

Mechanically Attached Guide

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SECTION 07 54 19 THERMOPLASTIC PVC MEMBRANE ROOFING IB ROOF SYSTEMS MECHANICALLY ATTACHED PVC SINGLE PLY MEMBRANES

Part 1 GENERAL

1.0 SECTION INCLUDES

- A. IB Roof Systems Mechanically Attached, Polyester Reinforced Thermoplastic PVC Roofing Membrane
- B. Cover Board
- C. Thermal Roof Insulation
- D. Flexible Membrane Flashings
- E. Metal Flashings
- F. IB Roof Systems Accessories

1.1 RELATED SECTIONS

- A. Section 03 30 00 Cast-In-Place Concrete
- B. Section 03 40 00 Precast Concrete
- C. Section 03 51 13 Cementitious Wood Fiber
- D. Section 03 51 16 Gypsum Concrete
- E. Section 03 52 00 Lightweight Insulating Concrete Roof Insulation
- F. Section 05 30 00 Metal Decking
- G. Section 06 10 00 Rough Carpentry
- H. Section 07 25 00 Weather Barriers
- I. Section 07 60 00 Flashing and Sheet Metal
- J. Section 07 70 00 Roof and Wall Specialties and Accessories
- K. Section 08 60 00 Roof Windows and Skylights
- L. Section 22 14 00 Facility Storm Drainage

1.2 REFERENCES

- A. American Society of Civil Engineers (ASCE):
 - 1. ASCE 7; Minimum Design Loads for Buildings and Other Structures. Revision as adopted by local code and Authority Having Jurisdiction.
- B. ASTM International (ASTM):
 - 1. ASTM C208: Standard Specification for Cellulosic Fiber Insulating Board
 - 2. ASTM C578: Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
 - 3. ASTM C1177: Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
 - 4. ASTM C1278: Standard Specification for Fiber-Reinforced Gypsum Panel
 - 5. ASTM C1289: Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
 - 6. ASTM C1325: Standard Specification for Fiber-Mat Reinforced Cementitious Backer Units
 - 7. ASTM D4263: Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method
 - 8. ASTM D4434: Standard Specification for Poly (Vinyl Chloride) Sheet Roofing
 - 9. ASTM E96: Standard Test Methods for Water Vapor Transmission of Materials
 - 10. ASTM E108: Standard Test Methods for Fire Tests of Roof Coverings.
- C. Factory Mutual (FM Approvals / Roof Nav.):
 - 1. Factory Mutual Standard 4450: Approval Standard for Class 1 Insulated Steel Decks
 - 2. Factory Mutual Standard 4470: Approval Standard for Class 1 Roof Covers
 - 3. Factory Mutual Standard 4476: Approval Standard for Flexible Photovoltaic Modules
 - 4. Factory Mutual Standard 4481 Approval Standard for Anchors for Roof Mounted Equipment
 - 5. FM Global Property Loss Prevention Data Sheets 1-15, 1-28, 1-29, 1-49, and 1-52
- D. Underwriters Laboratories (UL):
 - 1. UL 790: Standard Test Method for Fire Tests of Roof Coverings
- E. International Code Council (ICC):
 - 1. International Building Code (IBC)
 - 2. International Residential Code (IRC)



- F. CAN / CGSB 37.54-95
- G. Single Ply Roofing Institute (SPRI):
 - 1. ANSI / SPRI / ED-1: Design Standard for Edge Systems Used with Low Slope Roofing Systems, 2019 Edition.
 - 2. ANSI / SPRI / FM4435 / ES-1: Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems, Revision as adopted by local code and AHJ, 2017 Edition.
 - 3. ANSI / SPRI / GD-1: Structural Design Standard for Gutter Systems Used with Low-Slope Roofs, 2010 Edition.
 - 4. ANSI / SPRI / GT-1: Test Standard for External Gutter Systems, 2022 Edition.
 - 5. ANSI / SPRI / WD-1: Wind Design Standard Practice for Roofing Assemblies.
- H. International Institute of Building Enclosure Consultants (IIBEC): Glossary of Roofing Terms.
- National Roofing Contractors Association (NRCA): Low Slope Roofing and Waterproofing Manual, 2019 I. Edition.
- J. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA): Architectural Sheet Metal Manual. 2012 Edition.

1.3 DESIGN CRITERIA

- A. Provide installed roofing system that remains watertight, resists specified uplift pressures and exposure to normal weathering conditions without failure. Roofing materials and accessories shall be tested and compatible for use within the assembly, installed in accordance with manufacturer requirements.
- B. Building Code Compliance: The roofing assembly shall comply with the requirements of the local building code and authorities having jurisdiction.
- C. Fire Resistance Performance: Class (A, B, C) external fire classification as tested in accordance with ASTM E108 or UL 790.
- D. Wind Uplift Performance: Roof system shall be designed and installed to withstand wind uplift pressures as calculated using ASCE 7, revision as adopted by the authorities having jurisdiction.
 - Roofing system shall be tested by a qualified testing agency to resist the following design pressures:

 - a. Zone 1'- Interior Field of Roof: _____ psf
 b. Zone 1 Exterior Field of Roof: _____ psf
 - c. Zone 2 Perimeter Zone: _____psf d. Zone 3 Corner Zone: _____psf
 - 2. Field, Perimeter and Corner areas shall be fastened or secured in accordance with IB specifications and details, project design, and local code requirements. Perimeter and Corner Zones shall receive supplemental fastening or securement where required, to meet calculated pressures in these areas in accordance with IB requirements and the local authority having jurisdiction.
 - 3. Factory Mutual Approval (FM Projects Only): Roof system shall be installed in accordance with Class 1 or noncombustible construction in compliance with requirements of Factory Mutual Global FM 4450 and FM 4470.
 - a. Fire Hazard Classification: Class _____ (A, B or C)

 - b. Wind Uplift Classification: FM Class _____ or ____ psf MDP
 c. Hail Resistance: _____ Severe Hail (SH) or Moderate Hail (MH)
- E. Roof System Reflectivity and Thermal Performance: Provide installed roofing system that complies with the following thermal performance and reflectivity requirements:
 - 1. Provide roof assembly to achieve a minimum total R-value of
 - 2. Roof membrane shall be tested in accordance with ANSI / CRRC-1 Standard and comply with the following minimum reflectivity and emissivity requirements:
 - a. Minimum Initial Reflectance:
 - b. Minimum 3-year Aged Reflectance:
 - c. Initial SRI (Solar Reflectance Index):
 - d. Energy Star: Initial solar reflectance of 0.65 with 3-year aged reflectance of .50 or greater.
 - e. The roof system shall comply with the requirements of California Title 24.

1.4 ENVIRONMENTAL AND GREEN CONSTRUCTION DESIGN REQUIREMENTS

- A. Roof system shall comply with the following Environmental and Sustainable Design requirements:
 - 1. United States Green Building Council LEED Certification Program
 - a. Roof system shall be installed to achieve the following required LEED credits:
 - 2. Green Building Initiative Green Globes Certification



- a. Roof system shall be installed to achieve the following Green Globes Rating System Certification points:
- 3. Carbon Neutral Recovery Certification
 - a. Roof membrane shall be documented to achieve Carbon Neutrality within the specified warranty period after installation:
 - 1. 80-mil White: _____years
 - 2. 60-mil White: _____years
 3. 50-mil White: ____years
 - b. Roof membrane shall be documented to avoid carbon emissions within the specified warranty period after installation for the specified period:
 - 1. 80-mil White: _____years
 - 2. 60-mil White: _____ years
 - 3. 50-mil White: years

1.5 SUBMITTALS

- A. Submit product data, samples, shop drawings and installer certification under provisions of Division 1 General Requirements: Section 01 30 00.
- B. Product Data: Submit product data sheets indicating membrane materials, base flashing, insulation, separator / thermal insulation, accessories and manufacturer's installation instructions and details including:
 - 1. Product Data Sheets
 - 2. Material Safety Data Sheets
 - 3. Roof assembly installation instructions and recommendations
 - 4. Required storage and handling recommendations.
 - 5. Sample of Manufacturer's Warranty
 - 6. Manufacturer recommended Maintenance Program Data
 - 7. Submit certification from manufacturer of membrane roofing system certifying the installer is authorized by the manufacturer for installation of the specified roofing system and eligible to obtain the required Manufacturer's Warranty.
- C. Detail Drawings:
 - 1. Provide roof system elevation, section, plan, attachment, and construction detail drawings showing methods, components, flashing conditions, and location of work on the project.
 - 2. Submit shop drawings of tapered insulation system for approval; show direction and amount of slope, cricket locations, lengths, and details.
- D. Verification Samples: Submit a quantity of samples for each product specified. Submit 4" x 6" (10.2 cm x 15.2 cm) PVC membrane samples in the specified color for approval.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with a minimum of 20 years documented experience.
- B. Installer Qualifications:
 - 1. Company specializing in the installation of thermoplastic roofing and all products included in this section with minimum five years documented experience.
 - 2. The installer must be authorized by the manufacturer and eligible to provide the required Manufacturer's Warrantv.
 - 3. Installer must provide an adequate number of experienced workers, trained in jobsite safety practices and skilled in the use of hot-air welding equipment and the installation of materials and flashings used in the construction of the roofing assembly.
 - 4. Installer shall always provide a project supervisor on the job while work is in progress.
- C. Application of Roofing: Work of this section shall conform to contract documents and manufacturer specifications. No deviations shall be made from this specification without the approval of the designer of record. Deviations from published manufacturer requirements require review and approval of the designer of record and written approval from the manufacturer on manufacturer's letterhead, signed by an authorized technical manager of the company. Where discrepancies exist, the Installer shall promptly notify the design professional, project engineer or owner for resolution prior to commencing work.
- D. Materials: Provide only top-quality materials from a manufacturer complying with specification requirements. All materials shall be provided by the primary roofing system manufacturer or approved for use in conjunction with installation of the roofing assembly.



E. Manufacturers Final Inspection: Manufacturer's technical representative shall conduct a final inspection upon completion of projects requiring a Manufacturer's Total System Warranty covering workmanship and material to determine if the assembly is following manufacturer requirements for issuance of the warranty. A punch list of defective work and conditions requiring repair shall be provided to the installer for correction.

1.7 PRECONSTRUCTION CONFERENCE

A. Preconstruction Conference: A pre-roofing conference will be held in accordance with the contract documents at least one week prior to initiation of roofing work. Manufacturer representative, supervisor for roofing contractor, estimator for roofing contractor, architect, owner representative, sheet metal contractor, general contractor and other required parties should be present to discuss the execution of the work.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver products in manufacturer's original containers, dry, undamaged, with seals and labels intact. Store products in weather-protected environment, clear of ground and moisture, secured against wind, moisture, and damage. Prevent condensation beneath product packaging, coverings and temporary plastic shipping wrappers or shrouds by removing, opening and / or covering materials with breathable tarpaulins.
- B. Materials and equipment stored on the roof must be properly staged and supported to avoid damage and / or permanent deflection of the deck. Spread loads of roofing materials on roof structures to avoid damage to existing structure. Use protective plywood as required. No material storage or construction traffic shall be allowed over the new roofing unless properly protected to prevent damage and contamination on the finished roofing.
- C. Follow manufacturer's recommendations for environmental conditions and product storage. Bonding adhesives shall be stored at temperatures above 40°F (4.4°C). Materials shall be stored and maintained within the manufacturer's published temperature ranges.
- D. Storage and disposal of hazardous materials shall comply with the requirements of local authorities having jurisdiction.

1.9 PROJECT CONDITIONS

- A. Precautions: Install roofing only when adequate application temperatures exist to maintain a satisfactory roofing system application. Apply no insulation or membrane adhesives to the substrate or roofing membranes when deck surface temperatures are less than the recommended application temperature range stated on the products labels, or printed literature. Install no roofing material when water in any form is present on roof deck or substrate surface, or when materials are damp or wet. Proceed with roofing work only when existing and forecasted weather conditions permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.
- B. Temporary Roofing: Install watertight seals to protect work when adverse job conditions or weather conditions prevent permanent roofing and associated work from being installed in accordance with project requirements. Consult the designer of record and the primary roofing manufacturer regarding installation and removal of temporary roofing.
- C. Install new roofing to be complete and watertight by the close of each day's work.
- D. Avoid exposure of combustible materials to ignition sources and follow all safety and handling cautions, warnings, and recommendations for safe handling of materials. Material Safety Data Sheets shall be maintained at the jobsite, during transport and storage at all times.
- E. Moisture: Do not proceed with installation where potential exists for condensation or uncontrolled moisture migration into the roof system from construction-related moisture or installation over moisture bearing substrates or interiors without adequate ventilation and moisture control.
- F. All work shall be performed in accordance with applicable federal, state, and local requirements, codes, and safe work practices. Use of roof assembly adhesives, sealants, caulks, and related accessory materials shall conform to the requirements and VOC limits of the authority having jurisdiction.

1.10 WARRANTY

- A. Contractor Warranty: Contractor shall warrant roofing assembly components, accessories, and associated work of this section against leaks or defective workmanship from date of substantial completion.
 - 1. Term of Warranty _____years [two, five]



- B. Manufacturer's Limited Material Warranty: Submit executed copy of roofing manufacturer's (Commercial or Residential Limited Material, Warranty Plus Limited, Lifetime Residential Limited Material) warranty on materials from date of substantial completion.
 - 1. Term of Warranty _____years [ten, fifteen, twenty, twenty-five]
- C. Manufacturer's Total System Warranty: Submit executed copy of roofing manufacturer's Total System Warranty against leaks due to defective materials or workmanship according to its standard published coverage, terms, and conditions from date of substantial completion.
 - 1. Term of Warranty ______ years [ten, fifteen, twenty, twenty-five, thirty]

Part 2 PRODUCTS

2.0 MANUFACTURERS

- A. Acceptable Manufacturer: IB Roof Systems, 506 E. Dallas Road, Suite 300, Grapevine, Texas 75061 Toll-free: 800-426-1626 Fax: 541-610-1726 Email: technical@ibroof.com Website: www.ibroof.com
- B. Substitutions: Not permitted.
- C. Substitution Requests: Submit in accordance with Section 01 60 00.

2.1 SCOPE / APPLICATION

- A. Roof System: Provide a waterproof roof system manufactured and supplied or approved by the primary roofing materials manufacturer as specified in this section.
 - 1. Mechanically Attached Membrane: IB Roof Systems Specification ______ is the basis of design for the roofing assembly.
- B. Base Flashing: Provide waterproof base flashing assemblies and flashings at all penetrations, vertical walls, curbs, and terminations.
- C. Thermal Roof Insulation: Provide roof insulation components as specified herein, secured to the substrate in accordance with IB Specifications and the performance requirements of this section.

2.2 POLYVINYL CHLORIDE (PVC) MEMBRANE

- A. Roof Covering: Provide IB PVC Single Ply roofing membrane constructed from a calendered film, nonextrusion lamination process with a non-wicking polyester scrim reinforcement and compounded PVC resin based with plasticizers, stabilizers, fillers, pigments with an acrylic finish conforming to ASTM D4434, Type III. Flashings and accessories shall be factory-manufactured or approved by IB Roof Systems coordinated with the specified membrane and finish color.
 - 1. Membrane Type:
 - a. Smooth Back
 - 2. Color: ____
 - a. White
 - b. Bronze
 - c. Cool Sand
 - d. Cool Stone
 - e. Gray
 - f. Tan
 - g. Custom: _
 - 3. Membrane Thickness, overall (ASTM D751): 50-mil nominal
 - a. Thickness over scrim, (ASTM D751): 24 mils
 - b. Breaking strength (ASTM D751): 332 MD / 256 CD lbf
 - c. Tearing strength (ASTM D751): 54 MD / 68 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Field sheet width: 72 inches (1.83m)
 - f. Length: 90 feet (27.43m)
 - 4. Membrane Thickness, overall (ASTM D751): 60-mil nominal
 - a. Thickness over scrim, (ASTM D751): 28 mils
 - b. Breaking strength (ASTM D751): 371 MD / 308 CD lbf



- c. Tearing strength (ASTM D751): 58 MD / 72 CD lbf
- d. Elongation at break (ASTM D751): 34% MD / 29% CD
- e. Field sheet width: 72 inches (1.83m)
- f. Length: 90 feet (27.43m)
- 5. Membrane Thickness, overall (ASTM D751): 80-mil nominal
 - a. Thickness over scrim, (ASTM D751): 38 mils
 - b. Breaking strength (ASTM D751): 408 MD / 388 CD lbf
 - c. Tearing strength (ASTM D751): 62 MD / 78 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Field sheet width: 72 inches (1.83m)
 - f. Length: 60 feet (18.3m)
- B. Roof Covering: Provide IB PVC Single Ply ChemGuard® roofing membrane constructed from a calendared film, non-extrusion lamination process with a non-wicking polyester scrim reinforcement and compounded PVC resin based with Elvaloy®, stabilizers, fillers, pigments with an acrylic finish conforming to ASTM D4434, Type III. Flashings and accessories shall be factory-manufactured or approved by IB Roof Systems coordinated with the specified membrane and finish color.
 - 1. Membrane Type:
 - a. Smooth Back
 - 2. Color: _
 - a. White
 - 3. Membrane Thickness, overall (ASTM D751): 50-mil nominal
 - a. Thickness over scrim, (ASTM D751): 24 mils
 - b. Breaking strength (ASTM D751): 332 MD / 256 CD lbf
 - c. Tearing strength (ASTM D751): 54 MD / 68 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Field sheet width: 72 inches (1.83m)
 - f. Length: 90 feet (27.43m)
 - 4. Membrane Thickness, overall (ASTM D751): 80-mil nominal
 - a. Thickness over scrim, (ASTM D751): 38 mils
 - b. Breaking strength (ASTM D751): 408 MD / 388 CD lbf
 - c. Tearing strength (ASTM D751): 62 MD / 78 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Field sheet width: 72 inches (1.83m)
 - f. Length: 60 feet (18.3m)
- C. PVC Flashing Membrane: Provide IB PVC Single Ply constructed from a calendared film, non-extrusion lamination process with a non-wicking polyester scrim reinforcement and compounded PVC resin based with plasticizers, stabilizers, fillers, pigments with an acrylic finish conforming to ASTM D4434, Type III. Flashings and accessories shall be factory-manufactured or approved by IB Roof Systems coordinated with the specified membrane and finish color.
 - 1. Membrane Type:
 - a. Smooth Back
 - Color: _____
 - a. White
 - b. Bronze
 - c. Brown
 - d. Cool Sand
 - e. Cool Stone
 - f. Gray
 - g. Green
 - h. Red
 - i. Tan
 - j. Custom:
 - 3. Membrane Thickness, overall (ASTM D751): 50-mil nominal
 - a. Thickness over scrim, (ASTM D751): 24 mils
 - b. Breaking strength (ASTM D751): 332 MD / 256 CD lbf
 - c. Tearing strength (ASTM D751): 54 MD / 68 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Width: 72 inches (1.83m)



