UNA-CLAD™ UC-3 or UC-4 or UC-6 or UC-14 STANDING SEAM METAL PANEL ROOFING SYSTEM

*This specification is provided as a courtesy on an as-is basis and is not intended to substitute for specific design services provided by an Architect, Engineer, roof Consultant, or other design professional. It is in the building Owner’s interest to consult with these professionals prior to executing the specified project. The building Owner will ultimately assume the entire risk as to results, quality and performance of the roofing system specified.*

*EDITOR NOTE: Text underlined and/or red in color must be addressed to complete a final specification document. It is the sole responsibility of the editor to exercise appropriate care and sound professional judgment in the execution of this task. Green and/or italicized text represents notes to the Specifier and should be removed prior to publication.*

# GENERAL

The project, Project Name located in City, ST, includes the provision of a complete Elevate UNA-CLAD™ metal panel roofing system.

## Summary

### Furnish and install a complete UC-3 *(double-lock, mechanical seaming)* **or** UC-4 *(self-locking, clipless)* **or** UC-6 *(Pittsburgh Locking)* **or** UC-14 *(interlocking snap seam)* metal panel roofing system, including:

#### Roofing Manufacturer's requirements for the specified warranty **(note that the Platinum™ warranty requires specific materials and installation details; ensure all Manufacturer’s guidelines are followed)** *(retain/omit Platinum statement as applicable)*

#### Preparation of roofing substrates

#### Wood nailers for roofing attachment

#### Insulation

#### Self-adhering underlayment

#### Standing seam metal roofing panels

#### Flashings

#### Other roofing-related items specified or indicated on the drawings or otherwise necessary to provide a complete weatherproof roofing system

## Disposal of demolition debris and construction waste is the responsibility of Contractor. Perform disposal in manner complying with all applicable federal, state, and local regulations.

## Comply with the published recommendations and instructions of the roofing panel Manufacturer, at <http://www.holcimelevate.com>.

## Commencement of work by the Contractor shall constitute acknowledgement by the Contractor that this specification can be satisfactorily executed, under the project conditions and with all necessary prerequisites for warranty acceptance by roofing panel Manufacturer. *Any modification of the Contract Sum will be made in accordance with the stipulations of the Contract Documents stated elsewhere.*

## Related Sections (as present or needed)

### Section 06 10 00 – Rough Carpentry

### Section 07 55 63 & 64 – Vegetated Protected Membrane Roofing & Green Roof Components

### Section 07 62 00 – Sheet Metal Flashing and Trim

### Section 07 71 00 – Roof Specialties

### Section 07 72 00 – Roof Accessories

### Section 08 60 00 – Roof Windows and Skylights

### Section 22 14 26.13 – Roof Drains

## Definitions

### Definitions in the current editions of ASTM D1079 and NRCA's “The NRCA Roofing Manual: Metal Panel and SPF Roof Systems” apply to work of this Section.

## Submittals

### Product Data

#### Provide panel Manufacturer's printed data sufficient to show that all components of roofing system, including insulation and fasteners, comply with the specified requirements and with the panel Manufacturer's requirements and recommendations for the system type specified; include data for each product used in conjunction with roofing panels.

#### Where UL or FM requirements are specified, provide documentation that shows that the roofing system to be installed is UL-Classified or FM-approved, as applicable. Include data itemizing the components of the classified or approved system.

### Installation Instructions

#### Provide Manufacturer's instructions to Installer, marked up to show exactly how all components will be installed.

#### Where instructions allow installation options, clearly indicate which option will be used.

### Shop Drawings

#### Provide drawings prepared especially for this project for all relevant conditions, including plans and elevations, sections and details, specified loads, flashings, roof edges, terminations, expansion joints, curbs, penetrations, and drainage. Specifically include interfaces with materials not supplied by metal roof panel manufacturer and identify each component and its finish.

### Provide copy of Pre-Installation Notice to show that Manufacturer's required Pre-Installation Notice (PIN) has been accepted and approved by the Manufacturer.

