UNA-CLAD™
Metal Roofing
Systems Application
Guide

UC-3 Double-Lock Architectural Series
UC-4 No-Clip Architectural Series
UC-6 Double-Lock Structural Series
UC-14 Snap-Lock Standing Seam Series

July 2026

NOTE: The contents of this guide are considered accurate at time of posting. All information contained within should be validated for accuracy as it relates to specific project conditions or requirement. Specific codes, uplifts or other factors may result in changes to the information contained within this document. Validate all specific conditions with a Regional Technical Coordinator prior to its use.

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GENERAL

This section of Elevate's Technical Manual provides instructions for the Application of Elevate' s Metal Roof Systems. Reference to the Metal Design Guide, Technical Information Sheets (TIS), detail drawings and other sections of Elevate' s Technical Specifications may be necessary to ensure that the finished roof system is installed in compliance with Elevate requirements.

The Elevate Metal Roof System and Warranty require special considerations with regards to fasteners, insulations, and attachment requirements. These requirements are provided as a part of this application guide.

Note: If a Red Shield Warranty is required, please reference the Elevate Metal Design Guide for the Elevate Una-Clad Metal Roof Inspection and Warranty Process.

! Only factory-formed Una-Clad panels are acceptable for Red Shield Warranties longer than 20 years.

NOTE: If a proposed application falls outside this specification, contact your Regional Technical Coordinator for additional information.

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Prior to installation of any Elevate Metal Roofing System component, ensure that all proper system materials and quantity have been delivered to meet the job installation and performance requirements of the system for assembly:

- **Metal Panel and Trim –** Style/Metal/Gauge/Color/Size/Sealant
- **Clips –** Type/Metal
- **Fasteners –** Type/Metal/Size/Length/Color
- **Underlayment –** Type
- **Sheet Stock –** Metal/Gauge/Color/Size
- **Bearing Plates – Metal**
- **Accessories – Pipe boots, touch-up paint or any other Elevate supplied items**

Do a trial "dry run" of fitting components together. If roof is a "seamed" roof, test manual and power seaming tools on panels with clips and fasteners, prior to doing any installation on the roof. Make any and all adjustments necessary to equipment to allow for proper installation. Snap systems must be checked with clips and/or fasteners as required. If proper seaming cannot be achieved, confirm the seamer is the correct/specific one for that specific panel style and measurements.

Failure to confirm all the above items and conditions prior to start of the job may affect the ability to issue a roof warranty and any product claims.

APPLICABILITY

A. Parameters of this manual outline the minimum requirements for a Elevate Red Shield™ or Red Shield Medallion Metal Roof warranty. Local code and insurance requirements may require specific enhancements for a given performance level.

B. Statements in the Application Guide are provided in good faith with the expectation that a design professional be consulted prior to any job decisions being made.

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The following are just a few of the conditions, which may influence the need for a design professional:

- **Structural conditions that might not be sufficient to support the anticipated load of the completed roof installation.**
- **Structural conditions to support the dynamic loading of the roof system.**
- **The need to review the proposed system assembly for its applicability on specific projects, such as churches, gyms or large gathering places for acoustic considerations.**
- **The requirements of local building codes for the need of a thermal barrier.**
- **The requirements of local building codes for the need of an underlayment or air barrier.**
- **When considering the effect of loads on the structure/decking due to the loading/staging of materials as a part of system installation, the building owner or his design professional should specify the load limitations to be observed by the Elevate Red Shield licensed applicator.**

C. The metal roof system shall consist of: UC-3, UC-4, UC-6 or UC-14 Metal Roof Panels, all with in-seam sealant over CLAD-GARD™ SA, CLAD-GARD R, or CLAD-GARD MA Underlayment, mechanically attached to an acceptable substrate and combined with other Elevate roof system accessories as indicated in the following text, tables and manual details.

D. Red Shield or Red Shield Medallion warranted metal roof systems may or may not be applicable, without special consideration, if subject to local, regional or national building code, testing agency or insurance companies' requirements.
E. It is the building owner's or the design professional's responsibility to consult with the controlling code agency official(s) and others to determine the specific requirements of each project and each system.
F. Your Regional Technical Coordinator should be contacted at 800-428-4511 when local or controlling codes or insurance requirements conflict with Elevate recommendations.

> **!** Certain situations may arise where Elevate specifications and/or roofing requirements cannot be applied. It may not be possible to issue the desired warranty for projects that deviate from current Elevate requirements and standards, unless a written deviation request for approval has been received, reviewed, and approved by the Regional Technical Coordinator prior to application of the proposed system.

G. The following conditions require special consideration and may not be warrantable. Contact your Regional Technical Coordinator if any of the following conditions are present:
   1. Roofs that do not meet the minimum slope and/or exceed the maximum height limits for the Elevate Metal Roof system assembly see Table 1.01-1.
   2. Projects that require special wind coverage greater than 55 mph.
   3. Roofs located where localized wind phenomenon may occur. Reference ASCE-7 wind maps and local building officials.
   4. Roofs located down slope, foothills, mountain ranges, or escarpments.
   5. Geographical areas susceptible to hurricanes.
   6. Roofs subject to chemical or process byproduct discharge.
   7. Buildings with large openings in a wall (greater than 10% of the wall surface) that could be left open in a storm, such as warehouses, airplane hangars or open-air performance centers.
   8. Roofs subject to positive pressure situations such as: pressurized buildings, air infiltrating decks, canopies, overhangs, airplane hangars, distribution centers, laboratories, etc.
   9. Buildings with high interior humidity such as swimming pools, paper mills or textile mills, for example.
   10. Roof decks that do not provide adequate fastener pullout resistance.
   11. Roofs with domes, barrels or swales, or other curvatures or unusual shapes.
   12. Cold storage and freezer facilities constitute a special condition. A design professional familiar with cold storage construction and vapor migration should be consulted in the design of the roof system and integration with the building envelope.

JOB SITE CONSIDERATIONS (CAUTION AND WARNINGS)

A. Keep all adhesives, sealants, and cleaning materials away from ALL ignition sources (e.g., a flame, fire, sparks and static, etc.). Do not smoke while using these materials.
B. Consult container labels, Material Safety Data Sheets and Technical Information Sheets for specific safety instructions for all products used on the project.
C. Care must be used when installing fasteners to avoid possible conduits and other piping in or under the deck.
D. Do not use oil-base or bituminous-base roof cement with the Una-Clad Metal Roof Systems.
E. Insulation must be properly stored and protected from ignition sources, moisture and damage.
F. Store all material and accessories above ground on well-supported platforms that provide a minimum of 1/4:12 slope. Store materials under waterproof covering or indoors and provide proper ventilation of metal roofing system to prevent condensation build-up between each panel, trim or flashing component.
G. Do not allow other incompatible metals to interact with the Metal Roof System components

PERSONAL SAFETY

A. Safety is the top priority. Walking on any roof system can be dangerous. Always use a method of fall protection that will meet the approved Occupational Safety and Health Administration (OSHA) standards or any regulatory agency responsible for your building. Serious injury or death can result if the proper safety equipment is not provided. Monetary fines for noncompliance could result from any neglect in fall protection.
B. It is your responsibility as an owner or employer to make sure that proper training of your maintenance personnel and other employees is adequate for safety procedures and that safety equipment is in proper working condition.
C. Remember during roof inspections, take the following precautions and any others deemed appropriate by governing authority.
   1. Use fall protection and all appropriate safety equipment as agencies and/or job site require.
   2. Ensure use of proper and clean footwear.
   3. Never walk on ribs, eave, rake, valley, hip or ridge flashings.
   4. Never walk or stand on any skylight, fiberglass type panel or any other component not designed for the weight of a person.
   5. Rope off open areas or assign a person to guard these locations during the inspection process to prevent accidental injury both on the roof and below openings and the perimeter of the roof area.
   6. Never go on a roof with any moisture or other substance present that may cause unsure footing.