- f. Length: 90 feet (27.43m)
- 4. Membrane Thickness, overall (ASTM D751): 60-mil nominal
 - a. Thickness over scrim, (ASTM D751): 28 mils
 - b. Breaking strength (ASTM D751): 371 MD / 308 CD lbf
 - c. Tearing strength (ASTM D751): 58 MD / 72 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Width: 72 inches (1.83m)
 - f. Length: 90 feet (27.43m)
- 5. Membrane Thickness, overall (ASTM D751): 80-mil nominal
 - a. Thickness over scrim, (ASTM D751): 38 mils
 - b. Breaking strength (ASTM D751): 408 MD / 388 CD lbf
 - c. Tearing strength (ASTM D751): 62 MD / 78 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Width: 72 inches (1.83m)
 - f. Length: 60 feet (18.3m)
- D. PVC Flashing Membrane: Provide IB PVC Single Ply ChemGuard® constructed from a calendared film, nonextrusion lamination process with a non-wicking polyester scrim reinforcement and compounded PVC resin based with Elvaloy®, stabilizers, fillers, pigments with an acrylic finish conforming to ASTM D4434, Type III. Flashings and accessories shall be factory manufactured or approved by IB Roof Systems, coordinated with the specified membrane and finish color.
 - 1. Membrane Type:
 - a. Smooth Back
 - 2. Color: ____
 - a. White
 - 3. Membrane Thickness, overall (ASTM D751): 50-mil nominal
 - a. Thickness over scrim, (ASTM D751): 24 mils
 - b. Breaking strength (ASTM D751): 332 MD / 256 CD lbf
 - c. Tearing strength (ASTM D751): 54 MD / 68 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Width: 72 inches (1.83m)
 - f. Length: 90 feet (27.43m)
 - 4. Membrane Thickness, overall (ASTM D751): 80-mil nominal
 - a. Thickness over scrim, (ASTM D751): 38 mils
 - b. Breaking strength (ASTM D751): 408 MD / 388 CD lbf
 - c. Tearing strength (ASTM D751): 62 MD / 78 CD lbf
 - d. Elongation at break (ASTM D751): 34% MD / 29% CD
 - e. Width: 72 inches (1.83m)
 - f. Length: 60 feet (18.3m)

2.3 INSULATION

- A. Polyisocyanurate: Rigid thermal roof insulation board with fiber reinforced facers on both sides meeting or exceeding the requirements of ASTM C1289.
 - 1. IB Energy Board II supplied by IB Roof Systems
 - a. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
 - b. Minimum Thickness: _____
 - c. Minimum R-Value:
 - d. Compressive Strength: 20 psi (1.4 kg/cm)
 - e. Compressive Strength: 25 psi (1.8 kg/cm)
- B. Polyisocyanurate: Rigid thermal, tapered roof insulation board with fiber reinforced facers on both sides meeting or exceeding the requirements of ASTM C1289.
 - 1. Tapered IB Energy Board II supplied by IB Roof Systems
 - a. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - b. Minimum Slope per Foot: _____
 - I. 1/8"
 - II. 1/4"



- III. 1/2"
- c. Minimum Starting Thickness: _____
- d. Minimum Average R-Value:
- e. Compressive Strength: 20 psi (1.4 kg/cm)
- f. Compressive Strength: 25 psi (1.8 kg/cm)
- C. Polyisocyanurate: Rigid thermal roof insulation board with fiberglass facers on both sides meeting or exceeding the requirements of ASTM C1289.
 - 1. IB Energy Board III supplied by IB Roof Systems
 - a. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
 - b. Minimum Thickness:

 - e. Compressive Strength: 25 psi (1.8 kg/cm)
- D. Polyisocyanurate: Rigid thermal, tapered roof insulation board with fiberglass facers on both sides meeting or exceeding the requirements of ASTM C 1289.
 - 1. Tapered IB Energy Board III supplied by IB Roof Systems
 - a. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - b. Minimum Slope per Foot:
 - I. 1/8"
 - II. 1/4"
 - III. 1/2"
 - c. Minimum Starting Thickness: _____
 - d. Minimum Average R-Value:
 - e. Compressive Strength: 20 psi (1.4 kg/cm)
 - f. Compressive Strength: 25 psi (1.8 kg/cm)
- E. High Density Polyisocyanurate Cover Board: Rigid thermal, high density roof insulation board with coated
 - fiberglass facers on both sides meeting or exceeding requirements of ASTM C1289, Type II, Class 4, Grade. 1. Coverboard:
 - a. Hunter Panels H-Shield HD supplied by IB Roof Systems
 - 2. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
 - 3. Minimum Thickness: 1/2" (13 mm)
 - 4. Minimum Average R-Value: 2.5
 - a. Compressive Strength: 80 109 psi (5.6 7.7 kg/cm)
- F. Gypsum Fiber Roof Board: Moisture resistant, fiber reinforced gypsum roof board with integral water-resistant core conforming to the requirements of ASTM C1278.
 - 1. Securock® Gypsum-Fiber Roof Board supplied by IB Roof Systems
 - a. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
 - b. Board Thickness:
 - I. 1/4" (6.3 mm)
 - II. 3/8" (9.5 mm)
 - III. 1/2" (13 mm)
 - IV. 5/8" (16 mm)
 - c. Minimum R-Value:
- G. Gypsum Roof Board with Glass Mat Facer: Standard, pre-primed or coated, moisture-resistant gypsum board with silicone treated core and embedded fiberglass facer on both sides conforming to the requirements of ASTM C1177.
 - 1. Glass Mat Gypsum Roof Board:
 - a. DensDeck® Roof Board supplied by IB Roof Systems
 - b. DensDeck® Prime Roof Board supplied by IB Roof Systems
 - c. DensDeck® StormX[™] Prime® Roof Board supplied by IB Roof Systems
 - d. Securock® Ultralight Glass-Mat Roof Board supplied by IB Roof Systems



- e. Securock® Ultralight Coated Glass-Mat Roof Board supplied by IB Roof Systems
- f. DEXCell® Glass Mat Roof Board supplied by IB Roof Systems
- g. DEXCell® FA Glass Mat Roof Board supplied by IB Roof Systems
- 2. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
- 3. Board Thickness:
 - I. 1/4" (6.3 mm)
 - II. 1/2" (13 mm)
 - III. 5/8" (16 mm)
- 4. Minimum R-Value:
- H. Cement Board: Moisture-resistant, cement roof boards in various thicknesses with integral water-resistant cores available in un-faced, fiberglass faced or primed fiberglass facer formats conforming to the requirements of ASTM C1325.
 - 1. Cement Board
 - a. DEXCell® Cement Roof Board supplied by IB Roof Systems
 - b. USG Securock® Brand Cement Roof Board supplied by IB Roof Systems
 - 2. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
 - 3. Board Thickness:
 - I. 1/2" (13 mm)
 - II. 5/8" (16 mm)
 - 4. Minimum R-Value:
- I. High Density Fiber Board: Rigid high density non-asphaltic wood fiber board with compatible primer on both sides conforming to the requirements of ASTM C208, Type II, Grade 1 and 2.
 - 1. High Density Wood Fiberboard
 - a. Blue Ridge Structodek® HD with Primed Red Coating supplied by IB Roof Systems
 - 2. Board Size:
 - I. 4' x 4' (1.22m x 1.22m)
 - II. 4' x 8' (1.22m x 2.44m)
 - 3. Board Thickness: 1/2" (13 mm)
 - 4. Minimum R-Value: 1.3
- J. Fanfold Expanded Polystyrene (EPS): Rigid, closed cell, fan-fold foam insulation with an approved integral polymeric facer, conforming to the requirements of ASTM C578 Type II or Type IX.
 - 1. Fan-Fold EPS
 - a. Cellofoam® Poly Shield® Fan-Fold Polyester recovery board supplied by IB Roof Systems
 - b. Insulfoam® R-Tech® FF fan-fold roofing underlayment board supplied by IB Roof Systems
 - c. ThermaShield® Fanfold Roof Recover Board 150 supplied by IB Roof Systems
 - d. ThermalStar LRI 15 supplied by IB Roof Systems.
 - 2. Board Size:
 - I. 4' x 50' layout (2' x 4' panel size); (1.22m x 15.24m layout, 61 cm x 1.22m panel size)
 - 3. Board Thickness: 1/2" (13 mm)
 - 4. Board Type:
 - I. Type VII: Density 1.5 pcf; Compressive Strength: 15 psi (1.0 kg/cm) min.
 - II. Type IX: Density 2.0 pcf; Compressive Strength: 25 psi (1.8 kg/cm) min.
 - Note: Non-IB supplied EPS fanfold insulations may not meet the required minimum density or have an approved polymeric facer and therefore may not be suitable or compatible with IB membranes unless covered with an IB approved separation sheet.
- K. Expanded Polystyrene (EPS): Rigid, closed cell foam insulation conforming to the requirements of ASTM C578. Requires IB approved gypsum or high-density Isocyanurate coverboard, high density fiberboard, or additional top layer of polyisocyanurate or other approved non-EPS or XPS insulation.
 - 1. EPS Roof Board
 - a. Cellofoam EPS insulation supplied by IB Roof Systems
 - b. Insulfoam EPS insulation supplied by IB Roof Systems
 - c. Thermafoam EPS insulation supplied by IB Roof Systems
 - d. ThermalStar EPS insulation supplied by IB Roof Systems
 - Board Size: _____



- I. 4' x 8' (1.22m x 2.44m)
- 3. Board Thickness: _____
- 4. Minimum R-Value: _____
- 5. Board Type: _
 - I. Type VIII, nominal density of 1.25 pcf; Compressive Strength: 13 psi (0.9 kg/cm)
 - II. Type II, nominal density of 1.5 pcf; Compressive Strength: 15 psi (1.0 kg/cm)
 - III. Type IX, nominal density of 2.0 pcf; Compressive Strength: 25 psi (1.8 kg/cm)
- L. Expanded Polystyrene (EPS) Flute Fill: Rigid, closed cell foam insulation conforming to the requirements of ASTM C 578 Type I nominal density of 1.0 pcf or greater. Available with square cut, tapered cut, or panel profile design. Intended to be loose laid or simultaneously fastened with an approved cover board.
 - 1. EPS Flute Fill
 - I. Cellofoam EPS insulation supplied by IB Roof Systems
 - II. Insulfoam EPS insulation supplied by IB Roof Systems
 - III. Thermafoam EPS insulation supplied by IB Roof Systems
 - IV. ThermalStar EPS insulation supplied by IB Roof Systems
 - 2. Board Size:
 - 3. Board Thickness: _____
 - 4. Minimum R-Value:
 - 5. Board Type: _
 - I. Type I: Density 1.0 pcf; Compressive Strength: 10 psi (0.7 kg/cm) min.
 - II. Type II: Density 1.5 pcf; Compressive Strength: 15 psi (1.0 kg/cm) min.
 - III. Type VIII: Density 1.25 pcf; Compressive Strength: 13 psi (0.9 kg/cm) min.
 - IV. Type IX: Density 1.80 pcf; Compressive Strength: 25 psi (1.8 kg/cm) min.
- M. Extruded Polystyrene (XPS) roof insulation; Rigid, closed cell, flat, or tapered extruded polystyrene foam insulation with integral formed skin or planed exterior faces, conforming to the requirements of ASTM C578, Type IV; nominal minimum compressive strength of 25 psi (1.8 kg/cm).
 - 1. XPS Roof Board
 - a. DuPont[™] Styrofoam[™] Brand DECKMATE[™] Plus FA supplied by IB Roof Systems
 - b. DuPont™ Styrofoam™ Brand DECKMATE™ Plus supplied by IB Roof Systems
 - c. DuPont™ Styrofoam™ Brand DECKMATE™ supplied by IB Roof Systems
 - 2. Board Size:
 - I. 4' x 8' (1.22m x 2.44m)
 - 3. Board Thickness: _____
 - 4. Minimum R-Value: _____
 - 5. Board Type:
 - I. Type IV, nominal density of 1.55 pcf; Compressive Strength: 25 psi (1.8 kg/cm)

Note: Requires use of approved cover board or non-polystyrene insulation board as top layer; or use of approved separation sheet between the IB membrane and polystyrene insulation.

2.4 MEMBRANE FLASHINGS AND ACCESSORIES

- A. Cover Strip: Reinforced 60-mil thermoplastic PVC flashing and stripping membrane made from the same material as IB PVC Single Ply Roofing Membrane with non-wicking polyester fiber reinforcement conforming to ASTM D4434, Type III.
- B. ChemGuard® Cover Strip: Reinforced 50-mil thermoplastic PVC flashing and stripping membrane made from the same material as IB PVC Single Ply ChemGuard® Roofing Membrane with non-wicking polyester fiber reinforcement conforming to ASTM D4434, Type III.
- C. Flashing Detail Membrane: Non-reinforced 60-mil thermoplastic PVC flashing and detailing membrane.
 1. IB NR Detail Flashing Membrane
- D. T-Joint Patches: Reinforced PVC T-Joint flashing cut into 5" (12.7 cm) diameter circular targets for reinforcing lap intersections in membrane and flashings.
 - 1. IB Round T-Joint Patch IB Round T-Joint Patch ChemGuard®
- E. Inside Corners: Factory-manufactured 60-mil non-reinforced inside corner for non-canted 90° flashings.
 1. IB Inside Corner
- F. Outside Corners: Factory-manufactured 60-mil non-reinforced outside corner for non-canted 90° flashings.
 1. IB Outside Corner
- G. Universal Outside Corners: Factory-manufactured, 60-mil fluted non-reinforced outside corner for canted and non-canted 90° flashings.
 - 1. IB Universal Outside Corner



- H. Pipe Flashings: Dielectrically welded, factory manufactured PVC flashing with reinforced membrane base and 60-mil PVC upper flashing used for pipe penetrations.
 - 1. IB PVC Pipe Flashing
 - 2. IB PVC ChemGuard® Pipe Flashing
 - a. Size:
 - 3. IB PVC No-Cone Pipe Flashing
 - 4. IB PVC ChemGuard® No-Cone Pipe Flashing a. Size:
 - 5. IB PVC Steep Slope Flashing
 - 6. IB PVC ChemGuard® Steep Slope Flashing
 - a. Oval
 - I. Size: ____
 - b. Round
 - I. Size:
- I. Vent Flashings: One and two-way PVC molded roof vents manufactured from heavy duty, UV-stabilized PVC with factory welded reinforced membrane target patch bases.
 - 1. 5" (12.7 cm) Two Way Recover Vent
 - a. IB PVC Single Ply Recover Membrane Vent
 - b. IB PVC Single Ply ChemGuard® Recover Membrane Vent
 - 2. 10" (25.4 cm) Roof Vent
 - a. IB PVC Single Ply 10" (25.4 cm) Roof Vent
 - b. IB PVC Single Ply ChemGuard® 10" (25.4 cm) Roof Vent
- J. Rooftop Dryer / Exhaust Vent Flashing: Two-piece, G90 galvanized metal exhaust vent with flanged base, Kynar 500® finished cap and internal backdraft dampers designed for use with IB No-Cone Pipe Flashing.
 - 1. IB Dryer Vent / Exhaust Vent
 - a. Size:
 - I. 4" (10.2 cm)
 - II. 6" (15.2 cm)
 - III. 8" (20.3 cm)
- K. Penetration E-Curb Flashing Kits: Modular, interlocking, expandable formed curbs with M-1 Structural Adhesive/Sealant and 1-Part moisture cure pourable sealer.
 - 1. E-Curb Kits
 - a. Size:
 - I. 4" (10.2 cm) Round
 - II. 6" (15.2 cm) Round
 - III. Universal
- L. Penetration Pocket Flashings: Factory-manufactured split PVC clad metal flashing with reinforced membrane base used for pitch pan penetrations.
 - 1. IB PVC Split Pitch Pan Flashing
 - 2. IB PVC ChemGuard® Split Pitch Pan Flashing
 - a. Size: _
- M. PVC Clad Metal Scuppers: Factory-fabricated, custom sized through wall scupper manufactured from 24gauge G90 galvanized, PVC clad metal with IB 0.060 non-reinforced membrane flashing.
 - 1. IB Custom Clad Metal Through-Wall Scupper
 - 2. IB Custom Clad Metal Through-Wall Overflow Scupper
- N. Retrofit Drains: Factory-fabricated, clamping ring style roof drain made of spun-bonded aluminum with IB 60 mil reinforced membrane flashing.
 - 1. IB Retrofit Drain
 - 2. IB Retrofit Overflow Drain
 - a. Size: _
- O. Walkway Pad: Calendared and embossed 80 mil slip resistant, heat weldable PVC walk tread for use with IB Roof Systems in 3' x 60' (0.91m x 18.3m) rolls.
 - 1. IB WalkTread™
 - a. Color:
 - I. Gray
 - II. Safety Yellow
- P. GrossGrip: Slip resistant walkway system for roof and worker protection in high maintenance rooftop areas, where access for installation and maintenance of solar power systems, HVAC, telecommunications, and

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auxiliary equipment is necessary. Open grid "duckboard" design with cross directional top ribs in 3' x 33' (0.91m x 10.1m) rolls.