### Submit samples of each product to be used. *(optional)*

### Specimen Warranty

### Closeout Submittals

#### Executed Warranty

#### Maintenance data

## Quality Assurance

### Applicator Qualifications

#### Current Elevate Master Contractor status

#### At least five years’ experience in installing specified system

#### Capability to provide payment and performance bond to building Owner

### Pre-Installation Conference

#### Before start of roofing work, Contractor shall hold a meeting to discuss the proper installation of materials and requirements to achieve the warranty.

#### Require attendance with all parties directly influencing the quality of roofing work or affected by the performance of roofing work.

#### Review methods and procedures related to roofing installation, including Manufacturer's written instructions.

#### Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

#### Examine deck substrate conditions and finishes, including flatness and fastening.

#### Review structural loading limitations of roof deck during and after roofing.

#### Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.

#### Review governing regulations and requirements for insurance and certificates if applicable.

#### Review temporary protection requirements for roofing system during and after installation.

#### Review roof observation and repair procedures after roofing installation.

#### Notify Architect well in advance of meeting.

## Delivery, Storage and Handling

### Deliver products in Manufacturer's original containers, dry and undamaged, with seals and labels intact and legible.

### Discard and legally dispose of material that cannot be applied within its stated shelf life.

### Store materials clear of ground and moisture with weather protective covering.

### Keep combustible materials away from ignition sources.

### Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck and/or structural overloading.

## Field Conditions

### Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed in accordance with Manufacturer's written instructions and warranty requirements.

## Warranty

### Provide Elevate 15-year **or** 20-year **or** 25-year **or** 30-year Platinum™ Red Shield™ Roofing System Limited Warranty covering roof insulation, underlayment, panels, and system accessories. Comply with all warranty procedures required by Manufacturer, including notifications, scheduling, and inspections. *Systems specified with a warranty duration of 20 years or greater or a wind speed coverage above 55 mph require additional attachment and detail considerations. Consult the Manufacturer’s design guidelines for further information.*

### Limit of Liability: No dollar limitation (NDL)

### Scope of Coverage: Repair leaks in the roofing system caused by

#### Ordinary wear and tear

#### Normal exposure to the elements

#### Manufacturing defect in Elevate materials

#### Defective workmanship used to install these materials

#### Damage due to winds up to 55 **or** 72 **or** 80 **or** 90 **or** 100 mph

#### Not Covered:

##### Damage due to winds in excess of 55 **or** 72 **or** 80 **or** 90 **or** 100 mph

##### Damage due to hurricanes or tornadoes

##### Hail

##### Intentional damage

##### Unintentional damage due to normal rooftop inspections, maintenance, or service

### Painted Finish Warranty: Provide Elevate standard Red Shield™ non-prorated warranty covering durability of painted finish, to include film integrity, color change, fading, and chalking.

#### Warranty Period: 35 years commencing on date of substantial completion.

# PRODUCTS

## Manufacturers

### Acceptable Manufacturer – Roofing System: Elevate roofing, lining, and wall systems, Nashville, TN, <http://www.holcimelevate.com>

#### Roofing systems manufactured by others may be acceptable provided the roofing system is completely equivalent in materials and warranty conditions and the Manufacturer meets the following qualifications:

##### Specializing in manufacturing the roofing system to be provided

##### Minimum ten years of experience manufacturing the roofing system to be provided

##### Able to provide a no dollar limit, single source roof system warranty backed by corporate assets in excess of one billion dollars

##### ISO 9001 certified

##### Able to provide polyisocyanurate insulation produced in own facilities

### Manufacturer of Insulation and Cover Board: Same Manufacturer as roof panel

### Substitution Procedures: See Instructions to Bidders

#### Submit evidence that the proposed substitution complies with the specified requirements.

## Roofing System Description

### Metal Panel System

#### Standing seam metal roof panels and other components, together forming a watertight assembly.

#### Comply with applicable local building code requirements.

#### Provide assembly having Underwriters Laboratories, Inc. (UL) Class A Fire Hazard Classification

#### Provide assembly complying with Factory Mutual Corporation (FM) Roof Assembly Classification, FM Data Sheets 1-28 and 1-29, and meeting minimum requirements of FM 1-60 **or** 75 **or** 90 wind uplift rating. *(optional)*