ROOF AND SUBSTRATE PREPERATION

A. Preparatory Requirements
   1. The UC-3 and UC-6 double lock systems require field seaming. Specific UC-3 and UC-6 profile seamers are available from a qualified distributor. Contact your Regional Technical Coordinate for qualified distributor. Other types or similar styles of field seaming machines may NOT properly seam the UC-3 or UC-6 double-lock panels, and Amrize Building Envelope LLC ("Amrize") cannot be responsible for any damage caused by using another type of field seamer.
   2. The UC-4 no-clip and UC-14 snap-lock clipped systems do not require mechanical field seaming. They both have seams that snap together.
   3. The substrate must be no more than ¼" (6.4 mm) in 10' (3 m) out of plane in any direction. Adjacent decking shall not be more than ⅛" (3.2 mm) out of plane. Out of specified plane areas will need corrective action prior to proceeding.
   4. The building must be checked for "squareness" within acceptable standard practices. Out of square roofing areas will require adjustments in installation of system to accommodate irregularities or the structure will need corrective action.
   5. Verify that the purlins under the decks at the ridge and end laps are installed as detailed and that they are straight from rafter to rafter. Misplacement or swaying of the members will cause the fasteners to fail at the ridge or end laps as the panels expand, contract and possibly oilcan.

B. Cautions
   1. Avoid restricting the thermal expansion and contraction of the UC-3 & UC-6 double-lock and the UC-14 snap-lock panels.
   2. Avoid restricting the thermal expansion and contraction of the UC-4 snap-lock panel by assuring proper placement of fasteners in the attachment slots.
   3. Do not rigidly attach panels to the substrate at both ends. This will eliminate movement capability. Consult specifications, details, design professional and your Regional Technical Coordinator needed for verification of requirements. Generally, panels are fastened at the top or in some cases the mid-point of the panel.
   4. Limit panel length to account for movement range of system components and flashing details.
   5. On open frame or clear span cathedral type structures, do not fasten metal roofing panels through insulation to primary decking. Install coverboard and fasten roofing to it to minimize telegraphing of noises. (Be aware that large clear span areas with steel decking systems that require fastening panels to decking may result in "popping" noises due to telegraphing of thermal movement noise of the entire roof system acting on the diaphragm. Alternative design installation should be investigated. Consult with job design professional.)

C. Correct Substrate Defects
   1. Defects that need to be corrected before work can commence should be brought to the attention of the General Contractor or Owner in writing and addressed by them.
   2. Complete removal of all existing roof system components is required. Re-cover applications are not acceptable for the Red Shield or Red Shield Medallion Metal Roof System.

D. Remove Moisture or Foreign Matter
   Water, snow, frost, dew and/or ice, dust, dirt or other foreign material, present in more than trace amounts must be removed from the work surface(s) prior to installing the Una-Clad Metal Roof System.

E. Prepare Surface
   Acceptable substrates to which the Una-Clad Metal Roof System is installed must be properly prepared prior to accepting underlayment or metal roof system installation. The surface must be relatively even (no more than ¼" (6.4 mm) in 10' (3 m) out of plane in any direction or more than ⅛" (3 mm) out of plane of adjacent substrates), clean, dry, smooth and free of sharp edges, fins, loose or foreign materials, oil, grease and other materials that may damage the metal roof system. Rough or irregular surfaces that could cause damage to the roof panel must be overlaid with insulation or coverboard.

F. Install Underlayment
   Install CLAD-GARD SA, CLAD-GARD R, or CLAD-GARD MA Underlayment, appropriate to the substrate and warranty term; consult the Technical Information Sheets (TIS) for these products for installation instructions.

MATERIAL HANDLING

A. Shipping
   1. Metal panels are shipped with the panels stacked vertically, on edge, up to 40' (12 m), and braced as needed for security. Handling requirements are the same as listed below.
   2. Block and Band: 2 x 4s are strapped under the bundles to allow access for straps or a forklift. Bundles less than 25' (7.6 m) long may be handled by a forklift. The forklift should have at least 5' (1.5 m) between forks. Bundles longer than 25' (7.6 m) should be lifted utilizing a spreader bar with appropriate straps spaced secured about ¼ of the way from each end of the crate/bundle.

B. Storage of end-use materials with protective masking applied to the surface should be
   1. Less than six months with masking applied (warehouse storage and outdoor exposure combined). Adhesion will increase after four months and con cause removal problems after six months.
   2. Stored within and enclosed building or holding facility.
   3. Wrapped/packaged to prevent exposure to direct UV, water, oils, or other contaminants.
   4. Maintained in an environment within a temperature range of 45° - 95°F and 20-80% relative humidity.

5. Immediately remove protective film after installation.

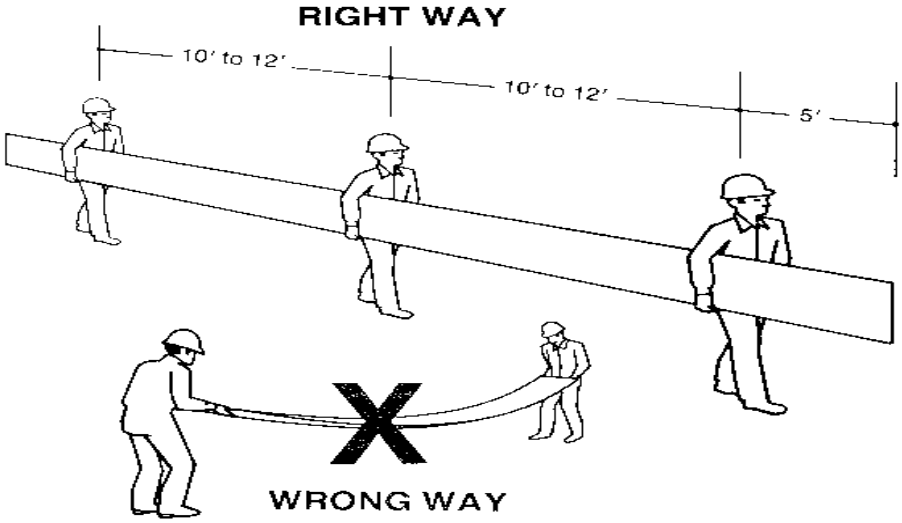
C. Staging Materials
   1. Materials should be placed at jobsite in such a way as to minimize handling.
   2. Position crates or bundles with the panels in the correct position to be loaded directly on the roof without any additional turning of flipping.
   3. Space materials out to limit having to shift on the ground or roof. Check load limits of structure to distribute load evenly and not to exceed building limits.
   4. Assure all accessory items are conveniently located for workers and they will not have to leave area or cross over installed work.