- 1. IB CrossGrip™
 - a. Color:
 - I. Gray
 - II. Black
 - III. White
 - IV. Yellow

2.5 CLEANERS, PRIMERS, ADHESIVES AND SEALANTS

- A. Water-Based PVC Bonding Adhesive: Water-based membrane adhesive designed for one-sided, fully adhered application of IB Roof Systems Single Ply membranes to approved horizontal substrates.
 - 1. IB Water Borne Adhesive
 - 2. IB Water Borne 636 Adhesive
- B. Solvent-Based PVC Bonding Adhesive: Solvent-based membrane adhesive designed for two-sided, fully adhered contact adhesion of IB Roof Systems Single Ply membranes to approved vertical substrates.
 - 1. IB Vertibond Adhesive
 - 2. IB Vertibond 432 Bonding Adhesive
 - 3. Approved PVC spray contact adhesive supplied by IB Roof Systems
- C. Water Cut-Off Mastic: Butyl-based one-component mastic used as a compression sealant between IB membrane and flashings to applicable substrates.
 - 1. IB Water Stop
- D. Polyurethane Caulk Sealant: One part polyurethane sealant suitable for sealing upper lip of exposed termination bars and around upper edge of penetration clamping rings, meets or exceeds ASTM C920.
 1. Solar Seal #900 Terpolymer Rubber Adhesive / Sealant by NPC supplied by IB Roof Systems
- E. High Performance Sealant: High performance, plasticizer free, single component, 100% solids, moisturecuring sealant for sealing terminations, metal flashings and filling pitch pans.
 - 1. IB Sealer by IB Roof Systems
- F. One Part Pourable Penetration Sealant: One-part pourable sealant suitable for filling pitch pans at irregularly shaped penetrations.
 - 1. Chemlink 1-Part Pourable Sealer supplied by IB Roof Systems
 - 2. IB Sealer by IB Roof Systems
- G. Self-Adhered Vapor Retarder Primer: Solvent-based primer with enhanced resins and polymers for use over prepared substrates to improve self-adhered membrane adhesion to a variety of substrates.
 - 1. IBarrier Primer by IB Roof Systems
 - 2. *IB*arrier Primer LV by IB Roof Systems

2.6 SEPARATION SHEETS, FIRE SHEETS AND VAPOR RETARDERS

- A. Polyester Separation / Protection Sheet: Non-woven polyester UV-stabilized mat, used as a separation sheet beneath membranes, or as a protection layer over membranes in ballast-applied and overburden assemblies.
 - 1. IB Poly Separator Sheet (7.5' x 360'); (2.3m x 109.7m)
 - 2. IB HD Poly Separator Sheet (7.5' x 150'); (2.3m x 45.7m)
- B. Separation Sheet: High-strength, polypropylene scrim reinforced fabric with polypropylene coating both sides used as separation sheet beneath membranes to resist contaminant, residue transfer and moisture from existing substrates.
 - 1. IB Separator Sheet (5.83' x 515'); (1.8m x 156.9m)
- C. Fire Sheet: Fire resistant glass fiber mat used as a separation sheet over polystyrene foam insulation or beneath insulation over wood substrates.
 - 1. IB Fire Sheet 10 (4' x 250'); (1.2m x 76.2m)
- D. Vapor Retarder: Self-adhered SBS-modified bitumen vapor retarder for steel, concrete, plywood and approved insulated substrates with tri-laminated woven polyethylene top surface and integral release film on bottom.
 - 1. *IB*arrier SA Membrane (3' 7" x 133'); (1.09m x 40.5m)

2.7 FASTENERS



- A. Standard Fasteners: Standard gauge alloy steel fastener with corrosion resistant e-coating and .228-inch diameter thread: Factory Mutual Standard 4470 approved #3 Phillips truss head for use on approved decks.
 1. IB SD #12 Insulation Fastener
- B. HD Fasteners: Heavy duty gauge alloy steel fastener with corrosion resistant e-coating and .242-inch diameter thread: Factory Mutual Standard 4470 approved #3 Phillips truss head for use on approved decks.
 1. IB HD #14 Roofing Fastener
- C. XHD Fasteners: Heavy duty gauge alloy steel fastener with corrosion resistant e-coating and .260-inch diameter thread: Factory Mutual Standard 4470 approved #3 Phillips truss head for use on approved decks.
 1. IB XHD #15 Roofing Fastener
- D. Purlin Fasteners: Standard gauge alloy steel fastener with corrosion resistant e-coating and .209-inch diameter thread: Factory Mutual Standard 4470 approved #3 square drive head for drilling through steel purlin thicknesses of 18 ga (.045" nominal) through 1/4" (.250").
 I. IB #12 Purlin Fastener
- E. Stainless Fasteners: 410 stainless steel fastener with corrosion resistant e-coating and .235-inch diameter thread: Factory Mutual Standard 4470 approved #3 Phillips truss head for use on approved decks.
 IB #14 Stainless Roofing Fastener
- F. Concrete Anchor: Hammer-in, non-threaded fastener designed to secure insulation and membrane to structural concrete. Alloy steel fastener with corrosion resistant e-coating and .239-inch shank diameter: Factory Mutual Standard 4470 approved 1/2" (13 mm) mushroom drive head.
 1. Dekspike Concrete Anchor supplied by IB Roof Systems
- G. Concrete Fastener: Hammer-in, non-threaded fastener designed to secure insulation and membrane to structural concrete. Alloy steel fastener with a corrosion resistant e-coating and split bulb shank of .270 .277-inch diameter: Factory Mutual Standard 4470 approved flat top pan head.
 1. CD-10 Concrete Fastener supplied by IB Roof Systems
- H. Gypsum Fastener: Glass-filled nylon auger fastener with a 1-inch (25 mm) head designed to secure insulation and membrane to lightweight insulating concrete, poured gypsum, gypsum plank, and cementitious wood fiber decks. Features a wide buttress thread design: Factory Mutual Standard 4470 approved 1/4" (6.3 mm) square drive head.
 - 1. Polymer GypTec® Fastener supplied by IB Roof Systems
 - 2. Deklite Roofing Fastener supplied by IB Roof Systems
- I. Barbed Seam Plate: Galvalume, barbed fastening plate used with IB HD #14 Roofing Fastener, IB XHD #15 Roofing Fastener, IB #12 Purlin Fastener, CD-10 Concrete Anchor, and DekSpike Roofing Fasteners for securement and termination of IB membranes at penetrations and perimeter walls or edges.
 - 1. IB 2" (5.1 cm) Barbed Seam Plate
 - 2. IB 2-3/8" (6 cm) Barbed Seam Plate
- J. Insulation Plate: Galvalume-coated steel insulation plates used with IB SD #12 Insulation Fastener, HD #14 Roofing Fastener, XHD #15 Roofing Fastener, CD-10 Concrete Anchor, and DekSpike Roofing Fasteners to attach approved separator sheets, rigid insulation, and cover boards to approved substrates below IB membranes.
 - 1. IB 3" (7.6 cm) Galvalume Insulation Plate
- K. Deklite 2" (5.1 cm) Barbed Seam Plate: Galvalume, barbed fastening plate used with Deklite Roofing Fasteners for securement and termination of IB membranes at penetrations and perimeter walls or edges.
- L. Deklite 3" (7.6 cm) Insulation Pate: Galvalume-coated steel insulation plates used with Deklite Roofing Fasteners to attach approved separator sheets, rigid insulation, and cover boards to approved substrates below IB membranes.
- M. Gyptec 2" (5.1 cm) Barbed Seam Plate: Galvalume, barbed fastening plate used with Polymer Gyptec Fasteners for securement and termination of IB membranes at penetrations and perimeter walls or edges.
- N. Gyptec 3" (7.6 cm) Insulation Plate: Galvalume-coated steel insulation plates used with Polymer Gyptec Fasteners to attach approved separator sheets, rigid insulation, and cover boards to approved substrates below IB membranes.
- O. Multi-Purpose Termination Fastener: EPDM grommeted anchor designed to secure termination bar, counter flashing, and various metal flashings to wood, concrete, masonry, and steel. Zinc aluminum composition with corrosion resistant e-coating on thread meets FM Approval Standard 4470.
 - 1. ZAC Anchors supplied by IB Roof Systems
- P. Zinc Term Bar Anchors: Mushroom head, expanding zinc plated steel nailin anchor designed to secure termination bar, counter flashing and various metal flashings to concrete, brick, and filled masonry walls. Zamac alloy composition with corrosion resistant e-coating on thread meets FM Approval Standard 4470.
 - 1. Zinc Nailin Anchor supplied by IB Roof Systems



- Q. Batten Bar: 1" (25 mm) Galvalume Steel or Polymer Batten Bar with pre-punched holes used inseam or through membrane with cover strip on IB membranes.
 - 1. IB Heavy Duty Steel Batten Bar
 - 2. IB Polymer Batten Bar

2.8 EDGINGS AND TERMINATIONS

- A. Anchor Tite Drip Edge: Two-part edge metal assembly with a rigid extruded aluminum anchor bar with prepunched holes, 12" (30.5 cm) o.c. and decorative 24 ga. steel or .040 aluminum snap on fascia cover in 12' (3.66m) lengths. A wide range of standard colors and finishes are available. ES-1 tested and approved. FM Approved. Miami-Dade Approved (No. 18-0424.06 12/11/23) for use in the High Velocity Hurricane Zone. Available Lifetime, 215 mph wind warranty.
 - 1. Anchor Tite Drip Edge (12' lengths); (3.66m)
 - a. Cover Type:
 - I. 24-gauge Steel
 - II. .040 Aluminum
 - b. Face Size:
 - I. 3" (7.6 cm)
 - II. 4-1/2" (11.4 cm)
 - III. 6" (15.2 cm)
 - IV. 7-1/2" (19 cm)
 - V. Custom:
 - c. Color:
- B. PVC Clad Drip Edge: 24-gauge G90 corrosion resistant galvanized steel laminated to 0.045 PVC non-reinforced cladding, formed into a standard metal drip edge profile with an open-hem kick-out at the bottom to provide a corrosion resistant, heat weld-able perimeter roof edge termination supplied by IB Roof Systems. ES-1 tested and approved with use of CS Steel G90 22-gauge cleat on standard sizes.
 - 1. IB PVC Clad Drip Edge (3" deck flange, 10' lengths); (7.6 cm x 3.05m)
 - a. Face Size:
 - I. 2.5" (6.3 cm)
 - II. 4" (10.2 cm)
 - III. Custom:
 - b. Color:
 - I. White
 - II. Bronze
 - III. Gray
 - IV. Tan
- C. PVC Clad Gravel Stop Metal Edge: 24-gauge G90 corrosion resistant galvanized steel laminated to 0.045 PVC non-reinforced cladding, formed into a gravel stop edge profile with a ³/₄" (18 mm) rise and with an openhem kick-out at the bottom to provide a corrosion resistant, heat weld-able perimeter roof edge termination supplied by IB Roof Systems. ES-1 tested and approved with use of CS Steel G90 22-gauge cleat on standard sizes.
 - 1. IB PVC Clad Gravel Stop Metal Edge (3" deck flange, 10' lengths); (7.6 cm x 3.05m)
 - a. Face Size:
 - I. 2.5" (6.3 cm)
 - II. 4" (10.2 cm)
 - III. Custom: _____
 - b. Color:
 - I. White
 - II. Bronze
 - III. Gray
 - IV. Tan
- D. PVC Clad Drip Edge Stainless Steel Metal: 24-gauge SAE 304 stainless steel laminated to 0.045 PVC non-reinforced cladding, formed into a standard metal drip edge profile with an open-hem kick-out at the bottom to provide a corrosion resistant, heat weld-able perimeter roof edge termination supplied by IB Roof Systems. ES-1 tested and approved with use of 22-gauge stainless steel cleat on standard sizes.
 - 1. IB PVC Clad Drip Edge Stainless Steel (3" deck flange, 10' lengths); (7.6 cm x 3.05m)
 - a. Face Size:
 - I. 2.5" (6.3 cm)



- II. 4" (10.2 cm)
- III. Custom:
- b. Color: _____ I. White
- E. PVC Clad Gravel Stop Stainless Steel Metal Edge: 24-gauge SAE 304 stainless steel laminated to 0.045 PVC non-reinforced cladding, formed into a gravel stop edge profile with a ¾" (18 mm) rise and with an openhem kick-out at the bottom to provide a corrosion resistant, heat weld-able perimeter roof edge termination supplied by IB Roof Systems. ES-1 tested and approved with use of 22-gauge stainless steel cleat on standard sizes.
 - 1. IB PVC Clad Gravel Stop Stainless Steel Metal Edge (3" deck flange, 10' lengths); (7.6 cm x 3.05m)
 - a. Face Size:
 - I. 2.5" (6.3 cm)
 - II. 4" (10.2 cm)
 - III. Custom:
 - b. Color:
 - I. White
- F. PVC Coated Metal: 24-gauge G90 corrosion resistant galvanized steel sheets laminated to 0.045 PVC nonreinforced cladding used in the fabrication of PVC flashings.
 - 1. IB PVC Clad Metal (4' x 10' sheets); (1.22m x 3.05m).
 - a. Color:
 - I. White
 - II. Bronze
 - III. Gray
 - IV. Tan
- G. PVC Coated Stainless Steel Metal: 24-gauge SAE 304 stainless steel sheets laminated to 0.045 PVC nonreinforced cladding used in the fabrication of PVC flashings.
 - 1. IB PVC Clad Metal (4' x 10' sheets); (1.22m x 3.05m).
 - a. Color:
 - I. White
- H. Aluminum Termination Bar: Extruded aluminum bar with angled lip caulk receiver and lower leg bulb stiffener. Pre-punched holes at 6" (15.2 cm) o.c.
 - 1. İB Aluminum Termination Bar (1" x 10' lengths); (25mm x 3.05m)
- I. PVC Termination Bar: 24-gauge G90 corrosion resistant galvanized steel laminated to 0.045 PVC nonreinforced cladding formed into termination bar with angled lip caulk receiver and lower him stiffener.
 - 1. IB PVC Clad Termination Bar (2" x 10' lengths); (5.1cm x 3.05m)
 - a. Color: ___
 - I. White
 - II. Bronze
 - III. Gray
 - IV. Tan
- J. IB Snap Fascia: Two-piece assembly with a raised rigid .063 aluminum retainer/clip base plate and a raised decorative coated galvanized steel or aluminum, snap on face cover designed for terminating IB PVC membrane systems at the perimeter edges, or for vertically terminating IB PVC base flashing. Cover is 10' (3.05m) lengths with pre-punched holes for fastening 12" (30.5 cm) on center.
 - 1. IB Snap Fascia (10' lengths); (3.05m)
 - a. Cover Type:
 - I. 24-gauge Steel
 - II. 22-gauge Steel
 - III. .032 Aluminum
 - IV. .040 Aluminum
 - V. .050 Aluminum
 - b. Face Size: ____"
 - I. 2-1/4" (standard); (5.7 cm)
 - II. Custom:
 - c. Color:
 - I. White
 - II. Bronze
 - III. Tan



- IV. Gray
- V. Custom:
- K. Metal-Era One Coping: Two-piece metal coping assembly, in a flat or tapered design, with a 22-gauge galvanized steel cleat, and a decorative steel or aluminum coping cover in 12' (3.66m) lengths with prepunched holes. A wide range of standard colors and finishes are available. ES-1 tested and approved. Available with 10-year, 90 mph wind warranty.
 - 1. One Coping (12' lengths); (3.66m)
 - a. Cover Type:
 - I. 24-gauge Steel
 - II. 22-gauge Steel
 - III. .040 Aluminum
 - IV. .050 Aluminum
 - V. .063 Aluminum
 - b. Slope Style: _____
 - I. Flat
 - II. Tapered (Raised Cleat)
 - c. Coping Width: _____"
 - d. Inside Face Size: ______
 e. Outside Face Size: _____

 - f. Color:
- L. Perma-Tite Coping: Full Snap-On metal coping, in a flat or tapered design, with 20-gauge, galvanized steel anchor clips and factory-applied stainless-steel springs, and a decorative steel or aluminum coping cover in 12' (3.66m) lengths. A wide range of standard colors and finishes are available. ES-1 tested and approved. FM Approved. Miami-Dade Approved (No. 18-0424.06 12/11/23) for use in the High Velocity Hurricane Zone. Available with 20-year, 120 mph Perma-Tite wind warranty.
 - 1. Perma-Tite Coping (12' lengths); (3.66m)
 - a. Cover Type:
 - I. 24-gauge Steel
 - II. 22-gauge Steel
 - III. .040 Aluminum
 - IV. .050 Aluminum
 - V. .063 Aluminum
 - b. Slope Style: _____
 - I. Flat
 - II. Tapered (Raised Cleat)

 - c. Coping Width: _____"
 d. Inside Face Size: _____"
 e. Outside Face Size: _____"
 - f. Color:
- M. Perma-Tite Gold Coping: Full Snap-On metal coping, in a tapered design, with 16-gauge, galvanized steel anchor clips and factory-applied stainless-steel springs, and a decorative steel or aluminum coping cover in 12' (3.66m) lengths. A wide range of standard colors and finishes are available. ES-1 tested and approved. FM Approved. Miami-Dade Approved (No. 18-0424.06 12/11/23) for use in the High Velocity Hurricane Zone. Available with Lifetime, 215 mph Perma-Tite wind warranty.
 - 1. Perma-Tite Coping (12' lengths); (3.66m)
 - a. Cover Type:
 - I. 24-gauge Steel
 - II. 22-gauge Steel
 - III. .040 Aluminum
 - IV. .050 Aluminum
 - V. .063 Aluminum
 - b. Slope Style:
 - I. Tapered Version only
 - c. Coping Width: _____"
 - d. Inside Face Size: ____"
 - e. Outside Face Size:
 - f. Color:



Part 3 EXECUTION

3.0 EXAMINATION

- A. Prior to roof installation, inspect substrates to ensure all penetrations, drainage outlets and flashings are in place and ready to receive roofing.
- B. Roof deck and flashing substrates must be clean, dry, and properly secured. Existing substrates, flashings or materials scheduled for re-use must be carefully inspected and properly prepared to ensure they are suitable for incorporation into the new roof system, free of defects, contaminants, or moisture.
- C. Examine substrates for deterioration, defects and entrapped or excess moisture. Wet or deteriorated decking shall be replaced or repaired prior to start of work. Fastener and / or adhesive pull tests should be conducted to confirm adequate condition and acceptable performance of decking.
- D. Review work plan to avoid excess loading of roof areas during material transport, temporary storage, or during installation. Protect building components and fixtures from damage during work.

3.1 PREPARATION

- A. All surfaces shall be cleaned and primed where required prior to installation.
- B. Avoid construction traffic or work by other trades over completed roof sections. Where unavoidable, install adequate and properly secured temporary protection with tarps, plywood and / or layers of protective sheathing or insulation to avoid contamination and physical damage.
- C. Proper deck and substrate preparation are the responsibility of the contractor or building owner. Review manufacturer recommended preparation requirements and methods for specific project conditions and materials.
- D. Equipment, penetration, and support scheduled for demolition or renovation should be completed prior to the start of work.
- E. Confirm flashing details, terminations and penetrations have adequate height or clearance to receive roofing materials and comply with manufacturer requirements.
- F. Review decking and substrates for the presence of above or below deck conduit, equipment, fixtures, or structural elements that may interfere with roof installation.
- G. Recover and re-roofing installations require careful preparation and examination of existing decking, substrates, terminations, flashings, rooftop equipment and supports. Qualified review by a design professional is recommended where air or vapor retarders are present or required, where high interior humidity or cold storage conditions are present, or where potential exists for condensation to occur below or within the roof assembly.
 - 1. Inspect and clean all substrate surfaces to remove contaminants, bituminous materials, mastics, sealants, coatings, previous roofing, and incompatible materials. Make ready to receive new roofing materials.
 - Prepared roof deck surfaces retaining excess contaminant or incompatible materials require review and approval of IB Technical Services and shall receive a separation layer of approved IB thermal insulation or cover board.
 - 3. Remove and replace areas of deteriorated decking. Steel decking exhibiting rust shall be inspected for condition and suitability to receive new materials. Repair areas of minor rusting with a rust inhibitor coating
 - 4. Existing vertical surfaces at walls and curbs retaining excess contaminant or incompatible materials require separation from new materials with a layer of plywood / OSB sheathing or approved cover board. IB separation sheets may be used for separation of existing substrates at mechanically attached base and wall flashings.
 - 5. Replace all deteriorated or damaged decking, supports, drains, sheet metal and wood blocking or nailers. Inspect drainage outlets for proper operation; replace broken or stripped drain bolts.
 - 6. Existing flashings, membranes, integrated sheet metal, drain leads, and related accessories must be removed from perimeter edges, terminations, and penetrations. Confirm flashing substrates and conditions conform to IB Construction Details and requirements.
- H. Re-roofing Installation: Remove all existing roof system components including ballast, surfacing/overburden materials, membranes, insulations, fasteners / anchors, flashings, sheet metal, copings, counter flashings, and penetration flashings.
 - Visual observation and fastener pull tests should be performed to confirm the performance of the deck to meet IB Roof Systems and project requirements and may be required for issuance of IB Total System Warranties.
 - 2. Direct adhesion of thermal insulation to existing substrates with bituminous or other material residue requires field uplift testing to confirm adequate adhesive and insulation securement.



- I. Recover Installation: Do not install roofing over existing roof assemblies or substrates containing moisture. Moisture surveys are recommended prior to installation of recover materials to avoid infiltration of moisture into or beneath the new roof assembly.
 - 1. Review existing roof system type and materials for compatibility and manufacturer's required separation or preparation prior to installation of new materials.
 - 2. Existing adhered and mechanically attached single ply membranes left in place must be cut on 20' (6.1m) centers in both directions. IB Mechanically Attached Roof Systems may be installed directly over approved and prepared existing roof systems with use of approved IB Separation or Fire Sheets in accordance with IB Specifications and Construction Details.
 - 3. Visual observation, uplift testing and fastener pull tests should be performed to confirm adequacy of attachment of existing roof assembly and performance of the deck to meet project requirements and may be required for issuance of IB Total System Warranties.
 - 4. Install IB One-Way Roof Vents at the rate of 1 per 1000 square feet over existing insulated roof systems or over new or existing lightweight insulating concrete roof assemblies.

