Carbon, Hot-Rolled
			2. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
			3. ASTM A780 - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
			4. ASTM A792 - Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
			5. ASTM A924/A924M - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
			6. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
			7. ANSI/ASTM C423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
			8. ASTM D523 - Standard Test Method for Specular Gloss.
			9. ASTM D968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive.
			10. ASTM D4214 - Standard Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
			11. ASTM D2244 - Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
			12. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test
			13. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
		4. American Welding Society (AWS):
			1. AWS D1.3 - Structural Welding Code - Sheet Steel.
		5. International Code Council (ICC):
			1. ICC-ES Evaluation Report ESR-3477 - New Millennium Versa-Wedge Steel Deck Hangers.
		6. Steel Deck Institute (SDI):
			1. SDI Code of Standard Practice - 2014
			2. SDI RD - Standard for Steel Roof Deck
			3. SDI SPD2 - Standard Practice Details with enhanced aesthetic standards established and adopted by the Manufacturer with enhanced aesthetic standards established and adopted by the Manufacturer.
			4. SDI MOC2 - Manual of Construction with Steel Deck
		7. Underwriters Laboratories (UL):
			1. UL 580 - Tests for Uplift Resistance of Roof Assemblies.
			2. UL - Certification Directory.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs as required and applicable to the project requirements. Note that deck loads, structural framing, deck type and thickness, and concentrated loads must be clearly indicated on the Project Drawings.

* 1. DESIGN / PERFORMANCE REQUIREMENTS
		1. Ceiling-deck system assembly specified shall comply with the following:
			1. AISI Specifications: Comply with calculated structural characteristics of steel deck according to AISI's North American Specification for the Design of Cold-Formed Steel Structural Members.
			2. AAMA 621, Voluntary Specifications for High Performance Organic Coatings on Coil Coated Architectural Hot Dipped Galvanized (HDG) & Zinc- Aluminum Coated Steel Substrates.
			3. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
			4. ASTM A 792 - Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
			5. ASTM A 924/A 924M - Standard Specification for General Requirements for Steel Sheet, Metallic- Coated by the Hot-Dip Process.
			6. ANSI/ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
			7. ICC - ES Evaluation Report(s) for conformance with the 2012, 2009 and 2006 International Building Code.
			8. SDI Publication No.31 - Design Manual for Composite Decks, Form Decks and Roof Decks with enhanced aesthetic standards established and adopted by the Manufacturer.
			9. SDI MOC2 - Manual of Construction with Steel Deck.
			10. SDI SPD2 - Standard Practice Details with enhanced aesthetic standards established and adopted by the Manufacturer with enhanced aesthetic standards established and adopted by the Manufacturer.
			11. UL Certification's Directory.
			12. UL 580 - Tests for Uplift Resistance of Roof Assemblies.
		2. Ceiling-deck system assembly specified shall meet the following performance characteristics:
			1. Superimposed service-phase design loads and locations applied to assembly shall be established and approved by the Architect and the Engineer of Record (EOR).
			2. When design loads vary in magnitude and location over the deck surfaces, conform with the EOR's design Drawings denoting the distribution and intensity of the varying loads.
			3. Uniform Live Load Requirements: Submit certified design confirming the uniform live load carrying capacities of the steel deck sections.
				1. Design Loads: Minimum 20 lbs./ft.2 (97.6 kg/m2) or greater as indicated on the Drawings.
			4. Concentrated Load Requirements: Submit certified design confirming the concentrated load carrying capacities of the steel deck sections.
				1. Design Loads: 250 lbs (113.5 kg) applied at mid-span in the installed condition.
			5. Diaphragm Load Requirements: Submit certified design confirming the shear strength and stiffness capacities of the steel deck sections.
				1. Design Loads: As directed indicated on the Drawings.
				2. Wind Uplift Requirements: Submit certified design confirming the wind uplift capacities of the steel deck sections.

Design Loads: Minimum 30 lbs./ft.2 (146.5 kg/m2) or greater as indicated on the Drawings.