D. Handling:
   For correct and safe handling of a metal panel, Elevate suggests the following handling procedure.

TABLE 2.05.1 PANEL HANDLING

Panel length*	Less than 6' (Less than 1.8 m)	6' to 15' (1.8 to 4.6 m)	16' to 30' (4.9 to 9.1 m)	31' - 45' (9.4 to 13.7 m)	> 45' (> 13.7 m)
Handlers*	1	2 - 3	3 - 4	4 - 5	4 or more with extreme care

* Handling of panels and the number of handlers required are a function of panel length and width, combined with the experience of the handlers and weather conditions. Final handling decision rests with the handling party. Please ensure metal panel does not bend in any direction, up, down or torque, from its shipped or formed shape and maintains it throughout the transportation and installation process.



WOOD NAILER AND LOCATION

Wood nailers must be installed as specified by the project designer or as noted in Elevate Details and the System Design Guide when insulations are used between the deck and coverboard or panels. Install wood nailers as follows:

A. Total wood nailer height must match the total thickness of insulation and or coverboard being used and should be installed with an ⅛" (3.2 mm) gap between each length and each change of direction. Multiple nailers must have joints staggered a minimum of 6" (152.4 mm) with staggered ends secured. Multiple corner boards must alternate crossovers and be fastened.

B. Wood nailers must be firmly fastened to the deck or building. Mechanically fasten wood nailers with appropriate fastener for substrate to resist a minimum force of 200 lbf (890 N) in any direction, typically 12" (305 mm) o.c. Refer to attachment requirements as specified by the project designer. Higher building design pressures may require additional attachment.

C. The wood nailer must be tapered (if applicable) so that it will always be flush at the point of contact with the insulation. Refer to Elevate Details.

D. Chemical treating for fire resistance or pressure treating for rot resistance is not required by Elevate, it may affect the performance of the Una-Clad Metal Roof Panels and accessories. Submit SDSs for any chemically treated lumber that comes in contact with the Una-Clad Metal Roof System, with active ingredients listed to your Regional Technical Coordinator for acceptance regarding compatibility.

E. Make these specifications and details available when nailers are to be installed by others. Work that compromises the integrity of the system may jeopardize the warranty for the entire Una-Clad Metal Roof System project.

INSULATION AND COVERBOARD INSTALLATION (OPTIONAL*)

!	In the absence of approved insulation or coverboard installed over an approved deck, there must be an alternative approved deck to support an install of CLAD-GARD underlayment and properly attach the clips or panels.
!	All insulation and coverboards must be fastened at a rate of no less than 16 appropriate Elevate fasteners or fasteners and insulation plates (as required) per 4'x 8' (1.2 m x 2.4 m) board. This method is delayed installation of the roof panel system. **All insulation and coverboards must be covered with the appropriate CLAD-GARD underlayment.** When immediate installation of the roof insulation and/or coverboard, underlayment, and panels is taking place, 5 appropriate fasteners or fasteners and plates (as required) per 4'x 8' (1.2 m x 2.4 m) board is acceptable. Exposure times vary based on approved Clad-Gard underlayment. Clad-Gard MA (mechanically attached) and Clad-Gard SA (self-adhered) may be exposed up to 90 days. Clad-Gard R may be exposed up to 60 days. When delayed installation occurs, Clad-Gard underlayment must be inspected and repaired to like new condition prior to installation of metal panel system.

A. Install only as much insulation or coverboard as can be covered with CLAD-GARD underlayment and completed before the end of the workday or before the onset of inclement weather.
B. Neatly fit insulation to all penetrations, projections, and nailers. Insulation should be loosely fitted, with gaps greater than ¼" (6.3 mm) filled with acceptable insulation. The edges of insulation boards running parallel with the deck should be supported by the top flange. Under no circumstances should the membrane be left unsupported over a space greater than ¼" (6.3 mm).
C. When installing multiple layers of insulation, all joints between adjacent boards should be offset by half a board width, and layers must be staggered a minimum of 6"(152 mm) in both directions.
D. Using Elevate fasteners, the insulation or coverboard must be fastened at a rate of no less than 16 Elevate fasteners per 4'x 8' (1.2 m x 2.4 m) board. Refer to the Technical Information Sheet for the specific insulation attachment patterns for field, perimeter, and corner. The Elevate fastener system must be appropriate for the coverboard, insulation deck or substrate combination.

UNDERLAYMENT INSTALLATION

A. Install CLAD-GARD SA Underlayment to achieve 100% coverage, allowing for proper side and end overlaps. CLAD-GARD SA Underlayment can be installed over ISOGARD™/ISO 95+ GL™ Insulation, ISOGARD HG/HailGard™ Composite Insulation, ISOGARD HD Cover Board, ISOGARD CG/RESISTA Insulation, OSB, and plywood. CLAD-GARD SA Underlayment must be fully supported.
    1. Start at the lowest part of the roof deck and install the valleys first. Lay the membrane flat in place with the print side up.
    2. Cut the CLAD-GARD SA Underlayment to a length that can easily be managed.
    3. Along the sides of the sheet, overlap the seams a minimum of 3" (76 mm).
    4. At the ends of the sheet, overlap the seams a minimum of 6" (152 mm).
    5. Peel half of the release liner off the roll diagonally and apply with heavy, even hand pressure or brooming from the center of the sheet to the outer edges. Remove the remaining release liner from the other half of the roll and apply pressure in the same manner. Use of a hand roller at the laps is recommended.
    6. In very steep slope applications, back nailing may be recommended. When back nailing, be sure that all nails are covered by the next overlapping sheet.
B. Install CLAD-GARD MA Underlayment on slopes greater than 5:12, mechanically attached, provided CLAD-GARD SA or CLAD-GARD R Underlayment is used at all eaves, rakes, sidewalls, ridges/hips, valleys and around penetrations, as directed by Elevate Technical. CLAD-GARD MA Underlayment can be applied over ISOGARD HG/HailGard Composite insulation, plywood or OSB. CLAD-GARD MA Underlayment must be fully supported.
    1. Start at the lowest part of the roof deck and install valley conditions first. Lay the membrane flat in place with the print side up.
    2. Cut the CLAD-GARD MA Underlayment to allow for 4"(101 mm) horizontal laps and 6" (152 mm) vertical laps on a minimum 5:12 roof slope. Overlaps should run with the flow of water in a shingling fashion.
    3. Using a minimum 1" (25 mm) diameter cap nails, secure the underlayment by driving the nails squarely into the approved substrate.
    4. Spacing should be 6"(152 mm) o.c. on both head and end laps, and 12"(304 mm) o.c. in the field area in the center of the roll. Please contact your Regional Technical Coordinator for attachment recommendations for high wind areas.
    5. Cap nails may be installed by hand or machine applied.
C. Install CLAD-GARD R Underlayment to achieve 100% coverage with proper side and end overlaps. CLAD-GARD R Underlayment may be installed over ISOGARD HG Composite Insulation, OSB, and plywood. CLAD-GARD R Underlayment must be fully supported.
    1. Start at the lowest part of the roof deck and install the valleys first. Lay the CLAD-GARD R Underlayment flat in place with the print side up.
    2. Cut the CLAD-GARD R Underlayment to a length that can easily be managed.