3.2 SUBSTRATE PREPARATION

- A. Structural Concrete Deck:
 - 1. Deck shall be finished to a smooth uniform surface free of sharp edges, ridges, and irregular surfaces with minimum thickness of 4 inches (10.2 cm).
 - 2. Sumps, provided for roof drains, shall be cast into the deck.
 - 3. Cracks greater than 1/8" (3.1 mm) in width must be repaired in accordance with the deck manufacturer's recommendations.
 - 4. The roof deck shall be dry, free of frost or surface moisture and permitted to cure 28 days before the start of roof system application. The underside shall be open and designed to allow adequate ventilation for drying with form materials removed. If there is any doubt about the dryness of the deck, evaluate surface moisture and deck dryness using ASTM D4263 test method.
 - 5. Composite form concrete decks, decks with painted, insulated, or other condition restricting underside drying require review by IB Technical Services.
 - 6. Primers, when used, must be allowed to dry prior to the application of insulation adhesive and balance of the roofing system.
 - 7. Field uplift resistance testing of insulation adhesives is recommended to confirm acceptable roof system attachment and adhesive performance.
- B. Steel Deck:
 - 1. Minimum 22 gauge cold-formed steel decking with G-90 galvanized or minimum finish coat of primer paint on both sides. Galvanized steel decking when appropriate to project design criteria is recommended.
 - Inspect and repair areas of surface corrosion in accordance with deck manufacturer's recommendations. Replace damaged or deflected panels and deteriorated areas, securing loose or inadequately attached decking.
 - 3. Install adequate support and framing at new and existing openings in deck.
 - 4. Comply with applicable building code, deck manufacturer and/or project required Factory Mutual gauge and span requirements in the current FM Approval Guide and Loss Prevention Data Sheets 1-28 and 1-29.
- C. Wood Plank:
 - 1. Wood boards shall be kiln-dried with tongue and groove or shiplap long dimension edges, minimum 1" nominal thickness with nominal 4" to 6" (10.2 cm to 15.2 cm) minimum width.
 - 2. Lumber shall be dry, safely stored against the weather and covered with the roofing assembly in a timely manner after installation.
 - 3. Boards shall be securely fastened with ends bearing on rafters or joists.
- 4. Cover knotholes, and cracks greater than 1/4" (6.3 mm) with sheet metal securely fastened into position. D. Plywood Deck:
 - 1. Plywood sheathing shall be not less than 15/32" (12 mm) thick, minimum 4-ply construction conforming with C-D, Exposure 1 grade.
 - 2. Install deck over joists spaced 24" (61 cm) o.c. or less. Install deck with all sides bearing on and secured to joist and cross blocking.
- E. Oriented Strand Board:
 - 1. OSB Sheathing shall be not less than 7/16" (11 mm) thick, conforming with PS 2-10, Exposure 1, Structural 1 grade material.



- 2. Install deck over joists spaced 24" (61 cm) o.c. or less. Install deck with all sides bearing on and secured to joist and cross blocking.
- F. Lightweight Insulating Concrete Decks (LWIC):
 - 1. Lightweight Insulating Cellular Concrete decks shall be minimum 2" (5.1 cm) thick over approved steel or concrete form deck with minimum compressive strength of 125 psi and density of 22 pcf (208 g/m³) or greater.
 - 2. Lightweight fill shall be tested and confirmed dry, certified by the deck manufacturer and installer, and ready to receive roofing material.
 - Fastener withdrawal testing (pull tests) is required prior to project acceptance by IB Roof Systems. Average
 pull values for attached insulation should exceed 300 lbs. Retrofit applications and roof applications over
 existing LWIC decks require the written prior approval of IB Technical Services.
 - 4. Frozen decks are not acceptable and must be replaced. Remove and replace any wet areas of existing or new decks that exhibit entrapped or excess moisture and allow them to dry prior to start of roofing.
- G. Cementitious Wood Fiber:
 - 1. Minimum panel thickness of 2" (5.1 cm) secured to supports in accordance with deck manufacturers requirements to resist uplift and lateral movement.
 - 2. Grout and level deflections and irregularities between panels to provide a level, smooth deck. Offsets, deflection, or deteriorated panels shall be repaired or replaced prior to start of work.
 - 3. Protect panels from weather during storage and application.
 - 4. Composite deck panels containing EPS/XPS polystyrene insulation are not suitable for use with solventbased roof system adhesives.

3.3 WOOD NAILERS

- A. Wood Nailers: Install #2 or better solid wood nailers where required by project and manufacturer details. Minimum 1/2" (13 mm) plywood may be used in conjunction with solid wood nailers to fully shim or match insulation height.
- B. Nailers should be nominal 4" to 6" (10.2 cm to 15.2 cm) in width extending approximately 1/2" (13 mm) beyond perimeter metal edge flanges; mechanically secured to resist the required loads at perimeter edges and corners. Secure nailers with anchors / fasteners approved for the substrate using a minimum of two fasteners per nailer. Where anchors / fasteners are set into cement-filled masonry or concrete block, fastened into structural concrete, or secured to structural steel or wood framing members through an approved roof deck; perimeter nailer securement should be limited to 48" (1.22m) o.c. or less and 24" (1.22m) o.c. or less at corner regions. Fastening of nailers into steel or wood decking at perimeter edges without securement into underlying continuous blocking or structural framing may not result in adequate resistance. Where present and confirmed adequate to resist design loads, perimeter nailer securement should be located 12" (30.5 cm) o.c. staggered or less and 6" (15.2 cm) or less at corner regions.
- C. Where two or more nailers are required, attach second nailer to first sufficient to resist design loads with corrosion resistant fasteners installed a minimum of 12" (30.5 cm) o.c. staggered and 6" (15.2 cm) o.c. staggered within corner areas.

3.4 VAPOR RETARDER

- A. Where required by project details and conditions, install an IB approved vapor retarder assembly over the prepared substrate, thermal barrier, or minimal thickness of approved insulation board. Installation shall conform to the vapor retarder manufacturer, IB Roof Systems and applicable assembly approval and regulatory requirements. Surfaces to receive a vapor retarder shall be smooth, clean, and dry; primed where required with a primer approved by the vapor retarder manufacturer and IB Roof Systems. Allow primer to dry prior to membrane application.
- B. Seal all side and end laps, terminations, and penetrations to form a weather-tight, permanent seal. Coordinate vapor retarder installation, detailing and integration into other building envelope components and / or existing vapor / air barrier assemblies. Prior to roof system installation, IB recommends the building owner, design professional and installer confirm project design, roof assembly and associated detail requirements including wind resistance, adequate thermal resistance and insulation, and the provision of adequate ventilation where project conditions require use of a vapor retarder.

3.5 SEPARATION AND FIRE SHEETS



- A. Where required for project details, install one or more layers of IB Fire Sheet 10, IB Separator Sheet, IB Poly or HD Poly Separator Sheets over the prepared substrate. Install separation and fire sheets in conformance with project design, regulatory and IB specification requirements.
- B. Lap sheets a minimum of 2" (5.1 cm) on sides and ends. Where two layers are required, install the second layer with all side and end laps offset a minimum of 12 (30.5 cm) from the first course. Fasten installed separation sheets with approved IB fasteners and 3" (7.6 cm) Galvalume Insulation plates as required to hold in position.

3.6 THERMAL BARRIERS

- A. Install one layer of approved thermal barrier board over the prepared deck where required by local code, UL fire rated assembly or applicable roof system approval listing. For combustible decks, install one layer of UL classified minimum 1/2" (13 mm) gypsum board, 1/4" (6.3 mm) DensDeck Roof Board, 1/4" (6.3 mm) DEXCell Glass Mat Roof Board, 1/4" (6.3 mm) Securock Glass-Mat Roof Board, or 1/4" (6.3 mm) Securock Gypsum-Fiber Roof Board over the substrate.
- B. Thermal barrier board joints shall be staggered in one direction and offset a minimum of 6" (15.2 cm) from all joints in underlying plywood decks. Secure thermal barrier boards with approved fasteners in accordance with the requirements of the approved IB Roof Systems assembly.

3.7 INSULATION PLACEMENT

- A. Set insulation over the substrate with board edges fitted uniformly and closely together. Install insulation boards over steel decks with long dimension edges parallel to and bearing on ribs. Avoid joints or gaps greater than 1/4" (6.3 mm) and fill gaps greater than 1/4" (6.3 mm) with matching insulation material. Offset board joints a minimum of 12" (30.5 cm) in one direction from preceding course. For multiple layer installations, all joints must be staggered and offset both horizontally and vertically from preceding courses and layers.
- B. Do not install wet, damaged, or warped insulation boards.
- C. Where insulation board thickness is greater than 3" (7.6 cm) insulation should be installed in two layers.
- D. Fit and miter cut board edges at crickets, valleys, hips, ridges, and other changes in plane to provide a smooth transition and surface without voids. Install boards flush to the substrate, edges fully supported or bearing on deck ribs to avoid puncture or breakage.
- E. Install sumps with minimum 1/2" (13 mm) per foot factory tapered insulation panels at drains to provide a minimum 36" x 36" (0.91 m x 0.91 m) or larger sump area.
- F. Fasten or adhere roof insulation with IB Roof Systems approved insulation fasteners and stress plates, or IB insulation adhesive in accordance with IB specifications and project requirements.
- G. Do not install any more insulation than will be completely waterproofed each day.

3.8 INSULATION ATTACHMENT

- A. Mechanically Attached Insulation: Mechanically attach insulation to the deck to meet or exceed IB Roof Systems requirements with IB approved fasteners and insulation plates. For mechanically attached roof membranes, secure insulation with a minimum of six fasteners per 4' x 8' (1.22m x 2.44m) board and four fasteners per 4' x 4' (1.22m x 1.22m) board in accordance with IB Construction Details. Install roof assembly to comply with design uplift pressures calculated under ASCE 7 and as required by local building codes or the Authority Having Jurisdiction.
- B. Install insulation with cross or short dimension joints staggered. Multi-layer insulation and cover board assemblies may be simultaneously mechanically attached to the deck.
- C. Stagger board joints a minimum of 12" (30.5 cm) in one direction. For multiple layer installations, all joints must be staggered and offset both horizontally and vertically a minimum of 12" (30.5 cm) from proceeding courses and layers.

3.9 MECHANICALLY ATTACHED MEMBRANE APPLICATION

- A. Ensure insulation and prepared substrates are smooth, clean, dry, and properly secured in accordance with project requirements and IB specifications. Remove all debris, dirt, or other contaminants from substrate surface prior to installation.
- B. Position IB PVC membrane in place with 5" (12.7 cm) side laps and 3" (7.6 cm) end laps beginning from the low side of the roof and allow to relax. Install membrane perpendicular or parallel to slope so that water runs over or with, but not against, membrane laps. For steel deck installations membrane shall be installed perpendicular to ribs.



- C. Extend membrane over and below lower outside edge of perimeter edge nailers a minimum of 1" (25 mm) and fasten 12" (30.5 cm) o.c. At parapet walls, curbs, and other vertical terminations, fasten membrane to roof deck or turn up and terminate onto base of approved vertical substrate. Fasten at required in-seam fastening rate for field of roof, not to exceed 12" (30.5 cm) o.c. through IB Aluminum Lip Termination Bar or IB barbed plates.
- D. Fasten all membrane courses within the 5" (12.7 cm) side lap with approved IB barbed seam plates and fasteners to meet or exceed IB minimum fastening requirements and required roof design uplift pressures in accordance with the Authority Having Jurisdiction and local building code. Install barbed plates and fasteners approved for the specific deck type in accordance with IB fastening details approximately 1/2" (13 mm) in from outside edge of underlying membrane. Set fasteners with a clutch equipped or adjustable depth screw gun taking care not to overdrive or strip-out. Screws and plates shall be driven straight, perpendicular to the deck and flush to the membrane surface penetrating into or through the roof deck in accordance with IB requirements.
 E. Mechanically Attached IB Roof Systems:
- 1. Perimeter Zone Membrane Attachment:
 - a. Supplemental membrane fastening is required along Perimeter Zone areas. Zone width and dimensions will vary depending on many factors and shall be calculated in accordance with ASCE 7 and the requirements of the authority having jurisdiction (AHJ) and local building code.
 - b. Minimum perimeter and corner securement to qualify for issuance of a standard IB roof system warranty must meet or exceed the row spacing and fastening requirements of IB General Construction Details PE-11, MA-AT-15, and WD-11; or as approved in writing by IB Technical Services Manager.
 - c. Supplemental membrane fastening options are provided below:
- C. Option 1: Install one or more half-sheets in accordance with Table A.8 IB Perimeter Half Sheet Table and Perimeter and Corner Zone Widths, fastened within the lap at the same spacing as the field of roof. Increase the number of half sheets where required in accordance with ASCE 7 Perimeter Zone calculations to meet specific project design, local building code, and Authority Having Jurisdiction requirements.
 - 2. Option 2: Enhance perimeter edge and/or base of wall termination and in-seam securement within perimeter zone in accordance with Table A.9 Alternate Securement Table for Perimeter and Corner Zone Widths to meet minimum warranty requirements in Exposure B or C non-Hurricane or Special Wind Zone areas. Note: Not approved for building heights exceeding 35 feet, Exposure C zones located within Hurricane or Special Wind Zone areas, Exposure D areas or on projects requiring Wind, Extended Warranty Term or Consequential Damage warranty riders.
 - 3. Option 3: Reduce spacing between rows of fasteners at membrane laps to a maximum of 67% of the approved field of roof row spacing within the Perimeter Zone.
 - 4. Option 4: Install IB batten bar and reinforced IB membrane cover strip at the mid-point between fastening rows on full-width membrane courses within the Perimeter Zone. Batten bars shall be fastened with the same fastener spacing as the field of roof.
 - Option 5 Steel Decks: Install perimeter zone courses perpendicular to deck ribs for Factory Mutual projects and field design pressures -75 psf and above. Install IB Batten Bar and Cover Strips at mid-points between full-width field courses where roof edge is parallel to deck ribs.
 - 2. Corner Zone Membrane Attachment:
 - a. Supplemental membrane fastening is required within the Corner Zone areas. Zone width and dimensions will vary depending on many factors and shall be calculated in accordance with ASCE 7 and the requirements of the Authority Having Jurisdiction (AHJ) and local building code.
 - 1. Option 1: Reduce spacing between rows of fasteners at membrane laps to a maximum of 50% of the approved field of roof spacing within the Corner Zone.
 - 2. Option 2: Install Perimeter Zone half-sheet courses picture frame method in accordance with IB Construction Details. At intersections of perimeter half sheets, continue fastening lines through the corner to perimeter walls or roof edges. Fasten in-seam at laps or through uppermost membrane with IB Batten Bar and Cover Strip at same fastening rate for field of roof.
 - 3. Option 3: Install two or more additional lines of IB batten bar and reinforced IB membrane cover strip between full-width membrane sheets within the Corner Zone. Fasten at the same fastener spacing as the field of roof.
- F. Avoid contamination of membrane surfaces within the seam areas (side, end, and flashing laps). Ensure all seam areas are clean and free of debris or other contamination prior to welding. Use only IB Roof Systems recommended cleaning procedures and products where necessary to clean membrane prior to seaming or after completed installation.
- G. IB membrane side laps and seams shall be hot-air welded using either an automatic hot-air welding machine or hot-air hand welder in accordance with IB Roof Systems specifications, flashing details and welding



procedures. Follow all IB weld speed and temperature recommendations for IB membranes and pre-flashed accessories.

3.10 SEAM WELDING

- A. The minimum recommended weld width for seams completed with an automatic hot-air welder is 1-1/2" (3.8 cm). Seams, laps, and flashings completed with a hot-air hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Hand welded seams and laps shall be rolled with a silicone roller during welding to ensure a continuous welded seam.
- B. Regular test welds shall be conducted during all hot-air welding operations to verify attainment of watertight, properly welded membrane laps and seams, and to adjust welding parameters and settings as required. IB recommends test weld samples be retained for review, dated, and labeled, as part of a thorough Quality Control program by the installer.
- C. Only install as much roofing in one day as can be seamed and completed to a watertight condition. Seam areas must be kept clean and free of contaminants, adhesives, dirt, or moisture. Clean spills and accidental seam contamination immediately before drying or setting occurs. Avoid use of solvents to clean IB PVC Single Ply membranes or wipe down laps. Follow IB recommended cleaning procedures for welding to existing weathered membrane or cleaning areas of contamination. Denatured alcohol may be used to wipe and remove moisture from within membrane laps prior to welding.
- D. Install IB Round T-Joint Patches at all T-joint locations in field laps and flashing seams on 80 mil membrane installations. Hot-air weld T-joint patches over the prepared seam intersections and laps in accordance with IB Construction Details.
- E. All seams and laps shall be visually inspected and physically probed after they have been set and cooled. Probe all seam areas to locate cold welds or presence of voids.
- F. Repair all seam defects and deficiencies the same day they are discovered.

3.11 FLASHING

- A. General: Refer to the General Requirements and IB Construction Details of this Manual, which outlines and or depicts flashing requirements for typical construction conditions. Install flashing materials as shown in the roofing details. Contact IB Technical Services for conditions not addressed in the IB Construction Details or for approval of alternative flashing options.
 - 1. IB Roof Systems requires installation of all roof construction details in accordance with published IB Construction Details utilizing IB manufactured and approved accessories, membranes and required components.
 - 2. IB Base and Wall Flashing Details are approved for use over a variety of substrates conforming with IB requirements including structural poured and precast concrete, masonry block, dimensional lumber, plywood, and oriented strand board sheathing, approved pre-manufactured metal curbs and IB supplied, approved gypsum cover boards.
 - 3. Wood and steel-framed walls shall be surfaced with approved plywood, OSB or IB approved gypsum cover board products designed for direct application of roofing materials. Framed walls with approved gypsum sheathing require provision of a suitable wood nailing strip or wood blocking for the termination and attachment of flashing membranes.
 - 4. Base flashings shall be constructed with IB reinforced membrane the same mil thickness as used in the field of roof and shall be installed as a separate component from installation of the field membrane. Field membrane courses may not be extended up vertical surfaces at base flashings and walls, except where alternate membrane terminations are incorporated at the base of the curb/wall.
 - 5. Minimum flashing height is 8" (20.3 cm).
 - 6. Base flashings and wall coverings may typically be installed either as Fully Adhered, Induction Welded, or Mechanically Attached in place and should conform to the height recommendations and limitations below. Insufficient height or termination of base flashings and penetrations below a roof's potential water accumulation depth, or where exposed to wind-driven rain or snow loads should be avoided. Sealants and caulks may be inadequate in preventing water entry under these conditions and will require periodic regular owner maintenance.
 - 7. Proper securement of IB Roof Systems field and flashing membranes is required to ensure adequate resistance to wind and other loads to which the roof system will be subjected. For standard IB Roof System installations, follow the following securement requirements for mechanical fastening of IB field of roof and flashing membranes at roof system terminations, penetrations, vertical intersections, walls, and perimeter edges.