* + - 1. Deflection Limits: Maximum deflection of steel deck section(s) subjected to uniformly applied or concentrated loading shall not exceed the lesser of 1/240th of span length or 1 inch (25 mm) or less as indicated on the Drawings.
			2. Allowance for Thermal Movement: Deck cladding system assembly shall accommodate in-plane thermal contraction and expansion movements based on design data indicated on the Drawings.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data: Manufacturer's data sheets on each product to be used, including:
			1. Deck property information for the proposed deck units.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Erection instructions.
		3. Shop Drawings: Show location, connections, bearing on supports, methods of anchoring, attachment of accessories, adjusting plate details and the manufacturer's erection instructions and pertinent details.
		4. Shop Drawings:
			1. Showing plans, sections, elevations, layouts, profiles and product component locations, including anchorage, bracing, fasteners, accessories and finishes.
			2. Indicate component details, framed openings, bearing, anchorage, loading, welds, type and location of fasteners, and accessories.
			3. Indicate method for securing studs and other components to tracks and for framing connections.
			4. Submit calculations for loadings and stresses under Professional engineer's seal registered in the state of the project.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraphs if LEED is not applicable.

* + 1. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
			1. Product Data for Credit MR 4.1 and MR 4.2: For products having recycled content, documentation including percentages by weight of post consumer and preconsumer recycled content.
				1. Include statement indicating costs for each product having recycled content.
			2. Product Data for Credit MR 5.1 and Credit MR 5.2: Submit data, including location and distance from Project of material manufacturer and point of extraction, harvest or recovery for main raw material.
				1. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
		2. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification within previous 12 months.
		3. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
	1. QUALITY ASSURANCE
		1. Manufacturer with documented evidence of not less than 10 years of successful experience in the placement of architecturally exposed ceiling-deck systems on projects of similar sizescope and end use.
		2. Installer Qualifications: Company certified by the manufacturer and specializing in performing Work of this section with minimum 5 years documented experience.

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if welding is not required.

* + 1. Welding: Qualify procedures and personnel according to AWS D1.3, Structural Welding Code - Sheet Steel.
		2. Design structural elements under direct supervision of Professional Engineer experienced in design of this Work and registered in the state of the project.
		3. Pre-installation Meetings: Conduct pre-installation meeting to verify project requirements, substrate conditions, and manufacturer's installation instructions.
		4. Welding Standards: Comply with applicable provisions AWS D1.1 and AWS D1.3 of the Structural Welding Code.
		5. Qualify welding processes and welding operators in accordance with AWS Standard Qualification Procedure.
	1. DELIVERY, STORAGE, AND HANDLING
		1. Store products in compliance with Manufacturer's printed recommendations.
		2. Separate sheets and store on dry wood sleepers; slope for positive drainage. Protect with a waterproof covering and ventilate to avoid condensation.
		3. Handle factory-painted deck panel surfaces with utmost care during lifting, unbundling. separating, spreading and placement phases. Work shall be performed in a manner that minimizes abrasion between sheets and between painted surfaces and structural supports.
	2. SEQUENCING

\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if acoustical deck is not required.

* + 1. Coordinate installation of sound-absorbing insulation strips and non-corrosive spacers (lath when required) in the ribs of cellular acoustical deck to ensure protection of insulation strips against damage from effects of weather and other causes.

\*\* NOTE TO SPECIFIER \*\* Delete the warty paragraph required for the product(s) specified from the following paragraphs and delete those that are not applicable.