3. Along the side of the sheet, overlap the seams a minimum of 3" (76 mm).
4. At the ends of the sheet, overlap the seams a minimum of 6"(152 mm).
5. Peel half of the release liner off the roll diagonally and apply with heavy, even hand pressure or brooming from the center of the sheet to the outer edges. Remove the remaining release liner from the other half of the roll and apply pressure in the same manner. Use of a hand roller at the laps is recommended.
6. In very steep slope applications, back nailing may be recommended. When back nailing, be sure that all nails are covered by the next overlapping sheet.

! UC-4: 25-Year Red Shield Medallion Warranty Assembly
25-Year System requires a full application of CLAD-GARD SA Underlayment at any slope greater than or equal to the minimum of 3:12.

SYSTEM INSTALLATION GUIDELINES

The following guidelines are for installing the UC-3, UC-4, UC-6 and UC-14 Metal Roofing Panels. Refer to system details for additional specific installation information. Ensure all installation components are available and correct prior to starting any installation.

A. Installation considerations to reduce oil canning:
   1. Assure that all substrates are within roofing manufacturer's required designs and tolerances prior to commencement of work.
   2. Ensure that all supplied materials are as specified, approved and ordered for the job.
   3. Proper care and handling of all materials at all times.
   4. Proper use and adjustment of all installation tools.
   5. All materials shall be installed with proper clearance for thermal movements, both expansion and contraction, with manufacturer's supplied accessories and details.

B. These installation guidelines are not in order of application. In most cases, there are multiple steps that require blending of instructions and details.

Please reference the Elevate Metal Design Guide for information on determining the appropriate Field, Perimeter and Corner Areas of a Metal Roof.

FLASHINGS

DESIGN CONSIDERATIONS

Many factors affect the performance of the flashing system for specific detail requirements; refer to the Metal Application Guide, all Elevate Metal detail drawings, and Table 1.09: Minimum Metal Thickness.

A flashing is a roofing element used to prevent water from penetrating the exterior surface of a roof or to intercept and lead water off of it. Flashings divert the water to the roofing panels. The panel then carries water to the gutters or roof edge. Typically, flashing intercepts water flowing down parapets, walls of higher adjacent construction, and roof penetrations. There are four typical locations where flashing is needed: terminations, penetrations, joints, and junctions.

A. General
   1. Remove all existing flashing (i.e., metal, bituminous materials, mastic, etc.). Flash all penetrations passing through the panel.
   2. Relocate any penetration that will be within 4" (102 mm) of a metal roof seams.
   3. The flashing seal must be made directly to the metal roof penetration.

B. Pipes, Round Supports, Structural Steel Tubing, etc.

1. Flash penetrations with pre-molded pipe boots wherever possible.
   2. Refer to Elevate Technical Information Sheets for minimum and maximum pipe diameters that can be successfully flashed with Elevate EPDM Pipe Flashings.
   3. Structural Steel Tubing: Use a field-fabricated pipe flashing detail when the corner radius is greater than ¼" (6.4 mm) and the longest side of the tube does not exceed 4" (101.6 mm). When the tube exceeds 4" (101.6 mm), use a standard curb detail, including base tie-in and suitable termination.
   4. Additional flashing treatments are required for pipe flashings. See the applicable Elevate detail for flashing requirements.

C. Expansion Joints
   Install where specified by the project designer unless it intersects a valley (contact Elevate Technical) or fails to continue through the roof edge cleat, high eave flashing, fascia board and gutter or tie into a logical transition with another joint. Install expansion joints in accordance with Elevate details'

D. Snow Guards
   1. The installation of snow guards must be restricted to non-penetrating mechanical attachment to the seams of the roof panels.
   2. Mechanically attached snow guards through the pan of the panel are unacceptable due to potential rupture of the underlayment by fasteners and may void the Elevate Metal roof warranty.
   3. Adhesive attachment of snow guards to the panels can be detrimental to the finish of the metal roof system and may void the Una-Clad Metal Roof System Paint- Finish warranty.

E. Installation of proper fasteners and clips.

The table below is Amrize required minimum fastening for a metal roofing system to receive a Red Shield (5 to 20 years) or Medallion (25 years) warranty. Building code or agency listings may require increased fastening.

CHART OF MINIMUM FASTENER AND CLIP SPACING

System	Fasteners[2,3] Per Clip/Slots	Clip Spacing		
		Roof Height	Field	Perimeters & Corners[1]
UC-3 (5 to 20 yrs)	2	0 to 50' (0 to 15.2 m)	36" o.c. (914 mm)	12" o.c. (305 mm)
		51' to 75' (15.5 to 22.8 m)	24" o.c. (610 mm)	12" o.c. (305 mm)
		76' to 120' (23.1 to 36.6 m)	16" o.c. (305 mm)	12" o.c. (305 mm)
		121' to 250' (36.9 to 76.2 m)	12" o.c. (305 mm)	6" o.c. (152 mm)
UC-4 (5 to 20 yrs)	1	0 to 75' (0 to 22.8 m)	24" o.c. (610 mm)	12" o.c. (305 mm)
		76' to 120' (23.1 to 36.6 m)	16" o.c. (406 mm)	12" o.c. (305 mm)
	2 Consecutive Slots	121' to 250' (36.9 to 76.2 m)	12" o.c. (305 mm)	6" o.c. (152 mm)
UC-4 (25 yrs)	1	0 to 120' (0 to 36.6 m)	12" o.c. (305 mm)	
	2 Consecutive Slots	121' to 250' (36.9 to 76.2 m)	12" o.c. (305 mm)	6" o.c. (152 mm)
UC-6- (5 to 20 yrs)	2	0 to 50' (0 to 15.2 m)	48" o.c. (1.2 m)	24" o.c. (610 mm)
		51' to 75' (15.5 to 22.8 m)	30" o.c (762 mm)	12" o.c. (305 mm)
		76' to 120' (22.8 to 36.6 m)	24" o.c. (610 mm)	12" o.c. (305 mm)
		121' to 250' (36.9 to 76.2 m)	16" o.c. (406 mm)	12" o.c. (305 mm)
UC-14 (5 to 20 yrs)	2	0 to 50' (0 to 15.2 m)	48" o.c. (1.2 m)	24" o.c. (610 mm)
		51' to 75' (15.5 to 22.8 m)	30" o.c. (762 mm)	12" o.c. (305 mm)
		76' to 120' (22.8 to 36.6 m)	24" o.c. (610 mm)	12" o.c. (305 mm)
		121' to 250' (36.9 to 76.2 m)	16" o.c. (406 mm)	12" o.c. (305 mm)

NOTE:

1. Perimeter and corner widths are calculated as either 10% of the lesser plan dimension or 40% of the low eave height, whichever is smaller, but not less than 4' (1.2 m). (See "Perimeter & Corner Areas")
2. Panel attachment directly over ISO 95+ GL/ISOGARD GL Insulation, ISOGARD HD Cover Board, RESISTA/ISOGARD CG Insulation, or ¼" SECUROCK® or DensDeck® requires the placement of a bearing plate under each clip and an approved fastener that will achieve the required penetration through all layers and into an approved deck the appropriate amount.
3. Panel attachment directly over approved plywood, OSB or tongue and groove (T&G) plank decking requires an approved fastener that will achieve the required penetration into the deck.