- 8. The maximum distance from the wall that horizontal mechanical attachment is installed is 6" (15.2 cm). For horizontal mechanical attachment beyond 6" (15.2 cm), move the attachment to the vertical substrate.
- 9. Use only IB supplied and approved fasteners, plates, anchors, and accessory products for the securement of IB membranes and flashing products.
- 10. Mechanically attached flashings shall be attached in accordance with IB Construction Details, published IB Specifications, and the following Flashing Securement Table.
- 11. Split / rough face concrete masonry block units are not suitable for direct flashing application. Smoothfaced units should be installed at areas to receive base and wall flashings with provision for through wall or reglet style counterflashing. Surface mount flashing terminations are not permitted at concrete masonry block wall substrate.
- 12. Walls clad with smooth, corrugated or standing seam metal panels, lap siding, hardboard, EIFS, stucco / cement finish or similar exterior claddings require the installed IB base flashing to extend up vertical surfaces behind the cladding with a minimum 2" overlap. Bottom edge of cladding or finish materials shall include provision of a sheet metal closure and counterflashing.
- 13. For occupied structures and projects where odor or fume control concerns exist, care should be taken during project planning to assess potential entry points into the structure. Consideration should be given to the use of compatible air / vapor barrier seals at openings of the roof deck, terminations, walls, and penetrations; and selection of construction details and low fume, reduced VOC, content adhesives and accessory products which are approved for the specific application.
- 14. Flashing of curbs, parapets, expansion joints, and other penetrations of the roof must be performed using approved IB PVC reinforced membrane and IB factory-manufactured accessories. Non-reinforced membrane may be used for flashing pipe penetrations, penetration pockets, and scuppers, as well as inside and outside corners, in accordance with IB details when the use of IB factory-manufactured accessories cannot be used or with prior approval from Technical.
- 15. Follow IB Flashing Details and procedures for all curb, wall, terminations, and penetration flashings including metal edging/coping and drainage outlets using IB manufactured and supplied accessories.
- 16. Tie-ins to sloped roof areas, transitions of roof plane or installation at valleys with slopes 2" in 12" or greater require termination and securement of the field membrane in accordance with IB Construction Details. Refer to IB Construction Details for additional requirements.
- 17. Install sheet metal in compliance with IB Flashing Details and SMACNA guidelines for type, grade and forming of seams.
- 18. Use only IB PVC clad coated metal stock formed metal edging and flashing components for construction of flashing details where welded membrane or welded flashing terminations to coated metal flanges are required.
- 19. All clad coated metal flashing corners and joints must be reinforced with an additional layer of IB NR 5" x 8" (12.7 cm x 20.3 cm) Metal Joint Patch or larger piece of NR Detail Flashing if required by joint size.
- 20. Surfaces with existing asphalt, coal tar, mastics, sprayed polyurethane foam or similar incompatible materials shall be removed, thoroughly cleaned, or separated from contact with new IB PVC flashings by a slip sheet, approved insulation or cover boards, or approved plywood, etc.
- 21. IB PVC ChemGuard is available with a variety of accessories specific to these membranes. Note: IB PVC ChemGuard® flashings and accessories are required for use with IB PVC ChemGuard® membranes.
- 22. DensGlass® boards are NOT to be used as a substrate for fully adhered attachment on parapet walls, according to the manufacturer.
- 23. Conduits and wiring shall be properly secured and supported above the IB roof system on approved piping / conduit support details.
- 24. Wood blocking and wood nailers shall be provided where required by project details and in accordance with IB Construction Details.

3.12 FLASHING INSTALLATION

- A. General Application Guidelines
 - 1. Substrate surfaces shall be smooth, clean, dry, and properly secured in place, ready to receive flashing materials prior to the start of work.
 - 2. Hand welding of flashing membrane and accessory laps and seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams and laps shall be probed after completion and adequate set time for watertight seam integrity and proper bond. Regular test welds prior to and during progress of work is an important part of project quality control and consistency in proper membrane seaming.



- 3. When using bonding adhesives, be sure to use the adhesive specific to membrane and follow ambient weather conditions restrictions for use. Avoid contamination of lap and seam areas prior to welding with membrane or insulation adhesives, caulks, or primers.
- 4. All membrane flashing corners shall be reinforced with an additional layer of IB Inside / Outside corners or reinforcing membrane.
- 5. Remove and discard flashing materials or membrane used for temporary seals prior to completion of final flashing application.
- 6. Where tie-ins are required for new or existing air or vapor barriers and retarders, consult IB Technical Services and the specific material manufacturer for recommendations and requirements on required detailing.

B. Curbs:

- 1. Flashings can be installed either with adhesive applied to the membrane and substrate, or loose applied up to 18" (45.7 cm) high.
- 2. Secure membrane flashing at the top edge with a termination bar, flat stock, or counter flashing. Apply a bead of IB Water Stop sealant between the curb surface and membrane flashing, and underneath all termination bars and surface mounted counter flashings. Exposed termination bars must be mechanically fastened 6" (15.2 cm) o.c. Termination bars that are counter flashed must be fastened 12" (30.5 cm) o.c.
- 3. If wood is present at the top of the curb, secure membrane to the inside of the curb using ring shanks nails 12" (30.5 cm) o.c. after wrapping the membrane to the inside of the curb. This can be used in lieu of the termination bar if nailed on the top or preferably the back side of the wood.
- 4. Roof field membrane must be fastened along the base of curbs, ducts, equipment supports, and field terminations a minimum of 12" (30.5 cm) o.c. with approved fasteners and barbed seam plates.

C. Parapets:

- 1. Flashings can be installed either with adhesive applied to the membrane and substrate, or loose applied up to 18" (45.7 cm) high. Maximum standard parapet wall height conditions are:
 - a. Mechanically Fastened Parapet Walls:
 - Wall heights 18" (45.7 cm) or less, refer to Standard Mechanically Attached Wall Detail
 - Wall heights exceeding 18" (45.7 cm), additional membrane sheets shall be installed and secured in horizontal row fashion 12" (30.5 cm) o.c.
 - b. Adhered Parapet Walls:
 - Wall heights 60" (1.52m) or less, refer to Standard Adhered Wall Detail.
 - Wall heights exceeding 60" (1.52m), the adhered membrane shall be additionally fastened in the vertical lap at in-seam spacing at 12" (30.5 cm) o.c. (Refer to IB Construction Detail WD-02 Adhered Tall Wall).
- 2. For mechanically attached, loose laid flashing application install membrane with 5" side laps and 3" end laps. Fasteners and barbed seam plates shall be IB supplied, approved for the specific substrate type.
- 3. Secure membrane flashing at the top edge with a termination bar, counter flashing, or metal cap flashing. Apply a bead of IB Water Stop sealant between the wall surface and membrane flashing, and underneath all termination bars and surface mounted counter flashings. Exposed termination bars must be mechanically fastened 6" (15.2 cm) o.c. Termination bars that are counter flashed must be fastened 12" (30.5 cm) o.c.
- 4. Roof membrane must be mechanically attached along the base of walls and field terminations a minimum of 12" (30.5 cm) o.c. with approved fasteners and barbed seam plates.
- 5. Metal counter flashings with fully adhered or dry-hung membrane wall flashings are required on warranty terms longer than 20 years. (They are not required for warranty term lengths of 20 years or less.) All termination bars, either exposed or covered, must be sealed with Solar Seal 900 Caulk or IB Sealer.
- 6. Metal cap flashings must have continuous cleats or be face-fastened 12" (30.5 cm) o.c. on both the inside and outside of the walls.
- D. Adhered Base and Wall Membrane Flashings:
 - 1. The thickness of the flashing membrane must be the same as the thickness of the roofing membrane.
 - For fully adhered application, install membrane with 3" end and side laps using only IB adhesives approved for vertical substrate installations. Follow all IB requirements and recommendations for acceptable environmental conditions and temperatures and required application rates. Application during colder weather requires special attention to material storage and handling, and typically requires longer open times for adhesive set-up and curing.
 - 3. Adhesive application rates will vary according to the porosity and condition of the substrate surface. A light prime coat of adhesive or manufacturer's approved primer may be required particularly at concrete and



masonry block surfaces prior to application of primary flashing membrane adhesive. Where required, allow prime coat to dry thoroughly.

- 4. When using IB Vertibond Adhesive, IB Vertibond 432 Bonding Adhesive or Polyset PVC Spray Contact Adhesive, the following substrates are generally suitable: new primed gypsum roof board; Type X gypsum board, cement roof board, properly prepared structural concrete (absent of curing and sealing compound); new or properly prepared OSB (untreated), new or properly prepared CDX plywood (untreated), wood board curbs (untreated), and dry, sound masonry (absent of curing or sealing compounds).
- 5. Apply IB Vertibond Adhesive or IB Vertibond 432 Bonding Adhesive in accordance with IB specifications and requirements at the following application rates:
 - a. The substrate must be clean, dry, firm, free of loose particles, and free of dust, grease, and mold release agents. Protect surfaces not to be adhered.
 - b. IB Vertibond Adhesive or IB Vertibond 432 Bonding Adhesive: Apply as contact adhesive to both the underside of the membrane and to approved vertical substrates at the approximate rate of one gallon per 60 square feet of net applied coverage area. Allow the adhesive open time to a dry substrate / tacky on back of membrane condition. Dry condition is tacky without stringing to a dry finger touch.
 - c. Press or roll flashing membranes to vertical surfaces immediately after installation to ensure full contact eliminating air pockets and wrinkles.
 - d. Follow all cold weather and applicable handling procedures and do not apply when ambient or substrate temperatures are below 40°F (4.4°C). Do not use it during inclement weather, on wet surfaces or on any roof deck showing signs of deterioration or loss of structural integrity. Do not use after the expiration date. Please note: IB Vertibond Adhesive and IB Vertibond 432 Bonding Adhesive should not be used and is not compatible for use with Expanded (EPS) and Extruded (XPS) Polystyrene board substrates.
 - e. Avoid application or contamination of seam areas and laps with bonding adhesive. Clean and remove all contaminants immediately and before final welding and completion of the seam.
- 6. Apply IB Approved PVC spray contact adhesive in accordance with IB specifications and requirements at the following application rates:
 - a. The substrate must be clean, dry, firm, free of loose particles, and free of dust, grease, and mold release agents. Protect surfaces not to be adhered.
 - b. IB Approved PVC spray contact adhesive: Follow manufacturer's guidelines and application instructions for use. The following are basic instructions when using the IB Approved PVC spray contact adhesive. Apply as adhesive to both the underside of the membrane and to approved vertical substrates with an adhesive pattern at 90° angles (opposite direction) to each other. (Example: Spray one substrate vertically and spray the other substrate horizontally). Apply a consistent and thorough coat of adhesive at approximately 1,000 sq. ft. net applied coverage (both surfaces) per kit. Extra coverage is recommended at substrate edge. Allow the adhesive open time to a dry substrate / tacky on back of membrane condition. Dry condition is tacky without stringing to a dry finger touch.
 - c. Press or roll flashing membranes to vertical surfaces immediately after installation to ensure full contact eliminating air pockets and wrinkles.
 - d. A thin prime coat of additional adhesive may be required over rough or porous surfaces such as masonry or block walls. Allow adhesive prime coats to dry fully prior to application of membrane materials and bonding adhesives.
 - e. Follow all cold weather and applicable handling procedures and do not apply when ambient or substrate temperatures are below 40°F (4.4°C). Do not use it during inclement weather, on wet surfaces or on any roof deck showing signs of deterioration or loss of structural integrity. Do not use after the expiration date. Note: PVC spray contact adhesive should not be used and is not compatible for use with Expanded (EPS) and Extruded (XPS) Polystyrene board substrates.
 - f. Follow IB Flashing Details and procedures for all wall and curb flashings substituting an IB Approved PVC spray contact adhesive in lieu of IB Vertibond Contact Adhesive in applicable conditions.
 - g. Wear protective glasses with side shields or goggles, nitrile gloves, and clothing that protects against dermal exposure. Recommend dispensing product in a well-ventilated area with certified respiratory protection; however, well-ventilated exterior applications may not need respiratory protection.
 - h. It is the responsibility of the employer to complete a PPE evaluation and/or exposure assessment to determine if respiratory protection is required. Read all instructions, Product installation guidelines, and Safety Data Sheets (SDS) prior to use of any product. For additional information go to the website of the approved PVC spray contact adhesive manufacturer.
- E. Perimeter Edge Flashings:
 - 1. Perimeter edge details should be installed in accordance with ANSI / SPRI ES-1 and applicable local code requirements. Continuous metal cleats one gauge heavier than the edge metal or as required for pre-



manufactured IB edge systems shall be installed along perimeter edges. As an alternative, IB PVC clad edge metal may be externally fastened in accordance with IB Construction Details with approved fasteners.

- PVC Clad Metal is applicable for both drip edge and gravel stop conditions as well as the exterior edges of parapet walls. PVC Clad Metal constructed of galvanized metal may be used for warranties up to 20 years. For extended length warranties (25 years, 30 years or greater; use IB PVC Clad Drip Edge or IB PVC Clad Gravel Stop of Stainless-Steel construction or IB pre-manufactured Metal-Era fascia and coping systems only.
- 3. Roof edge flashings constructed with IB coated metal are secured through the metal flanges nailed 4" (10.2 cm) o.c. staggered or using IB HD #14 Fasteners at 12" (30.5 cm) o.c. into wood nailers. Then heat-weld an 6" (15.2 cm) IB Cover Strip to metal flanges and field membrane.
- 4. Form exposed edge metal flanges with a 1/2" (13 mm) hem formed where applicable for use with a continuous metal cleat. Clad metal termination bars and miscellaneous metal flashings should be formed with fully closed 1/2 (13 mm) hems with or without caulk lip kick-out as required.
- 5. Flashings formed from PVC clad metal for perimeter drip edge, gravel guard edge, 90° or other transitions, clad metal termination bars and similar linear lengths of metal flashing require sealing of butt-joints in accordance with published IB Butt-Joint Details. Install metal flashings with a 1/4" (6.3 mm) gap between ends to allow for expansion. Seal joint with application of a 2" (5.1 cm) strip of foil bond-breaker tape and cover with a minimum 5" (12.7 cm) wide strip of non-reinforced IB PVC membrane centered over the joint and extending down the outside face prior to application of final reinforced flashing strip-in membrane.
- 6. Perimeter Edge Metal Wall Closures, 90° flashings with inside/outside corners and similar constructions shall be formed to provide a continuous clad metal flange with all overlapping joints sealed, riveted, and covered with a strip of non-reinforced membrane prior to application of reinforced flashing membrane.
- 7. Lapped PVC clad perimeter edge metal and similar metal flashing butt-joints are susceptible to fatigue and splitting of flashing and / or field membranes at these locations due to movement and expansion of metal flashings. IB Roof Systems does not recommend use of lapped butt-joint details nor warrants against leaks or damage caused by metal movement.
- F. Manufactured Edge Systems (Anchor-Tite):
 - 1. Note: For extended length warranties (25 years, 30 years or greater; use IB PVC Clad Drip Edge or IB PVC Clad Gravel Stop of Stainless-Steel construction or IB pre-manufactured Metal-Era fascia and coping systems only.
 - 2. IB PVC field membrane or wall flashing membrane shall be turned over the roof edge or parapet wall and down outside face of wall extending past bottom of wood nailer a minimum of ½" (13 mm).
 - 3. The outside edge of wood nailer(s) must be aligned flush with or extend slightly past outermost edge of wall.
 - 4. Follow any applicable pre-installation and post installation requirements of the manufacturer's edge system design requirements.
 - 5. Install edge system or coping system per manufacturer's installation and securement instructions. Comply with design uplift pressures calculated under ASCE 7 and as required by local building codes or authority having jurisdiction.
 - 6. Important: Remove protective film immediately upon installation.
- G. Pipe Flashings:
 - 1. Install pipe penetration flashings around pipes and circular penetrations using IB PVC Pipe Flashings, Split Pipe Flashings, No-Cone Pipe Flashings, or IB Custom Pipe Flashings. Terminate and secure field membrane near the base of the penetration 6" (15.2 cm) o.c. with a minimum of 3 fasteners and plates for pipes less than 12" (30.5 cm) diameter, and 12" (30.5 cm) o.c. with a minimum of 4 fasteners and plates for penetrations larger than 12" (30.5 cm) in diameter. Mark and trim cone flashings to an opening size smaller than the pipe outside diameter to provide a 1/2" (13 mm) or wider flared top edge when set and drawn down over the pipe. Slide the flashing over penetration and center. The flared upper edge of cone flashing must fit tightly against the pipe without gaps or voids. Heat weld perimeter edge of the target sheet to field membrane. Apply stainless steel banding clamp and seal with a continuous bead of approved IB sealant around the top of the completed penetration. Probe and repair all non-welded areas.
 - 2. Where required for irregular size or pipe flashings with greater than an 8" (20.3 cm) diameter, contact IB Roof Systems for assistance with custom pipe flashing requirements. Where custom flashings are not available from IB, field fabricated no-cone pipe flashing details may be constructed from reinforced IB membrane target sheets with non-reinforced upper membrane in accordance with IB Construction Details.
- H. Pitch Pans or Penetration Pocket Pans:
 - 1. Where used, install IB PVC Clad Pitch Pans and fill pans with IB approved Sealant / Filler for pitch pans. IB Pitch Pans must be secured in place over the installed IB membrane with IB Fasteners approved for the



substrate type. Split pan seams must be sealed with a continuous bead of M-1 Sealant and closed with a pop-rivets spaced approximately 1" (25 mm) o.c. (not supplied).