* 1. WARRANTY
		1. Provide with the paint manufacturers Versa-Clad 10 year Film Integrity Limited Warranty against cracking, peeling, checking or flaking under normal anticipated conditions.
		2. Provide with the paint manufacturers Versa-Clad 20 year Film Integrity Limited Warranty against cracking, peeling, checking or flaking under normal anticipated conditions.
		3. Provide with the paint manufacturers Versa-Clad 25 year Film Integrity Limited Warranty against cracking, peeling, checking or flaking under normal anticipated conditions.
		4. Provide with the paint manufacturers Versa-Clad 30 year Film Integrity Limited Warranty against cracking, peeling, checking or flaking under normal anticipated conditions.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: New Millennium Building Systems, which is located at:1690 Broadway St.
		, Bldg. 19, Ste. 160Fort Wayne, IN 46802Tel: 260-321-8080Fax: 260-868-6002Email: [request info (info@newmill.com)](https://arcat.com/rfi?action=email&company=New%252BMillennium%252BBuilding%252BSystems&message=RE%253A%2520Spec%2520Question%2520(05341mil)%253A%2520&coid=35565&spec=05341mil&rep=&fax=260-868-6002);Web: <https://www.newmill.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 [01 60 00] - Product Requirements.

\*\* NOTE TO SPECIFIER \*\* Edit the following paragraphs as required and applicable to the project requirements. All steel decking is available in lengths ranging from 6 feet 0 inches to 40 feet 0 inches. Extra charges are applied to lengths less than 6 feet 0 inches. Contact New Millennium if lengths exceeding 40 feet 0 inches are required.

* 1. ARCHITECTURAL CEILING DECK
		1. Materials General:
			1. Minimum Thickness: 20 GA (0.0359-inch (0.91-mm) or greater as determined by design.
			2. Minimum Yield Strength: 40,000-1b/inch2 (2,812-kg/cm2).
			3. Protective Coating: Galvanized (zinc) coating weight.

\*\* NOTE TO SPECIFIER \*\* Select he coating weight required and delete the one not required.

* + - * 1. G-60.
				2. G-90.

\*\* NOTE TO SPECIFIER \*\* Select the Deck type(s) required from the following paragraphs and delete those not required.

* + 1. Deck Panel Type: Provide the following deck type(s) to the applications indicated on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Select the deck panel type required from the following paragraphs and delete the ones not required. ACD denotes Architectural Ceiling.

* + - 1. Type: Versa-Dek 2 LS, 2 inch (51 mm) deep re-entrant (dovetail) rib-shaped panel sections with longitudinal stiffener.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Removable access panels.

Acoustical treatments.

* + - * 1. Depth: 2 inch (51 mm).
				2. Pitch: 6 inch (152 mm).
				3. Cover Width: 24 inch (610 mm).
				4. Side-lap Formation: Nestable, self aligning.
			1. Type: Versa-Dek 3.5 LS, 3-1/2 inch (89 mm) deep re-entrant (dovetail) rib-shaped panel sections with longitudinal stiffener.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Removable access panels.

Acoustical treatments.

* + - * 1. Depth: 3-1/2 inch (89 mm).
				2. Pitch: 8 inch (203 mm).
				3. Cover Width: 24 inch (610 mm).
				4. Side-lap Formation: Nestable, self aligning.
				5. Accessories: Versa-Wedge hanging device. ICC Report ESR-3477.
			1. Type: N-Deck, 3 inch (76 mm) deep rib-shaped panel sections.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Cellular liner panels.

Acoustical treatments.

* + - * 1. Manufacturer's Designation:
				2. Depth: 3 inch (76 mm).
				3. Pitch: 8 inch (203 mm).
				4. Cover Width: 24 inch (610 mm).
				5. Side-lap Formation: Nestable.
			1. Type: Curve-Dek, 3 inch (76 mm) deep smooth-curved rib-shaped panel sections.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Cellular liner panels.

Acoustical treatments.

* + - * 1. Depth: 3 inch (76 mm).
				2. Pitch: 8 inch (203 mm).
				3. Cover Width: 24 inch (610 mm).
				4. Side-lap Formation: Nestable.
				5. Curvature: Smooth-curve along strong-axis of deck panel section using factory-roll forming process in the following direction using factory-roll forming process.

\*\* NOTE TO SPECIFIER \*\* Specifier Note: Select desired curvature direction

Concave.

Convex.

Radii Dimensions: As indicated on the approved ceiling-deck system installation drawings.

Crimp curving methods are not permitted.