MINIMUM METAL THICKNESS FOR RED SHIELD WARRANT ROOF SYSTEMS*

Base Metal	Galvanized Galvalume Painted or Mill Acrylume	Aluminum Mill, Anodized, Painted	Copper Any Finish	Zinc Any Finish
Minimum Thickness and flashing trims and panels	24 ga. (0.6 mm)	0.32" (0.8 mm)	16 oz. (0.7 mm)	0.027" (0.7 mm)

***NOTE:** Job specification, insurance companies and/or local codes may require heavier weight metals than shown.

TABLE 1.08-1
CHART OF THERMAL MOVEMENT OF METAL ROOF PANELS (100 ° F PANEL CHANGE)

Panel Material	Coefficient of Expansion	Total movement Per 100 °F (37.8 °C) inches (mm)					
		10'	3 m	50'	15 m	100'	32 m
Steel	6.7 x 10-6 in/in/F° 10.9 x 10-6 mm/mm/C°	0.08"	1.8 mm	0.40"	9.1 mm	0.80"	19.4 mm
Aluminum (3000 series type)	12.7 x 10-6 in/in/F° 22.86 x 10-6 mm/mm/C°	0.16"	3.8 mm	0.80"	19 mm	1.6"	40.5 mm
Copper	9.3 x 10-6 in/in/F° 16.7 x 10-6 mm/mm/C°	0.12"	2.8 mm	0.60"	14 mm	1.2"	29.9 mm

UC-4 NO CLIP METAL ROOFING SYSTEM

> **!** Every UC-4 panel installed will require specified approved fasteners with nylon washers to be installed in the slotted holes on the panel side. Fasteners are to be at the prescribed spacing for the job conditions, area of the roof in the field, perimeter, or corner prior to the installation of the next panel.

A. Fixed Hip/Ridge
1. Install modified J-channel flashings at 3½" (89 mm) minimum (varies with slope) down roof, from top of ridge, at both sides. Fasten on lower single thick hemmed flange with approved fastener at every 24" (610 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant (continuous).
3. Trim panel seam ends properly for the condition of whole panel installation: J- channel, end lap or eave.
4. Insert trimmed panel, per details, into J-channel, firmly with panel edge sliding into hem of modified J-channel.
5. With approved fastener, hard fasten through top of hem on modified J-channel into substrate at every 4" (102 mm o.c.) starting and stopping 1" (25 mm) from each panel side.
6. Apply bead of sealant between top edge of panel seam and face of modified J- channel.
7. Install hip/ridge flashing, and finish closing hem, leaving room for thermal movement.

B. Fixed Headwall/modified J-channel at Reglet or Wall Panel
1. Install modified J-channel flashings at 2" (51 mm) down roof slope, from top of high eave. Fasten with approved fastener at every 8" (203 mm) o.c.
2. Trim panel seam ends properly for the condition of whole panel installation: J- channel, end lap or eave.
3. Fill hem of modified J-channel with butyl sealant and insert trimmed panel end tightly into modified J-channel.
4. Hard fasten with approved fastener through top of hem on the modified J-channel into the substrate.
5. Install pitch break flashing. Fasten with approved Elevate fastener into exterior substrate at 12" (305 mm) o.c.
6. Install reglet flashing as per field conditions.

C. Fixed High Eave/modified J-channel
1. Install modified J-channel flashings at 2" (51 mm) down roof, from top of high eave. Fasten with approved fastener at every 24" (610 mm) o.c.
2. Trim panel seam ends properly for the condition of whole panel installation: J- channel, end lap or eave
3. Fill hem of modified J-channel with butyl sealant and insert trimmed panel end tightly into modified J-channel.
4. Hard fasten with approved Elevate fastener through top of hem on the modified J-channel into the substrate at 4" (102 mm)
5. Install pitch break flashing. Fasten with approved Elevate fastener into exterior substrate at 12" (305 mm) o.c. Apply butyl sealant at flashing overlaps.
6. Install Wall Panel. (Optional)

D. Vented Ridge
1. Install vented modified J-channel flashings at 3½" (89 mm) minimum (varies with slope) down roof, from top of ridge, at both sides. Fasten on lower single thick hemmed flange with approved fastener at every 24" (610 mm) o.c.
2. Fill hem of modified J-channel (both Sides of ridge) with butyl sealant (continuous).
3. Trim panel seam ends properly for the condition of whole panel installation: J- channel, end lap or eave
4. Insert trimmed panel into the J-channel and fasten with approved fastener, hard fasten through the top of hem in the modified J-channel into the substrate at every 4" (102 mm) o.c.
5. Install baffling material on top of vented modified J-channel.
6. Install ridge flashing, and finish closing hem, leaving room for thermal movement.

E. Rake Edge
1. Install modified J-channel at 2" (51 mm) from rake edge. Fasten with approved fastener at 8" (203 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert trimmed panel tightly into modified J-channel.
3. Install rake flashing and finish closing hem.

F. Side Wall Flashing at Reglet
1. Install modified J-channel at 2" (51 mm) from side wall. Fasten with approved fastener at 8" (203 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert trimmed panel tightly into modified J-channel.
3. Install sidewall flashing and fasten into exterior substrate at 12" (305 mm) o.c.
4. Install reglet flashing as per field conditions.

G. Fixed High Eave

1. Install modified J-channel flashings at 2" (51 mm) minimum down roof, from top of high eave. Fasten with approved fastener at every 24" (610 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert pane tightly into modified J-channel.
3. Trim panel seam ends properly for the condition of whole panel installation: J- channel, end lap or eave
4. With approved fastener, hard fasten through the top of hem in the modified J- channel into the substrate at every 4" (102 mm) o.c.
5. Install high eave as per field conditions.

H. Valley
1. Install valley flashing into valley starting at the bottom and working up.
2. Install cleat at 1" (25 mm) from top edge hems of valley flashing (both sides). Fasten over 3/16 x 2½" triple beaded butyl tape, with approved fastener, through valley flashing into substrate.
3. Install panel using specified and approved fasteners, noting that first fastener is paced at maximum 18" (457 mm) from centerline of valley (both sides).
4. Hem end of panels and fill hem with butyl sealant (both sides).