### Underlayment: Self-adhering, high temperature underlayment over entire roof

### Retain as needed:

#### Insulation *(non-composite)*:

##### Total System R-Value: 25 or greater

###### Maximum Board Thickness: 3″ (76.2 mm)

###### Use as many layers as necessary to achieve required R-value

###### Stagger joints in adjacent layers

##### Base Layer: Polyisocyanurate foam board, non-composite

###### Attachment: Mechanical fastening

##### Fill Layers: Polyisocyanurate foam board, non-composite *(optional)*

###### Attachment: Mechanical fastening

##### Top Layer: Polyisocyanurate foam board, non-composite

###### Attachment: Mechanical fastening

##### Choose one of the following cover boards, a) **or** b):

###### High Density Polyisocyanurate Cover Board

Thickness: ½″ (12.7 mm)

R-Value: 2.5 based on ASTM tests C158 and C177

Attachment: Mechanical fastening

###### Gypsum-Based Cover Board

Thickness: 0.25″ (6.4 mm) **or** 0.5″ (12.7 mm) **or** 0.625″ (15.9 mm)

Attachment: Mechanical fastening

#### Insulation *(composite)*:

##### Total System R-Value: 25 or greater

##### Maximum Board Thickness: 4″ (101 mm)

###### Use as many layers as necessary to achieve required R-value

###### Stagger joints in adjacent layers

##### Base Layer *(optional)*: Polyisocyanurate foam board, non-composite

###### Attachment: Mechanical fastening

##### Top Layer: Polyisocyanurate foam board, composite

###### Attachment: Mechanical fastening

## Roof Panels and Sheet Metal Fabrications

### Roof Panels: Standing Seam Roofing; roll formed in a permanent factory environment with fixed-based roll-forming equipment **or** on site *(on site requires special Manufacturer registration and approval of contractor and equipment)*:

#### Material and Thickness (choose one):

##### 0.032″ (0.81 mm) **or** 0.040″ (1.02 mm) Aluminum with Anodized **or** Kynar 500®/Hylar 5000® **or** Mill Finish

##### 26 ga (0.48 mm) **or** 24 ga (0.64 mm) **or** 22 ga (0.79 mm) AISI-G90 Galvanized steel with Kynar 500®/Hylar 5000® **or** Unpainted G90 Finish

##### 26 ga (0.48 mm) **or** 24 ga (0.64 mm) **or** 22 ga (0.79 mm) AZ-50 Hot Dipped Galvalume with Zincalume® Plus **or** Kynar 500®/Hylar 5000® Finish

##### 16 oz (0.56 mm) **or** 20 oz (0.69 mm) Copper with Natural Finish

#### Color: Select color from UNA-CLAD color chart

#### Profile: Flat ribs **or** Pencil Ribs or Striations

#### Texture: Smooth **or** Stucco embossed

#### Acceptable Product: UC-3 **or** UC-4 **or** UC-6 **or** UC-14 Standing Seam Roofing Panels by Elevate

### Clips: Stainless steel **or** galvanized steel, type as required by roof panel Manufacturer for roofing system and warranty to be provided; use only clips furnished by roof panel Manufacturer.

### Fasteners: Stainless steel **or** galvanized steel, type and size as required by roof panel Manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof panel Manufacturer. *(Stainless steel fasteners are required for 25- and 30-year warranties)*

#### Fasteners Exposed to Weather: Sealed or with sealed washers on exterior side of covering to waterproof fastener penetration; washer material compatible with screw head; minimum 3/8″ (9.5 mm) diameter washer for structural connections; gasket portion of fasteners or washers made of EPDM, neoprene, or other equally durable elastomeric material.

#### Fasteners Exposed to View: Head of color matching panel or component in which installed.

### Sheet Metal Components Associated with Metal Roof Panels: Made by same manufacturer and compatible with roof panels; of not less than minimum thickness required by roof panel manufacturer.