* + - 1. Type: Deep-Dek 4.5, 4-5/8 inch (117 mm) deep rib-shaped panel sections.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Cellular liner panels.

Removable access panels.

Acoustical treatments.

* + - * 1. Depth: 4-5/8 inch (117 mm).
				2. Pitch: 12 inch (305 mm)].

\*\* NOTE TO SPECIFIER \*\* Retain 12-inch (305-mm) if cellular liner panels are not specified. Retain 24-inch (610-mm) if cellular liner panels are specified.

* + - * 1. Cover Width: 12 inch (305 mm) except 24 inch (610 mm) for cellular panels.
				2. Side-lap Formation: Nestable.
				3. Accessories: Dek Strut.
			1. Type: Deep-Dek 6, 6-1/8 inch (156 mm deep rib-shaped panel sections.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Cellular liner panels.

Removable access panels.

Acoustical treatments.

* + - * 1. Depth: 6-1/8 inch (156-mm).
				2. Pitch: 12 inch (305 mm).

\*\* NOTE TO SPECIFIER \*\* Retain 12-inch (305-mm) if cellular liner panels are not specified. Retain 24-inch (610-mm) if cellular liner panels are specified.

* + - * 1. Cover Width: 12 inch (305 mm) except 24 inch (610 mm) for cellular panels.
				2. Side-lap Formation: Nestable].
				3. Accessories: Dek Strut.
			1. Type: Deep-Deck 7.5, 7-5/8 inch (194 mm) deep rib-shaped panel sections.
				1. Type: Standard deck with the following.

\*\* NOTE TO SPECIFIER \*\* Select the required type panels and delete those not required.

Cellular liner panels.

Removable access panels.

Acoustical treatments.

* + - * 1. Depth: 7-5/8 inch (194 mm).
				2. Pitch: 12 inch (305 mm).

\*\* NOTE TO SPECIFIER \*\* Retain 12-inch (305-mm) if cellular liner panels are not specified. Retain 24-inch (610-mm) if cellular liner panels are specified.

* + - * 1. Cover Width: 12 inch (305 mm) except 24 inch (610 mm) for cellular panels.
				2. Side-lap Formation: Nestable.
				3. Accessories: Dek Strut.

\*\* NOTE TO SPECIFIER \*\* Retain when cellular liner panels are specified.

* + - 1. Type: Cellular Linear Panels: Linear Panels:
				1. Steel Materials:

Thickness: Minimum 20 GA (0.0359-inch (0.91-mm)) or greater as determined by design.

Minimum Yield Strength: 40,000-1b/inch2 (2,812-kg/cm2).

* + - * 1. Appearance: Flat with continuous longitudinal minor stiffening ribs uniformly spaced 6 inch (152 mm) apart.
				2. Attachment to Deck Panel Sections:
				3. Method: Resistive Spot Welding process.

Weld size and spacing as determined by Manufacturer to assure unified, composite strength.

\*\* NOTE TO SPECIFIER \*\* Retain when removable access covers are specified.

* + - 1. Removable Access Covers:
				1. Factory roll formed to tightly match bottom formation of the ceiling-deck panel section. Cover to assure a smooth transition of aesthetic surfaces.
				2. Locations: One each per ceiling penetration denoted on the Reflected Ceiling Plans. Position ceiling penetration at mid-length of access cover. Maximum 3 penetrations per deck span spaced minimum 2 feet (0.61 m) apart.
				3. Length: 7 feet (2.14 m) maximum.
				4. Identification: Labels placed on the non-exposed side marked to correspond to positions denoted on the approved ceiling deck installation drawings.
				5. Paint Coatings: Paint to match coating system applied to exposed ceiling-side of deck panel sections.
				6. Modifications to Ceiling-deck Panel Sections:

Openings: Factory clean cut, rectangular, one per ceiling-deck penetration.

Length: As required to assure adequate clearance for access and attachment of field assembled service lines and equipment; Maximum 6 feet (1.83 m).

Reinforcement of deck panels: As determined by Manufacturer to re-establish structural properties, if required.