UC-3 AND UC-6 DOUBLE LOCK METAL ROOFING SYSTEMS

A. Fixed Hip/Ridge
1. Install modified J-channel flashings at 3½" (89 mm) down roof, from top of ridge, at both sides. Fasten with approved Elevate fastener at every 24" (610 mm) o.c.
2. Panel using appropriate specified panel clips and fasteners, noting that first clip is to be 18" (457 mm) maximum from the centerline of hip/ridge.
3. Insert panel into modified J-channel firmly with panel edge sliding into hem of modified J-channel.
4. Install hip/ridge flashing and finish closing hem.

B. Eave at Gutter
1. Place gutter tightly against the eave.
2. Install eave starter flashing, fasten with approved Elevate fastener at 8" (203 mm) o.c.
3. Flash in with CLAD-GARD SA underlayment or CLAD-GARD R underlayment over top of eave starter flashing.
4. Install panel using panel clips and fasteners, noting that the first clip is to be 18" (457.2 mm) maximum from eave.
5. Hem panel over lip of eave starter flashing, leaving the hem partially open for drainage.
6. Fold end tabs of panel seams over the end of the seam. Always fold tab to the inside of the seam.
7. Install gutter strap into gutter assembly and fasten using 12-14 x 1¼" with washer (ss) through eave starter flashing. *NOTE: Max 24" (610 mm) o.c. gutter strap spacing. Amrize does not warrant rain goods.

C. Fixed Pitch break at Reglet
1. Install modified J-channel at 2" (51 mm) minimum down roof, from top of high eave and fastens.
2. With approved Elevate fastener at 24" (610 mm) o.c.
3. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
4. Install panel using panel clips and approved fasteners, noting that the first clip is to be 18" (457 mm) from high end of the panel.
5. Hard fasten with approved Elevate fastener through top of hem on the modified J-channel.
6. Install pitch break flashing. Fasten with approved fastener into exterior substrate at 12" (305 mm) o.c.
7. Install reglet flashing as per field conditions.

D. Fixed Pitch Break at Wall Panel
1. Install modified J-channel at 2" (51 mm) minimum down roof, from top of high eave, and fasten with approved Elevate fastener at 8" (203 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install panel using panel clips, noting that the first clip is to be 18" (457 mm) from high end of the panel.
4. Hard fasten with approved fastener through top of hem on the modified J-channel.
5. Pitch break flashing. Fasten with approved Elevate fastener into exterior substrate at 12" (305 mm) orc.
6. Install wall panel (optional).

E. Rake at Gable End
1. Install modified J-channel at 2" (51 mm) minimum from rake edge. Fasten with approved Elevate fastener at 8" (203 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install rake flashing, and finish closing hem.

F. Wall flashing at Reglet
1. Install modified J-channel at 2" (51 mm) minimum down roof, from top of high eave and fasten with approved Elevate fastener at 8" (203 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install sidewall flashing and fasten into exterior substrate at 12" (305 mm) o.c.
4. Install reglet flashing as per field conditions.

G. Fixed High Eave

1. Install modified J-channel at 2" (51 mm) minimum down roof, from top of high eave and fasten with approved Elevate fastener at 24" (610 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install Panel using approved and specified panel clip and faster, noting that first clip is to be 18" (457 mm) maximum from high end of the panel
4. Hard fasten with approved Elevate fastener through top of hem on the modified J-channel, into substrate at 4" (102 mm) o.c.
5. Install high eave flashing as per field conditions.

H. Vented High Eave
1. Install vented modified J-channel at 2" (51 mm) minimum down roof, from top of high eave and fasten with approved fastener at 24" (610 mm) o.c.
2. Fill hem of vented modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install panel using approved and specified panel clip and faster, noting that first clip is to be 18" (457 mm) maximum from high end of the panel
4. Hard fasten with approved fastener through top of hem on the vented modified J- channel, into substrate at 4" (102 mm) o.c.
5. Install baffling material on top of vented modified J-channel. Baffle material is supplied by others.
6. Install high eave flashing as per Elevate requirements and field conditions.

I. Valley
1. Install valley flashing into valley.
2. Install cleat at 1" (25 mm) from top hems of valley flashing (both sides). Fasten over 3/16 x 2½" triple beaded butyl tape, with approved fastener, through valley flashing into substrate.
3. Install panel using specified and approved panel clips, noting that first clip is paced at maximum 18" (457 mm) from centerline of valley (both sides).
4. Hem end of panels and fill hem with butyl sealant (both sides).
5. Install panel over end of cleat (both sides).

J. Seam Section – End Lap Seam
1. Run a ¼" (6.4 mm) diameter bead of butyl sealant across the clip/cleat the width of the panes and up the sides of the seams at 10" (254 mm) from high end of panel to marry with the above panel.
2. Fold end tabs of seams over the end of the seam. Always fold to the inside of the panel seam.

K. Z Closures at Fixed Ridge or Hip
1. All panels must be seamed before installing the outside closure.
2. Using the hand crimper, crimp the remaining unseamed section of panels (not completed while power seaming).
3. Install triple bead butyl tape sealer across the width of the panel. Begin tape at the top of the seam and continue down the seam, across the width of the panel, up to the adjacent seam and across the top. Field cut the end of the closure to accept the seam of the panel.
4. Install first closure flashing. Fasten using approved Elevate fasteners at 4" (102 mm) o.c.
5. Install triple bead of butyl tape sealer across top leg of first outside closure (where it laps over the seam) and continue tape sealer across next panel, as outlined in step 3. Repeat process for next and all subsequent closures.

L. Vented Ridge
1. Vented modified J-channel at 3½" (89 mm) down roof, from top of high eave and fasten with approved fastener at 24" (610 mm) o.c.
2. Fill hem of vented modified J-channel with butyl sealant.
3. Install panel using appropriate UC-3 or UC-6 panel clips and fasteners, noting that first clip is to be 18" (457 mm) maximum from centerline of hip/ridge.
4. Install panel firmly into vented modified J-channel
5. Hard fasten with approved fastener through top of hem on the vented modified J- channel, into substrate at 4" (102 mm) o.c.
6. Install baffling material on top of vented modified J-channel. Baffle supplied by others.
7. Install ridge flashing and finish closing hem.
8. Install high eave flashing as per field conditions.

UC-14 SNAP- LOCK METAL ROOFING SYSTEMS

A. Fixed Hip/Ridge
1. Install modified J-channel flashings at 3½" (89 mm) down roof, from top of ridge, at both sides. Fasten with approved fastener at every 24" (610 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install panel using panel clips, noting that first clip is to be 18" (457 mm) maximum from the centerline of

hip/ridge.
4. Insert panel into modified J-channel firmly with panel edge sliding into hem of modified J-channel.
5. Install hip/ridge flashing and finish closing hem.

B. Eave at Gutter
1. Place gutter tightly against the eave. Install per Elevate or manufactures requirements.
2. Install eave starter flashing, fasten with approved Elevate fastener at 8 " (203 mm) o.c.
3. Flash in with CLAD-GARD SA underlayment or CLAD-GARD R underlayment over top of eave starter flashing.
4. Install panel using UC-14 panel clips and appropriate fasteners, noting that the first clip is to be 18" (457 mm) maximum from eave.
5. Hem panel over lip of eave starter flashing, leaving the hem partially open for drainage.
6. Fold end tabs of panel seams over the end of the seam. Always fold tab to the inside of the seam.
7. Install gutter strap into gutter assembly and fasten using (ss) 12-14 x 1¼" with washer through eave starter flashing. *NOTE: Max 24" (610 mm) o.c. gutter strap spacing. (Amrize does not warrant rain goods).