- Fill sealant pans with IB One-Part Pourable Sealant or IB Sealer. Pans may be partially filled with nonshrink quick-set grout, allowing a 2" (5.1 cm) minimum thickness of IB One-Part Pourable Sealant or IB Sealer and filled to the very top or overfill the pocket.
- 3. Pitch pan sealant will require periodic inspection and regular owner maintenance.
- 4. Solid soldered stainless steel sheet metal cap flashings above the pans are recommended to reduce owner required sealant maintenance.
- I. Irregular Shaped Penetrations:
 - Where irregularly shaped supports are not suitable for pipe or curb flashing application, install IB PVC Clad Pitch Pans and fill pans with IB approved Sealant / Filler for pitch pans. IB Pitch Pans must be secured in place over the installed IB membrane with IB Fasteners approved for the substrate type. Split pan seams must be sealed with a continuous bead of M-1 Sealant and closed with a pop-rivets spaced approximately 1" (25 mm) o.c. (not supplied).
 - 2. Fill sealant pans with IB One-Part Pourable Sealant or IB Sealer. Pans may be partially filled with nonshrink quick-set grout, allowing a 2" (5.1 cm) minimum thickness of IB One-Part Pourable Sealant or IB Sealer and filled to the very top or overfill the pocket.
 - 3. Pitch pan sealant will require periodic inspection and regular owner maintenance.
 - 4. Solid soldered stainless steel sheet metal cap flashings above the pans are recommended to reduce owner required sealant maintenance.
- J. Hot Exhaust Stacks & Hot Pipe Vents:
 - Hot pipe and similar hot exhaust vents with operating / surface temperatures above 120°F (48.9°C); require the use of an approved IB Hot-Pipe Flashing Detail. Install an insulated metal jacket or curb flashing with separate sheet metal rain collar prior to application of IB PVC pipe flashing. As an alternative, an insulated metal curb may be installed with sheet metal cap flashing.
- K. Dryer / Exhaust Vents:
 - 1. For dryer, kitchen, and bath exhaust vents use IB Dryer Exhaust Vents. Connect vent pipe to exhaust below deck. Tighten hose clamp at pipe connection, apply duct tape where both pipes connect, if necessary, to prevent any exhaust leakage. Secure the metal flange of the vent to the roof deck with a minimum of 4 fasteners using appropriate IB Fasteners for deck type. Install provided IB No Cone Flashing over the exhaust pipe and hot-air weld the perimeter of the target flashing to the field membrane with a minimum 1-1/2" (3.8 cm) weld to provide a watertight seal. Install the vent hood over the pipe and tighten clamp to secure into place.
 - 2. Note: Not intended for use over plumbing vents, furnaces, chimneys, water heater or other gasfired equipment, or roof ventilation purposes.
- L. Drains:
 - 1. Roof drains shall be cast iron or minimum 11 gauge or heavier spun aluminum type for new installations manufactured with integral clamping rings and strainers.
 - Sump areas approximately 36" x 36" (0.91m x 0.91m) for primary drains and 36" x 48" (0.91m x 1.22m) for primary / overflow drain sets, should be formed into the deck, or constructed with tapered insulation to facilitate drainage and water removal from the roof. Sump area shall be tapered a minimum of 1/2" (13 mm) per foot and shall not exceed 3" (7.6 cm) per horizontal foot slope.
 - 3. Drain flashings shall be installed in accordance with IB Construction Details with a seamless drain target sheet. Field membrane shall be terminated around the drain and fastened 12" (30.5 cm) o.c. with IB fasteners and barbed seam plates.
 - 4. Insulation and substrate surfaces should be tapered and sumped to drains and outlets. Flash drains with a reinforced, smooth back target sheet in accordance with IB Flashing Details. Do not extend the field or flashing seams through roof drain flashings or beneath clamping rings. Secure target sheet around drain sump fastened a minimum of 6" (15.2 cm) o.c. with approved fasteners. Make small cuts or holes around drain bolts and seal the under-side of target flashing to prepared drain flange in a continuous bed of IB Water Stop sealant. Install clamping ring to provide a watertight compression seal. Cut an opening in the membrane directly above and slightly wider than the drain opening with a minimum of 1/2" (13 mm) past the inside edge of drain bolts.
- M. Retrofit Drains:
 - IB Aluminum Retrofit Drain with a factory applied IB reinforced membrane target flashings are available for use in most new construction and retrofit drain applications. There are two types of models. The 2" (5.1 cm) Retro-fit drains are supplied with an expandable foam tape that seals to the existing drainpipe forming a compression seal. Larger diameter Retro-fit drains incorporate a Pro-Seal expansion gasket



that requires the use of a Pro-Seal screwdriver to tighten gasket to create a water-tight connection to the existing drainpipe.

- 2. Select appropriate drain to connect to or fit inside of the existing drainpipe.
- 3. Retro-fit drain with expandable tape:
 - a. For Retro-fit drain models with expandable tape the installer removes the exterior restraining tape and immediately sets the retro drain in place. The released tape gradually expands to fill the space between the Retro-fit drain and the existing drain sleeve making the connection watertight. Directconnect design utilizes flexible expansion-type connectors to prevent failure from movement of roof deck or drain.
 - b. The Retro-fit drains may be set in a shallow bowl or directly on roof membrane with deck opening of at least 1" (25 mm) greater than the leader size into which the drain will be inserted. The flange is adaptable to all membranes.
 - c. Secure the drain flange to the roof deck using a minimum of four IB Fasteners that are evenly spaced around the flange. The flashing membrane must cover and extend past the fastener head.
 - d. Flash drain flange in accordance with membrane manufacturer's instructions. Hand welding of flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
 - e. Install Aluminum Strainer in accordance with manufacturer's instructions.
- 4. Retro-fit drain with Pro-Seal Gasket:
 - a. Insert Pro-Seal into the end of drain stem and tighten screws enough to hold the seal in place during installation. Insert assembled Retro-fit Drain into existing drainpipe until flange is flush on roof membrane.
 - b. Alternately tighten seal compression ring screws with Pro-Seal Screwdriver until hand tight. Retro-fit Drain body is correctly installed when pressure placed on drain body results in no vertical movement. **Do not overtighten the screws.**
 - c. Secure the drain flange to the roof deck using a minimum of four IB Fasteners that are evenly spaced around the flange. The flashing membrane must cover and extend past the fastener head.
 - d. Flash drain flange in accordance with membrane manufacturer's instructions. Hand welding of flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
 - e. Install Aluminum Strainer in accordance with manufacturer's instructions.
- N. Scuppers:
 - 1. There are three typical styles of IB PVC Clad Scuppers: Standard Through Wall Scupper, Standard Overflow Through Wall Scupper and Through Wall Box Scupper with Drop Drain & Overflow Cut-Out. Each style is made to order as a custom scupper.
 - Metal through-wall scuppers shall be installed over the completed base and wall flashing assembly. A wood nailer is required at the juncture of the deck and wall for securement of the scupper flange to the deck. Scupper flanges shall be secured using a minimum of two IB Fasteners per flange that are appropriate for the specific substrate.
 - 3. Hand welding of scupper target flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
 - 4. Apply a bead of Solar Seal 900 or IB Sealer to the scupper box at the outside wall face.
 - 5. Mechanically attached base and wall flashings require separate securement 6" (15.2 cm) o.c. through IB Aluminum Termination Bar around perimeter edge of scupper opening prior to placement and securement of the clad metal scupper.
- O. Blocking and Equipment Supports:
 - Use of appropriate grade and type round structural pipe supports in lieu of irregularly shaped penetrations such as c-channel, angle iron, I-beam, or Unistrut type channels, angles or beams are recommended to facilitate use of standard pipe flashings. Penetration supports subject to regular movement or vibration such as at equipment stands, screen walls, or other elevated rooftop equipment should be flashed with IB U-Anchor Flashing Systems.
 - 2. IB U-Anchors are customized to fit roof top conditions and provide anchorage and equipment support solutions that are compatible with the IB PVC roof membrane.
 - 3. Wood support blocking, typically 4" x 4" (10.2 cm x 10.2 cm), is usually installed under light-duty or temporary roof mounted equipment, such as electrical conduit, gas lines, and condensation and drain lines.



- 4. Place wood blocking on oversized IB PVC Membrane Isolation Pad, fold two sides vertically, and fasten with roofing nails into the blocking.
- P. Expansion Joints:
 - 1. Roof expansion joint details may be field fabricated to meet expansion joint needs. There are three typical expansion joint construction styles: a curb-to-curb style set 8" (20.3 cm) or more above the roof or installed with an approved low profile, or canted profile style directly to the roof surface into the structure support or wood nailers.
 - 2. Field construction of expansion joints consists of a membrane retainer sheet, expansion joint filler, foam backer rod, and an IB membrane cover strip.
 - 3. Expansion joints should be set in a continuous line extending fully through the edge of the roof with approved wood nailers secured along both sides of the joint.
 - 4. Temporary construction ties at expansion joints must be removed. Do not install roof insulation or membrane materials directly across joint openings.
 - 5. Provide watertight detailing and functional integration of the expansion joint with other roof flashings and termination details at expansion joint terminations, intersections, and closures.
 - 6. Protection of the finished roof assembly is recommended with expansion joint cross-over access installed at walkways and where service work is expected to reduce the potential for foot traffic and equipment damage.
 - 7. Avoid expansion joint construction and placement that restricts or prevents the free flow of water to outlets. Do not block or intersect drainage outlets and valley lines or attempt to route roof drainage over an installed expansion joint.
 - 8. Roof membrane must be mechanically attached along the base of the expansion joint with screws and plates a minimum of 12" (30.5 cm) o.c.
 - 9. The retainer sheet must extend from one side of the expansion joint to the other and cover the secured field membrane on each side of the joint, extending past the fastener plate sufficiently to provide specified welded seam width of a minimum of 1-1/2" (3.8 cm).
 - 10. The retainer sheet shall be secured along to the wood nailer or the top of the raised wood curb a minimum of 6" (15.2 cm) o.c.
 - 11. The cavity of the expansion joint is filled with expansion joint filler (specified by others). The expansion joint bellows must be a minimum of one and one-half times larger than the width of the expansion joint opening to allow for sufficient expansion / contraction.
 - 12. An additional layer of IB membrane is loose laid over the expansion bellows and then welded to the membrane retainer sheet.
 - Hand welding of flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
- Q. U-Anchor Solar Array Support System:
 - 1. Depending on engineering requirements determined by others, the U-Anchor may be required to be secured to structural supports. Install the U-Anchor as per instructions provided by Anchor Products. Follow any applicable pre-installation and post installation requirements according to the engineered design.
 - 2. Hand welding of the U-Anchor PVC flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
 - 3. Attach the solar system mounting bracket and assembly to the U-Anchor posts as per instructions provided by Anchor Products.
- R. U-Anchor Pipe Support System:
 - 1. Depending on engineering requirements determined by others, the U-Anchor may be required to be secured to structural supports. Install the U-Anchor as per instructions provided by Anchor Products. Follow any applicable pre-installation and post installation requirements according to the engineered design.
 - 2. Hand welding of the U-Anchor PVC flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
 - 3. Secure the pipe support mounting bracket and assembly to the U-Anchor posts as per instructions provided by Anchor Products.
- S. Pipe Supports:
 - 1. Conduits and piping shall be properly secured and supported above the completed roof on approved support details. Surface-mounted supports bearing on the membrane surface shall be installed over a course of IB WalkTread[™] or IB approved protection pad.



- T. Satellite Dish Supports:
 - 1. Install satellite dish support bases over a protective layer of minimum 60-mil IB PVC membrane or IB WalkTread[™] which is to be continuously perimeter welded to the field membrane in accordance with IB Flashing Details.
- U. U-Anchor Satellite Support Securement System:
 - 1. Depending on engineering requirements determined by others, the U-Anchor may be required to be secured to structural supports. Install the U-Anchor as per instructions provided by Anchor Products. Follow any applicable pre-installation and post installation requirements according to the engineered design.
 - 2. Hand welding of U-Anchor PVC flashing membrane seams by means of a hand welder shall maintain a minimum 1-1/2" (3.8 cm) weld width. Flashing seams shall be probed after completion and adequate set time for watertight seam integrity and proper bond.
 - 3. Secure the satellite dish mounting bracket and assembly to the U-Anchor as per instructions provided by Anchor Products.
 - 4. Secure the base of the dish as per instructions provided by Anchor Products.
- V. Lightning Protection Clips:
 - 1. Lightning protection base / clips shall be limited to designated locations over a minimum 3" (7.6 cm) wide IB PVC flashing membrane strips which are continuously perimeter heat-welded to the roof membrane.
 - 2. The lightning protection base / clips shall be adhered to the membrane strip using a generous bead of M-1 Sealant, IB Sealer, or another compatible sealant.

3.13 WALKWAYS

- A. Clean the membrane prior to walkway pad installation at locations designated to receive walkways. Provide manufacturers walkway pads at roof access points, hatches, areas of foot traffic, and around rooftop equipment requiring periodic maintenance.
- B. IB WalkTread[™] shall be continuously perimeter welded to the membrane in accordance with IB Construction Details and requirements. Do not install walk tread directly over completed seams. Hold back walk tread edges a minimum of 3" (7.6 cm) on either side of a completed membrane or flashing seams.
- C. Walkway pad installation must be monitored to avoid overheating the underlying membrane or walk tread while welding in place. Probe welds to ensure adequate bond to membrane surfaces.

3.14 DAILY SEALS

- A. Install night seals as temporary closure to prevent moisture infiltration at membrane terminations and flashings that cannot be finished by the close of each day. Remove temporary seals prior to the next day's work to avoid contamination or damage to the completed membrane.
- B. Remove and replace areas that are damaged, wet, or contaminated prior to continuation of work. Clean and prepare seams in accordance with IB recommendations.
- C. Clean temporary sealant materials from deck and flashing substrates and prepare surfaces to receive permanent roofing and flashing materials.

3.15 CLEAN UP AND PROTECTION

- A. During installation, keep all work surfaces clean and free of dirt and debris. Remove excess materials, trash, cartons, loose fasteners, tools, and debris from the roof daily. Dispose of waste material, packaging, and debris in accordance with project requirements and applicable regulatory requirements.
- B. Avoid contamination of finished membrane surfaces. Install protective materials and tarps as necessary to protect completed roof areas from damage. Remove adhesive spills, residue, and other contaminants immediately before drying or setting up.
- C. IB recommends contractor pre-inspection of the completed installation in advance of a requested IB final inspection. Pre-inspection should include review of all project details, drainage outlets, inspection of laps and seams, sheet metal work, sealants, and caulks.
- D. Avoid construction traffic or material staging over completed membrane areas. Install protective tarping and plywood secured against wind and the elements to prevent membrane contamination and physical damage from other trades or work.



IB PVC MECHANICALLY ATTACHED SINGLE PLY FASTSPECS

Mechanically Attached Roof Assemblies: Wood Decks - New or Tear-Off

MA-1FS-W	MA Membrane / Fire Sheet / Wood Deck	97
MA-2FS-W	MA Membrane / 2 Fire Sheets / Wood Deck	98
MA-SS-W	MA Membrane / Separation Sheet / Wood Deck	99
MA-CB-W	MA Membrane / Cover Board / Wood Deck	100
MA-CB-IN-W	MA Membrane / Cover Board / Insulation / Wood Deck	101
MA-IN-W	MA Membrane / Insulation / Wood Deck	102
MA-IN-1FS-W	MA Membrane / Insulation / Fire Sheet / Wood Deck	103
MA-IN-2FS-W	MA Membrane / Insulation / 2 Fire Sheets / Wood Deck	104
MA-IN-VB-W	MA Membrane / Insulation / Vapor Barrier / Wood Deck	105

Mechanically Attached Roof Assemblies: Wood Decks - Recover

MA-1FS-EX-W	MA Membrane / Fire Sheet / Existing Roof / Wood Deck	106
MA-SS-EX-W	MA Membrane / Separation Sheet / Existing Roof / Wood Deck	107
MA-CB-EX-W	MA Membrane / Cover Board / Existing Roof / Wood Deck	108
MA-CB-IN-EX-W	MA Membrane / Cover Board / Insulation / Existing Roof / Wood Deck	109
MA-FF-EX-W	MA Membrane / Fanfold / Existing Roof / Wood Deck	110
MA-IN-EX-W	MA Membrane / Insulation / Existing Roof / Wood Deck	111

Mechanically Attached Roof Assemblies: Steel Decks – New or Tear-Off

MA-CB-S	MA Membrane / Cover Board / Steek Deck	112
MA-CB-IN-S	MA Membrane / Cover Board / Insulation / Steel Deck	113
MA-IN-S	MA Membrane / Insulation / Steel Deck	114
MA-IN-VB-S	MA Membrane / Insulation / Vapor Barrier / Steel Deck	115
MA-CB-IN-VB-S	MA Membrane/ Cover Board / Insulation / Vapor Barrier / Steel Deck	116
MA-CB-IN-VB-TB-S	MA Membrane / Cover Board / Insulation / Vapor Barrier / Thermal Barrier / Steel Deck	117

Mechanically Attached Roof Assemblies: Steel Decks – Recover

MA-1FS-EX-S	MA Membrane / Fire Sheet / Existing Roof / Steel Deck	118
MA-SS-EX-S	MA Membrane / Separation Sheet / Existing Roof / Steel Deck	119
MA-CB-EX-S	MA Membrane / Cover Board / Existing Roof / Steel Deck	120
MA-CB-IN-EX-S	MA Membrane / Cover Board / Insulation / Existing Roof / Steel Deck	121
MA-FF-EX-S	MA Membrane / Fanfold / Existing Roof / Steel Deck	122
MA-IN-EX-S	MA Membrane / Insulation / Existing Roof / Steel Deck	123

Mechanically Attached Roof Assemblies: Metal Roof Panels – Recover

MA-CB-FL-MRpf	MA Membrane / Cover Board / Flute Filler / Metal Roof Panel	124
MA-IN-FL-MRpf	MA Membrane / Insulation / Flute Filler / Metal Roof Panel	125

Mechanically Attached Roof Assemblies: Concrete Decks – New or Tear-Off

MA-IN-C MA Membrane / Insulation / Concrete Deck

Mechanically Attached Roof Assemblies: Concrete Decks – Recover

MA-CB-EX-C	MA Membrane / Cover Board / Existing Roof / Concrete Deck	127
MA-CB-IN-EX-C	MA Membrane / Cover Board / Insulation / Existing Roof / Concrete Deck	128

Mechanically Attached Roof Assemblies: Cementitious Wood Fiber Decks – Tear-Off

MA-CB-IN-CWF MA Membrane / Cover Board / Insulation / Existing Cementitious Wood Fiber Deck 130	MA-CB-CWF	MA Membrane / Cover Board / Existing Cementitious Wood Fiber Deck	129
	MA-CB-IN-CWF	MA Membrane / Cover Board / Insulation / Existing Cementitious Wood Fiber Deck	130

Mechanically Attached Roof Assemblies: Cementitious Wood Fiber Decks – Recover

MA-CB-EX-CWF	MA Membrane / Cover Board / Existing Roof / Cementitious Wood Fiber Deck	131
MA-CB-IN-EX-CWF	MA Membrane / Cover Board / Insulation / Existing Roof / Cementitious Wood Fiber Deck	132

Mechanically Attached Roof Assemblies: Gypsum Decks – Tear-Off

MA-CB-GYP	MA Membrane / Cover Board / Existing Gypsum Deck	133
MA-CB-IN-GYP	MA Membrane / Cover Board / Insulation / Existing Gypsum Deck	134

Mechanically Attached Roof Assemblies: Gypsum Decks – Recover

MA-CB-EX-GYP	MA Membrane / Cover Board / Existing Roof / Gypsum Deck	135
MA-CB-IN-EX-GYP	MA Membrane / Cover Board / Insulation / Existing Roof / Gypsum Deck	136

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IB PVC MECHANICALLY ATTACHED SINGLE PLY FASTSPECS - Continued

Mechanically Attached Roof Assemblies: Lightweight (LWIC) Decks – Tear-Off

MA-IN-LWIC	MA Membrane / Insulation / Existing Lightweight Insulating Concrete Deck	137
MA-CB-IN-LWIC	MA Membrane / Cover Board / Insulation / Existing Lightweight Insulating Concrete Deck	138
Mechanically Attac	hed Roof Assemblies: Lightweight (LWIC) Decks – Recover	
	MA Membrane / Cover Deard / Evisting Deaf / Lightweight Insulating Constate Deals	120

MA-CB-EX-LWIC	MA Membrane / Cover Board / Existing Roof / Lightweight Insulating Concrete Deck	139
MA-CB-IN-EX-LWIC	MA Membrane / Cover Board / Insulation / Existing Roof / Lightweight Insulating Concrete Deck	140





Mechanically Attached Membrane - Fire Sheet - Wood Deck (New or Tear-Off)



Min. IB SD #12, 3" IB Insulation

Plate (Preliminarily Attached)