* + - 1. Screws: Low profile, pan-head type of size and quantity as determined by Manufacturer.
			2. Intermediate Support Devices for Service Lines and/or Equipment Between Factory Cut Openings:
				1. Manufacturer's Designation: Dek Strut brackets.
				2. Factory installed.
			3. Length: Deck panel sections shall be installed in lengths to create two-span, three-support conditions.
			4. Sections not installed in minimum two-span lengths shall be as indicated on the ceiling-deck system installation drawings.
				1. Minimum end bearing: 1-1/2-inch (38-mm).
				2. Spacing and attachment as determined by Manufacturer.

\*\* NOTE TO SPECIFIER \*\* Retain when acoustical treatments desired.

* + 1. Acoustical Treatments: Architectural ceiling deck.
			1. Acoustical Properties:
				1. NCR Rating:

\*\* NOTE TO SPECIFIER \*\* Select NCR Rating by profile type specifi.

Versa-Dek LS ES: 0.95- 1.15.

Versa-Dek 3.5 LS: 0.95.

N-Dek: 0.75-0.95.

N-Dek with Cellular Liner Panels: 0.95.

Deep-Dek 4.5: 0.70.

Deep-Dek 6: 0.75.

Deep-Dek 7.5: 0.80.

Deep-Dek 4.5 with Cellular Liner Panels: 1.0.

Deep-Dek 6 with Cellular Liner Panels: 1.0.

Deep-Dek 7.5 with Cellular Panels: 1.05.

* + - 1. Acoustical Insulation Batts:

\*\* NOTE TO SPECIFIER \*\* Select 'Factory-installed' insulation when cellular liner panels are specified. Select 'Field-installed' when Versa-Deck, N-Deck and Deep-Deck fluted profiles are specified. Retain 'non-corrosive plastic lath spacer' when Cellular Liner Panels or Versa-Deck is specified.

* + - * 1. Factory and Field installed.
				2. Factory and Field installed over non-corrosive plastic lath spacer.

\*\* NOTE TO SPECIFIER \*\* Specify PVC wrapping if insulation is subjected to moisture (e.g. natatoriums) or placed in clean-room environments.

Type: Unwrapped fiberglass, standard.

Type: Unwrapped fiberglass, formaldehyde free.

Type: PVC wrapped] fiberglass.

Density: 3.0 Iblft3 (48 kg/m3).

Dimensions: Size as determined by Manufacturer to assure minimum NRC rating value required.

* + 1. Paint Coatings: Manufacturer shall apply uniform, factory-applied coatings, combining steel sheet, passivation, pre-treatment primer and finish top-coat paint where specified to deck panel sections. Coatings shall comply with AAMA 621.

\*\* NOTE TO SPECIFIER \*\* Specify Versa-Steel paint coating type, color and warranty description where indicated. Versa-Steel factory-applied paint finishes are engineered for specific deck panel types, environmental exposures and architectural preference. Please contact manufacturer for Versa-Steel selection guidance.

* + - 1. Non-architecturally exposed side deck panel surfaces:
				1. Continuous coil-coated and oven-cured:

Versa-Cote G-P.

Versa-Cote Ultra G-P.

* + - 1. Architecturally exposed ceiling-side deck panel surfaces: Protect pre-finished deck with craft-paper interleafing between deck panel surfaces.
				1. Manufacturer's Designation:

\*\* NOTE TO SPECIFIER \*\* Contact manufacturer for recommended paint system based on project application.

Versa-Clad 101.

Versa-Clad 20.

Versa-Clad 25.

Versa-Clad 30.

* + 1. Fasteners
			1. Welded attachment of any architectural ceiling-deck system assembly component is not permitted unless expressly allowed in writing by manufacturer.
			2. Mechanical fasteners for deck panel to support steel not exceeding 3/16 inch (5 mm) thickness and deck panel side-lap attachments.

\*\* NOTE TO SPECIFIER \*\* Select screw type required from the following paragraphs and delete those not required. Screw selection is dictated by the substrate material type and thickness, mechanical properties, environment and architectural need.