C. Fixed Headwall with Modified J-Channel at Reglet
1. Install modified J-channel at 2" (50.8 mm) minimum down roof, from top of high eave and fastens with approved fastener at 24" (609.6 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel edge tightly into modified J-channel.
3. Install panel using approved UC-14 panel clips and fasteners, noting that the first clip is to be 18" (457.2 mm) from high end of the panel.
4. Hard fasten with approved fastener through top of hem on the modified J-channel.
5. Install pitch break flashing. Fasten with approved Elevate fastener into exterior substrate at 8" (203.2 mm) o.c.
6. Install reglet flashing as per field conditions.

D. Fixed Headwall with Modified J-Channel at Wall Panel
1. Install modified J-channel at 2" (50.8 mm) minimum down roof, from top of high eave and fasten with approved Elevate fastener at 8” o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install panel using approved Elevate fasteners and panel clips, noting that the first clip is to be 18" (457.2 mm) from high end of the panel.
4. Hard fasten with approved fastener through top of hem on the modified J-channel at 4" (101.6 mm) o.c.
5. Install pitch break flashing. Fasten with approved Elevate fastener into exterior substrate at 12" (304.8 mm) o.c.
6. Install wall panel (optional).

E. Rake at Gable End
1. Install modified J-channel at 2" (50.8 mm) minimum from rake edge. Fasten with approved Elevate fastener at 8" (203.2 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install rake flashing and finish closing hem.

F. Wall flashing at Reglet
1. Install modified J-channel at 2" (50.8 mm) minimum down roof, from top of high eave and fasten with approved fastener at 8" (203.2 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install sidewall flashing and fasten into exterior substrate at 12" (304.8 mm) o.c.
4. Install reglet flashing as per field conditions.

G. Fixed High Eave
1. Install modified J-channel at 2" (50.8 mm) minimum down roof, from top of high eave and fasten with approved fastener at 24" (609.6 mm) o.c.
2. Fill hem of modified J-channel with butyl sealant and insert panel tightly into modified J-channel.
3. Install Panel using appropriate Elevate fastener and UC-14 panel clips and fasteners, noting that first clip is to be 18" (457.2 mm) maximum from high end of the panel.
4. Hard fasten with approved Elevate fastener through top of hem on the modified J-channel, into substrate at 4" (101.6 mm) o.c.
5. Install high eave flashing as per field conditions.

H. Vented High Eave
1. Install vented modified J-channel at 2" (50.8 mm) minimum down roof, from top of high eave and fasten with approved fastener at 24" (609.6 mm) o.c.
2. Install panel using appropriate Elevate fastener and UC-14 panel clips, noting that first clip is to be 18" (457.2 mm) maximum from high end of the panel.
3. Fill hem of vented modified J-channel with butyl sealant and insert panel edge tightly into vented modified J-channel.
4. Hard fasten with approved Elevate fastener through top of hem on the vented modified J-channel, into substrate at 4" (101.6 mm) o.c.
5. Install baffling material on top of vented modified J-channel.

6. Install high eave flashing as per field conditions.

I. Valley
   1. Install valley flashing into valley.
   2. Install cleat at 1” (25.4 mm) from top hems of valley flashing (both sides). Fasten over 3/16 x 2-1/2” triple beaded butyl tape, with approved Elevate fastener, through valley flashing into substrate.
   3. Hem end of panels and fill hem with butyl sealant (both sides).
   4. Install panel using panel clips, noting that first clip is paced at maximum 18” (457.2 mm) from centerline of valley (both sides).
   5. Install panel over end of cleat (both sides).

J. Seam Section – End Lap Seam
   1. Run a ¼" (6.4 mm) diameter bead of butyl sealant across the clip/cleat the width of the panels and up the sides of the seams at 10" (254 mm) from high end of panel to marry with the above panel.
   2. Fold end tabs of seams over the end of the seam. Always fold to the inside of the panel seam.

K. Z Closures at Fixed Ridge or Hip
   1. All panels must be seam before installing the outside closure.
   2. Using the hand crimper, crimp the remaining unseamed section of panels (not completed while power seaming).
   3. Install 3/16" x 7/8" triple bead butyl tape sealer across the width of the panel. Begin tape at the top of the seam and continue down the seam, across the width of the panel, up to the adjacent seam and across the top. Field cut the end of the closure to accept the seam of the panel.
   4. Install ¼" (6.4 mm) bead of butyl sealant across top leg of first outside closure (where it laps over the seam) and continue tape sealer across next panel, as outlined in step 3. Repeat process
   5. for next and all subsequent closures.
   6. Install first closure flashing. Fasten using approved Elevate fasteners at 4" (101.6 mm) o.c.

L. Vented Ridge
   1. Install vented modified J-channel at 3 1/2" (88.9 mm) down roof, from top of high eave and fasten with approved fastener at 24" (609.6 mm) o.c.
   2. Fill hem of vented modified J-channel with butyl sealant.
   3. Install panel using appropriate Elevate fasteners and UC-14 panel clips, noting that first clip is to be 18" (457.2 mm) maximum from centerline of hip/ridge.
   4. Install panel firmly into vented modified J-channel.
   5. Hard fasten with approved fastener through top of hem on the vented modified J- channel, into substrate at 4" (101.6 mm) o.c.
   6. Install baffling material on top of vented modified J-channel. (Baffle by others.)
   7. Install ridge flashing and finish closing hem.

ROOF MAINTENANCE

As an owner, you have invested time and financial resources into selecting a high- performance metal roof system. Maintaining your investment will assure that you get the full benefits a metal roof system can deliver. With this comes the added responsibility of making sure that you and those you employ keep the roof system well maintained. All roofs, metal or shingle, require periodic maintenance. There are certain tasks that any owner can perform in order to keep the roof system in excellent condition. Only a Red Shield Licensed Metal Roofing Contractor should perform any complex repair or component addition to keep the warranty valid. In order to validate Red Shield Warranty, the owner must perform required periodic maintenance.

ROOF MAINTENACE GUIDELINES

A. To assure continued coverage under the Red Shield Warranty provisions, the owner must perform regular inspection of the roof system. Failure to perform any of these as required may result in suspension or loss of the roofing Red Shield or Medallion warranty. The inspections must meet the following criteria:
   1. Notify Amrize immediately of any leaks or areas that indicate potential concerns. If repairs are required, as determined under the coverage of the Red Shield Warranty or necessary by the Building Owner, engage a Amrize Licensed installer to perform the repairs.
   2. Notify Amrize of any leaks that occur between inspections. Please refer to the “Leak Notification” section of the “Terms and Conditions”.
   3. Failure of the Owner to adhere to the maintenance required may void the Red Shield Warranty in place for the roof system. Roof systems are exposed to severe weather conditions and, as a result, require inspections and maintenance. Amrize suggests that a comprehensive maintenance program suited to your building be established.

B. As discussed above, regularly scheduled maintenance is required. Additional inspections should be conducted if any of the following occurs:
   1. Fire, vandalism, damage from debris or other non-weather related causes.
   2. In the event of high winds, the roof system should be inspected for debris from trees or other structures. Inspect for loose flashings and fasteners. Inspect the roof panels for damage from falling debris. After

hailstorms, inspect the roof panels and components for puncture damage. Heavy rains will cause gutters to overfill. Inspect for ponding or trapped water on the roof panels and clear all debris from the gutter system. Inspect the gutter brackets for loose fasteners or supports. After heavy snow or ice storms, inspect all penetrations for damage to the pipe flashings, curb housings, skylights, etc.

3. Untrained personnel can cause unintentional damage to the roofing system. Inspect the roofing system for the use of chemicals or solvents that may have spilled on the roofing panels. Inspect for scratches in the finish of the panels. Inspect for bent or depressed panels from excessive walking. Inspect for punctures from dropped equipment or tools. Inspect for debris left behind and clean immediately. Inspect that the roof panels were protected from the use of welder, torches or other cutting tools that produce sparks or flames.

C. SUGGESTIONS – DO:
   1. Inspect the roof system on a regular basis.
   2. Remove any debris from the roof and gutter system.
   3. Inspect the roof system after heavy snow or ice storms.
   4. Provide instructions for untrained personnel to protect the roof panels.
   5. Obtain written approval from Amrize. prior to any roof modification.
   6. Implement a regular roof maintenance program.

D. SUGGESTIONS – DO NOT:
   1. Neglect to maintain the roof system.
   2. Walk on the major ribs of the roof panels.
   3. Allow storm debris to collect on the roof panels.
   4. Allow any roof damage to go undetected.
   5. Allow metal tools and mechanical equipment to be used for snow or ice removal.
   6. Use any roof coatings not approved in writing by Amrize.
   7. Allow additional equipment or accessories to be installed without written approval from Amrize.

PROTECTING YOUR METAL ROOF SYSTEM

In order to maintain the effectiveness of your Una-Clad metal roofing system, Amrize recommends that the following precautions be taken.

A. All foot traffic should be kept to a minimum and allowed only when necessary. Never step on the rib portion of the roof panel.

B. Keep all roof hatches and access ladders or other access points secured. Only allow properly trained and authorized personnel on the roof system. Have authorized personnel accompany untrained individuals while they are on the roof system. Maintain a “Roof Access Log” to track individuals that have accessed the roof system.

C. The design of the roof system is to drain or shed water. The following items should be avoided and could hinder water drainage.
   1. Do not allow equipment or structures to be installed that would impair or trap the flow of water.
   2. Do not allow debris to collect in the gutter system or on the roof panels.
   3. Do not allow wood blocking to be used as equipment supports or shims. The blocking will trap water, and chemically treated wood contains salts and copper sulfates that harm the roof panels.
   4. Do not allow water to shed freely from one roof system onto a lower roof.
   5. Do not allow condensation from air conditioning units to drain onto the roof panels. Condensate will cause galvanic corrosion and will harm the roof panels. Use PVC pipes for drainpipes.
   6. After heavy snow or ice storms, the excessive snow should be removed from the roof system. Do not use mechanical equipment to remove snow. Do not use metal tools. Use extreme caution when removing snow or ice around roof penetration flashings. Be cautious of skylights, fiberglass panels, etc.
   7. Prior to the installation of additional equipment, pipes, vents, stacks, curbs, etc., Amrize must be notified in writing. Amrize must approve all added conditions, or the warranty may be voided.
   8. Dissimilar metals and certain chemicals can be harmful to the roof panels. Do not allow metals such as copper, lead or graphite to come in contact with the roof panels. Some examples are plumbing vents, copper lightning rods, copper trim or copper gutter systems.
   9. If the roof system panels become scratched, completely clean with mineral spirits and use touch up paint supplied by the roof panel manufacturer.

TOUCH-UP PAINT APPLICATION

Amrize may supply, upon request, touch-up paint with each project order. The touch-up paint may be supplied in small aerosol cans or bottles with a built-in brush applicator. The product is intended to touch-up small blemishes or exposed cut edges on fabricated components. Please be aware that touch-up paint does not have the same adhesion or durability as the factory applied coatings and will exhibit chalking and fading characteristics at a noticeably higher rate than that of the factory applied coatings. Therefore, it is recommended that touch-up paint be used as sparingly as possible, no more than a few square inches, as any touch-up paint will become faded in contrast with the original

factory applied color. When using touch-up paint, use extreme caution as excessive use may void the Red Shield and Paint Finish warranties.

A. For proper performance of the touch-up paint, it is important to follow touch-up paint directions.
   1. Clean surface of any dirt, grease, oil, etc. Sand rough scratches lightly with #400 grit sandpaper. Sand only the scratched area. Remove sanding dust with a solvent dampened lint-free cloth. If painting over exposed or bare metal, priming with an automotive grade primer may be necessary.
   2. The temperature of the surface and paint should be between 68 and 92˚F (20 and 33 °C).
   3. Apply touch-up paint in small amounts.
   4. When using aerosol cans, spray into the container cap or a small cup.
   5. Apply with as small an applicator brush as possible. For small blemishes, such as a surface scratch, a small brush similar to a fingernail polish brush is best. Dip the brush half the length of the bristles into the paint. Tap the brush against the side of the container, but do not wipe against the lid. Hold at the handle near the base and apply light pressure with the fingertips to make the bristles slightly flex. Feather the touch-up paint into the scratch. Applying touch-up paint with a wide brush or anything larger than a small artist's brush is not recommended.
   6. Clean brush with paint thinner after use.
B. For areas larger than minor blemishes, contact your Regional Technical Coordinator.

CLEANING THE METAL ROOF

A. Immediate clean up is required by all workers. If the use of mortar or concrete is necessary near or on the roof panels, the roof panels must be protected to avoid chemical reaction and abrasion from the mortar or concrete. If solvents are spilled on the roof panels, immediately clean by scrubbing and flushing with fresh clean water.

B. CLEANING PRECAUTIONS
   1. Do not use wire brushes, abrasives, or similar cleaning tools which will mechanically abrade the coatings surface and expose the base metal or affect the product adversely.
   2. For cleaning agents, Amrize recommends that agents be tested in an inconspicuous area before use on a large scale.

TEMPORARY CLOSURE (NOT WARRANTED)

Temporary closures, which assure that moisture does not damage any completed section of the new roofing system, are the responsibility of the licensed applicator. Completion of flashings, terminations and temporary closures are required to provide a watertight condition.

SHEET METL WORK

A. For specific installation instructions for Una-Clad Sheet Metal, refer to the System Design Guide, Details and Technical Information Sections of this manual.
B. For sheet metal work not supplied by Elevate, refer to fabrication and installation requirements specified by the project designer, as well as industry standards. All deviations for special conditions must be reviewed and approved by Amrize for them to be included in the Red Shield warranty. General Sheet metal and work by others may not be covered by the Elevate warranty and may even void the warranty.

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