#### Fabricate trim, flashing, and accessories to roofing manufacturer’s specified or approved profiles.

#### Exposed metal components of same finish as panels.

#### Color: Same as panels.

#### Provide the following formed sheet metal components: (Retain as needed)

##### Eave

##### Ridge

##### Vented ridge

##### Hip

##### High eave

##### High eave, vented

##### Valleys

##### Rake edge

##### Vertical fascia

##### Side wall flashing

##### Pipe and other penetration flashings, for penetrations over 8″ (203 mm)

##### Flashings at interface to other roofing types

##### Other flashings

##### Copings, parapet covers

##### Soffit panels, solid

##### Soffit panels, vented

## Self-Adhered Underlayment: Rubberized sheet waterproof membrane complying with ASTM D 1970

### Resistance to Direct Exposure: At least 90 days.

### Minimum High Temperature Resistance: 230 °F (110 °C).

### Water Vapor Permeance: <0.016 perm (<0.09 ng/Pa.s.m2)

### Acceptable Product: Clad-Gard™ SA by Elevate

## Roof Insulation and Cover Boards

### Polyisocyanurate Board Insulation: Closed cell polyisocyanurate foam with glass reinforced mat laminated to facers, complying with ASTM C 1289 Type II Class 1 **or** 2 *(match with options below)*, with the following additional characteristics:

#### Thickness: As indicated elsewhere

#### Size: 48″ (1.22 m) by 96″ (2.44 m), nominal (if mechanically fastened) or 48″ (1.22 m) by 48″ (1.22 m), nominal (if adhered)

#### R-Value (LTTR) per inch (25 mm): min. 6.2R at 40 °F (4.4 °C) and min. 5.7R at 75 °F (23.9 °C)

#### Compressive Strength: 20 psi (138 kPa)

#### Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents

#### Acceptable Product: *(class 1)* ISOGARD GL polyiso board insulation **or** *(class 2 - mold resistant facer)* ISOGARD CG polyiso board insulation by Elevate

### Composite Insulation: closed cell polyiso foam core laminated to ½ʺ (13 mm) high density ISOGARD HD board:

#### Thickness: As indicated elsewhere

#### Size: 48″ (1.22 m) by 96″ (2.44 m), nominal (if mechanically fastened) or 48″ (1.22 m) by 48″ (1.22 m), nominal (if adhered)

#### Compressive Strength: 20 psi (138 kPa) core with 80 psi (552 kPa) board

#### Ozone Depletion Potential: Zero; made without CFC or HCFC blowing agents

### Acceptable Product: ISOGARD™ HD Composite by Elevate

### Choose one of the following a) **or** b): *(omit if specifying composite insulation)*

#### High Density Polyisocyanurate Cover Board: Non-combustible, water-resistant high density, closed cell polyisocyanurate core with coated glass mat facers, complying with ASTM D 1623, and with the following additional characteristics:

##### Size: 48″ (1.22 m) by 96″ (2.44 m), nominal (if mechanically fastened) or 48″ (1.22 m) by 48″ (1.22 m), nominal (if adhered)

##### Thickness: 0.5″ (12.7 mm)

##### R-Value: 2.5 based on ASTM tests C158 and C177

##### Surface Water Absorption: <3%, maximum, when tested in accordance with ASTM C 209

##### Compressive Strength: 120 psi (827 kPa), when tested in accordance with ASTM 1621

##### Density: 5 pcf (80 kg/m3), when tested in accordance with ASTM 1622

##### Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies

##### Mold Growth Resistance: Passed, when tested in accordance with ASTM D 3273

##### Acceptable Product: ISOGARD HD Cover Board by Elevate

#### Gypsum-Based Cover Board: Non-combustible, water-resistant gypsum core with embedded glass mat facers, complying with ASTM C 1177/C 1177M, and with the following additional characteristics:

##### Size: 48″ (1.22 m) by 96″ (2.44 m), nominal (if mechanically fastened) or 48″ (1.22 m) by 48″ (1.22 m), nominal (if adhered)

##### Thickness: 0.25″ (6.4 mm) **or** 0.5″ (12.7 mm) **or** 0.625″ (15.9 mm)

##### Surface Water Absorption: 2.5 g max., when tested in accordance with ASTM C 473

##### Surface Burning Characteristics: Flame spread of 0, smoke developed of 0, when tested in accordance with ASTM E 84

##### Combustibility: Non-combustible, when tested in accordance with ASTM E 136

##### Factory Mutual approved for use with FM 1-60 and 1-90 rated roofing assemblies

##### Mold Growth Resistance: Zero growth, when tested in accordance with ASTM D 3273 for minimum of 4 weeks

### Insulation Fasteners: Type and size as required by roof panel Manufacturer for roofing system and warranty to be provided; use only fasteners furnished by roof panel Manufacturer.

## Accessory Materials

### Wood Nailers: PS 20-dimension lumber, Structural Grade No. 2 or better Southern Pine, Douglas Fir; or PS 1, APA Exterior Grade plywood; pressure preservative treated.

#### Width: 3 ½″ inches (90 mm), nominal minimum, or as wide as the nailing flange of the roof accessory to be attached to it

#### Thickness: Same as thickness of roof insulation

# INSTALLATION

## General

### Install roofing, insulation, flashings, and accessories in accordance with roofing Manufacturer's published instructions and recommendations for the specified roofing system. Where Manufacturer provides no instructions or recommendations, follow good roofing practices and industry standards. Comply with federal, state, and local regulations.

### Obtain all relevant instructions and maintain copies at project site for duration of installation period.

### Verify that shop drawings prepared by metal roof panel manufacturer have been approved and are available to installers; do not use drawings prepared by others for installation drawings.

### Verify that the specifications and drawing details are workable and not in conflict with the roofing manufacturer's recommendations and instructions; start of work constitutes acceptable of project conditions and requirements.

### Do not start work until Pre-Installation Notice has been approved by Manufacturer as confirmation that this project qualifies for a Manufacturer's warranty.

### Perform work using competent and properly equipped personnel.

### Temporary closures, which ensure that moisture does not damage any completed section of the new roofing system, are the responsibility of the Applicator. Completion of flashings, terminations, and temporary closures shall be completed as required to provide a watertight condition.

### Install roofing only when surfaces are clean, dry, smooth, and free of snow or ice; do not apply roofing during inclement weather or when ambient conditions will not allow proper application; consult Manufacturer for recommended procedures during cold weather. Do not work with sealants and adhesives when material temperature is outside the range of 60 to 80 °F (15 to 25 °C).

### Protect adjacent construction, property, vehicles, and persons from damage related to roofing work; repair or restore damage caused by roofing work.

### Protect from spills and overspray from bitumen, adhesives, sealants, and coatings.

### Particularly protect metal, glass, plastic, and painted surfaces from bitumen, adhesives, and sealants within the range of wind-borne overspray.

### Protect finished areas of the roofing system from roofing related work traffic and traffic by other trades.

### Until ready for use, keep materials in their original containers as labeled by the Manufacturer.

### Consult panel Manufacturer's instructions, container labels, and Safety Data Sheets (SDS) for specific safety instructions. Keep all adhesives, sealants, primers, and cleaning materials away from all sources of ignition.

### *Note to Specifier: A certain amount of waviness called ‘oil canning’ is inherent in any product manufactured from coiled sheet material. The amount of ‘oil canning’ can vary due to several factors: uneven substrates, the width of the panel, weather conditions, etc. ‘Oil canning’ of a panel does not affect its structural integrity and is not sufficient cause for rejection.*

##  Examination

### Examine roof deck to determine that it is sufficiently rigid to support installers and their mechanical equipment, and that deflection will not strain or rupture roof components or deform deck.

### Verify that surfaces and site conditions are ready to receive work. Correct defects in the substrate before commencing with roofing work. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.

### Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

### Examine roof substrate to verify that it is properly sloped to drains.

### Verify that the specifications and drawing details are workable and not in conflict with the roofing Manufacturer's recommendations and instructions; start of work constitutes acceptance of project conditions and requirements.

## Preparation

### Prior to proceeding, prepare roof surface so that it is clean, dry, and smooth, and free of sharp edges, fins, roughened surfaces, loose or foreign materials, oil, grease, and other materials that may damage the panels.

### Fill all surface voids in the immediate substrate that are greater than 1/4″ (6 mm) wide with fill material acceptable to panel Manufacturer.

### Seal, grout, or tape deck joints, where needed, to prevent seepage into building.

## Insulation and Cover Board Installation

### Install insulation in configuration and with attachment method(s) specified in PART 2, under Insulation.

### Install only as much insulation as can be covered with the completed roofing system before the end of the day's work or before the onset of inclement weather.

### Lay roof insulation in courses parallel to roof edges.

### Neatly and tightly fit insulation to all penetrations, projections, and nailers, with gaps not greater than ¼″ (6 mm). Fill gaps greater than ¼″ (6 mm) with acceptable insulation.

### Mechanical Fastening: Using specified fasteners and insulation plates engage fasteners through insulation into deck to depth and in pattern required by Factory Mutual for specified FM Class and panel Manufacturer, whichever is more stringent *(if applicable)*.

## Underlayment Installation

### Install underlayment in accordance with manufacturer's instructions.

### Install self-adhered underlayment over entire roofing surface.

## Roof Panel Installation

### Install the metal roof panel system in accordance with the manufacturer’s instructions, installation drawings, and approved shop drawings, so that it is weathertight and allows for thermal movement.

### Locate space and fasten all clips in accordance with roof panel manufacturer’s recommendations. For required fasteners, use proper torque settings to obtain controlled uniform compression for a positive seal without rupturing the sealing washers.

### Panels must be seamed according to Manufacturer’s instructions for the specific panel used.

### Do not place utility penetrations through the panel seams.

### Do not allow panels or trim to come into contact with dissimilar materials (i.e., copper, lead, graphite, treated lumber, mortar, etc.). Protect from water run-off from these materials.

### Perform field cutting of panels and related sheet metal components by means of hand or electric shears. At no time shall a hot/friction saw be used.

### Remove protective film immediately after installation.

## FLASHING AND ACCESSORIES INSTALLATION

### Install flashings, including laps, splices, joints, bonding, adhesion, and attachment, as required by panel Manufacturer's recommendations and details.

### Flashing at Penetrations: Flash all penetrations passing through the panel; make flashing seals directly to the penetration.

### Pipes, Round Supports, and Similar Items: Flash with specified pre-molded pipe flashings wherever practical; otherwise use specified self-curing elastomeric flashing.

### Pipe Clusters and Unusual Shaped Penetrations: Provide penetration pocket at least 2″ (50 mm) deep, with at least 1″ (25 mm) clearance from penetration, sloped to shed water.

### Structural Steel Tubing: If corner radii are greater than ¼″ (6 mm) and longest side of tube does not exceed 12″ (305 mm), flash as for pipes; otherwise, provide a standard curb with flashing.

### Flexible and Moving Penetrations: Provide weathertight gooseneck set in sealant and secured to deck, flashed as recommended by Manufacturer.

## Field Quality Control

### Inspection by Manufacturer: Provide final inspection of the roofing system by a Technical Representative employed by roofing system Manufacturer specifically to inspect installation for warranty purposes (e.g., not a sales representative).

### Perform all corrections necessary for issuance of warranty.

## Cleaning

### Clean all contaminants generated by roofing work from building and surrounding areas, including bitumen, adhesives, sealants, and coatings.

### Repair or replace building components and finished surfaces damaged or defaced due to the work of this section; comply with recommendations of Manufacturers of components and surfaces.

### Remove leftover materials, trash, debris, equipment from project site and surrounding areas.

## Protection

### Where construction traffic must continue over finished roof panels, provide durable protection, and replace or repair damaged roofing to original condition.

END OF SECTION