* + - * 1. Hex-head, self-drilling screws with 300 series stainless steel over hex washer head with integrated EDPM washer; thermo-set polyester film over zinc-plated carbon steel shanks and powder paint coated heads color matched to the top-coat paint finish of the deck panels
				2. Buildex "SCOTS"; AD Cladding; Use in aggressive environments thermo-set polyester film over zinc-plated carbon steel heads and shanks, integrated EPDM washer and powder paint coated heads color matched to the top-coat paint finish of the deck panels.
				3. Buildex "MAX1SEAL"; AD Cladding; Use in non-aggressive environments thermo-set polyester film over zinc-plated carbon steel heads and shanks
				4. Buildex "TEKS"; Use in non-aggressive interior deck ceiling applications.
				5. Screws attaching two steel components with a combined material thickness less than 0.095-inch (2.4-mm) shall possess back-out resistant threads.
				6. Size, Spacing and Location: As indicated in ceiling-deck system installation drawings.
			1. Type: Mechanical fasteners for deck panels to support steel equal to or greater than 3/16 inch (5 mm) thick:
				1. Description: Powder-actuated pins with integral washer and knurled shanks of diameter and length matched by Pin Manufacturer to the steel support member's base thickness.
				2. Size, Spacing and Location: As indicated in ceiling-deck system installation drawings.
		1. Accessories:
			1. Provide Ridge and Valley Plates, Butt Plates, Z-Closures, Finish Strips, Sump Pans and Cell Closures as required.
			2. Use size, spacing and location as indicated in ceiling-deck system installation drawings
1. EXECUTION
	1. EXAMINATION
		1. Do not install roof deck until supporting construction is in place.
		2. Examine support framing and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of work of this section.
		3. If supporting construction is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Locate deck bundles to prevent overloading of support members.
	3. INSTALLATION - GENERAL
		1. Install deck panels and accessories in accordance with the Contract Documents approved installation drawings and requirements of this Section.
		2. Place each deck panel on structural supports and adjust to final position with accurately aligned side laps and ends butted over structural supports to assure minimum specified end bearing length.
		3. Cut and neatly fit deck units and accessories around openings and other work projecting through or adjacent to the decking.
		4. Deck Panel Attachments to structural supports, deck side-lap, and deck perimeter edge attachments: Attach with fasteners of the type, size and spacing indicated on the ceiling-deck system installation drawings immediately after panel placement and alignment. Welded attachment of any architectural ceiling-deck system assembly component is not permitted unless expressly allowed in writing by Manufacturer. If allowed, specification language covering the execution of weld fastening shall accompany the written approval.
			1. Minimum Fastening Requirements:
				1. Fasten deck panels to supports as indicated on the ceiling-deck system installation drawings using mechanical fasteners, powder-actuated pins or self-drilling screws.
				2. Fasten side-laps of deck panel sections as indicated on the ceiling-deck system installation drawings. Fasten side-laps with No. 10 diameter self-drilling screws.
				3. Fasten perimeter edges of deck panels at maximum 12 inch (305 mm) on center intervals or as indicated on the ceiling-deck system installation drawings. Use mechanical fasteners, powder-actuated pins or self-drilling screws.
			2. Accessory Attachments: Anchor accessories to supporting members with self-drilling screws at 12 inch (305 mm) on center intervals or as Indicated on the ceiling-deck system installation drawings.
		5. Reinforce unscheduled openings cut through roof deck in accordance with SDI MOC2 or as indicated on the ceiling-deck system Installation drawings or the structural drawings.
		6. Do not expose the insulation batts to snow, rain, or condensation. Remove and replace any wet insulation.
	4. INSPECTION AND REPAIR
		1. Remove dirt and debris from entire deck surfaces before installation of any topping material.
		2. Prior to the application of the roof covering, inspect completed portions of the ceiling-deck system assembly and correct any deficiencies and/or damage to the surface. Replace decking that has been damaged.
		3. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on both surfaces of deck with galvanized repair paint.
		4. Repair Painting: Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.
	5. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION