Asphalt Roofing Systems

Guide for Applicators and Designers

October 2026

NOTE: The contents of this guide are considered accurate at the time of posting. All information contained within should be validated for accuracy as it relates to specific project conditions or requirements. 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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Table 1: Asphalt Membrane Offering

Membrane	Compound	Surface	Reinforcement	Thickness
SBS MEMBRANE OFFERING				
SBS Cap	SBS	Granule	Polyester with Glass Strands	0.15" (3.81 mm)
SBS Torch	SBS	Granule	Polyester with Glass Strands	0.15" (3.81 mm)
SBS FR	Fire Retardant SBS	Granule	Polyester with Glass Strands	0.15" (3.81 mm)
SBS FR HT	Fire Retardant SBS	Granule	Polyester / Fiberglass Mat	0.169" (4.29 mm)
SBS FR Torch	Fire Retardant SBS	Granule	Polyester with Glass Strands	0.16" (4.06 mm)
SBS FR Torch HT	Fire Retardant SBS	Granule	Polyester / Fiberglass Mat	0.163" (4.14 mm)
SBS Glass FR	Fire Retardant SBS	Granule	Glass Fiber Mat	0.15" (3.81 mm)
SBS Glass FR Torch	Fire Retardant SBS	Granule	Glass Fiber Mat	0.15" (3.81 mm)
SBS Smooth	SBS	Smooth	Polyester with Glass Strands	0.14" (3.55 mm)
SBS Smooth HT	SBS	Smooth	Polyester with Glass Strands	0.158" (4.01 mm)
SBS Premium	SBS	Granule	Polyester with Glass Strands	0.16" (4.06 mm)
SBS Premium FR	Fire Retardant SBS	Granule	Polyester with Glass Strands	0.16" (4.06 mm)
SBS Premium FR Torch	Fire Retardant SBS	Granule	Polyester with Glass Strands	0.16" (4.06 mm)
SBS Metal Flash-AL	SBS	Aluminum	Glass Fiber Mat	0.15" (3.81 mm)
SBS FF Torch Base	SBS	Film/Film	Fiberglass Mat	0.08" (2.03 mm)
SBS FS Base	SBS	Film/Sand	Fiberglass Mat	0.08" (2.03 mm)
SBS Smooth	SBS	Smooth	Polyester with Glass Strands	0.14" (3.55 mm)
SBS Smooth HT	SBS	Smooth	Polyester with Glass Strands	0.158" (4.01 mm)
SBS Base	SBS	Smooth	Glass Fiber Mat	0.09" (2.28 mm)
SBS Base HT	SBS	Smooth	Polyester with Glass Strands	0.164" (4.17 mm)
SBS Torch Base HT	SBS	Smooth	Polyester / Fiberglass Mat	0.163" (4.14 mm)
SBS Glass Torch Base	SBS	Smooth	Glass Fiber Mat	0.12" (3.04 mm)
SBS Glass Torch Base 1.5	SBS	Smooth	Glass Fiber Mat	0.09" (2.28 mm)
SBS Premium Poly Base	SBS	Smooth	Polyester with Glass Strands	0.16" (4.06 mm)
SBS Poly Base	SBS	Smooth	Polyester with Glass Strands	0.09" (2.28 mm)
SBS Poly Torch Base	SBS	Smooth	Polyester with Glass Strands	0.12" (3.04 mm)
BaseGard SA	SBS	Smooth	Glass Fiber Mat	0.06" (1.52 mm)
SBS SA SELF-ADHERED				
SBS FR SA Base	Fire Retardant SBS	Film	Fiberglass Mat	0.08" (2.03 mm)
SBS SA Base	SBS	Film	Fiberglass Mat	0.08" (2.03 mm)
SBS FR SA Cap	Fire Retardant SBS	Granule	Polyester Mat	0.14" (3.55 mm)
SBS SA Cap	SBS	Granule	Polyester Mat	0.14" (3.55 mm)
APP				
APP 160	APP	Smooth	Polyester with Glass Strands	0.15" (3.81 mm)
APP 160 Cool	APP	Smooth	Polyester with Glass Strands	0.15" (3.81 mm)
APP 170	APP	Smooth	Polyester with Glass Strands	0.17" (4.31 mm)
APP 170 Cool	APP	Smooth	Polyester with Glass Strands	0.17" (4.31 mm)
APP 180	APP	Granule	Polyester with Glass Strands	0.17" (4.31 mm)
APP 180 Cool	APP	Granule	Polyester with Glass Strands	0.17" (4.31 mm)
APP 180 FR	Fire Retardant APP	Granule	Polyester with Glass Strands	0.17" (4.31 mm)
APP 180 FR Cool	Fire Retardant APP	Granule	Polyester with Glass Strands	0.17" (4.31 mm)
APP 80 Glass Base	APP	Smooth	Glass Fiber Mat	0.08" (2.03 mm)

Table 1: Asphalt Membrane Offering Continued

SBS MEMBRANE OFFERING				
Membrane	**Compound**	**Surface**	**Reinforcement**	**Thickness**
BUR				
MB Base	Oxidized Asphalt	Smooth	Glass Fiber Mat	0.05" (1.27 mm)
Ply IV (4)	Oxidized Asphalt	Smooth	Glass Fiber Mat	0.04" (1.01 mm)
Ply VI (6)	Oxidized Asphalt	Smooth	Glass Fiber Mat	0.04" (1.01 mm)
Channel Venting Base	Oxidized Asphalt	Smooth	Glass Fiber Mat	0.03" (0.76 mm)

Table 2: Evaluated Elevate Membranes

EVALUATED ELEVATE MEMBRANES					
Type	**TIS**	**Product**	**Material Standard**		
			Reference	**Type**	**Grade**
BASE SHEETS	607	BASEGARD SA	ASTM D4601	I	N/A
	702	MB Base	ASTM D4601	II	N/A
	708	Channel Venting Base	ASTM D4897	II	N/A
PLY SHEETS	705	Ply IV	ASTM D2178	IV	N/A
	707	Ply VI	ASTM D2178	VI	N/A
APP, SMOOTH- SURFACE MEMBRANES	411	APP 80 Glass Base	ASTM D6509	N/A	N/A
	414	APP Premium Base	ASTM D6509	N/A	N/A
	401	APP 160	ASTM D6222	I	S
	402	APP 160 COOL	ASTM D6222	I	S
	404	APP 170	ASTM D6222	I	S
	405	APP 170 COOL	ASTM D6222	I	S
APP, GRANULE- SURFACE MEMBRANES	406	APP 180	ASTM D6222	I	G
	406	APP 180 UltraWhite	ASTM D6222	I	G
	407	APP 180 COOL	ASTM D6222	I	G
	409	APP 180 FR	ASTM D6222	I	G
	409	APP 180 FR UltraWhite	ASTM D6222	I	G
	410	APP 180 FR COOL	ASTM D6222	I	G
	410	APP 180 FR COOL UltraWhite	ASTM D6222	I	G
SBS, SMOOTH- SURFACE MEMBRANES	540	SBS Torch Base HT	ASTM D6162	III	S
	541	SBS Smooth HT	ASTM D6162	III	S
	542	SBS Base HT	ASTM D6162	III	S
	527	SBS Glass Torch Base 1.5	ASTM D6163	I	S
	501	SBS Base	ASTM D6163	I	S
	503	SBS Premium Base	ASTM D6163	I	S
	505	SBS Glass Torch Base	ASTM D6163	I	S
	502	SBS PolyBase	ASTM D6164	I	S
	509	SBS Smooth	ASTM D6164	I	S
	526	SBS Premium Poly Base	ASTM D6164	II	S
	504	SBS Poly Torch Base	ASTM D6164	I	S
SBS, GRANULE SURFACE MEMBRANES	519	SBS Glass	ASTM D6163	I	G
		SBS Glass UltraWhite			
	517	SBS Glass FR	ASTM D6163	I	G
		SBS Glass FR UltraWhite			
	518	SBS Glass FR Torch	ASTM D6163	I	G
		SBS Glass FR Torch UltraWhite			
	506	SBS Cap	ASTM D6164	I	G
		SBS Cap UltraWhite			

Table 2: Evaluated Elevate Membranes Con't

EVALUATED ELEVATE MEMBRANES					
Type	TIS	Product	Material Standard		
			Reference	Type	Grade
SBS, GRANULE SURFACE MEMBRANES	507	SBS FR Cap	ASTM D6164	I	G
		SBS FR Cap UltraWhite		I	G
	511	SBS Premium	ASTM D6164	II	G
		SBS Premium UltraWhite			
	512	SBS Premium FR	ASTM D6164	II	G
		SBS Premium FR UltraWhite			
	510	SBS Premium Torch	ASTM D6164	II	G
		SBS Premium Torch UltraWhite			
	513	SBS Premium FR Torch	ASTM D6164	II	G
		SBS Premium FR Torch UltraWhite			
	514	SBS Torch	ASTM D6164	I	G
		SBS Torch UltraWhite			
	508	SBS FR Torch	ASTM D6164	I	G
		SBS FR Torch UltraWhite			
	543	SBS FR HT	ASTM D6162	III	G
		SBS FR HT UltraWhite			
	544	SBS FR Torch HT	ASTM D6162	III	G
		SBS FR Torch HT UltraWhite			
SBS SA SELF-ADHERED GRANULE SURFACE MEMBRANES	615	SBS FR SA Cap	ASTM D6164	I	G
		SBS FR SA Cap Reflective White			
	616	SBS SA Cap	ASTM D6164	I	G
		SBS SA Cap Reflective White			

INTRODUCTION

This section is intended to serve as the preface to the Design Guides for all Amrize Building Envelope LLC ("Amrize") roofing systems. Additional technical information is available at the Elevate Website, http://elevatecommercialbp.com.

Amrize is pleased to offer job-specific technical assistance for our roofing contractors and for the design community. Contact Elevate Technical Services at (800) 428-4511 to discuss the technical needs of your project, including meeting specification requirements, application techniques, codes, warranty eligibility of systems, and any other technical questions.

Purpose of this Guide to General Design Criteria

The information contained in this guide is intended to assist Elevate Licensed Contractors in meeting the requirements necessary to obtain a warranty from Amrize.

Architects, engineers, roof consultants, and other specifiers may also use this information in their design of warranty-eligible Amrize roofing systems. Amrize does not engage in roof design.

General Considerations – All Amrize Roofing Systems

1. Design
   - Always consult a design professional, architect, engineer, roof consultant, etc., before making any design decisions.
   - Amrize does not practice architecture or engineering.
2. Structural Loads
   - Concentrated loads from rooftop equipment may cause deformation of insulation/underlayment and damage to the membrane if proper protection is not provided. Sleepers are recommended to protect the roofing system.
   - The building must be able to support the loads created by the staging, installation, and in-place service of the roofing system.
   - It is the responsibility of the design professional to determine loads and load capacities.
3. Projects with Extreme Design Considerations
   Contact Amrize prior to bid to ensure that Amrize minimum warranty requirements are met whenever any of the following are present:
   - Buildings with positive air pressure, canopies, and/or any building where the total wall openings exceed 10% of the total wall area on which the openings are located (airport hangars, warehouses, etc.).
   - Cold storage buildings and freezer facilities.
   - Buildings where mold or fungi are present.

- Projects over 250' (76.2 m) in height.

General Considerations – All Amrize Roofing Systems Continued

4. Projects Requiring Enhancements or Specific Components
   Contact Amrize prior to bid, should any of the following be required:
   - Projects with extended wind speeds greater than 55 mph (88.5 km/h).
   - Projects that require coverage for leaks caused by incidental cuts and punctures.
5. Projects with Potential for Chemical Incompatibility
   - Petroleum-based products, incompatible chemicals, animal fats/greases/oils, and other products can be harmful to roofing membranes and accessories and should not come into direct contact with roofing materials.
   - Contact Amrize prior to bid to determine the potential effects of chemical reaction should any substances be present which may be harmful to the roofing system, and to determine if additional protection of the roofing membrane may be needed.
6. Coordination with Other Trades
   - Work and traffic by other construction trades can cause roofing membrane damage, insulation crushing or displacement, and accessory/flashing failure. Coordination between various trades is essential to avoid unnecessary rooftop traffic over completed sections of the roof and to prevent subsequent damage to the roofing system.
   - Protect the roofing system from damage during construction.

Building Codes & Approvals

1. It is the responsibility of the specifier to review all applicable building codes to determine their impact on the specified Elevate roofing system. To locate code-compliant Elevate roofing systems, consult the Elevate Code Approval Guide for the appropriate system on the Elevate website.
2. Authorities Having Jurisdiction
   Local building codes and building owner insurance requirements directly impact the design of a roofing system. The Authorities Having Jurisdiction (AHJ) – local, state, or regional building code authorities – should be consulted prior to designing the roofing system. Where building code or insurance requirements differ from those of Amrize, Amrize requirements should be followed as the minimum acceptable for warranty purposes.
3. FM Global/FM Approvals
   - Where FM Global wind uplift and/or fire ratings (such as "1A-90") are specified as Performance Requirements, it is important to first determine if the building is insured by FM Global, or if the requirements have instead been chosen by the specifier. If the building is insured by FM Global, it is recommended that you contact the local FM Engineer prior to specifying or bidding a project, to understand any job-specific requirements which may be imposed by FM Global on the project.
   - Elevate roofing materials carry the FM seal, and hundreds of FM Approvals-rated Elevate roofing systems may be found in the Elevate Code Approval Guides.
4. UL/Underwriters Laboratories
   - Where UL fire resistance codes (such as "Class A") are specified, it is important to determine whether the deck is classified as Combustible [C] or Non-Combustible [NC]. Next, determine the rating – A, B, or C – that is required. Last, locate rated roofing systems that comply with the specified code.
   - Elevate asphalt roofing systems that have been tested and rated by UL for wind uplift resistance may be found in the Elevate Code Approval Guide for asphalt roofing systems.

Drainage

1. Drainage and slope are design considerations and should be evaluated by the specifier in accordance with all applicable building codes and industry standards.
2. The National Roofing Contractors Association (NRCA) recommends that a roofing assembly be designed to drain any ponding water within 48 hours of a rain event.
3. It is recommended that a minimum roof slope of 1/4:12 (2.1%) be obtained to facilitate proper drainage and maximize long-term performance of the roof system. This minimum slope is required for certain warranties and codes.
4. Good roofing practice dictates proper drainage to prevent possible excessive live loads and, in the event of a roof leak, to minimize potential interior damage to the roofing assembly and to the interior of the building.
5. Slope may be achieved by tapering the structure or using tapered ISO 95+™ GL / ISOGARD™ GL or RESISTA™ / ISOGARD CG polyiso insulation; an adequate number of roof drains should also be specified and properly located to allow for positive drainage.
6. Tapered insulation formed into edges, saddles or crickets is recommended to alleviate incidental areas of ponding water.
7. Amrize is not responsible for the performance of the drainage or slope of an installed roofing system. The presence of ponding water does not void the warranty.

Vapor Retarders and Air Barriers

1. The need for a vapor retarder or air barrier is the decision of a design professional.
2. Buildings with high moisture content, vapor drive or other conditions that could drive moisture into the roofing system are often specified with vapor and/or air barriers as part of the roofing system.
3. Elevate V-Force FR or V-Force Vapor Barrier Membrane may be used whenever a vapor barrier is specified in an Elevate roofing system.
4. Construction Generated Moisture (CGM)
    - CGM typically occurs due to increased moisture created during construction by several possible sources. The heating of interior spaces during construction in cold weather, enclosing the space above concrete foundations and floors before the concrete has sufficiently dried, and many other means, including perimeter tilt-up panels, the heating and air-conditioning return air system, immediate occupancy of the building, etc., all may have significant contributions to the amount of moisture within the building's initial air content. Perhaps the most common cause, however, is a concrete foundation and/or floors. While the moisture present within new concrete will likely dissipate over time, its initial content enhances the potential for condensation water drips when the building is heated during its initial cold weather cycle.
    - A design professional should review the potential initial moisture content of the building's interior when preparing the roof specification and recommend specific design enhancements.
    - The following are design enhancements that may be applied to help mitigate CGM in the roof system:
        - Multiple layers of staggered insulation joints.
        - The presence of a vapor barrier such as Elevate V-Force FR or V-Force Vapor Barrier Membrane within the roofing assembly.
        - Enhancing the R-value of the installed insulation to reposition the dew point to a level within the roof assembly to where condensation will not be allowed to form.
    - Specifying an adhered roof assembly.

Warranty

Pre-Warranty Issuance Requirements include:

- Submit an Electronic Pre-Installation Notice (P.I.N.) along with an approved roof drawing, 14 days prior to project start and receive an acknowledgement from Amrize of acceptance or necessary enhancements to meet Elevate requirements to receive a warranty.
- The Elevate roof system must be installed by a current licensed Elevate applicator.
- Upon inspection and acceptance of the installed roof system by an Elevate Technical Representative, the warranty will be issued and dated based on the completion date of the roof installation reported by the roofing contractor.
- Elevate inspections are to confirm the installation details for the roofing system for compliance with Elevate's documents of record for warranty requirements. The inspection is not intended as an inspection for the benefit of the building owner or the design professional with respect to contract, building codes or compliance with specifications other than Amrize.

The following warranties include the Elevate brand materials and the workmanship of the licensed Elevate applicator when the system is installed according to Elevate's technical specifications.

1. Red Shield™ Warranty
    - 5 – 25 years for qualifying systems
    - Includes labor and materials to repair warranted leaks.
    - Non-prorated with No Dollar Limit (NDL)
    - Includes all Elevate-branded products used in the roofing system. Excludes non-Elevate branded products and any materials not provided by Amrize. Use of non-Elevate branded products may prevent warranty issuance.
2. Extended Warranty Coverage
    - A Red Shield Warranty is eligible for the following extended coverage. Contact Elevate Technical Services for limitations.
    - Increased Wind Speed [72 – 120 mph (115.87 – 19312 km/h), depending on system criteria]
        - Elevate MB Cold Adhesive – Maximum 80 (128.75 km/h) mph based on approved assembly.
        - Torch Applied or Hot Asphalt Attached – Up to 120 (193.12 km/h) mph based on approved assembly.

- Cut and Puncture Protection (CPP) warranty coverage is not available for Elevate Asphalt systems.
- Hail warranty coverage availability is outlined in the table below.

Table 3: Modified Bitumen Hail Warranty Coverage Availability

MODIFIED BITUMEN HAIL WARRANTY COVERAGE AVAILABILITY					
Membrane System	**Securement**	**Cover Board**	**Cover Board Attachment**	**Warranty Term**	**Maximum Hail Diameter**
Cap Sheet: SBS Premium SBS Premium FR Cap SBS FR HT Base Sheet: SBS Premium Poly Base SBS Smooth HT SBS Base HT	Elevate Multi-Purpose MB Cold Adhesive or Approved Hot Asphalt (Type IV)	DensDeck® StormX™ Prime DEXcell FA VSH® Glass Mat Securock Weather Defense	Adhered Fastened	20	2.0"
Cap Sheet: SBS Premium FR Torch Cap SBS Glass FR Torch Cap SBS FR Torch HT Base Sheet: SBS Poly Torch Base SBS Glass Torch Base SBS Torch Base HT	Torch-Applied	DensDeck® StormX Prime DEXcell FA VSH® Glass Mat Securock Weather Defense	Adhered Fastened	20	2.0"
Cap Sheet: APP 180 Cool Base Sheet: APP Premium Base	Elevate Multi-Purpose MB Cold Adhesive	DensDeck® StormX Prime DEXcell FA VSH® Glass Mat Securock Weather Defense	Adhered	20	1.0"

3. Red Shield Platinum Warranty
   - 30 years for qualifying systems
   - Includes labor and materials to repair warranted leaks.
   - Non-prorated with No Dollar Limit (NDL)
   - Includes all Elevate-branded products used in the roofing system. Excludes non-Elevate branded products and any materials not provided by Amrize. Use of non-Elevate branded products may prevent warranty issuance.
4. Elevate Membrane Limited Warranty
   - 10 – 20 years
   - Provides replacement membrane for leaks caused by manufacturing defects or premature weathering
   - Limited to owner's original cost of the membrane
5. Other Elevate Warranties
   - AcryliTop™ PC-100 Reflectance Warranty (5 and 10 Years)
   - Paint Finish Warranty for all Elevate branded metal roofing products or UNA-CLAD™ metal, including edge metal

Quality Assurance

1. Materials
   Elevate brand products must be used exclusively in Amrize warranted roofing systems. The performance or integrity of products by others is not included in the Warranty.
2. Technical Deviations
   Any deviation from Elevate technical specifications, warranty criteria, or detail drawings must be approved by Elevate Technical Services.
3. Inspection

Completed installations will be inspected by an Elevate Technical Services Representative to verify that the roofing system has been installed per current Elevate technical standards. This inspection is solely for the determination of warranty eligibility by Amrize.

ROOF DECKS & SUBSTRATE REQUIREMENTS

General

1. The Elevate roof system depends on a suitable substrate to perform its intended function of weatherproofing the building.
2. Structural roof decks should be designed and constructed to provide sufficient strength to support the anticipated dead and live loads. These include the loads anticipated from construction traffic and rooftop equipment that cannot be moved or shut down as well as ice and snow accumulation on the roof surface.
3. The suitability of a deck for roofing activities (such as structural) is the responsibility of the building owner or their design professional. It is the roofing contractor's responsibility to ensure that the substrate is acceptable for the Elevate roof system to be warrantied. The substrate to which the Elevate roof system is installed must:
   - Be structurally sound.
   - Be dry, smooth, flat, and clean.
   - Be free of sharp fins or foreign materials that could damage the membrane.
   - Meet the minimum requirements for the system.
   - Deteriorated decks should be repaired or replaced. All holes, deformations, depressions, etc. must be reinforced and/or smoothed prior to the roof application.
4. The deck should provide a minimum of ¼:12 (2.1%) slope to drain.
5. Phenolic insulation must be removed prior to reroofing.
6. Sprayed-In-Place Polyurethane Foam (PUF) roof systems require a COMPLETE TEAROFF of the foam system prior to reroofing.

Classification

1. Structural decks can be classified as nailable or non-nailable for purposes of mechanically attaching or nailing insulation and base sheets. Nailable decks include wood, gypsum, and lightweight insulating concrete. These decks are soft enough so that the above-deck components can be secured with fasteners. Cementitious wood fiber and poured or precast structural concrete decks have been referred to as non-nailable.
2. Structural decks can be classified as combustible or non-combustible for purposes of fire ratings and code requirements.

Table 4: Structural Deck Classification

STRUCTURAL DECK CLASSIFICATION		
Deck Type	**Nailability Classification**	**Combustibility Classification**
Steel, Structural Concrete, Cementitious Wood Fiber	Non-Nailable	Non-Combustible
Wood	Nailable	Combustible
Gypsum, Lightweight Insulating Concrete	Nailable	Non-Combustible

Steel Decks

1. Amrize requires that the steel deck be a minimum 22 gauge.
2. FM Approved steel decks are currently available in 22, 20, and 18 gauge sheets with 1½" (38 mm) deep corrugations. The corrugations (ribs) are cold rolled in the sheets. The deck has a 6" (152 mm) module, that is, the ribs are 6" (152 mm) on center. All fastening approvals and recommendations are based on this profile. Fasteners must engage the top flange of the deck. Another common configuration is 3" (76 mm) deep deck, which usually has an 8" (203 mm) module.
3. When mechanically attaching insulation, steel decks are required to have minimum fastener pullout strength of 300 lbf (1.3 kN) per fastener.
4. When adhering insulation or a vapor barrier to a new steel deck, be certain that all processing oils have been removed from the deck.
5. The Elevate roofing plies may not be adhered directly to a steel deck. They must be adhered to an acceptable insulation or cover board.
   - Only when used as a vapor retarder (not a roofing ply), BASEGARD™ SA, V-Force FR or V-Force Vapor Barrier Membrane may be adhered directly to a steel deck. The deck must be primed with SA Primer (primer is not

required when adhering V-Force FR or V-Force Vapor Barrier Membrane to a steel deck). BASEGARD SA may never be used as a temporary roof.

6. The edges of insulation boards running parallel with the steel deck are required to be supported by the top flange of the deck. The board should have a minimum 1½" (38 mm) bearing on the steel deck flange. Cantilevering insulation boards over deck flutes can fracture insulation boards, reducing the support for the membrane, and making it susceptible to puncture.

Table 5: Insulation Attachment for Steel Decks

ACCEPTABLE FASTENERS FOR STEEL DECKS	
Insulation	**Deck Penetration**
All-Purpose Fastener	¾" (19 mm) through deck *AP and #12 fasteners are approved for warranty purposes. If uplift validation is required HD fasteners may be required.
Heavy Duty Fastener	
Pre-Assembled #12 Fastener and Plate	
AP AccuTrac™ Kits (#12 Fasteners and insulation Plate)	
IsoFast™ #12 Belted Fasteners and Insulation Plates	
HD AccuTrac Kits	
All-Purpose Stainless-Steel Fastener	
Elevate #12 Fastener*	
HailGard Fastener (No Insulation Plate)	¾" (19 mm) through deck
Membrane	
Heavy Duty Fasteners and Plates	¾" (19 mm) through deck
Heavy Duty Plus Fasteners and Plates	1" (25 mm) through deck

ACCEPTABLE INSULATION ADHESIVES FOR USE DIRECT TO STEEL DECKS	
I.S.O. Spray™ R I.S.O. Stick™ I.S.O. Twin Pack™ Twin Jet Twin Jet Y	NOTE: The deck must be clean, free of all processing oils and other contamination. Bead spacing should be spaced to ensure top flute adhesion is made. Project specifications or tested assembly requirements may require the use of 4' x 4' (1.2 m x 1.2 m) insulation boards with adhesive attachment. Factory Mutual (FM) does not recognize adhesion of insulation direct to steel deck.

Structural Concrete Decks

1. To avoid blister formation, roof substrates must be clean, dry, and free of debris. Residual asphalt from prior roof installations must be cleaned and scraped smooth.
2. Amrize requires that the structural concrete deck have a minimum strength of 2500 psi (17,236 kPa).
3. New concrete decks must cure for a minimum of 28 days, irrespective of the dryness of the deck.
4. Concrete may contain latent amounts of moisture that may affect the insulation and the roof system. To help protect the components, Elevate V-Force FR Vapor Barrier Membrane, V-Force Vapor Barrier Membrane, Channel Venting Base, or other vapor retardant material should be installed in accordance with Elevate requirements. The installation of a vapor retarder should be considered regardless of the type of attachment of the insulation and the membrane system.
5. Amrize does not determine acceptable moisture levels within a deck.
6. Verify with the building owner or their design professional about the suitability of mechanical fastening into pre-stressed and post-tensioned structural concrete.
7. When mechanically attaching insulation, structural concrete roof decks require minimum fastener pullout of 300 lbf (1.3 kN) per fastener.
8. When adhering or heat welding approved insulation or membrane to a structural concrete substrate, the concrete must be primed with an ASTM D-41 asphalt primer. The primer is applied per ASTM D-41 manufacturers recommended coverage rate and allowed to fully dry prior to the application of insulation or roof membrane.
9. The Elevate roofing plies may be adhered directly to a primed, poured-in-place structural concrete deck using adhesion asphalt, Elevate Multi-Purpose MB Cold Adhesive, or by heat welding. The concrete must be finished to provide a substrate that is structurally sound, smooth, flat, clean, dry, and free of sharp fins or foreign materials that could damage the material.
10. Concrete additives can have a negative impact on the adhesion of asphaltic membranes and insulation products. The concrete supplier/installer should certify that any additives in the mix will not render the deck unsuitable for roofing application. Amrize does not accept surface-applied curing compounds for warranted systems.

11. Amrize does not accept for warranty any concrete substrates that have been sealed with chemical sealers or silicon surface treatments.
12. The application of Elevate roofing plies to a structural concrete plank deck, such as a pre-cast concrete deck, may not be an acceptable application. Should the deck not require grouted joints, precautions must be taken to prevent bitumen from dripping into the building. Pre-cast concrete panels may not always be a suitable substrate to receive insulation due to the potential for irregularities, even if the joints are grouted. It may sometimes be necessary to consider pouring a leveling layer of structural concrete over the panels prior to roofing.

Table 6: Base Sheet and Insulation Attachment for Structural Concrete Roof Decks

BASE SHEET AND INSULATION ATTACHMENT FOR STRUCTURAL CONCRETE ROOF DECKS		
Acceptable Fasteners	**Acceptable Insulation Adhesives**	**Acceptable Base Sheet Adhesives**
Heavy Duty Fastener[1]	I.S.O. Twin Pack Adhesive	Multi-Purpose MB Cold Adhesive
Heavy Duty (HD) HailGard Fastener[1]	I.S.O. Spray R Adhesive	Hot Asphalt[3,4]
Concrete Drive Fastener[2]	I.S.O. Stick Insulation Adhesive	
	Twin Jet and Twin Jet Y Insulation Adhesives	
	Hot Asphalt[3,4]	

NOTE:
1. Penetrate 1" (25 mm) min. into the structural concrete deck
2. Penetrate 1¼" (32 mm) min. into the structural concrete deck
3. Not for use with APP membranes
4. Do not use hot asphalt to adhere membrane to RESISTA / ISOGARD CG, or ISO 95+ GL / ISOGARD GL Insulation or ISOGARD HD

Wood Decks – Plywood, OSB, and Wood Plank

1. Minimum thickness:
   - Plywood and/or OSB must have a minimum thickness of ½" (13 mm).
   - Wood planks must have a minimum thickness of 1" (25 mm).
2. When mechanically-attaching insulation, wood decks are required to have a fastener pullout of 300 lbf (1.3 kN) per fastener.
3. When nailing a base sheet, wood decks are required to have a fastener pullout of 40 lbf (178 N) for cap nails per fastener.
4. Elevate roofing plies may not be adhered directly to a wood substrate. They must be adhered to an acceptable insulation, cover board, or mechanically attached base sheet. If the membrane is to be attached to a nailed base sheet with Multi-Purpose MB Cold Adhesive or adhesion asphalt, a layer of sheathing paper is required under the nailed base to help prevent adhesive or asphalt from dripping into the building.

Table 7: Insulation Attachment for Plywood, OSB. And Wood Plank Decks

INSULATION ATTACHMENT FOR PLYWOOD, OSB. AND WOOD PLANK DECKS	
Acceptable Fasteners[1]	**Acceptable Insulation Adhesives**
All Purpose Fastener	I.S.O. Spray R Adhesive
Heavy Duty (HD) HailGard Fastener	I.S.O. Twin Pack Adhesive
Heavy Duty Fastener	I.S.O. Stick Insulation Adhesive
IsoFast #12 Belted Fastener	Twin Jet Insulation Adhesive
Elevate #12 Fastener	Twin Jet Y Insulation Adhesive
[1]Penetrate 1" (25 mm) min. into or through deck	

Cementitious Wood Fiber Decks

1. Amrize requires that cementitious wood fiber decks have a minimum thickness of 2" (51 mm).
2. When mechanically attaching insulation, cementitious wood fiber decks are required to have fastener pullout of 300 lbf (1.3 kN) for each fastener.
3. Elevate roofing plies may not be adhered directly to a cementitious wood fiber deck. They must be adhered to an acceptable insulation, cover board or a mechanically attached base sheet.

Table 8: Base Sheet and Insulation Attachment for Cementitious Wood Fiber Decks

BASE SHEET AND INSULATION ATTACHMENT FOR CEMENTITIOUS WOOD FIBER DECKS	
Acceptable Fasteners	**Acceptable Insulation Adhesives**
Polymer Fastener (Penetrate 2" (51 mm) min. into deck)	I.S.O Spray R, I.S.O. Twin Pack, I.S.O. Stick, Twin Jet, Twin Jet Y

Gypsum Decks

1. Elevate requires that the gypsum roof deck have a minimum thickness of 2" (51 mm).
2. When attaching insulation to a gypsum roof deck, a fastener pullout value of 300 lbf (1.3 kN) per Elevate Polymer Fastener is required.
3. When mechanically attaching a base sheet to a gypsum roof deck, a fastener pullout value of 40 lbf (178 N) is required for each 1.2" (30 mm) LWC Base Ply Fastener.
4. Elevate roofing plies may not be adhered directly to a gypsum deck. The roofing plies must be adhered to an acceptable insulation, cover board, or a mechanically attached base sheet.

Table 9: Base Sheet and Insulation Attachment for Gypsum Decks

BASE SHEET AND INSULATION ATTACHMENT FOR GYPSUM DECKS		
Acceptable Insulation Fasteners	**Acceptable Base Sheet Fasteners**	**Acceptable Insulation Adhesives**
Polymer Fastener[1]	1.2" (30 mm) LWC Base-Ply Fastener	I.S.O. Spray R I.S.O. Twin Pack I.S.O. Stick Twin Jet Twin Jet Y
[1]Penetrate 2" (51 mm) min. into deck. Pre-drilling is required.		

Lightweight Insulating Concrete Roof Decks

1. Amrize requires that the lightweight insulating concrete have a minimum thickness of 2" (51 mm).
2. When mechanically attaching insulation through lightweight insulating concrete into a structural deck, a fastener pullout value of 300 lbf (1.3 kN) per fastener is required.
3. When mechanically attaching a base sheet to lightweight insulating concrete using 1.7" (43 mm) LWC Base Ply Fasteners, a fastener pullout of 40 lbf (178 N) per fastener is required.
4. A vapor retarder is required under new systems with insulation.
5. Elevate roofing plies may not be adhered directly to a lightweight insulating concrete roof deck. The roofing plies must be adhered to an acceptable insulation, cover board, or mechanically attached base sheet.

Table 10: Acceptable Fasteners for Lightweight Concrete Roof Decks

ACCEPTABLE FASTENERS FOR LIGHTWEIGHT CONCRETE ROOF DECKS	
Acceptable Fastener	**Minimum Penetration**
Acceptable Fasteners into Steel Pan	
Elevate Heavy Duty (HD's) Elevate HailGard	¾" (19 mm) Minimum penetration of fastener through steel pan
Acceptable Fasteners into Structural Concrete Substrate	
Elevate Heavy Duty (HD's) Elevate HailGard	1" (25 mm) into concrete deck
Elevate Concrete Drives	1¼" (32 mm) into concrete deck
Acceptable Fasteners for attaching Base Sheet to Light Weight Insulating Concrete	
Elevate 1.7" (43 mm) LWC Base Ply Fastener	Full
Acceptable Fasteners for attaching Base Sheet to Light Weight Structural Concrete	
Elevate 1.7" (43 mm) LWC Base Ply Fastener	Full
Elevate Lite Deck Fastener	2" (50.8 mm) into deck
Acceptable Fasteners for attaching Base Sheet to Light Weight Structural Concrete	
Elevate 1.7" (43 mm) LWC Base Ply Fastener	Full

Table 10A: Acceptable Insulation Adhesives for Attachment Direct to Lightweight Concrete Decks

ACCEPTABLE INSULATION ADHESIVES FOR ATTACHMENT DIRECT TO LWC DECKS	
I.S.O. Spray R I.S.O. Stick I.S.O. Twin Pack Twin Jet Twin Jet Y	NOTE: ▪ The deck must be clean, free of all processing oils and other contamination. ▪ Use only 4' x 4' (1.2 m x 1.2 m) insulation boards with adhesives.

TEMPORARY ROOFS

General

1. If the installation of the Elevate roof system is required during unsuitable weather, before completion of wood blocking, curbs, or penetrations, or prior to the erection of walls, a temporary roof may be necessary. A temporary roof is not a roof system and as such cannot be relied upon to be completely weather-resistant. Temporary roofs may not perform well under submerged/ponding conditions.
2. The base ply for the Elevate roof system is not to be considered a temporary roof as the base ply is an integral component of the roof system.
3. If a temporary roof is needed to meet construction requirements, Amrize recommends installing a modified asphalt base sheet or two (2) fiberglass roofing plies in an appropriate adhesive over an approved substrate. Elevate V-Force FR Vapor Barrier Membrane may be used as a temporary roof for up to 180 days or V-Force Vapor Barrier Membrane may also be used as a temporary roof for up to 90 days. This temporary roof can serve to protect the interior of the building during the early stages of construction. It may then be removed or repaired, if necessary, and can be left as a vapor retarder prior to the installation of the finished Elevate roofing system.
4. If roof insulation is installed under the temporary roof, the insulation shall be inspected for wet or damaged areas, so that such areas may be removed and replaced prior to installation of the Elevate roof system.
5. When a temporary roof is specified as a vapor retarder, precaution shall be exercised in protecting the temporary roof from other construction trades. Damage to the temporary roof may impair its effectiveness as a vapor retarder. If the vapor retarder is installed as a temporary roof during construction, the vapor retarder shall be examined, and if necessary, repaired to ensure watertight integrity prior to installation of the remainder of the roof system.
6. The determination of the necessity and location for a vapor retarder or an air barrier are project-specific requirements, which are the responsibility of the building owner or their design professional. The proper assessment of the building, the need for, and the proper design of, an air barrier and vapor retarder are critical to the long-term operation of the roofing system.

Phased Construction

1. Phased Construction refers to the installation of roof plies over separate time intervals (e.g., 2 or more days).
    - A final surfacing such as a flood coat and gravel application or a roof coating is not considered a phase and may be delayed in its application.
    - A cap sheet is integral to the roofing system and should not be delayed in its application.
    - Elevate does not recommend phased construction. Phased construction results in unprotected roof sections, which can allow moisture into the roofing plies or trap moisture, dust, or debris between the plies of the roof system. These application defects may increase the incidence of blistering in the Elevate roof system.
    - When possible, the base sheet should always be covered as soon as possible. If installation of the cap sheet is delayed beyond five (5) days for any reason, an inspection of the exposed membrane is required by the Elevate Field Technical Representative prior to proceeding with cap sheet installation. Modified Bitumen base sheets may not be exposed for more than 60 days.
    - Where the SBS base sheet surface has accumulated dirt, dust, and debris during the delay, clean the surface and prime where necessary using only ASTM D41 primer. Allow primer to cure fully, free of tack and residual solvent odor, before proceeding with cap sheet installation. Do not install cap sheet over a partially cured or damp primer surface. If inspection reveals damage to the SBS base sheet that exceeds repairable limits, the affected membrane must be removed and replaced with new material. The Elevate Tech Rep will make the final determination concerning whether damaged SBS base sheet may be repaired or must be removed and replaced with new material.
    - In addition, examine the exposed SBS base sheet surface for the presence of moisture, including condensation, ponding, or dampness. Do not proceed with cap sheet installation until all moisture has evaporated or been removed, and the surface is clean and dry.
2. A better option than phased construction is the installation of a temporary roof, as described above. This allows for the delayed installation of the roof system until more suitable weather, or until other trades can complete their

projects. A temporary roof can be designed and installed in the same way as a vapor retarder and becomes a vapor retarder in the final construction.

VAPOR RETARDERS

General

1. The determination of the necessity and location for a vapor retarder is a project-specific requirement and is the responsibility of the building owner or their design professional. The proper assessment of the building, the need for and the proper design of a vapor retarder are critical to the long-term operation of the roofing system.
    - A vapor retarder is a building envelope element that limits diffusion of moisture into an assembly. Diffusion is water vapor migration in a material. Its rate depends on two factors:
    - Water vapor pressure difference across the roof assembly.
2. Resistance of materials along the migration path.
3. The main property requirement of a vapor retarder is low water vapor permeance – the time of water vapor transmission through a unit area of flat materials or construction induced by a unit vapor pressure difference between two specified surfaces, under specified temperature and humidity conditions.
4. A vapor retarder may be necessary when high interior humidity is of concern. High interior relative humidity is present in natatoriums, gyms, laundry facilities, paper mills, and bottling plants. In these cases, vapor drive may form a dew point under the roof membrane or in the insulation.
    - In these types of environments, the vapor drive can be substantial, and the potential exists for moisture accumulation within the roof assembly if an effective vapor retarder is not included in the roof assembly. This movement is reversed in some air-conditioned buildings in humid summer conditions.
5. Vapor retarders are installed to prevent several types of roof assembly failures:
    - Wet insulation becomes a conductor of heat rather than an insulator and reduces insulation R-value.
    - Moisture promotes the deterioration of the roof membrane, insulation, structural deck, and associated building components.
    - Moisture promotes delamination of roof components by freeze/thaw cycling, eventually causing blisters and delamination when vapor pressure results from solar heating.
6. The following is a partial list of situations which can influence the need for a vapor retarder:
    - Building usage as related to vapor drive.
    - External temperature in relation to internal temperature.
    - The humidity of the interior and/or exterior air.
    - Building code requirements.
    - Construction generated moisture, particularly during winter construction.
7. A vapor retarder's effectiveness generally depends upon the following factors:
    - The vapor retarder's perm (permeance) rating which should be as close to zero as possible.
    - The location of the vapor retarder within the system.
    - The integrity of the vapor retarder's seals at perimeters and penetrations.
    - The integrity of the vapor retarder's membrane after other tradespeople finish their projects.

Examples of Common Vapor Retarder Applications

1. Elevate V-Force FR Vapor Barrier Membrane or V-Force Vapor Barrier Membrane self-adhered over a properly prepared and primed deck if required. Refer to the Elevate V-Force FR or Elevate V-Force application instructions for specific application requirements.
2. Ply Felts
    - 2 plies of Elevate Ply IV (4) or Ply VI (6) mopped over a nailed Elevate MB Base sheet.
    - A mechanically attached Elevate Venting Base or Channel Venting Base sheet with 18" (457 mm) side and end laps covering the fasteners, topped with a mopping of ASTM D 312 adhesion asphalt.
    - An existing dry and sound non-insulated built-up roof system (all splits and blisters repaired).
    - A Elevate Ply IV (4) or Ply VI (6) sheet mopped over an existing dry and sound non-insulated built-up roof system. If gravel surfaced, the gravel must be removed by power brooming, vacuuming, and spudding.
    - 2 plies of Elevate Ply IV (4) or Ply VI (6) mopped over an acceptable mechanically attached barrier board.
    - 2 plies of Elevate Ply IV (4) or Ply VI (6) mopped over properly prepared and primed structural concrete deck.
3. APP Sheets
    - An adhered Elevate APP base sheet set in Elevate Multi-Purpose MB Cold Adhesive or heat fused over an acceptable mechanically attached barrier board.
4. An adhered Elevate APP base sheet set in Elevate Multi-Purpose MB Cold Adhesive or heat fused over a properly prepared and primed structural concrete deck.

Examples of Common Vapor Retarder Applications Continued

5. SBS Sheets
    - An adhered Elevate SBS base sheet set in ASTM D 312 adhesion asphalt, Elevate Multi-Purpose MB Cold Adhesive, or heat fused over an acceptable mechanically attached barrier board.
    - Adhered Elevate SBS base sheet set in ASTM D 312 adhesion asphalt, Elevate Multi-Purpose MB Cold Adhesive, or heat fused over a properly prepared and primed structural concrete deck.

Considerations and Cautions

1. Construction roof traffic shall be restricted to prevent damage to the vapor retarder. In the event damage does occur, repair the vapor retarder damage with the same roof components and quantities as specified for the vapor retarder installation.
2. The roof system designer is responsible for the design requirements of the roof deck, vapor retarder, and rigid insulation along with the roof system. This is especially important when specifying roof systems over high humidity buildings. A professional architect or engineer should determine the need for a vapor retarder, as well as the type, placement, and location of the vapor retarder. The inclusion of an air barrier or vapor retarder may affect the UL or FM Approvals rating including the attachment of the Elevate roof system.
    - It is the roof system designer's responsibility to:
    - Ensure that the methods of attachment of the roof system to the vapor retarder selected are approved by Amrize and compatible with the roof system.
    - Ensure that the approved vapor retarder will extend continuously and evenly throughout the roof plane to provide a complete seal against the intrusion of moist air from the building interior. Integration of the wall and roof air retarder systems is essential.
    - Take the appropriate steps necessary to deal with the effect of construction-generated moisture on a new roofing system, particularly during winter, when temporary propane heat may be required.
3. Amrize does not review or calculate dew point analyses and therefore does not accept responsibility for damage due to recurrence rate or location of the dew point. Although not all projects require a vapor retarder, a design review should be considered for all projects.
4. Contact one of the following agencies for help in determining the need for a vapor retarder.
    - National Roofing Contractors Association (NRCA)
    - U.S. Army Corps of Engineering Cold Regions Research and Engineering Laboratory (CRREL)
    - American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)
    - Oak Ridge National Laboratory (ORNL)

AIR BARRIERS

General

While some Elevate roof systems may require an air barrier to receive a warranty, a professional architect or engineer must determine the need for an air barrier, as well as the type, placement, and location of the air barrier.

1. Air barriers are a component of building envelope systems that control the movement of air into and out of buildings.
2. An air barrier may consist of a single material or of two or more materials which, when installed as a system, make up an air impermeable, structurally adequate barrier.
3. Air barrier systems are generally comprised of building components and materials that have an air permeability not exceeding 0.004 cfm/ft^2 (0.02 L/s•m^2) under a pressure differential of 0.3 inches of water (1.57 psf, 75 Pa) when tested in accordance with ASTM E 2178.
4. No single component or material has the capability to provide a complete air barrier system for a building; therefore air barrier systems include many components and materials that interface with each other. Amrize recommends that the individual manufacturers of these products provide written certification that their products will function as needed when used together.
5. If the air barrier is to perform its intended role, it must meet several requirements:
    - Continuity: The assembly must be linked together to ensure that there is no break in the air tightness of the envelope.
    - Structural Integrity: The air barrier must be capable of resisting the imposed load or must be supported by one that can. It must be capable of resisting the strongest wind load acting as either a pressure or suction without rupturing or breaking away from its support. The air barrier and its support must be sufficiently rigid to resist displacement.
    - Air Impermeability: A major requirement of an air barrier is that it offers a high resistance to airflow.

- Durability: Durability depends largely on how a material reacts to a specific environment such as moisture, temperature, ultra-violet radiation, and to the presence of other materials (incompatibility).

COMMON ROOF SYSTEM ACCESSORIES

Cant Strips

- Cant strips are a means by which the angle between deck to wall and other types of transitions are reduced so that the roof membrane and flashings can conform better to the adhesion surface.
- Cant Strips are required at all angle changes greater than 45°.
- Acceptable Cant Strip materials
  - Wood or preservative-treated wood
  - Wood fiber
  - Perlite
  - Concrete (primed with ASTM D-41 primer)

1. Depending on the cant strip material, cant strips may be set in adhesion asphalt, Elevate Multi-Purpose MB Flashing Cement, or mechanically attached with acceptable fasteners and plates.
2. Caution: Cant strip materials may be combustible. Proper precautions must be taken to prevent exposure of combustible cant materials to the open flame of a roofing torch or other sources of ignition.

Wood Nailers

1. For new construction projects, wood nailers must be kiln-dried (Southern Pine, Douglas Fir) structural grade #2 or better.
2. Make Elevate specifications and details available when others install nailers. Work that compromises the integrity of the system may jeopardize the warranty.
3. For re-cover projects and new construction projects where a poured-in-place deck will be used, wood nailers must be pressure treated for rot resistance. Asphaltic or creosote-treated lumber is not acceptable. Lumber treated with other wood preservatives such as Pentachlorophenol, Copper naphthenate or Copper-8-quinolinolate will adversely affect the membrane when in direct contact and are, therefore, unacceptable.
4. Treatments for lumber may be highly corrosive to fasteners. Contact the fastener manufacturer for their recommendations on fasteners if attaching nailers that have been treated with corrosive materials.
5. Chemical treating for fire resistance or other purposes (other than pressure treating for rot resistance, e.g., CCA, ACZA, CBA, ACQ or other copper treatments) may affect the performance of the Elevate membrane and accessories. Contact Elevate Technical Services at (800) 428-4511 when using chemically treated lumber that will encounter the membrane.
6. Amrize requires wood nailers at the following locations:
   - All roof edges.
   - Metal penetration pockets.
   - Sheet metal flanges.
   - Refer to Elevate details for other location requirements.
   - The wood nailer may be omitted when metal flanges are less than 12" (305 mm) on a side or when metal flanges are placed and secured directly to the deck.
7. The building owner of their design professional must specify a wood nailer attachment system that will resist a minimum force of 200 lbf (890 N) in any direction. Elevate fasteners are required for all roofing applications. For further clarification, please refer to Factory Mutual Los prevention Data Sheet 1-49.

Expansion Joints

1. The determination of the necessity and location for expansion joints is a project specific requirement, which is the responsibility of the building owner or their design professional Typical consideration for selection criteria may be one or more of the following:
   - Where additions are connected to existing buildings
   - Where additions are connected to existing buildings.
   - At junctions where interior heating conditions change, such as a heated space abutting an unheated space.
   - Where movement between vertical walls and the roof deck is anticipated.
   - Roof areas greater than 200' (61 m) in any direction.
2. Coordination and sequencing of expansion joint closure systems and their continuity, compatibility and function of seal is the responsibility of the design team.
3. Expansion joints must not restrict the flow of water.

Flashing Foam

Elevate Flashing foam may be used to fill voids around penetrations, wall/roof perimeters, and other gaps where fill may be needed.

Area Dividers and Control Joints

1. Area dividers or control joints are raised, double wood members attached to a properly flashed wood base plate that is anchored to the roof deck.
2. Large open expanses can create large thermal stresses. Area dividers can help minimize this by dividing the roof system into smaller sections. The determination of the necessity and location for area dividers is a project specific requirement, which is the responsibility of the building owner or their design professional.
3. The areas of the roof should be rectangular and uniformly spaced where possible.
4. Roof area dividers are recommended for the following conditions:
5. Roof areas greater than 200' (61 m) in any direction.
6. Roofs with H, L, E, T, and U shapes should be subdivided by area dividers into rectangular areas that can be roofed one area at a time.

Walkway Pads

1. Walkways help protect the membrane from damage due to necessary rooftop service traffic.
2. Walkways may consist of an additional layer of Elevate modified bitumen cap sheet adhered in cold adhesive, hot asphalt, or heat welded, as is appropriate for the membrane being used.
    - Do not use black granule surfaced products when installing walkways in cold adhesive.
    - Do not heat seal the edges of walkways installed in cold adhesive.
3. Walkway runs must not be longer than 10' (3 m) so as not to interfere with roof drainage.
4. Walkway systems must be installed on roofs:
    - Subjected to traffic more frequently than once per month.
    - At all access points (ladders, hatches, doorways, etc.) to the roof.
    - Around all serviceable rooftop units.
5. If protection of the insulation system is required, additional measures must be specified (e.g., concrete pavers, pre-fabricated walkways).
6. The owner is responsible for maintaining walkways.

MATERIALS

Caution

The information in this Guide is not intended to be comprehensive. Refer to the Technical Information Sheet (TIS) and Safety Data Sheet (SDS) for each product for critical information. These may be found on the Elevate website at http://www.elevatecommercialbp.com or by calling Elevate Technical Services at (800) 428-4511.

Insulation

1. Only Elevate insulation can be included in the warranty.
2. Insulation must provide a suitable substrate for the proposed roof system in addition to its function as insulation for the building.
3. Insulation may be installed by various methods including fasteners and approved adhesives. It is acceptable to combine fastener and approved adhesive attachment methods in multi-layer applications.
4. Where overall insulation thickness is 2" (51 mm) or greater, Elevate recommends installing the insulation in two (2) or more layers with staggered joints.
5. Insulation may be installed in one (1) or multiple layer applications for the warranty. If installed in multiple layers, the joints of each succeeding and adjoining layer must be staggered from the joints of previous layers by a minimum of 6" (152 mm) in each direction.
6. Gaps of ¼" (6 mm) or greater between insulation boards must be filled in.
7. Refer to specific Elevate Technical Information Sheets (TIS) for installation requirements.
8. Insulation thickness requirements may vary for code compliance. Contact local code and/or insurance officials before contacting Elevate Technical Services.
9. Refer to the Elevate Attachment Guide for adhesion pull test requirements for ISO Spray R, I.S.O. Stick, Twin Jet, Twin Jet Y and I.S.O. Twin Pack.
10. When installing HailGard / ISOGARD HG or ISOGARD HD Composite, install the polyiso side down to the deck.
11. The following is a chart showing the types and minimum thickness of Elevate insulation/cover boards acceptable for use as a direct contact substrate for Elevate roof systems when applying a fully adhered base sheet or fiberglass ply sheet. Other approved insulations may be allowed below the immediate substrate insulation.

Adhesive Attachment of Insulation / Cover Board to Substrate

- Ensure that all safety measures are followed when installing insulation adhesives to protect the installer as well as the occupants of the building.
- Elevate insulation adhesives must be applied in accordance with the installation instructions and Technical Information Sheets (TIS).
- Application surfaces must be even to ensure continuous adhesion.
- Application rates may change based on project conditions and ambient temperatures.
- Application rates may need to be adjust based on field conditions, including granular or porous surfaces.
- Increased coverage should be used in the perimeter and corner areas.

Adhesive Attachment of Insulation / Cover Board to Substrate Continued

- Board Size and Approval:
  - 4' x 4' boards are required where called for by specification, insurance requirements, tested assembly requirements, or to meet building codes.
  - 4' x 8' boards are approved for warranty purposes only.
    - Contractor is solely responsible for verifying suitability based on project requirements or applicable building codes.
    - Includes minimum 1.5" flat ISOGARD GL/ISO 95+ or ISOGARD HD Composite, ISOGARD HD, and minimum ¼" gypsum coverboards when provided by Elevate.
    - 4' x 8' adhered installation requires the use of 4" or 6" o.c bead spacing
    - Requires at least 6 evenly distributed points of contact when weighing-in 4' x 8' boards
      - Boards may not be “walked in”
      - Excludes vertical applications
    - Approved for all Elevate low-rise polyurethane foam adhesive in bead or spatter application when applicable
    - Scoring of 4' x 8' boards may be necessary over uneven substrates
    - Warranties limited to 25 Years and 100 MPH
  - 4' x 12' boards are not approved for adhesion
  - Re-cover applications require the use of 4' x 4' boards
  - Board-to-approved substrates, board-to-board, and cover board attachments eligible
  - Separate boards are required for angle changes greater than ½" in 12" and all changes in elevation
  - Keep insulation protected and dry prior to installation. Do not install warped or curled boards
  - Aesthetic considerations of the final installation are not a product problem or a warranty issue.
- Stagger all insulation joints from adjoining and adjacent boards and adjacent layers, 6" (153 mm) minimum.
- Refer to the Elevate Roofing Systems Adhered Insulation Layout Guide at the end of this section for adhesion pull test requirements for Elevate I.S.O. Twin Pack, Elevate I.S.O. Stick, I.S.O. SPRAY R, Elevate Twin Jet and Elevate Twin Jet Y.
- Existing decks containing residual asphalt must be cleaned and scraped as smooth as possible.
- Existing decks shall be smooth, flat, clean, dry, free of sharp fins, or foreign materials.

Table 11: Insulation / Cover Board Attachment Options by Deck

INSULATION / COVER BOARD ATTACHMENT OPTIONS BY DECK						
Deck to Which Insulation will be Attached	**Mechanical Attachment**	**I.S.O. Spray R**	**I.S.O. Twin Pack**	**I.S.O. Stick**	**Twin Jet Twin Jet Y**	**Asphalt Attachment**
Steel	✓	✓	✓	✓	✓	
Structural Concrete	✓	✓	✓	✓	✓	✓
Plywood or OSB	✓	✓	✓	✓	✓	
Wood Plank	✓	✓	✓	✓	✓	
Poured or Pre-Cast Gypsum	✓	✓	✓	✓	✓	
Cementitious Wood Fiber	✓	✓	✓	✓	✓	
Lightweight Insulating Concrete Decks	✓	✓	✓	✓	✓	
Existing Roof with Phenolic Insulation	Complete tear-off required. When phenolic insulation is removed, a visual inspection of the deck components is required; all deteriorated components must be replaced.					

Table 12: Insulation / Cover Board Attachment to Insulation Options by Insulation Type

INSULATION/COVER BOARD ATTACHMENT TO INSULATION OPTIONS BY INSULATION TYPE						
Base Layer of Insulation to Which Insulation / Cover Board Will Be Adhered	**Insulation / Cover Board to Insulation Attachment Method**					
	I.S.O. SPRAY R	**Twin Jet**	**Twin Jet Y**	**I.S.O. Twin Pack**	**I.S.O. Stick**	**Hot Asphalt**
ISO 95+ GL / ISOGARD GL	✓	✓	✓	✓	✓	✓*
Resista / ISGOARD CG	✓	✓	✓	✓	✓	✓*
ISOGARD HD	✓	✓	✓	✓	✓	✓*
STRUCTODEK HD Wood Fiberboard	✓	✓	✓	✓	✓	✓
DensDeck	N/A	N/A	N/A	N/A	N/A	N/A
DensDeck Prime	✓	✓	✓	✓	✓	✓
DensDeck StormX Prime	✓	✓	✓	✓	✓	✓
Securock Gypsum-Fiber	✓	✓	✓	✓	✓	✓
Securock Weather Defense Roof Board	✓	✓	✓	✓	✓	✓
Securock UltraLight Glass-Mat	N/A	N/A	N/A	N/A	N/A	N/A
Securock Cement	✓	✓	✓	✓	✓	✓
Securock UltraLight Coated Glass-Mat	✓	✓	✓	✓	✓	✓
DEXcell FA Glass Mat	✓	✓	✓	✓	✓	✓
DEXcell Cement Board	✓	✓	✓	✓	✓	✓
DEXcell FA VSH Glass Mat	✓	✓	✓	✓	✓	✓
Perlite Insulation	N/A	N/A	N/A	N/A	N/A	✓
Asphalt Base Sheet	✓	✓	✓	✓ with primer	✓ with primer	✓
V-Force FR Vapor Barrier Membrane	✓	✓	✓	✓	✓	N/A
V-Force Vapor Barrier Membrane	✓	✓	✓	✓	✓	N/A

NOTE:
- Elevate recommends mechanically attaching a Cover board over existing insulation. The responsibility of identifying and removing damaged or wet insulation is that of the contractor.
- Refer to the Elevate Attachment Guide for adhesion pull test requirements for insulation adhesives.

* Board to board attachment acceptable but membrane to board securement with hot asphalt not approved.

✓ = Acceptable N/A = Not Applicable

Base Sheet and Smooth Plies

General

- Depending on the substrate, base sheets may be attached with fasteners, Multi-Purpose MB Cold Adhesive, adhesion asphalt (not permitted for APP), or heat fusing. Refer to the membrane's TIS to ensure the specific membrane is appropriate for the intended installation method.
- Elevate BUR and modified bitumen systems must be installed so that all laps shed water.
- Side laps must be 3" (76 mm) and end laps must be 6" (152 mm).
- Base sheets, base plies, or ply sheets must not be glaze coated when used as a substrate for any base or cap sheet.
- When adhesion asphalt is used as the method of attachment for BUR or SBS sheets, Elevate requires that only Elevate SEBS Mopping Asphalt or ASTM D 312 Type IV asphalt be used:
  - In all 20+ year SBS systems
  - Where the slope exceeds ½"/ft (4.2%)
- All sheets must be unrolled and allowed to "relax" for at least 30 minutes prior to installation.

Table 13: Base Sheet Attachment Options by Deck

BASE SHEET ATTACHMENT OPTIONS BY DECK					
	Prepared Substrate to Which the Base Sheet will be Attached	**Mechanically Attached**	**Heat Welded**	**Multi-Purpose MB Cold Adhesive**	**Adhesion Asphalt[1]**
Deck	Steel	Insulation or cover board is required.			
	Structural Concrete (primed if applicable)	✓	✓	✓	✓
	Plywood or OSB	✓			
	Wood Planking	✓			
	Poured or Pre-Cast Gypsum	✓			
	Cementitious Wood Fiber	✓			
	Lightweight Insulating Concrete	✓			
Recover	Existing Smooth Surface Built-Up or MB Roofs		✓	✓	✓
	Asphalt Gravel Surfaced Built-Up Roofs	New Insulation or cover board is required			✓
	Mineral Surface Built-Up or MB Roofs				✓
	Coal Tar Pitch				New Insulation or cover board is required
	Existing Single-Ply Systems				

Table 13: Base Sheet Attachment Options by Deck Continues

BASE SHEET ATTACHMENT OPTIONS BY DECK					
	Prepared Substrate to Which the Base Sheet will be Attached	Mechanically Attached	Heat Welded	Multi-Purpose MB Cold Adhesive	Adhesion Asphalt[1]
New Insulation	ISO 95+ GL / ISOGARD GL	May fasten through insulation		✓	
	RESISTA / ISOGARD CG			✓	
	HailGard			✓	✓
	STRUCTODECK HD with Primed Red Coating			✓	✓
	DensDeck Prime		✓	✓	✓[2]
	SECUROCK Gypsum-Fiber Board		✓	✓	✓[2]
	SECUROCK Weather Defense Roof Board		✓	✓	✓[2]
	SECUROCK UltraLight Coated Glass-Mat		N/A	✓	N/A
	ISOGARD HD			✓	
	DEXcell™ Glass Mat				
	DEXcell FA Glass Mat		✓	✓	✓[2]
	DEXcell Cement Board		✓	✓	✓[2]
	DEXcell FA VSH Glass Mat		✓	✓	✓[2]

[1]Hot asphalt is not for use with APP membranes
[2]DensDeck, SECUROCK and DEXcell to be applied in hot asphalt must be completely dry. The max asphalt temperature must not exceed 450 °F (232 °C).

Cap Sheets

General

- Elevate cap sheets have a granular surface for enhanced protection from UV degradation, rooftop traffic, etc.
- Cap sheets may be attached with Multi-Purpose MB Cold Adhesive, adhesion asphalt (not permitted for APP), or heat fusing. Refer to the membrane's TIS to ensure the specific membrane is appropriate for the intended installation method.
- Elevate BUR and modified bitumen systems must be installed so that all laps shed water.
- Side laps must be 3" (76 mm) and end laps must be 6" (152 mm).
- When adhesion asphalt is used as the method of attachment for BUR or SBS sheets, Amrize requires that only Elevate SEBS Mopping Asphalt or ASTM D 312 Type IV asphalt be used:
  - In all 20+ year SBS systems
  - Where the slope exceeds ½" (4.2%)
- All sheets must be unrolled and allowed to "relax" for at least 30 minutes prior to installation.

HOT ASPHALT ATTACHMENT OF INSULATION AND ROOFING PLIES

DISCLAIMER:

Applicators are directed to handle and process adhesion asphalt in accordance with the requirements of this guide to protect the aging properties of the adhesion asphalt. Adhesion asphalt must provide continuous coverage between Elevate products.

Please refer to the National Roofing Contractors Association (NRCA) and Asphalt Roofing Manufacturers Association (ARMA) guidelines for adhesion asphalt type requirements, handling, and use. Follow all OSHA and other applicable safety regulations.

Cautions and Guidelines

1. The information in this Guide is not intended to be comprehensive. Refer to the Technical Information Sheet (TIS) and Safety Data Sheet (SDS) for each product for critical information. These may be found on the Elevate website at http://elevatecommercialbp.com or by calling Elevate Technical Services at (800) 428-4511.
2. Ensure that all health and safety measures are followed when installing hot asphalt to protect the installers as well as occupants of the building and passers nearby. Ensure compliance with OSHA, building codes, and contractor/jobsite/misc. safety regulations when using hot asphalt.
3. Use only ASTM D 312 Type III or IV adhesion asphalt or Elevate SEBS Asphalt, as appropriate for project conditions.
4. Asphalt primer must meet the requirements of ASTM D-41. Structural concrete decks must always be primed with ASTM D-41 primer; refer to ASTM D-41 primer manufacturers recommended coverage rate.
5. Adhesion asphalt must be properly applied in accordance with NRCA and ARMA requirements and the requirements of this guide for the following:
   - Between layers of Elevate insulation designated for adhesion with hot asphalt.

- Elevate SBS and BUR products designed for asphalt attachment.

6. Adhesion asphalt must provide continuous inter-ply coverage.

Cautions and Guidelines Continued

7. Adhesion asphalt must NEVER be heated above the flash point.
8. Asphalt properties may change when stored at high temperatures for long periods of time. Asphalt may become softer or may experience what is known as "fallback." Fallback is the degradation of the asphalt to the point that its physical properties (e.g., softening point) deteriorate which could then cause roof slippage. To reduce the chances of a fallback, the following recommendations should be implemented:
   - Decrease the kettle temperature as much as possible, while maintaining the minimum application temperature.
   - Use material as quickly as possible, thus reducing exposure time.
   - Insulate all lines and equipment used to transport asphalt.

Insulation and Cover Boards

1. The proposed insulation or cover board must be compatible with the roof substrate, the proposed bitumen, and the requirements of the Elevate roof system.
2. Elevate SEBS Mopping Asphalt or ASTM D-312 Type III or Type IV must be utilized.
3. ISO 95+ GL / ISOGARD GL insulation boards, when applied using hot asphalt, require approximately 30 lb (14 kg) of asphalt per 100 ft^2 (9.3 m^2) nominal application rate. A guideline for asphalt application temperature to install insulation board is the asphalt EVT less 25 to 30 °F (14 to 17 °C).
4. Porous and irregular substrates generally require additional quantities of asphalt to assure positive adhesion of the insulation boards.
5. When using adhesion asphalt for insulation attachment:
   - The insulation must be no larger than 4' x 4' (1.2 m x 1.2 m).
   - All insulation joints must be staggered from adjoining and adjacent boards and adjacent layers.
   - Follow all health and safety measures when installing adhesion asphalt to protect the installers and occupants of the building.
   - Refer to slope restrictions.
6. Take special care when installing DensDeck products in hot asphalt:
   - Georgia-Pacific Gypsum specifies max asphalt application temperatures of 425 – 450 °F (218 – 232 °C). Application temperatures above these temperatures may adversely affect roof system performance.
   - DensDeck Prime may be flood mopped to a substrate followed by a flood mopped application of membrane (encapsulated) using these guidelines:
     - DensDeck Prime Roof Boards and substrate must be dry.
     - Asphalt used to install DensDeck Prime should be allowed to cool after installation of the DensDeck and prior to mopping base sheet to top of DensDeck boards.
     - Allow base ply to cool before mopping additional plies or cap sheet to limit the amount of direct heat that is applied to boards.
7. Do not use hot asphalt to adhere membrane to ISOGARD HD, RESISTA / ISOGARD CG or ISO 95+ GL / ISOGARD GL Insulation.
8. Expanded or extruded polystyrene insulation (EPS or XPS) must not be attached with hot asphalt.

Table 14: Approved Substrates for Hot Asphalt Attachment of Insulation

APPROVED SUBSTRATES FOR HOT ASPHALT ATTACHMENT OF INSULATION	
Approved base sheets that have been mechanically attached in accordance with Elevate requirements. Approved base sheets that have been adhered in accordance with Elevate requirements.	
Compatible Insulations	ISO 95+ GL / ISOGARD GL
Compatible Cover Boards	DensDeck Prime (see guidelines for encapsulating DensDeck Prime in hot asphalt above)
	SECUROCK Gypsum-Fiber Board, Securock Cement Board
	DEXcell: FA Glass Mat, Cement Board and FA VSH Glass Mat
	STRUCTODEK HD with Primed Red Coating
Structural concrete deck that has been primed with ASTM D-41 primer	
Existing properly prepared asphalt membrane roof systems	Uncoated smooth BUR or Mod Bit
	Granule surfaced modified asphalt roof systems
	Gravel surface built-up roof systems

Roof Membranes

1. Never use hot asphalt to adhere APP products.
2. BUR/SBS base sheets, base plies, or ply sheets must not be glaze coated when used as a substrate for any APP base or cap sheet.
3. Do not mop a roof membrane directly to polyiso.

MECHANICAL ATTACHMENT OF INSULATION AND ROOFING PLIES

Pullout Tests

1. Substrates for membrane and/or insulation are required to provide sufficient pullout resistance for the fasteners and the roof system.

Table 15: Minimum Fastener Pullout

SYSTEM	MINIMUM FASTENER PULLOUT
Insulation Mechanically Attached to Deck	300 lbf (1.3 kN)
Base Sheet Mechanically Attached to Deck	300 lbf (1.3 kN)
Base Sheet Nailed to Deck	40 lbf (178 N)
Contact Elevate Technical Services at (800) 428-4511 if the structural deck does not meet the minimum fastener pullout requirements.	

2. Due to the variety of physical conditions that can affect pullout resistance, Amrize recommends that on-site tests be conducted by an independent testing laboratory or the fastener manufacturer's representative, to determine actual pullout values. The following deck types are those which are most likely to not provide sufficient pullout resistance:
   - Steel decks thinner than 22 gauge (0.76 mm).
   - Concrete less than 2,500 psi (20,684 kPa).
   - Plywood or OSB less than 7/16" (11 mm) thickness.
   - Wood plank less than 1" (25 mm) thickness.
   - Poured or pre-cast gypsum, cementitious wood fiber and lightweight insulating concrete decks.
   - Existing masonry or brick.
   - Any other substrate that does not have a published pullout capacity greater than the minimum required for the applicable roof system.
3. The sections of the substrate where integrity is most in question should be used for testing. Test areas should include corners, drain areas, and perimeters. The recommended minimum number of pullout tests is as follows:
   - Less Than 10,000 ft^2 (930 m^2): 6 pullout tests
   - 10,000 ft^2 – 50,000 ft^2 (930 m^2 – 4,645 m^2): 10 pullout tests
   - 50,000 ft^2 – 100,000 ft^2 (4,645 m^2 – 9,290 m^2): 20 pullout tests
   - Over 100,000 ft^2 (9,290 m^2): 1 test per 5,000 ft^2 (465 m^2)
4. When new construction or other conditions prevent preliminary on-site pullout tests, the fastener manufacturer should supply estimated pullout values for design and bid purposes. On-site verification of the pullout capacity must be confirmed prior to system installation. (Consider requesting a unit price for potential increased fastening requirement).

Fasteners: General

1. Refer to the Technical Information Sheet (TIS) that references the specific fastener being used and for the deck penetration requirements of that fastener. All fasteners must be suitable for the existing deck type.
2. Roof systems rely on the attachment of the components to the deck substrate to perform as required. Wind creates uplift forces on the roof, making the overall holding power of the fasteners critical. Amrize recommends that the use of any fastener be investigated should there be concerns about the structural integrity of the deck. Some of the items to be considered include:
   - How the fastener(s) might affect the deck.
   - The capability of the deck to hold the fasteners and roof system in place in a wind related event.
   - In existing construction, the structural integrity of the deck may have weakened over time, thus the choice of fastener and roof attachment methods should be considered in determining the best solution to the given deck and situation.
3. For retrofit roof systems, Elevate HD Fasteners must be used for 15-year or greater Red Shield Warranty when mechanically fastening insulation using fasteners and plates.
4. For new and replacement roofing, Elevate HD Fasteners must be used for a 20-year or greater Red Shield Warranty when mechanically fastening insulation using fasteners and plates.

Fasteners: General Continued

5. Cap Nails
   - Cap nails must be FM Approved and have 1" (25 mm) diameter steel heads. Shank must be a minimum of 11-gauge (2.3 mm) annular ring or spiral.
   - Cap nails may only be used to attach base sheets to wood decks where a base sheet must be mechanically fastened prior to the installation of the roof assembly for up to 15-year warranties.
   - Elevate insulation plates and fasteners may be used in lieu of cap nails.

Table 16: Allowable Fastener and Substrate Configurations

ALLOWABLE FASTENER AND SUBSTRATE CONFIGURATIONS

Fastener	Acceptable for 20-yr Warranty	Steel Decks	Structural Concrete Decks	Plywood or OSB Decks	Cementitious Wood Fiber Decks	Gypsum Decks	Lightweight	
							Steel Pan	Concrete
All-Purpose Fastener	✓	✓		✓				
Elevate #12 Fastener[1]	✓	✓		✓				
Heavy-Duty Fastener	✓	✓	✓	✓			✓	✓
Concrete Drive Fastener	✓		✓					✓
Polymer Fastener	✓				✓	✓		
AccuTrac Kit		✓		✓				
HD Plus Fastener	✓	✓						
LWC Base Ply Fastener	✓					✓	✓	✓
	For the attachment of base sheets only.							
#12 Belted Fastener		✓		✓				
#15 Belted Fastener	✓	✓		✓				
Nail Driver				✓				
	For the attachment of base sheets only. Insulation may not be attached with nails of any kind.							
HailGard Fastener	✓	✓	✓	✓			✓	✓
	For the attachment of OSB and HailGard. No insulation plate is required.							

[1]The Elevate #12 Fastener is limited to a 20-year warranty when used on a steel or wood deck.

Table 17: Acceptable Fasteners

ACCEPTABLE FASTENERS

Elevate Fastener		Roofing Insulation (Insul. Plate Req'd)	Base Sheet (Insul. Plate Req'd)	Termination Bar	Other Accessories
TIS#	Fastener	See the specific fastener TIS for specific application data.			
1001	All-Purpose Fastener	✓	✓	✓	✓
1002	Heavy Duty Fastener	✓	✓	✓	✓
1005	Concrete Drive Fastener	✓	✓	✓	✓
		Do not use with polymer batten strips.			
1006	Polymer Fastener	✓	✓		
		Special battens/plates are required (see TIS 1102, 1107, 1204, 1207).			
1007, 1016	AP/HD AccuTrac Kit	✓	✓		
		Insulation to steel and wood roof decks with AccuTrac installation equipment.			
1012	LWC Base-Ply Fastener		✓		
		For the attachment of base sheets only			
1013	IsoFast #12 Belted Fastener	✓			
		Belted fasteners must be installed with the IF160 or IF240 automatic installation tool.			
1014	IsoFast #15 Belted Fastener	✓	✓		
		#15 Belted fasteners must be installed with the IF160 automatic installation tool available.			
1019	Heavy Duty (HD) HailGard Fastener	✓			
		For use with HailGard and OSB to approved decks.			
1026	Elevate #12 Fastener	✓			

Insulation Fastening Requirements

1. General
   - Mechanically fastened Insulation must be fastened with appropriate Elevate fasteners and insulation plates.
   - Insulation must be installed in accordance with the fastening rate and pattern for the applicable system.
   - Fastening rates and patterns may vary for code compliance. Contact Elevate Technical Services at (800) 428-4511 for specific FM Approvals and code compliance requirements.

Insulation Fastening Requirements Continued

2. Multiple Layers of Insulation
   - Where overall insulation thickness is 2" (50 mm) or greater, Amrize recommends installing the insulation in two (2) or more layers with staggered joints.
   - Insulation may be installed in one (1) or multiple layer applications for the Elevate warranty. If installed in multiple layers, the joints of each succeeding and adjoining layer must be staggered from the joints of previous layers by a minimum of 6" (152 mm) in each direction.
   - When a composite of two (2) insulation layers is installed, the fastening pattern required is dependent on the top board type and thickness. A common fastener may be used to simultaneously fasten all layers to the structural deck.
   - Tapered insulation less than the 1" (25 mm) minimum thickness must be fastened at a rate of one (1) fastener and plate per 2 ft^2 (185,806 mm^2) = 16 fasteners and plates per 4' x 8' (1.2 x 2.4 m) board. If possible, install the tapered insulation first, covered by flat stock.
   - It is acceptable to combine fastener and approved adhesive attachment methods in multi-layer applications.

Table 18: Insulation Mechanical Attachment Options

INSULATION MECHANICAL ATTACHMENT OPTIONS								
Structural Deck	**Elevate #12 Fastener**	**All-Purpose (AP)**	**Heavy Duty (HD)**	**Heavy Duty Plus (HD+)**	**Polymer**	**Concrete Drive**	**Belted**	**Min. Penetration of Fastener into or Through Deck**
Steel	✓	✓	✓	✓			✓	¾" (19 mm)
Structural Concrete			✓	✓		✓		Heavy Duty (HD) - 1" (25 mm) Concrete Drive-1¼" (32 mm)
Plywood or OSB	✓	✓	✓	✓			✓	1" (25 mm)
Wood Plank		✓	✓	✓			✓	1" (25 mm)
Gypsum					✓			1½" (38 mm)
Cementitious Wood Fiber						✓		1½" (38 mm)
Lightweight concrete over steel deck			✓	✓				¾" (18 mm) through steel pan
Lightweight concrete over concrete deck			✓	✓				1.2" (30 mm) into structural concrete deck

3. Minimum number of fasteners and plates per insulation board

   See Elevate TIS 950 "Insulation Attachment Patterns" for the required patterns for the proper placement of approved fasteners and plates for insulation on Elevate roof systems. These fastening patterns apply to flat or tapered insulations. The most common fastener density and pattern requirements are shown. For non-standard fastener densities, contact Elevate Technical Services at (800) 428-4511.

Table 19: Minimum Number of Fasteners and Plates per Insulation Board

MINIMUM NUMBER OF FASTENERS AND PLATES PER INSULATION BOARD				
Insulation Type and Thickness		Fastener Requirements for Insulation		
		4' x 4' (1.2 x 1.2 m)	4' x 8' (1.2 x 2.4 m)	4' x 12'* (1.2 x 3.66 m)
ISO 95+ GL* / ISOGARD GL*, RESISTA / ISOGARD CG, HailGard / ISOGARD HG, ISOGARD HD Composite	0.5" – 1.4" (13 – 35 mm)	8	16	24*
	1.5" – 1.9" (38 – 48 mm)	6	12	18*
	≥ 2" (≥ 51 mm)	4	8	12*
ISOGARD HD Cover Board	0.5" (13 mm)	6	12[1]	---
STRUCTODEK HD Fiberboard (max 20-year)	.5"	8	16	---
Securock Gypsum-Fiber	¼"	5	10	---
	½"	4	8	---
	⅝"	4	8	---
Securock Cement Board	½"	4	8	---
	⅝"	4	8	---

Table 19: Minimum Number of Fasteners and Plates per Insulation Board Continued

MINIMUM NUMBER OF FASTENERS AND PLATES PER INSULATION BOARD				
Insulation Type and Thickness		Fastener Requirements for Insulation		
		4' x 4' (1.2 x 1.2 m)	4' x 8' (1.2 x 2.4 m)	4' x 12'* (1.2 x 3.66 m)
Securock UltraLight Coated Glass-Mat*	¼"	5	10	---
	½"	4	8	---
	⅝"	4	8	---
DensDeck Prime	¼"	6	12	---
	½"	4	8	---
	⅝"	4	8	---
DensDeck StormX Prime	⅝"	4	8	---
DEXcell Cement Board	7/16"	5	10	---
	⅝"	4	8	---
DEXcell FA Glass Mat	¼"	6	12	---
	½"	4	8	---
	⅝"	4	8	---
DEXcell FA VSH Glass Mat	⅝"	4	8	---

NOTE: ¼" = 6.4 mm; ½" = 13 mm; ⅝" = 16 mm; 1" = 25 mm; 1.4" = 35.6 mm; 1.5" = 38.1 mm; 1.9" = 48.2 mm; 2" = 51 mm

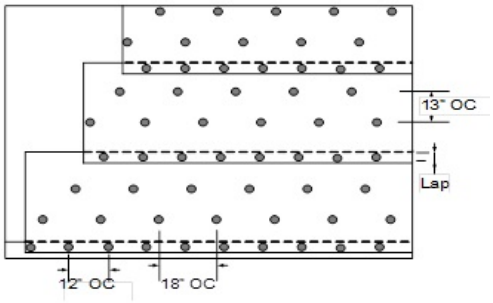
*Securock UltraLight Coated Glass-Mat for use in Cold-Applied adhesive applications only!

4. Base Sheet Fastening Requirements: the base sheet must be fastened with appropriate Elevate fasteners or Elevate fasteners and insulation plates and installed in accordance with the fastening rate and pattern for the applicable system.
5. Fastening rates and patterns may vary for code compliance. Contact the local code or insurance officials before contacting Elevate Technical Services at (800) 428-4511.
6. Base sheets can mechanically attach through insulation to deck where appropriate. Adhere to Elevate base sheet seam and lap width requirements.

Elevate Fasteners and Plates or Concrete Drive Fasteners

Two (2) rows staggered at 18" (457 mm) on center, each approximately 13" (330 mm) in from edge of sheet and inside laps at 12" (305 mm) on center.

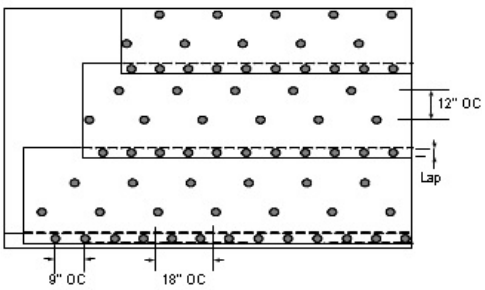
Contact Elevate Technical Services at (800) 428-4511 when the deck system will not provide a min. of 300 lbf (1.3 N) of pullout resistance per fastener.



Cap Nails or Elevate LWC Base Ply Fasteners

Two (2) rows staggered at 18" (45 cm) on center, each approximately 12" (30 cm) in from edge of sheet and inside laps at 9" (45 cm) on center. Attachment pattern, plate/head size, and frequency may be different to meet code requirements.

Contact Elevate Technical Services at (800) 428-4511 when the deck system will not provide a minimum of 40 lbf (178 N) of pullout resistance per fastener.



ADHESIVE ATTACHMENT OF INSULATION AND ROOFING PLIES

Insulation Adhesion Requirements

1. Insulation Adhesion Requirements
   - The insulation must be no larger than 4' x 4' (1.2 x 1.2 m).
   - Stagger all insulation joints from adjoining and adjacent boards and adjacent layers.
   - Adhesion pull tests may be required. Refer to the Elevate Attachment Guide.
     - Prepare an area large enough to allow a 4' x 4' (1.2 x 1.2 m) insulation board to be laid in place. Follow the appropriate Elevate TIS guidelines for surface preparation and list of acceptable substrates.
     - Apply the adhesive to the deck per required application rates and methods. Allow the adhesive a minimum of 60 minutes to cure.
     - After the adhesive has been allowed to cure, pull up on the adhered board by placing a hand under the corner or end of the board in the same direction as the ribbons. Make sure that the board is lifted by hand. Using tools to scrape the board sometimes dis-bonds the adhesive from the deck. This will not show whether the adhesive is performing under uplift considerations.
     - Observe the insulation and deck. The desired result is a delamination of the surface or board facer with adhesive and facer residue remaining on the deck or the board breaks apart remaining adhered to the deck at the ribbons. If the board is lifted and the adhesive pulls/peels off the deck or decking is pulled up with the board, contact Elevate Technical Services at (800) 428-4511.
2. Elevate insulation adhesives must be applied in accordance with the installation instructions and Technical Information Sheets (TIS).
3. Ensure that all safety measures are followed when installing insulation adhesives to protect the installer as well as the occupants of the building.
4. Existing decks containing residual asphalt must be cleaned and scraped as smooth as possible.
5. Existing decks shall be smooth, flat, clean, dry, free of sharp fins, or foreign materials.

Table 20: Allowable Adhesive Attachment of Insulation / Cover Board

ALLOWABLE ADHESIVE ATTACHMENT OF INSULATION / COVER BOARD					
To Deck	**I.S.O. Spray R**	**I.S.O. Twin Pack**	**I.S.O. Stick**	**Twin Jet Twin Jet Y**	**Asphalt Attachment**
Steel	✓	✓	✓	✓	
New Structural Concrete	✓	✓	✓	✓	✓
Existing Structural Concrete	ATR*	ATR	ATR	ATR	✓
Plywood, OSB, Wood Plank	✓	✓	✓	✓	
Cementitious Wood Fiber	ATR	ATR	ATR	ATR	
Poured or Pre-Cast Gypsum	ATR	ATR	ATR	ATR	
Lightweight Insulating Concrete	✓	✓	✓	✓	
To New Insulation or New Base Sheet					
I.S.O. 95+ GL / ISOGARD GL	✓	✓	✓	✓	✓
RESISTA / ISOGARD CG	✓	✓	✓	✓	✓
ISOGARD HD	✓	✓	✓	✓	✓
HailGard / ISOGARD HG	✓	✓	✓	✓	✓
STRUCTODEK HD w/ Primed Red Coating	✓	✓	✓	✓	✓
DensDeck Prime	✓	✓	✓	✓	✓
DensDeck StormX Prime	✓	✓	✓	✓	✓
SECUROCK Gypsum-Fiber Board	✓	✓	✓	✓	✓
SECUROCK Weather Defense Roof Board	✓	✓	✓	✓	✓
SECUROCK Cement Board	✓	✓	✓	✓	✓
SECUROCK UltraLight Coated Glass-Mat	✓	✓	✓	✓	N/A
DEXcell FA Glass Mat	✓	✓	✓	✓	✓
DEXcell Cement Board	✓	✓	✓	✓	✓
DEXcell FA VSH Glass Mat	✓	✓	✓	✓	✓
New Base Sheet	✓	✓	✓	✓	✓
*ATR: Adhesion Test Required					

Base-Sheet, Inter-Ply, and Cap Sheet Adhesion Requirements

1. Application of sand-backed modified bitumen rolls in Elevate Multi-Purpose MB Cold Adhesive
   - Unroll and relax all sheets for at least 30 minutes prior to installation.
   - Apply Elevate Multi-Purpose Cold Adhesive to the substrate using a ¼" (6 mm) notched squeegee or airless sprayer at a rate of 1½ – 2½ gallons per 100 ft^2 (0.6 – 1.0 L/m^2). The adhesive may be left open no more than 10 minutes prior to installing the sheet.
   - Broom the sheet into place.
   - Complete the side and end laps of the sheet by sealing with Multi-Purpose MB Cold Adhesive applied to both sides of the lap, or by heat fusing. Corners of the sheet should be cut at a 45° angle which will help them lay flat.
   - Amrize requires that granules be applied to areas of adhesive bleed-out on the cap sheet as the installation progresses to protect exposed areas from UV exposure.
2. Modified Bitumen Membranes installed with Elevate Multi-Purpose MB Cold Adhesive must be exposed for a minimum of 6 months before AcryliTop PC-100 can be applied. Roof systems must be inspected by an Elevate representative prior to the application of an AcryliTop system.
3. Three-ply systems installed with Elevate Multi-Purpose MB Cold Adhesive must have the bottom two (2) plies exposed for 7 – 30 days at a minimum of 60 °F (16 °C) before the cap sheet is applied. This will allow the cold adhesive to cure properly.
4. This is the only time phasing is acceptable, and the second ply should be cleaned, inspected, and primed prior to the application of the cap sheet.
5. Attachment of base sheets with cold adhesives to expanded or extruded polystyrene insulation (XPS or EPS) is not acceptable.
6. Wood fiber insulation is not an acceptable substrate for use with Multi-Purpose MB Cold Adhesive, except for STRUCTODEK HD with Primed Red Coating high density fiberboard roof insulation and cover board.
7. Torch base and torch cap sheets, backed with polyethylene burn-off film, cannot be applied with cold adhesive, except for Metal Flash-AL for flashings.
8. Flashings must be installed in Elevate Multi-Purpose MB Flashing Cement.
   - When applying flashings in Elevate Multi-Purpose MB Flashing Cement, both the substrate and the back of the sheet must be coated with the flashing cement.

HEAT-FUSED ATTACHMENT OF ROOFING PLIES

Cautions Regarding Insulation

1. Attachment of base sheets by heat fusing to expanded or extruded polystyrene insulation is not acceptable.
2. No roofing membranes can be heat fused to polyiso insulation. An overlay must be used to separate the polyiso insulation from the heat-fused ply. Acceptable overlay sheets include:
   - A base sheet mechanically attached through the polyiso insulation into the deck.
   - Elevate BASEGARD SA.

General

1. Unroll and relax all sheets for at least 30 minutes prior to installation.
2. Corners of the sheet should be cut at a 45° angle which will help them lay fat.
3. Torch-apply the membrane to the approved substrate using CERTA (Certified Roofing Torch Applicator) techniques.
4. Amrize requires that granules be applied to areas of adhesive bleed-out on the cap sheet as the installation progresses to protect exposed areas from UV exposure.
5. Do not walk on freshly torch-applied membrane until it has had time to cool, as this will leave foot impressions in the membrane.

Table 21: Approved Substrates for Heat-Fused Base Sheets

APPROVED SUBSTRATES FOR HEAT-FUSED BASE SHEETS
Structural Concrete (must be clean, dry, properly cured, and primed with ASTM D-41 primer)*
Existing Smooth Surface BUR, SBS or APP Modified Bitumen (must be clean, smooth, and primed with ASTM D-41 primer)*
DensDeck Prime, DensDeck StormX, SECUROCK Gypsum-Fiber Board, Securock Weather Defense or Securock Cement Board
DEXCell: FA Glass Mat, Cement Board and FA VSH Glass Mat
NOTE: Apply per ASTM D-41 manufacturers recommended coverage rate

SELF-ADHERED MEMBRANES

BASEGARD SA

1. BASEGARD SA is an SBS base sheet membrane which may be directly adhered to a variety of approved surfaces as the first ply of an Elevate modified bitumen roofing system, or as a vapor retarder underneath the Elevate roofing system. It may not be used as a temporary roof.
2. When applying BASEGARD SA, one of the following heat sources should immediately be applied to the top surface of BASEGARD SA to activate the adhesive. If this is not possible, the BASEGARD SA must be applied over Elevate SA Primer.
   - A heat-welded Elevate torch cap sheet
   - An Elevate SBS sheet installed in hot asphalt
   - Elevate insulation adhered to the BASEGARD SA with, I.S.O. Stick Insulation Adhesive, Twin Jet Insulation Adhesive, Twin Jet Y Insulation Adhesive, I.S.O. Twin Pack Adhesive, or ISO Spray R Adhesive
3. BASEGARD SA may NOT be used as a temporary roof.

SBS SA

1. SBS SA is a self-adhered Styrene-Butadiene-Styrene (SBS) available in both a base sheet and granulated cap sheet. It provides a cleaner application, improves application speed and removes the need for torches, hot asphalt or bonding adhesive on the job site. SBS SA Base sheets may not be used as a temporary roof.
2. Refer to TIS and SBS SA Application guide for further information.

V-Force FR Vapor Barrier Installation

Elevate V-Force FR Membrane is intended for use in applications where a vapor barrier is specified.

1. Ensure all surfaces are dry, sound, clean, “as new” condition, and free of oil, grease, dirt, excess mortar, or other contaminants detrimental to the adhesive of the membrane.
2. Fill voids and gaps in the substrate greater than ⅞" (22.2 mm) in width to provide an even surface.
3. Plan layout prior to application to help minimum waste.
4. Pre-plan special application areas like curbs and penetrations to achieve the proper detailing to ensure water and airtight installation.
5. Cold weather may affect the adhesion properties of the pressure sensitive adhesive. It is always recommended to conduct field adhesion testing separately or in conjunction with mock-up construction on the job site. Primers can improve adhesion to substrates in these conditions.
6. Stage rolls prior to application to follow a shingle fashion installation with the upper courses lapped over the lower courses. All side and head laps are a minimum of 3" (76.2 mm). Laps from vertical to horizontal application should be a minimum of 6" (152.4 mm).
7. On steel decks, laps of sheets should be supported by deck flutes. Cover flutes where the end laps will occur with 24 gauge 6" (152.4 mm) wide metal strips spanning the flutes. Attach with #10 pancake head screws through 9/32" (7.14 mm) oval holes (by others).
8. Roll our membrane out into position.
9. Lift leading edge of membrane enough to peel enough of the first half of the release liner back to allow it to extend past the edge of the roll. Repeat for other half of release liner.
10. Roll membrane back and hand press adhesive to substrate.
11. Have someone hold the non-adhered end of roll membrane while release liner is removed.
12. Continue to pull release liner from underside of roll at a 45-degree angle at a pace to not tear liner.
13. Roll the membrane with a weighted roller, minimum 70 lb (31.75 kg).
14. Position and install additional rolls in a shingles application to achieve a 3" (76.2 mm) minimum lap at all head and side locations.
15. Refer to the Elevate website (www.elevatecommercialbp.com) for details and additional product and installation information.

V-Force Vapor Barrier Membrane

1. Elevate V-Force Vapor Barrier Membrane is a vapor barrier which may be directly adhered to a variety of approved surfaces that have been primed with SA Water Based Primer, SA-LVOC Primer, or SA Solvent Based Primer.
2. V-Force Vapor Barrier Membrane must be rolled in with a 75 lb (34 kg) roller to ensure adhesion throughout the membrane and at all laps.
   - When installing directly to a fluted steel deck, install a piece of light-gauge sheet metal perpendicular to the flutes to ensure the V-Force has a solid surface under the head lap for proper lap adhesion. Side laps MUST fall on the top of a deck flute to ensure proper lap adhesion.
3. Install Elevate insulation to the clean and dry V-Force Vapor Barrier Membrane after any necessary repairs have been made. Acceptable insulation adhesives include I.S.O. Spray R, I.S.O. Twin Pack, I.S.O. Stick, Twin Jet, and Twin Jet Y. Hot asphalt is not acceptable.

4. V-Force Vapor Barrier Membrane may be used as a temporary roof and exposed for up to 90 days. It must be inspected and repaired before insulation and/or roofing plies are installed to ensure its integrity as an effective vapor barrier.
5. Refer to TIS 604 for specific application requirements.

SPECIAL CONSIDERATIONS

Moisture in Existing Roof

1. The roofing contractor is responsible for ensuring that the substrate is suitable for receiving an Elevate roof system. All damaged and/or wet insulation or substrate must be removed and replaced prior to the application of the Elevate roof system.
2. A moisture survey should be conducted to determine the moisture content of any existing roof system component. Any damaged and/or wet components of the existing system must be removed prior to the installation of the new Elevate roofing system.
3. The best diagnostic technique for evaluating moisture in existing roofs is by taking and evaluating a series of roof cores.
    - Techniques such as infrared scans are available to evaluate the roof by non-invasive means. These techniques provide measurements of factors that can be associated with the presence of moisture. Results of these studies should be confirmed with roof cores.
4. Failure to remove any existing system components that could cause damage to the new Elevate roofing system may void the warranty.

Drainage

1. Amrize recommends a minimum ¼:12 (2.1%) slope to facilitate proper drainage and maximize long-term performance of the roof system. This is a requirement for certain warranties. Positive slope is always required.
2. Ponding water is defined as a condition existing on any area of the roof where water remains more than forty-eight (48) hours after precipitation.
3. Adequacy of drainage provisions, placement, sizing, and/or number of drains required is the responsibility of the building owner or their design professional. Drainage conditions should meet the requirements of applicable codes as well as standard industry recommendations.
4. In reroofing or re-cover situations, analysis of the existing drainage conditions is the responsibility of the building owner and/or their design professional. Existing deck deflection or ponding water may necessitate the upgrade of drainage provisions including the relocation of existing drains, the addition of new drains, increased bar joist support, etc. Amrize does not design roof drainage systems nor assume any liability for the adequacy (or lack thereof) of roof drainage systems or facilities.
5. Proper and adequate drainage of the roof surface is required to assure the long-term performance of the roofing system. Drains should be of sufficient number and size and located to provide satisfactory and rapid drainage of the entire roof surface (within 24 to 48 hours of precipitation). A minimum roof slope of ¼:12 (2.1%) is the industry standard.
6. Tapered ISO 95+ GL / ISOGARD GL provides an effective and economical solution where substrate slope will not permit efficient drainage. When properly installed, it can extend the life of the roof assembly by eliminating problems associated with ponded water. Tapered ISO 95+ GL / ISOGARD GL is available in slopes from 1/16:12 (.5%) to ½:12 (4.2%). Contact your Elevate Sales Representative for assistance with a professionally designed tapered system layout.
7. The following are some of the reasons why proper roof drainage is important:
    - Standing water can result in deck deflection and possible structural damage.
    - Water on the roof can promote vegetation, fungi, and bacterial growth.
    - In the event of an opening in the roof membrane, standing water can significantly worsen the damage to the roof system, the building itself, and the interior contents.
    - It is required by many, if not all, building codes.
    - Proper drainage of the roof system prevents premature deterioration of the roof membrane and roof components.

Back-Nailing and Insulation Stops – Slopes Greater than 1/2:12 (4.2%)

1. General Guidelines
    - Reference Details BU-LS-02 and MB-LS-09 for appropriate application.
    - Back-nailing nailing strips are required on all roofs with slopes greater than ½:12 (4.2%).
    - Exceptions may be made for torch-applied systems only with slopes up to 1:12 (8.3%). This must be pre-approved by Elevate Technical Services after a review of the roof configuration/system.
    - Insulation stops are recommended on all roofs with slopes greater than ½:12 (4.2%).

- When the slope of the roof exceeds ½:12 (4.2%) and hot asphalt attachment is specified, Amrize requires that only Elevate SEBS Mopping Asphalt or ASTM D 312 Type IV (4) asphalt be used.
- Roof slopes over 3:12 (25%) are generally not suitable for the application of asphaltic roof systems.
- Insulation stops, and back-nailing nailing strips are not needed when system is applied directly to a wood deck or a similar nailable substrate. The cap sheet can be back-nailed directly to a wood deck or similar nailable substrates when back-nailing is required.
- The building owner or design professional intending to specify back-nailing should consider geographic location, specific job conditions, accepted area application practices, and the type and grade of materials specified when creating an actual specification for a project.

Table 22: Back-Nailing Requirements for Sloped Roofs

BACK-NAILING REQUIREMENTS FOR SLOPED ROOFS		
Slope	**Back-Nailing**	**NOTE**
≤ ½:12 (4.2%)	None required	---
> ½:12 ≤ 2:12 (4.2% — 16.7%)	End laps of roll	Not to exceed 33' (10 m)
> 2:12 ≤ 3:12 (16.7% — 25%)	Every 10' (3 m)	---
Refer to Elevate detail MB-LS-9 for detailed back-nailing requirements.		

2. Installation
   - For roof slopes up to and including ½:12 (4.2%), the side laps can be installed parallel or perpendicular to the slope.
   - For roofs slopes greater than ½:12 (4.2%), the membrane must run parallel to the slope.
   - Back-nailing nailing strips and insulation stops shall be a minimum of 3½" (89 mm) wide and the same thickness as the roof insulation.
   - Back-nailing nailing strips and insulation stops must be attached to resist a force of 200 lbf (890 N) minimum.
   - Cap nails must have 1" (25 mm) diameter steel heads. Plastic heads are not allowed. The shank must be minimum 11 ga (2.3 mm) annular ring or spiral shank. Nails must be FM Approved.
   - End laps must extend a minimum of 6" (152 mm) beyond the edge of the fastener. For example, when fasteners and 3" (76 mm) plates are used (as shown below), each end lap must be a minimum of 9" (229 mm).
   - Non-nailable decks and nailable decks with insulation:
     - Cut the cap sheet to conform to nailer spacing.
     - Using capped nails or Elevate fasteners and plates, nail the end lap into the wood nailer across the width of the sheet, with the first nail spaced ¾" (19 mm) from the leading edge of the sheet. The remaining nails are to be spaced approximately 3" (76 mm) on center.
     - The nails should be staggered across the width of the nailer.
     - When Elevate fasteners and plates are used in lieu of cap nails, four (4) per end lap are required.
     - Contact Elevate Technical Services at (800) 428-4511 for information regarding back-nailing requirements when utilizing approved insulation less than 1" (25 mm).
   - Nailable decks with no insulation:
     - Using capped nails or Elevate fasteners and plates, nail the end lap into the nailable deck across the width of the sheet, with the first nail spaced ¾" (19 mm) from the leading edge of the sheet. The remaining nails are to be spaced approximately 3" (76 mm) on center.
     - When Elevate **fasteners and plates are used in lieu of cap nails, four (4) per end lap are required.**

Partial Tear-off and Re-cover Applications

1. Existing roof components are not included in the Amrize warranty.
2. It is the responsibility of the building owner and/or their agents to verify that the existing roof system is sound and intact.
   - Confirm the structural integrity of the existing deck and specify repair or replacement as required.
3. When using fasteners, verify that the substrate has sufficient fastener pullout resistance to meet system requirements.
4. Refer to the Elevate Attachment Guide for adhesion pull test requirements for Elevate insulation adhesives.
5. The effect of existing moisture on the performance of the new system may be significant depending upon the roofing components selected. Therefore, a moisture survey should be conducted to determine the presence of moisture in the existing roof system components. All components of the existing system that would be detrimental to the new Elevate roof system must be removed and replaced prior to its installation.

Partial Tear-off and Re-cover Applications Continued

6. Limitations in flashing heights may be encountered. Existing building features (e.g., door or window locations, weeps, or through-wall flashings) may not allow sufficient clearance to provide proper termination above the potential water level. Detailed consideration of this condition is critical to the integrity of the roofing system. Contact Elevate Technical Services at (800) 428-4511 for assistance.
7. Partial tear-off is the removal of the existing membrane, installing a new layer of insulation over the existing in place insulation and a new membrane over the new insulation. Partial tear-offs are not eligible for a 20+ year warranty.
   - New insulation or cover board is always required.
   - The existing insulation must be suitable for use as a component of the new roof system. The existing insulation must be:
     - Dry and free of trapped moisture.
     - Re-secured as necessary to meet Amrize, local code, and/or other specified wind uplift requirements.
     - An acceptable substrate for the new insulation and the new membrane.
     - If existing insulation is to remain, all damaged or wet components must be replaced prior to installing the new roof system.
8. Re-cover is the installation of a new roof system over an existing roof system.
   - All damaged or wet components must be removed and replaced prior to installing the new roof system.
   - All re-cover or retrofit systems using adhesives for insulation attachment require a pull test to verify adhesion.
   - Loose gravel, if present, must be removed until the roof surface is smooth enough to provide a suitable substrate for the insulation. All loose gravel must be removed by vacuuming and/or power brooming. Spud any remaining gravel smooth to provide a level surface.
   - New insulation or a cover board is required except when installing an appropriate Elevate roof membrane directly to an existing smooth surfaced BUR or Modified Bitumen roof. The warranty period for direct attachment to an approved existing roof is limited to 10 years. The existing smooth asphalt roof must not have been coated or re-saturated and must be primed with ASTM D-41 primer prior to the installation of a new asphalt or modified bitumen membrane.
     - Verify that the attachment of the existing roof system is acceptable. If existing insulation is not mechanically fastened, contains fasteners that may be corroded or loose, or the attachment may not be sufficient, re-attachment of the roof system is required prior to the installation of new insulation.
   - Coal Tar Pitch Built-Up Roofs
     - New, mechanically attached insulation or a cover board is required to isolate the new roof from the existing coal tar bitumen.
     - Flow of existing coal tar into the building may occur when new fasteners penetrate an existing coal tar pitch membrane
   - Sprayed-in-place polyurethane foam (PUF) roof systems require a COMPLETE TEAR-OFF of the PUF system.
   - Existing roofs over phenolic insulation require a COMPLETE TEAR OFF of the entire roof system to the structural deck.
     - When Phenolic insulation is removed, a visual inspection of the deck condition and other components is required; all deteriorated components must be replaced, as necessary.
   - Existing Single-Ply Systems
     - A mechanically attached insulation or cover board is required.
     - Re-cover over single-ply roof systems will require that all existing base tie-ins and flashings be removed prior to the installation of a new roof.

Table 23: Special Attachment Considerations for Partial Tear-Off and Re-cover Applications

SPECIAL ATTACHMENT CONSIDERATIONS FOR PARTIAL TEAR-OFF AND RE-COVER APPLICATIONS	
Deck	**Special Considerations**
Steel and Nailable Decks (Wood plank, plywood, OSB, gypsum, cementitious wood fiber, poured-in-place concrete)	If the existing system is not sound and intact mechanical attachment of the system may be necessary.
Non-Nailable Decks (Poured-in-place, precast, and post-tension concrete)	If the existing roof system is not sound and intact, additional securement may be necessary.

Table 24: Insulation / Cover Board Attachment Options by Re-cover / Retrofit

INSULATION / COVER BOARD ATTACHMENT OPTIONS BY RE-COVER / RETROFIT						
Substrate to Which Insulation / Cover Board will be Attached	**Mech. Attached**	**I.S.O. Spray R**	**I.S.O. Twin Pack**	**I.S.O. Stick**	**Twin Jet**	**Hot Asphalt**
Existing, uncoated, smooth surface BUR or	✓	✓	✓	✓	✓	✓

Modified Bitumen Roof						
Granule-Surfaced Modified Bitumen Roof	✓	✓	✓	✓	✓	✓
Gravel-Surfaced BUR	✓	✓	✓	✓	✓	✓
Coal Tar Pitch	✓	N/A	✓	✓	✓	N/A
Sprayed Urethane Roof (PUF)	Complete tear-off required					
NOTE: Adhesive attachment may require an adhesive pull test. See the TIS and Elevate Attachment Guide						

FLASHINGS

Edge Metal Requirements

Elevate metal must be used and installed per Elevate details and standards for warranty inclusion. ES-1 certified metal and details are required for increased wind speed warranties over 80 mph. To meet Elevate's technical specifications, all edge metal, metal copings and edge systems whether field fabricated, shop fabricated, or factory formed should be designed in compliance with the International Building Code (IBC) and be tested/installed in accordance with ANSI/SPRI/FM4435/ES-1 standard and requirements. Reference the tables below for more available warranty terms and wind speed coverage options.

Edge metal securement on low-slope roofs (slopes of 2:12 or less) is governed primarily by IBC Chapter 15 and the ANSI/SPRI/FM 4435 ES-1 testing standard. These codes require A Guide to Perimeter Edge Metal Design perimeter edge systems to resist specific ASCE-7 wind uplift pressures to prevent catastrophic wind-induced roof failures.

Key code requirements and references for edge metal include:

- IBC Section 1504.6 (Edge Systems for Low-Slope Roofs): Mandates that metal edge systems (including copings and fascia) must be designed for wind loads and tested for resistance.
- ANSI/SPRI/FM 4435 ES-1: This is the primary standard referenced by the IBC. It outlines the specific static and dynamic pull-off tests that prove the structural integrity of fabricated or pre-manufactured edge metal.
  - RE-1: Roof Edge Termination Test
  - RE-2: Pull-off Test for Metal Edge Flashing
  - RE-3: Pull-off Test for Metal Wall Coping
- IBC Section 1503.2 (Weather Protection & Flashing): Dictates that all metal flashing, including edge metal, must be made of corrosion-resistant material with a minimum thickness of 0.019 inches (e.g., No. 26 galv. sheet steel).
- ANSI/SPRI GT-1: Referenced by recent editions of the IBC, this standard provides testing methods specifically for external gutter systems used to secure roof membranes.
- Fabricator Compliance: The building code requires that whoever fabricates the edge metal—whether a national manufacturer or a local sheet metal shop—must provide documentation verifying compliance with ANSI/SPRI ES-1.

Corner/Miters

Folded (ex. Quicklock) or welded are acceptable. Corner details must meet the conditions specified by the designer and maintain water tightness. Metal joints can be made with mechanical fasteners, interlocking seaming methods, cover plates, sealants, metals (e.g., solder, welding) or combinations of these methods. Mechanical fastening, crimping, and locking, soldering, or welding may be used, as necessary. Mechanical fastening of seams, miters and joints is limited to 90 mph and/or warranties of less than 30-Years.

- Reference the NRCA Roofing Manual and/or the SMACNA manuals for additional information.
- Note that the longevity of the weatherproofing depends on the longevity of the solder, gasket, sealant, or the sealant's bond to the metal and, therefore, may require maintenance throughout its service life. These locations/conditions are considered maintenance items, should be inspected, and repaired regularly.
- Soldering or welding of joints may change or alter the appearance of the materials. This should be considered prior to using this method. Reference the NRCA manual for more information on soldering or welding of specific materials.
- Seaming requirements may vary based on type used. Reference the NRCA manual for more information.

Edge Metal Warranty Compliance Options

NRCA:

To install the listed ES-1 details (Table 59) the contractor must be listed in the NRCA ES-1 and GT-1 Directory.
https://www.nrca.net/roofingguidelines/es1-gt1-directory

Elevate ES-1 Cleat Program:

To install the listed Elevate ES-1 Cleat Program details (Table 58) the contractor must be a participant in the Elevate ES-1 Contractor Program. Please reach out to an Elevate representative for more information.

Table 25: Elevate Edge Metal and Flashing Warranty Breakdown

ELEVATE EDGE METAL AND FLASHING WARRANTY BREAKDOWN			
Material	Edge Metal Warranty Term	Included in Red Shield	NOTE
Elevate Metal (Flat/Coil)	Paint Finish Warranty Up to 35 Years	No	Must be purchased from Elevate.
Non-Elevate Metal	None	No	
Elevate Metal – Shop Fabricated	Max. 20-Years, 55 mph	Yes	Installed per current NRCA, SMACNA or other appropriate details/guidelines.
Elevate Metal ▪ NRCA ES-1 Approved Profile ▪ ES-1 Metal Cleat Program*	Max. 30-Years, up to 90 mph	Yes	ES-1 Profile Installed per current NRCA, SMACNA or other appropriate details/guidelines. *Factory Cleat required (ANSI/SPRI ES-1)
Elevate Pre-Engineered Coping or Fascia	Max. 30-Years, up to 120 mph	Yes	Installed per current pre-engineered installation instructions.

NOTE:
1. See warranty sample for specific coverage.
2. See appropriate edge metal tables below for warranty coverage based on specific engineered edge metal system offerings.

General

1. A flashing is a roofing element used to seal the roof system at areas where the roof covering is interrupted or terminated. For example, pipes, curbs, walls, etc. all have special components that, when correctly installed, will help prevent moisture entry into the roof system or building. Flashings divert the water to the membrane. The membrane then carries it to the roof drains. Typically, flashing intercepts water flowing down parapets, down walls of higher adjacent construction and down roof penetrations. There are four typical locations where a flashing is needed:
   - Terminations
   - Junctions
   - Projections
   - Joints
2. In any flashing detail, there are up to three different flashing components:
   - Base flashing
   - Counter-flashing
   - Cap flashing
3. Many factors affect the performance of the flashing system. Design drawings for several common applications are available from the www.elevatecommercialbp.com website.
4. Extended warranties may require special flashing applications.

UltraFlash Liquid Flashings

1. UltraFlash One-Part Liquid Flashing may be used on SBS, APP, and BUR roofing systems, however its warranty coverage is limited to 20 years.
2. Warranty coverage can be extended to 25-30 year warranties by adding a 30-mil finish coat of UltraFlash One-Part, once the top coat has cured enough to be tack free (Up to 24 hours). Total 120 mils.

Base Flashing

An extension of the roofing membrane or a different material that is bonded to the roof to form a waterproof joint. It extends upward along the vertical surface to divert water onto the membrane. The base flashing should reach a higher level than that reached by water on the roof. In some situations, water may temporarily accumulate on the roof. This may occur during heavy rainfalls, where the drain size is inadequate, where local building regulations require controlled flow drains, or where ice and snow restrict drainage.

Counter-Flashing

Counter-flashing is used, in some situations, to carry water onto the base flashing and the membrane. This may be the case where a wall rises above a roof and masonry, or concrete wall cladding is carried down to the roof surface. It covers the vertical face of the base flashing. It provides protection for the base flashing and may serve to shed water. Where required, the counter-flashing is secured to the parapet or wall cladding. Counter-flashing may not be required where

single-ply membranes are used for the base flashing. If not required, it should not be used, since it will cover defects and hinder maintenance.

Cap Flashing

Cap flashings are horizontal coverings for parapets and expansion joints. Cap flashing should be sloped toward the roof and secured to allow differential movement. Failure to provide for adequate flashing height at the design stage may result in serious problems that cannot be subsequently corrected.

Wall/Curb Flashing Materials and Requirements

1. Refer to the QuickSpecs and Detail Drawings at: www.elevatecommercialbp.com
2. Extended warranties require special flashing applications.
3. All Elevate modified membranes may be used in flashing assemblies, per warranty requirements.
4. SBS Metal Flash-AL is a high-performance, foil-clad, flashing membrane which can be heat-welded or adhered with Elevate All-Purpose MB Flashing Cement (even though it has a polyethylene burn-off film).

Penetrations (Pipes, Conduits, Etc.)

> **!** Penetrations shall be placed to maintain a minimum distance away from obstructions (walls, curbs, etc.) to allow for proper installation of flashing details. Minimum 12" (304.8 mm) of clearance is required for penetrations when located near obstructions and/or details (base tie-in, flashing, etc.). Liquid flashing may be used as an alternative to standard flashings if the membrane and system application allows.

1. Rigid Penetrations
   - Whenever possible, all rigid penetrations should be flashed with UltraFlash One-Part Liquid Flashing. Alternatively, a penetration pocket may be installed, and flashed in accordance with Elevate Details.
2. Penetration Pockets
   - Clusters of pipes may require the installation of a penetration pocket.
   - A minimum clearance of 1" (25 mm) between penetrations, pipes, conduits, etc., and on all sides of the penetration pocket, is required to assure adequate space for the application of Pourable Sealer around each penetration.
3. Flexible penetrations (electrical and braided cable, etc.) must be installed in a sheet metal gooseneck.
4. Use Elevate Flashing Foam to fill voids around penetrations, wall/roof perimeters and other gaps where fill may be needed.

Curbs and Terminations

1. Where possible, provide a minimum design height of at least 8" (203 mm) for all flashing terminations (except penetration pockets).
2. Minimum flashing height must be 3" (76 mm) above the highest water level that could be reached during a deluging rain. Wherever a vertical termination height is 5" (127 mm) or less, contact Elevate Technical Services at (800) 428-4511.
3. Do not flash over existing through-wall flashings, weep holes and overflow scuppers.
4. Terminations must be made directly to a sound, watertight, rigid, vertical substrate. For retrofit conditions, existing loose flashing materials must be removed, or overlaid with ⅝" (16 mm) exterior grade plywood. Terminations are not acceptable directly to gypsum or wooden substrates.
5. When using a surface-mounted termination, ensure a consistent seal at the wall interface. The surface above the termination must be waterproof.
6. Gypsum board, used as a substrate for flashings, must be moisture resistant exterior grade with laminated fiberglass facers, which is recommended for this application by the gypsum board manufacturer.
7. Stucco, cobblestone, textured masonry, corrugated metal panels or any uneven surface is not a suitable substrate to receive conventional flashing materials. Such surfaces must be prepared to provide an acceptable substrate by attaching minimum ⅝" (16 mm) exterior grade or pressure treated plywood. Attach as required for structural integrity.
8. UltraFlash Liquid Flashings may be used with textured masonry, corrugated metal panels and most uneven surfaces.

Sheet Metalwork

1. Coping, gravel stops, counter-flashings etc., must be supplied by Amrize for warranty inclusion.
2. If Amrize is not able to supply a given sheet metal product or design, it must be installed in accordance with current Elevate details but will not be included as part of the warranty.
3. All sheet metalwork not supplied by Amrize should be fabricated and installed in accordance with the recommendations of the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).

4. Some specific roofing details in Elevate's Technical Specifications may exceed SMACNA recommendations. For such details, the Elevate requirements must be used.
5. All sheet metalwork not supplied by Amrize should have a quality weather resistant coating that will not corrode or weather to the point of failure during the warranty period.
6. It is the owner's responsibility to maintain non-Elevate sheet metal in a watertight condition.

Sheet Metalwork Continued

7. Metalwork which is not in conformance with Elevate specifications and details or that compromises the integrity of the system may jeopardize issuance of the warranty for the entire project. Amrize does not warrant the performance of products which are not supplied by Amrize.
8. Counter-flashings, copings, and other perimeter or penetration metalwork must be properly fastened and sealed by the roofing contractor or others.
9. Refer to ANSI/SPRI ES-1 for information on wind design and metal edge treatments.
10. Extended wind speed warranties require enhanced edge details. Contact Elevate Technical Services at (800) 428-4511 for specific information.
11. Make these specifications available to the sheet metal fabricator/contractor.

ROOF COATINGS

General

1. Coatings are considered a maintenance item. Amrize recommends that coatings be adequately and regularly maintained.
2. Periodic maintenance and recoating may be required to maintain the Underwriters Laboratories, Factory Mutual or other ratings.
3. The use of aluminum roof coating prevents fully adhered attachment of a new membrane during retrofit. A new substrate may be mechanically attached to receive the retrofit membrane.
4. Proper preparation of the roof surface is important to assure the best possible adhesion of the roof coating.

Elevate AcryliTop PC-100 Coating for Asphalt Systems

1. Elevate AcryliTop PC-100 Coating for Asphalt systems may be applied to further protect the Elevate membrane and flashing surfaces from the effects of weathering or for aesthetic reasons. It is only required for issuance of specific Elevate warranties.
2. AcryliTop PC-100 is highly reflective.
3. Modified Bitumen Membranes installed with Elevate Multi-Purpose MB Cold Adhesive must be exposed for a minimum of 6 months before AcryliTop PC-100 can be applied. This requirement applies only to Modified Bitumen roof systems installed in cold adhesive. New roof systems must be inspected by an Elevate representative prior to the application of an AcryliTop system.
4. Refer to the Technical Information Sheets and Safety Data Sheets for AcryliTop PC-100, for additional information on application, storage, and safety.
5. Never apply Elevate AcryliTop PC 100 for Asphalt to Owens Corning PermaMop® asphalt.

Gravel Surfacing

1. Elevate Multi-Purpose MB Cold Adhesive
   - For every 100 ft^2 (9.3 m^2) of roof surface, apply approximately 400 lb (181 kg) of roofing gravel in a 4 gal/100 ft^2 (15 L/9.3 m^2) flood coat of *Elevate* Multi-Purpose Cold MB Adhesive.
   - No more *Elevate* Multi-Purpose MB Adhesive may be spread or poured at one time than can be covered immediately with gravel to ensure proper embedment of the aggregate.
2. Hot Asphalt
   - For every 100 ft^2 (9.3 m^2) of roof surface, install approximately 500 lb (227 kg) of roofing gravel applied directly over a 60 lb per 100 ft^2 (27 kg / 9.3 m^2) flood coat of Type III or Type IV asphalt or *Elevate* SEBS Mopping Asphalt.
   - No more asphalt must be spread or poured at one time than can be covered with gravel before the asphalt cools.

3. Gravel or other accepted surfacing material shall comply with ASTM D 1863 and be ¼" (6 mm) to ¾" (19 mm) in diameter, substantially opaque, dry, and free from dust or other foreign materials.

WARRANTIES

General

1. Only Elevate-supplied components are eligible to be covered as part of the Elevate Warranty.
2. Amrize does not warrant Elevate roof system tie-ins to other roofing systems.
3. Warranted Elevate roof systems are to be installed only on commercial, industrial, institutional, or multi-family commercial housing buildings in the United States and Canada.
   - Issuance of a warranty for projects outside the US and Canada must be submitted to the Amrize for consideration prior to bidding.
   - Individual residential construction does not qualify for an Elevate warranty.
4. Upon Elevate's inspection and acceptance of the installed roof system, the requested warranty can be issued. Elevate's inspection is not intended as an inspection for the benefit of the owner or design professional with respect to contract, building codes or compliance with specifications other than Elevate's.
5. Failure of a flashing terminated to an intermediate element (e.g., metal flashing, insulation, surface treatment, etc.), which itself could fail and admit moisture beneath the membrane is beyond the limits of the Elevate warranty.
6. It is the building owner's responsibility to expose the membrane if warranty service is required when access is impaired. Such impairment includes, but is not limited to:
   - Design features, such as window washer systems, which require the installation of traffic surface units in excess of 80 lb (36 kg) per unit.
   - Any equipment, ornamentation, building service units and other rooftop surfacing materials that are not defined as part of the membrane assembly.
   - Intricately placed or multicolored ballast configurations.
   - Individual pavers utilized as ballast, which weigh more than 80 lb (36 kg) per unit, unless otherwise required by Amrize for wind uplift resistance.
   - Interlocking paver systems that utilize mechanical clips, strapping, adhesive, etc.
   - Rooftop equipment that does not provide Amrize with reasonable access to the membrane.
   - Ponded water, snow, ice, and other materials.

Table 26: Overview of Elevate Warranty Requirements

OVERVIEW OF ELEVATE WARRANTY REQUIREMENTS
(PLEASE REFER TO QUICK SPECS OR ASK ELEVATE TECHNICAL SERVICES FOR SPECIFICS AND ADDITIONAL COMPONENTS)

Years	Base Sheet	Cap Sheet	Flashing
10	• Any APP base, BASEGARD SA, MB Base, or Channel Venting Base • Mechanically fastened, self-adhered, heat welded, or fully adhered in cold adhesive	• Any APP cap • Heat welded or fully adhered in cold adhesive	• Any APP cap, fully adhered, one ply, OR • UltraFlash One-Part Liquid Flashing
	• Any SBS base, BASEGARD SA, MB Base, or Channel Venting Base • Mechanically fastened, self-adhered, heat welded, hot mopped, or fully adhered in cold adhesive	• Any SBS cap • Heat welded, hot mopped, or fully adhered in cold adhesive	• Any SBS cap, fully adhered, one ply, OR • UltraFlash Liquid Flashing
	• MB Base, Ply IV, or Ply VI • Mechanically fastened or hot mopped	• Any mod bit cap • Heat welded, hot mopped (SBS only), or fully adhered in cold adhesive	• Any mod bit cap sheet, fully adhered, one ply, OR • UltraFlash Liquid Flashing
15	• Any APP base or BASEGARD SA • Heat welded or fully adhered in cold adhesive	• Any APP cap • Heat welded or fully adhered in cold adhesive	• Any APP base and cap, fully adhered, 2 plies, OR • UltraFlash Liquid Flashing
	• Any SBS base or BASEGARD SA • Self-adhered, heat welded, hot mopped, or fully adhered in cold adhesive	• Any SBS cap • Heat welded, hot mopped, or fully adhered in cold adhesive	• Any SBS base and cap, fully adhered, 2 plies, OR • UltraFlash Liquid Flashing
	• Two (2) plies of Ply IV, or Ply VI • Hot mopped	• Any mod bit cap • Heat welded, hot mopped (SBS only), or fully adhered in cold adhesive	• Any mod bit base and cap, fully adhered, 2 plies, OR • UltraFlash Liquid Flashing

Table 26: Overview of Elevate Warranty Requirements Continued

OVERVIEW OF ELEVATE WARRANTY REQUIREMENTS
(PLEASE REFER TO QUICK SPECS OR ASK ELEVATE TECHNICAL SERVICES FOR SPECIFICS AND ADDITIONAL COMPONENTS)

Years	Base Sheet	Cap Sheet	Flashing
	• SBS FR SA Base or SBS SA Base (Two Ply) • SBS Torch Base HT, SBS Smooth HT or SBS Base HT	• SBS FR SA Cap or SBS SA Cap • SBS FR Torch HT or SBS FR HT	• SBS SA Base and SBS SA Cap • Any SBS Base HT and any SBS Cap HT
20	• BASEGARD SA, APP Premium Base, APP 160 or 170 • Self-adhered, heat welded or fully adhered in cold adhesive	• APP 180 series cap sheet • Heat welded or fully adhered in cold adhesive	• Equal-or-better APP base and cap sheets, fully adhered, 2 plies, OR • UltraFlash Liquid Flashing
	• Any SBS base or BASEGARD SA • Self-adhered, heat welded, hot mopped, or fully adhered in cold adhesive	• Any SBS cap • Heat welded, hot mopped, or fully adhered in cold adhesive	• Equal-or-better SBS base and cap sheet, fully adhered, 2 plies, OR • UltraFlash Liquid Flashing
	• Three (3) plies of Ply IV, or Ply VI • Hot mopped	• Any modified bitumen cap sheet • May be heat welded, hot mopped (SBS only), or fully adhered in cold adhesive as appropriate	• Any modified bitumen base and equal-or-better cap sheet fully adhered, 2 plies, OR • UltraFlash Liquid Flashing
25	• BASEGARD SA or APP 160 or 170 series base sheet • May be self-adhered, heat welded or fully adhered in cold adhesive as appropriate	• APP 180 series cap sheet • May be heat welded or fully adhered in cold adhesive as appropriate	• Equal-or-better APP base and cap sheet fully adhered, 2 plies, OR • UltraFlash Liquid Flashing (120 mil)
	NOTE: UltraWhite cap sheet or AcryliTop PC 100 roof coating required		
	• BASEGARD SA, SBS Smooth, SBS Poly series base sheet, or SBS Glass Torch series base sheet • May be self-adhered, heat welded, hot mopped or fully adhered in cold adhesive as appropriate	• SBS Premium/Premium FR, SBS Premium/Premium FR Torch or SBS Glass FR Torch • May be heat welded, hot mopped, or fully adhered in cold adhesive as appropriate	• Equal-or-better SBS base and cap sheet, fully adhered, 2 plies, OR • UltraFlash Liquid Flashing (120 mil)
	NOTE: UltraWhite cap sheet or AcryliTop PC-100 Roof Coating required.		
30	• BASEGARD SA, SBS Poly series base sheet, or SBS Glass Torch series base sheet • SBS Torch Base HT, SBS Smooth HT or SBS Base HT	• SBS Poly series base sheet or SBS Glass Torch series base sheet • Optional - SBS Torch Base HT, SBS Smooth HT or SBS Base HT	• SBS Premium/Premium FR, or SBS Premium/Premium FR Torch • May be heat welded, hot mopped, or fully adhered in cold adhesive as appropriate • SBS FR Torch HT Cap or SBS FR HT Cap - UltraWhite	• UltraFlash Liquid Flashing (120 mil) • SBS Premium Base and SBS Premium FR set in Elevate Multi-Purpose Flashing Cement • BASEGARD SA Base Sheet and SBS Premium FR Torch UltraWhite • SBS Base HT and SBS Cap HT
	Appropriate substrate and membrane combinations may allow for materials to be self-adhered, heat welded, or fully adhered in cold adhesive.		

NOTE:
- All materials by Elevate
- Never use hot asphalt in an APP system
- Except for 10-year warranties, a mechanically fastened base sheet must be followed by two (2) adhered plies (heat welded, hot mopped, or cold adhesive)
- MB Base is only eligible for a 10-year warranty. If a longer warranty duration is desired, use an approved APP or SBS base sheet, or two (2) plies of BUR felts.

Table 27: Elevate Warranty Summary

ELEVATE WARRANTY SUMMARY
(THIS CHART IS ONLY A SUMMARY OF THE GENERAL WARRANTY COVERAGE. PLEASE REVIEW EACH WARRANTY FOR EXACT LANGUAGE.)

WARRANTY NAME	SPECIFICATION	ELIGIBLE CONTRACTOR	COVERAGE
Red Shield Limited Warranty	Elevate Asphalt specifications for the term requested	Red Shield	Repair leaks in the roofing system caused by Amrize-supplied materials or the workmanship used to install them. No dollar limit to Amrize expenditures to honor the warranty.
Standard Limited Warranty	Elevate Asphalt specifications for the term requested	Red Shield Registered	Repair leaks in the roofing system caused by Amrize-supplied materials or the workmanship used to install them up to the owner's original cost.
Membrane Only Warranty	Elevate Asphalt specifications for the term requested	Red Shield	Provide replacement membrane materials sufficient to replace any area of Elevate Roofing Membrane ("Membrane") which leaks as a result of ordinary exposure to the elements or any manufacturing defect in the Membrane.
MB Membrane Warranty	Elevate Asphalt specifications for the term requested	Red Shield or Registered	Repair any leak in the Elevate Modified Bitumen Roofing Membrane ("Membrane") as a result of weathering due to ordinary exposure to the

			elements or any manufacturing defect in the Membrane up to the owner's original cost.

Other Considerations

Leak Detection – Wire Grid System

A leak detection grid system refers to a network of sensors or conductors arranged in a grid pattern, installed beneath a surface like a roof, designed to detect the presence of moisture or leaks by creating an electrical circuit when water contacts the grid, allowing for pinpoint location of the leak within the monitored area.

- Wire mesh provided by others for use in an electronic leak detection systems (ELD) is allowed in warranted Elevate membrane systems provided the mesh is placed beneath an acceptable cover board. The mesh may not come in direct contact with the Elevate membrane to prevent compromising system uplift resistance or physical damage to the membrane.
- Elevate assumes no liability for ELD products or services provided by others. Only Elevate branded and Elevate provided products are included within warranty coverage. Validation of uplift performance and fire ratings may not be possible when ELD systems are used.
- Low Voltage scanning platforms can be utilized in the following systems: TPO, PVC and modified bitumen.
  NOTE: Full compatibility shall be validated by the user with the ELD system provider.

Leak Detection – Conductive Primer

Conductive primer enables electronic leak detection (ELD) of conventional roofing assemblies by creating the required conductivity directly below the membrane.

- A conductive primer provided by others for use in an ELD is allowed in a warranted adhered single-ply Elevate system. Warranted wind speeds for projects using a conductive primer are limited to 72 MPH unless performance can be validated via a tested assembly.
- Elevate assumes no liability for ELD products or services provided by others. Only Elevate branded and Elevate provided products are included within warranty coverage.
- Conductive primer can be utilized in the following systems: TPO, PVC, EPDM and modified bitumen.
  NOTE: Full compatibility shall be validated by the user with the ELD system provider.

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