Min, IB SD #12, 3" IB Insulation

Plate (Preliminarily Attached)

Min. IB SD #12, 3" IB Insulation

Plate (Preliminarily Attached)

Min. IB SD #12, 3" IB Insulation

Plate (Preliminarily Attached)

Min. IB SD #12, 3" IB Insulation

Plate (Preliminarily Attached)

Min, IB SD #12, 3" IB Insulation

IB HD #14 or XHD #15, IB

2" Barbed Seam Plate

IB HD #14 or XHD #15, IB

2" Barbed Seam Plate

IB HD #14 or XHD #15, IB

2" Barbed Seam Plate

IB HD #14 or XHD #15, IB

2" Barbed Seam Plate

IB XHD #15. IB 2-3/8'

Barbed Seam Plate

IB XHD #15, IB 2-3/8'

Barbed Seam Plate

RATED

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In-Seam

12" o.c. Min. x 67"

In-Seam

6" o.c. Min. x 67"

In-Seam

12" o.c. Min. x 67"

In-Seam

6" o.c. Min. x 67"

In-Seam

6" o.c. Min. x 67

In-Seam

6" o.c. Min. x 31"

energy

ENERGY STAR

Minimum Req for

IB Warranty

-37.5 psf

(Class 75)

-30.0 psf

(Class 60)

-45.0 psf

(Class 90)

-67.5 psf

(Class 135)

-127.5 psf

(Class 255)

	1⁄2":12"	· · · · · · · · · · · · · · ·		Plate (Preliminarily Attached)
Eiro	Classification Noto	11.11 Class 'P' Eiro Classification	up to 1/":12" when utilized with one layer of IP Fire	Shoot 10

IB Fire Sheet 10

*Refer to Substrate Resistance Table for required pull-out values

APPROVED

1/2" Plywood

1/2" Plywood

19/32" Plywood

19/32" Plywood

19/32" Plywood

19/32" Plywood

1Class "B

1/2":12"

1Class "B

1/2":12

1Class "B

1/2":12"

¹Class "B"

1/2":12'

1Class "B

1/3".12

1Class "B

c(VL)us

TGFU.R15546

For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

									, , , , , , , , , , , , , , , , , , , ,
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)
IB PVC Single-Ply 60 Mil	White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Commercial Limited Material Warranty (CLMW)
IB PVC Single-Ply 80 Mil	White*	Gray	Tan	Bronze	ChemGuard*	15 Year	20 Year	25 Year	Residential Limited Material Warranty (RLMW)
*Meets CRRC, Title 24 & EnergyStar Standards						***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program			
Submitted By:						Project Nam	ie:		
Submitted By: Address:						Project Nam Address:	ne:		
Submitted By: Address: Email:						Project Nam Address:	ne:		

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Revision 03.2023




























Fastened FS-W MA-IN-

Mechanically Attached Membrane - Insulation - 1 Layer Fire Sheet - Wood Deck (New or Tear-Off)



IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626. Membranes: Membrane Color: Warranty Length*** Warranty Type* Total Systems - No Dollar Limit (TSW) IB PVC Single-Ply 50 Mil ChemGuard* 10 Year White' Gray Tan Bronze 15 Year 20 Year Warranty Plus (WP) IB PVC Single-Ply 60 Mil White' Cool Sand' Cool Stone* 15 Year 20 Year 25 Year Tan Gray Commercial Limited Material Warranty (CLMW) Residential Limited Material Warranty (RLMW) IB PVC Single-Ply 80 Mil 20 Year Bronze ChemGuard' 25 Year 30 Year White Grav Tan ***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility *Meets CRRC, Title 24 & EnergyStar Standards requirements of the Warranty Program Submitted By: **Project Name:** Address: Address:

Email:





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Mechanically Attached Membrane - Insulation - 2 Layer Fire Sheet - Wood Deck (New or Tear-Off)



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CRRC

RATED

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ENERGY STAR







Fire Rating /	Deek Ture	Insulation / V	apor Barrier	IB Memb	Max. Design	
Max. Slope	Деск Туре	Туре	Attachment	Fasteners	Attachment	Pressure**
Not Rated	7/16" OSB	IB Approved Insulation & Min. IB SD #12, 3" IB Insulation IB Approved Vapor Barrier Plate (6 per 4' x 8')		IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	Minimum Req for IB Warranty
¹ Class 'A' ½":12"	Ass 'A' 5/8" OSB IB Approved Insulation & IB Approved Vapor Barrier		Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	Minimum Req for IB Warranty
¹ Class 'A' ½":12"	1/2" Plywood	IB Approved Insulation & IB Approved Vapor Barrier	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	Minimum Req for IB Warranty
¹ Class 'A' ½":12"	1/2" Plywood	IB Approved Insulation & IB Approved Vapor Barrier	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-37.5 psf (Class 75)
¹ Class 'A' ½":12"	19/32" Plywood	IB Approved Insulation & IB Approved Vapor Barrier	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	-30.0 psf (Class 60)
¹ Class 'A' ½":12"	19/32" Plywood	IB Approved Insulation & IB Approved Vapor Barrier	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-45.0 psf (Class 90)
¹ Class 'A' ½":12"	19/32" Plywood	IB Approved Insulation & IB Approved Vapor Barrier	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-67.5 psf (Class 135)
¹ Class 'A' ½":12"	19/32" Plywood	IB Approved Insulation & IB Approved Vapor Barrier	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 31"	-127.5 psf (Class 255)

Approved Vapor Barrier: IBarrier SA Membrane, SopraVap'r SA, applied using self-adhesive techniques

Approved Insulation: IB EnergyBoard II or III, Atlas AC Foam II or III; H-Shield or H-Shield CG; or Structodek HD Primed Fire Classification Note: 1UL Class 'A' Classification up to ½":12" when utilized with an any of the above listed Vapor Barrier and minimum 1" thickness H-Shield CG, or minimum 3" thickness AC Foam III or IB EnergyBoard III. 2Other IB Approved Insulations or lesser thicknesses may not achieve UL Classification.

**Refer to Substrate Resistance Table for required pull-out values.

For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

• •			•							
Membranes:			Membrane Color	:		Wa	rranty Length	1***	Warranty Type***	
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)	
									- Warranty Plus (WP)	
IB PVC Single-Ply 60 Mil	White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Commercial Limited Material Warranty (CLMW)	
IB PVC Single-Ply 80 Mil White* Gray Tan Bronze ChemGuar					ChemGuard*	20 Year	25 Year	30 Year	Residential Limited Material Warranty (RLMW)	
*Meets CRRC, Title 24 & Energ	jyStar Standards					***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program				
Submitted By:						Project Name:				
Address:						Address:				
Email:										
SSUFAC COUNTY APPROVED SR-2852 MIAMI DADE COUNTY APPROVED SR-2852 MIAMI DADE COUNTY APPROVED SR-2852										





Mech	anically Atta	ched Membr	ane - 1 La	ayer Fire Si	heet - Ex	kisting F	Roof - W	ood De	eck (Rec	over)
							/	IB MEN	MBRANE	
	AIR WELD AIN. 1.5"							IB HD FASTE BARBE	#14 or IB NER AND ED SEAM	XHD #15 MIN 2" PLATE
777								1 LAYE	R	0
								EXISTI	NG ROOF	<u>-</u> *
, /					/			WOOI	D DECK	
Fire Rating / Max_Slope	Deck Type	т.	Fire	Sheet	- have a set		IB M	embrane		Max. Design Pressure**
Not Rated	7/16" OSB	IB Fire S	je sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB HD # 2" Ba	#14 or XHD #15, rbed Seam Plat	IB e 6"	In-Seam o.c. Min. x 67"	Minimum Req for IB Warranty
¹ Maintain Existing 1-½":12"	5/8" OSB	IB Fire S	Sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB HD # 2" Ba	#14 or XHD #15, rbed Seam Plat	IB e 12"	In-Seam o.c. Min. x 67"	Minimum Req for IB Warranty
¹ Maintain Existing 1-½":12"	1/2" Plywood	IB Fire S	sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB HD # 2" Ba	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate		In-Seam o.c. Min. x 67"	Minimum Req for IB Warranty
1-/2":12" ¹ Maintain 1/2" Plywood Existing 1-½":12"		IB Fire S	sheet 10	Min. IB SD #12 Plate (Prelimi	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)		IB HD #14 or XHD #15, IE 2" Barbed Seam Plate		In-Seam o.c. Min. x 67"	-37.5 psf (Class 75)
¹ Maintain Existing 1-½":12"	19/32" Plywood	IB Fire S	Sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB HD ‡ 2" Ba	#14 or XHD #15, rbed Seam Plat	IB e 12"	In-Seam o.c. Min. x 67"	-30.0 psf (Class 60)
¹ Maintain Existing 1-½":12"	19/32" Plywood	IB Fire S	sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB HD # 2" Ba	#14 or XHD #15, rbed Seam Plat	IB e 6"	In-Seam o.c. Min. x 67"	-45.0 psf (Class 90)
¹ Maintain Existing 1-½":12"	19/32" Plywood	IB Fire S	sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB XH Barl	ID #15, IB 2-3/8 bed Seam Plate	" 6" (In-Seam o.c. Min. x 67"	-67.5 psf (Class 135)
¹ Maintain Existing 1-½":12"	19/32" Plywood	IB Fire S	sheet 10	Min. IB SD #12 Plate (Prelimi	2, 3" IB Insulation narily Attached)	n IB XH Barl	ID #15, IB 2-3/8 bed Seam Plate		In-Seam o.c. Min. x 31"	-127.5 psf (Class 255)
Existing Roof: APP or SE Fire Classification Note: retain fire classification. **Refer to Substrate Resi	S modified bitumen, smooth 'Limited to any UL Classified istance Table for required	or granule surfaced asphalti J (Class A, B, or C) Built-Up s pull-out values.	c built-up roof, or single mooth surface or cap s	e-ply membrane (CPA, C sheet roof system to reta	SPE, EPDM, PVC, in the existing class	or TPO) sification up to 1-	1/2":12" max incline	e. ²Recover ove	er modified bitumen	or single-ply roof may not
For additional inform	ation about IB Roof Sy cifications Manual. Fo	stems requirements, re r Technical Services ple	commendations, i	installation details, a chnical Department	approvals, and at 800-426-1626	limitations for	the above ass	emblies, ple	ase refer to the	latest edition of the
Membranes:		Membra	ne Color:		Wa	rranty Length	***		Warranty Ty	/pe***
IB PVC Single-Ply	50 Mil White*	Gray Tan	Bronze	e ChemGuard*	10 Year	15 Year	20 Year	Total Sy	stems - No Dolla	r Limit (TSW)
IB PVC Single-Ply	60 Mil White*	Cool Sand* Cool	Stone* Gray	Tan	15 Year	20 Year	25 Year	Comme	rcial Limited Mate	erial Warranty (CLMW)
IB PVC Single-Ply	80 Mil White*	Gray Tan	Bronze	e ChemGuard*	15 Year	20 Year	25 Year	Residen	tial Limited Mater	rial Warranty (RLMW)
*Meets CRRC, Title 2	24 & EnergyStar Standards	:			***Refer to Wa requirements	arranty Selection of the Warranty	n Guide for Warra Program	nty Riders, Tei	rm Length Limitatio	ons, and eligibility
Submitted By: Address: Email:					Address:	ne:				
CULSSIF	APPROVED	> E		APPROVE	D D		CRRC MATED PRODUCT	-e	ERGY STAR	TITLE 24 CONFLIANT





Mechanically Attached Membrane - Separation Sheet - Existing Roof - Wood Deck (Recover)



Fire Rating /		Deels Tune	Separation Sheet (ID Ments	Max. Design	
	Max. Slope	Деск Туре	Туре	Attachment	Fasteners	Attachment	Pressure**
	¹ Not Rated	7/16" OSB	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	Minimum Req for IB Warranty
	¹ Not Rated	5/8" OSB	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	Minimum Req for IB Warranty
	¹ Not Rated	1/2" Plywood	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	Minimum Req for IB Warranty
	¹ Not Rated	1/2" Plywood	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-37.5 psf (Class 75)
	¹ Not Rated	19/32" Plywood	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	-30.0 psf (Class 60)
	¹ Not Rated	19/32" Plywood	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-45.0 psf (Class 90)
	¹ Not Rated	19/32" Plywood	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-67.5 psf (Class 135)
	¹ Not Rated	19/32" Plywood	Approved IB Separation Sheet	Min. IB SD #12, 3" IB Insulation Plate (Preliminarily Attached)	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 31"	-127.5 psf (Class 255)

Existing Roof: APP or SBS modified bitumen, smooth or granule surfaced asphaltic built-up roof, or single-ply membrane (CPA, CSPE, EPDM, PVC, or TPO)

ESR-2852

Approved Separation Sheet: IB Separator Sheet, IB Poly Separator Sheet, IB HD Poly Separator Sheet

Fire Classification Note: 1 This assembly is not UL Classified.

**Refer to Substrate Resistance Table for required pull-out values.

For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

Membranes.	membranes.							Warranty Length Warranty Type			
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)		
IB PVC Single-Ply 60 Mil	White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Warranty Plus (WP) Commercial Limited Material Warranty (CLMW)		
IB PVC Single-Ply 80 Mil	White*	Gray	Tan	Bronze	ChemGuard*	15 Year	20 Year	25 Year	Residential Limited Material Warranty (RLMW)		
*Meets CRRC, Title 24 & Energ	yyStar Standards					***Refer to Wa requirements	arranty Selection of the Warranty	n Guide for Warra Program	anty Riders, Term Length Limitations, and eligibility		
Submitted By:			,		ĺ	Project Name:					
Address:						Address:					
Email:											
CULSISSIF TGFU.R15546	FM	>	ES	MLA	MI DADE C APPROVE	OUNTY		RATED PRODUCT 0640	ENERGY STAR		











■ Roof Systems[™] MA-CB-IN-EX-W Mechanically Attached Membrane - Cover Board - Insulation - Existing Roof - Wood Deck (Recover) **IB MEMBRANE** HOT AIR WELD MIN. 1.5' IB HD #14 or IB XHD #15 **FASTENER AND MIN 2 BARBED SEAM PLATE** APPROVED COVER BOARD APPROVED INSULATION **EXISTING ROOF*** ~ WOOD DECK Cover Board / Insulation (over Existing Roof) **IB Membrane** Fire Rating / Max. Design Deck Type Max. Slope Pressure** Attachment Fasteners Attachment Туре IB HD #14 or XHD #15, IB 7/16" OSB Min, IB SD #12, 3" IB Insulation Minimum Reg for Not Rated Approved Cover Board & Approved In-Seam Insulation Plate 2" Barbed Seam Plate IB Warranty 6" o.c. Min. x 67" (6 per 4' x 8" 5/8" OSB Approved Cover Board & Approved Min. IB SD #12, 3" IB Insulation IB HD #14 or XHD #15, IB 1Class "A In-Seam Minimum Req for 12" o.c. Min. x 67 Unlimited Insulation Plate 2" Barbed Seam Plate IB Warranty (6 per 4' x 8') Min. IB SD #12, 3" IB Insulation Approved Cover Board & Approved IB HD #14 or XHD #15, IB In-Seam Minimum Reg for 1Class "A 1/2" Plywood Insulation 12" o.c. Min. x 67' IB Warranty Unlimited Plate 2" Barbed Seam Plate (6 per 4' x 8') ¹Class "A' 1/2" Plywood Approved Cover Board & Approved Min. IB SD #12. 3" IB Insulation IB HD #14 or XHD #15 IB In-Seam -37.5 psf 6" o c Min x 67" Unlimited Insulation Plate 2" Barbed Seam Plate (Class 75) (6 per 4' x 8') 1Class "A 19/32" Plywood Approved Cover Board & Approved Min. IB SD #12, 3" IB Insulation IB HD #14 or XHD #15, IB In-Seam -30.0 psf Plate 2" Barbed Seam Plate 12" o.c. Min. x 67' (Class 60) Unlimited Insulation (6 per 4' x 8') Min. IB SD #12, 3" IB Insulation 1Class "A" 19/32" Plywood Approved Cover Board & Approved IB HD #14 or XHD #15. IB In-Seam -45.0 psf Plate Unlimited Insulation 2" Barbed Seam Plate 6" o.c. Min. x 67" (Class 90) (6 per 4' x 8') 19/32" Plywood Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8" In-Seam -67.5 psf ¹Class "A' Approved Cover Board & Approved Unlimited Insulation Plate Barbed Seam Plate 6" o.c. Min. x 67" (Class 135) (6 per 4' x 8') Min. IB SD #12, 3" IB Insulation ¹Class "A' 19/32" Plywood Approved Cover Board & Approved IB XHD #15 IB 2-3/8 In-Seam -127.5 psf Plate Barbed Seam Plate Insulation 6" o.c. Min. x 31" Unlimited (Class 255) (6 per 4' x 8') Existing Roof: APP or SBS modified bitumen, smooth or granule surfaced asphaltic built-up roof, or single-ply membrane (CPA, CSPE, EPDM, PVC, or TPO) Existing Robr: APP of SPS modified billument, sindouth of granue surfaced aspinatic built-up rough, or single-pty meintraite (CPA, CSPE, EPDM, PVC, 01 PPO) Approved Insulation: IB EnergyBoard II or III, or IB Approved UL Classified Polyisocyanurate, IB Approved UL Classified Extruded Polystyrene Insulation Approved Cover Board: DensDeck, DensDeck Prime, DensDeck StormX, Securock Ultralight Glass-Mat, Securock Ultralight Coated Glass-Mat, Securock Oypsum Fiber Board, DexCell Glass-Mat Roof Board, or DexCell FA Glass Mat Roof Board, minimum ½" thickness; or minimum ½" thickness IB HD ISO or H-Shield HD ISO; or minimum ½" thickness Structodek HD Primed. Note: Use of cover board less than ½' may not maintain UL classification. Fire Classification Note: 'UL Class A over existing Class A or maintains existing classification without slope limitation when utilized with any UL Classified polyisocyanurate, any thickness and minimum ½" 'UL Classification. Fire Classification Note: 'UL Class A over existing Classification and minimum ½" Securock Gypsum Fiber Board. Insulated, or un-insulated cap. Sheet or smooth surfaced root. ⁴ Maintains existing classification infor any Class. A. B or C, coated or uncasted cap. Insulated, or smooth surfaced, Type G3 mineral surfaced caps heet or mineral surfaced modified bitumen membrane BUR system when utilized with any UL Classified insulation and minimum ½" Securock Gypsum Fiber Board. ³The use of other IB Approved cover boards may not retain UL classification. (Recover over existing single-ply roof may not retain fire classification. **Refer to Substrate Resistance Table for required pull-out values For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626. Warranty Type** brane Color Warranty Length*' Total Systems - No Dollar Limit (TSW) IB PVC Single-Ply 50 Mil ChemGuard* 10 Year White* Gray Tan Bronze 15 Yea 20 Year Warranty Plus (WP) IB PVC Single-Ply 60 Mil White* Cool Sand' Cool Stone* Gray Tan 15 Year 20 Year 25 Year Commercial Limited Material Warranty (CLMW) 15 Year 20 Year 25 Year Residential Limited Material Warranty (RLMW) IB PVC Single-Ply 80 Mil White* Grav Tan Bronze ChemGuard' ***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program *Meets CRRC, Title 24 & EnergyStar Standards Submitted By: Project Name: Address: Address: Email



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	¹ Maintain Existing ½":12″	19/32" Plywood	Min. ½" Approved IB EPS Fan-Fold Insulation	Min. IB SD #12, 3" IB Insulation Plate (1 per 12 sq. ft.)	IB HD #14 or XHD #15, IB 2" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-45.0 psf (Class 90)
	¹Maintain Existing ½":12″	19/32" Plywood	Min. ½" Approved IB EPS Fan-Fold Insulation	Min. IB SD #12, 3" IB Insulation Plate (1 per 12 sq. ft.)	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-67.5 psf (Class 135)
	¹Maintain Existing ½":12″	19/32" Plywood	Min. ½" Approved IB EPS Fan-Fold Insulation	Min. IB SD #12, 3" IB Insulation Plate (1 per 12 sq. ft.)	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 31"	-127.5 psf (Class 255)
Exis App	ting Roof: APP or SE roved EPS Fan-Fold	BS modified bitumen, smooth or g I Insulation: R-Tech Fan-Fold Ur.	granule surfaced asphaltic built-up roof, or single-r nderlayment, or Polyshield Fan-Fold Recovery Boa	- ly membrane (CPA, CSPE, EPDM, PVC, or Ti ard, or Thermafoam R-Control EPS, max 1" thi	PO) ckness, minimum 1.5 density.		
ire xis	Classification Note: ting Classification. ² Re	¹ UL Classification up to ½":12" li ecover over other roof systems m	mited to Class A, B or C built up systems, smooth hay not retain UL Classification. ³ Other IB Approve	surfaced, cap sheet or gravel surfaced (grave d Fan-Fold EPS may not retain UL Classification	maintained) when utilized with the al	bove listed IB Approved Fan-F	old EPS to retain the

strate Resistance Table for rec red pul ut values

For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

wempranes:	viembrane Color	rane Golor:			rranty Length		warranty Type		
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)
IB PVC Single-Ply 60 Mil	White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Commercial Limited Material Warranty (CLMW)
IB PVC Single-Ply 80 Mil	White*	Gray	Tan	Bronze	ChemGuard*	15 Year	20 Year	25 Year	Residential Limited Material Warranty (RLMW)
*Meets CRRC, Title 24 & Energ	gyStar Standards	1		***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program					
Submitted By:						Project Name:			
Address:	Address:								
Email:	:mail:								





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Mechanically Attached Membrane - Insulation - Existing Roof - Wood Deck (Recover)



















Mechanically Attached Membrane - Insulation - Steel Deck (New or Tear-Off)













IB MEMBRANE HOT AIR WELD MIN. 1.5" IB HD #14 OR IB XHD #15 FASTENER AND IB 2-3/8" BARBED SEAM PLATE APPROVED COVER BOARD 1 APPROVED INSULATION APPROVED VAPOR Ŧ BARRIER STEEL DECK Cover Board / Insulation (over Vapor Barrier) IB Membrane Fire Rating / Max. Design Deck Type Max. Slope Pressure* Attachment Attachment Fasteners Type Min. IB SD #12, 3" IB Insulation Plate 1 per 2 sq ft (16 per 4' x 8') Approved Cover Board/ Insulation & Approved Vapor Barrier IB XHD #15, IB 2-3/8' Barbed Seam Plate ¹Class 'A ¹⁄₂":12" Min. 22 ga. Type B, Grade 80 Steel In-Seam 18" o.c. Min. x 67' -30.0 psf (Class 60) Approved Cover Board/ Insulation & Approved Vapor Barrier -45.0 psf (Class 90) Min. 22 ga. Type B, Grade 80 Steel Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8' In-Seam ¹Class 'A 1⁄2":12" 12" o.c. Min. x 67' Plate 1 per 2 sq ft (16 per 4' x 8') Barbed Seam Plate Min. 22 ga. Type B, Grade 80 Steel Approved Cover Board/ Insulation & Min. IB SD #12, 3" IB Insulation IB XHD #15. IB 2-3/8 -67.5 psf (Class 135) Class 'A In-Seam 6" o.c. Min. x 67" 1/2":12' Approved Vapor Barrier Plate 1 per 2 sq ft (16 per 4' x 8') Barbed Seam Plate Approved Cover Board/ Insulation & Approved Vapor Barrier IB XHD #15, IB 2-3/8' -127.5 psf 1Class 'A Min. 22 ga. Type B, Grade 80 Steel Min, IB SD #12, 3" IB Insulation In-Seam Plate 1 per 2 sq ft (16 per 4' x 8') Barbed Seam Plate 6" o.c. Min. x 31" (Class 255) Approved Vapor Barrier: IBarrier SA Membrane, SopraVap'r SA, applied using self-adhesive techniques; or polyethylene minimum 4 mil thickness, loose laid. Approved Insulation: IB EnergyBoard II or III; or H-Shield or H-Shield CG; or IB Approved UL Classified Polyisocyanurate Insulation; IB Approved UL Classified Extruded Polystyrene Insula-Approved Cover Board: DensDeck, DensDeck Prime, DensDeck StormX, Securock Ultralight Glass-Mat, Securock Ultralight Coated Glass-Mat, Securock Gypsum Fiber Board, DexCell Glass-Mat Roof Board, or DexCell FA Glass Mat Roof Board, minimum ¼" thickness; IB HD ISO or H-Shield HD ISO, minimum ½" thickness; or Structodek HD Primed, minimum ½" thickness Fire Classification Note: 1/U Class // up to %:1/2' over any of the above listed IB Approved Vapor Barrier when utilized with minimum 1" H-Shield CG or 3" IB EnergyBoard III or AC Foam-III and minimum 1/" DensDeck, DensDeck Prime, Securock Ultralight Glass-Mat, Securock Ultralight Coated Glass-Mat, DexCell Glass-Mat Roof Board, or DexCell FA Glass Mat Roof Board, or minimum 7/16" DexCell Cement Board or minimum ½" gypsum board over any of the above listed IB Approved Vapor Barrier. ²UL Class 'A' up to ½":12" over any of the above listed IB Approved Vapor Barrier when utilized with minimum ½" IB HD ISO or H-Shield HD ISO over any UL Classified insulation (except expanded or extruded polysty-*refer, or Substrate Resistance Table for required pull-out values. For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626. Warranty Length*** Membranes: Membrane Color Warranty Type** Total Systems - No Dollar Limit (TSW) IB PVC Single-Ply 50 Mil White³ ChemGuard' 10 Year 20 Year Grav Tan Bronze 15 Year Warranty Plus (WP) IB PVC Single-Ply 60 Mil White* Cool Sand* Cool Stone* Gray Tan 15 Year 20 Year 25 Year Commercial Limited Material Warranty (CLMW) White' Grav Tan Bronze ChemGuard* 20 Year 25 Year 30 Year Residential Limited Material Warranty (RLMW) IB PVC Single-Ply 80 Mil ***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program *Meets CRRC, Title 24 & EnergyStar Standards Submitted By: Project Name: Address: Address: Email: FM MIAMI DADE COUNTY APPROVED APPROVED ENERGY STAR

Mechanically Attached Membrane - Cover Board - Insulation - Vapor Barrier - Steel Deck (New or Tear-Off)









Mechanically Attached Membrane - Fire Sheet - Existing Roof - Steel Deck (Recover) **IB MEMBRANE** HOT AIR WELD IB HD #14 or IB XHD #15 MIN. 1.5" FASTENER AND IB 2-3/8" BARBED SEAM PLATE **IB FIRE SHEET-10** 1 LAYER **EXISTING ROOF*** STEEL DECK Fire Sheet (over Existing Roof) **IB Membrane** Fire Rating / Max. Design Deck Type Max. Slope Pressure Attachment Fasteners Attachment Type ¹Maintain IB HD #14 or XHD #15, IB 2-3/8" Barbed Seam Plate Minimum Reg for Min. 22 ga. Type B, Grade 33 Steel Min. IB SD #12. 3" IB Insulation In-Seam Existing 1-1/2":12" IB Fire Sheet 10 Plate (Preliminarily Attached) 18" o.c. Min. x 67" IB Warranty ¹Maintain Min. 22 ga. Type B, Grade 33 Steel Min. IB SD #12, 3" IB Insulation IB HD #14 or XHD #15, IB In-Seam Minimum Req for Existing 1-1/2":12" IB Fire Sheet 10 12" o.c. Min. x 67" Plate (Preliminarily Attached) 2-3/8" Barbed Seam Plate IB Warranty ¹Maintain Min. 22 ga. Type B, Grade 33 Steel Min. IB SD #12. 3" IB Insulation IB HD #14 or XHD #15. IB In-Seam Minimum Reg for IB Fire Sheet 10 Existing 1-1/2":12" 6" o.c. Min. x 67' Plate (Preliminarily Attached) 2-3/8" Barbed Seam Plate IB Warranty ¹Maintain Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8' Min. 22 ga. Type B, Grade 80 Steel -30.0 psf In-Seam Existing 1-1/2":12" IB Fire Sheet 10 Plate (Preliminarily Attached) Barbed Seam Plate 18" o.c. Min. x 67 (Class 60) ¹Maintain In-Seam Min. 22 ga. Type B, Grade 80 Steel Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8' -45.0 psf (Class 90) IB Fire Sheet 10 Existing 1-1/2":12" 12" o.c. Min. x 67' Plate (Preliminarily Attached) Barbed Seam Plate ¹Maintain Min. 22 ga. Type B, Grade 80 Steel Min, IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8" -67.5 psf (Class 135) In-Seam Existing 1-1/2":12" IB Fire Sheet 10 Plate (Preliminarily Attached) Barbed Seam Plate 6" o.c. Min. x 67" ¹Maintain -127.5 psf (Class 255) Min. 22 ga. Type B, Grade 80 Steel Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8' In-Seam IB Fire Sheet 10 Existing 1-1/2":12" 6" o.c. Min. x 31' Plate (Preliminarily Attached) Barbed Seam Plate Existing Roof: APP or SBS modified bitumen, smooth or granule surfaced asphaltic built-up roof, or single-ply membrane (CPA, CSPE, EPDM, PVC, or TPO) Fire Classification Note: ¹Limited to any UL Classified (Class A, B, or C) Built-Up smooth surface or cap sheet roof system to retain the existing classification up to 1-1/2".12" max incline. ²Recover over modified bitumen or single-ply roof may not retain fire classification **Refer to Substrate Resistance Table for required pull-out values For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626. Warranty Length*** Membranes: Membrane Color Warranty Type** Total Systems - No Dollar Limit (TSW) IB PVC Single-Ply 50 Mil White³ ChemGuard* 10 Year Grav Tan Bronze 15 Year 20 Year Warranty Plus (WP) IB PVC Single-Ply 60 Mil White³ Cool Sand* Cool Stone^{*} Gray Tan 15 Year 20 Year 25 Year Commercial Limited Material Warranty (CLMW) White³ Grav Tan Bronze ChemGuard' 15 Year 20 Year 25 Year Residential Limited Material Warranty (RLMW) IB PVC Single-Ply 80 Mil ***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program *Meets CRRC, Title 24 & EnergyStar Standards Submitted By: Project Name: Address: Address: Email: MIAMI DADE COUNTY APPROVED APPROVED TGFU.R1554 ENERGY STAR











Mechanically Attached Membrane - Cover Board - Existing Roof - Steel Deck (Recover)



Room with the second status of
Fire Classification Note: ¹Maintains existing classification with unlimited slope but is limited to existing Class A to retain existing Class 'A' Classification, over insulated or uninsulated cap sheet or smooth surfaced roof when covered with minimum 1/2-in. thickness UL Classified gypsum cover board. ²UL Class A up to 1":12" slope over insulated or non-insulated cap sheet, smooth or gravel surfaced BUR (gravel may be removed) or PVC roof system, covered with minimum 1/4-in. thick DensDeck, DensDeck Prime, Securock Glass-Mat Roof Board, DexCell Glass Mat Roof Board, or DexCell FA Glass Mat Roof Board, or minimum 7/16-in. thick DexCell Cement Board. ³Maintains existing classification limited to '%":12" slope and limited to any existing Class A, or crofing system to retain existing classification, when covered with 1/2-in.thick IB HD ISO or H-Shield HD ISO. ⁴Recover over modified bitumen, or over Single-Ply may not retain UL Classification. ⁵Use of other IB Approved cover boards or lesser thicknesses may not retain UL Classification.

For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

Membranes:		Ν	lembrane Colo	r:		Wa	rranty Length	***	Warranty Type***	
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)	
IB PVC Single-Ply 60 Mil White* Cool Sand			Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Warranty Plus (WP) Commercial Limited Material Warranty (CLMW)	
IB PVC Single-Ply 80 Mil	White*	Gray	Tan	Bronze	ChemGuard*	15 Year	20 Year	25 Year	Residential Limited Material Warranty (RLMW)	
*Meets CRRC, Title 24 & Energ	gyStar Standards					***Refer to V eligibility re	Varranty Sele quirements o	ction Guide fo f the Warranty	or Warranty Riders, Term Length Limitations, and Program	
Submitted By:						Project Name:				
Address: Email:						Address:				
CUNSSIFY CUUS TGFU.R15546	FM		58-2852	M	AMI DADE C Approve	OUNTY		RATED PRODUCT 0640	Energy STAR	













Mechanically Attached Membrane - Fan-Fold - Existing Roof - Steel Deck (Recover) HOT AIR WELD **IB MEMBRANE** MIN. 1.5" IB HD #14 or IB XHD #15 FASTENER AND IB 2-3/8" BARBED SEAM PLATE APPROVED FAN-FOLD **EXISTING ROOF*** STEEL DECK Fan-Fold (over Existing Roof) **IB Membrane** Fire Rating / Max. Design Deck Type Max. Slope Pressure* Attachment Fasteners Attachment Туре ¹Maintain Min. 22 ga. Type B, Grade 33 Steel Min. 1/2" Approved IB EPS Fan-Fold Min. IB SD #12, 3" IB Insulation IB HD #14 or XHD #15, IB In-Seam Minimum Rea for Existing 1/2":12" 2-3/8" Barbed Seam Plate 18" o.c. Min. x 67" IB Warranty Insulation Plate (1 per 12 sq. ft.) ¹Maintain Min. 22 ga. Type B, Grade 33 Steel Min. 1/2" Approved IB EPS Fan-Fold Min. IB SD #12, 3" IB Insulation IB HD #14 or XHD #15, IB In-Seam Minimum Reg for Existing 1/2":12" Insulation Plate (1 per 12 sq. ft.) 2-3/8" Barbed Seam Plate 12" o.c. Min. x 67 IB Warranty ¹Maintain Min. IB SD #12, 3" IB Insulation Plate (1 per 12 sq. ft.) Min. 1/2" Approved IB EPS Fan-Fold IB HD #14 or XHD #15, IB 2-3/8" Barbed Seam Plate Min. 22 ga. Type B, Grade 33 Steel In-Seam 6" o.c. Min. x 67" Minimum Req for IB Warranty Existing 1/2":12" Insulation ¹Maintain Min. IB SD #12, 3" IB Insulation Plate (1 per 12 sq. ft.) IB XHD #15, IB 2-3/8' Min. 22 ga. Type B, Grade 80 Steel Min. 1/2" Approved IB EPS Fan-Fold In-Seam -30.0 psf Existing 1/2":12" Barbed Seam Plate 18" o.c. Min. x 67' (Class 60) Insulation ¹Maintain Min. 1/2" Approved IB EPS Fan-Fold Min. 22 ga. Type B, Grade 80 Steel Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8" In-Seam -45.0 psf Existing 1/2":12" 12" o c Min x 67' Barbed Seam Plate Insulation Plate (1 per 12 sq. ft.) (Class 90) ¹Maintain Min. 1/2" Approved IB EPS Fan-Fold Min. 22 ga. Type B, Grade 80 Steel Min, IB SD #12, 3" IB Insulation IB XHD #15. IB 2-3/8' In-Seam -67.5 psf Existing 1/2":12" Plate (1 per 12 sq. ft.) 6" o.c. Min. x 67" (Class 135) Insulation Barbed Seam Plate ¹Maintain Min. 22 ga. Type B, Grade 80 Steel Min. 1/2" Approved IB EPS Fan-Fold Min. IB SD #12, 3" IB Insulation IB XHD #15, IB 2-3/8' In-Seam 127.5 psf Existing 1/2":12" 6" o c Min x 31 Insulation Plate (1 per 12 sq. ft.) Barbed Seam Plate (Class 255) Existing Roof: APP or SBS modified bitumen, smooth, granule, or gravel surfaced asphaltic built-up roof, or single-ply membrane (CPA, CSPE, EPDM, PVC, or TPO) Approved EPS Insulation: R-Tech Fan-Fold Underlayment, PolyShield Fan-Fold Recovery Board, or Thermafoam R-Control EPS, max 1" thickness, minimum 1.5 density. Fire Classification Note: 1UL Classification up to %:12* limited to Class A, B or C built up systems, smooth surfaced, cap sheet or gravel surfaced (gravel maintained) when utilized with the above listed IB Approved Fan-Fold EPS to retain the existing Classification.²Recover over other roof systems may not retain UL Classification.³Other IB Approved Fan-Fold EPS may not retain UL Classification. **Refer to Substrate Resistance Table for required pull-out values. For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626. Warranty Type*** Membranes: Membrane Color: Warranty Length*** Total Systems - No Dollar Limit (TSW) IB PVC Single-Ply 50 Mil White³ ChemGuard* 10 Year 15 Year 20 Year Gray Tan Bronze Warranty Plus (WP) IB PVC Single-Ply 60 Mil Cool Sand* 20 Year 25 Year White' Cool Stone* Grav Tan 15 Year Commercial Limited Material Warranty (CLMW) White* Gray Tan Bronze ChemGuard' 15 Year 20 Year 25 Year Residential Limited Material Warranty (RLMW) IB PVC Single-Ply 80 Mil ***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program *Meets CRRC, Title 24 & EnergyStar Standards Submitted By: Project Name: Address: Address: Email: FM RRC MIAMI DADE COUNTY Oner RATED APPROVED APPROVED ENERGY STAR 0640









Fire Rating /		Deek Ture	Insulation (over	Existing Roof)	IB Memb	rane	Max. Design
	Max. Slope	Деск Туре	Туре	Attachment	Fasteners	Attachment	Pressure**
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 33 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 18" o.c. Min. x 67"	Minimum Req for IB Warranty
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 33 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	Minimum Req for IB Warranty
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 33 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB HD #14 or XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	Minimum Req for IB Warranty
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 80 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 18" o.c. Min. x 67"	-30.0 psf (Class 60)
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 80 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 12" o.c. Min. x 67"	-45.0 psf (Class 90)
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 80 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 67"	-67.5 psf (Class 135)
	¹ Class 'A' 3":12"	Min. 22 ga. Type B, Grade 80 Steel	Approved IB Insulation	Min. IB SD #12, 3" IB Insulation Plate (6 per 4' x 8')	IB XHD #15, IB 2-3/8" Barbed Seam Plate	In-Seam 6" o.c. Min. x 31"	-127.5 psf (Class 255)

Existing Roof: APP or SBS modified bitumen, smooth, granule or gravel surfaced asphaltic built-up roof, or Single-Ply (CPA, CSPE, EPDM, PVC or TPO)

ESR-2852

Approved Insulation: IB EnergyBoard II or III; H-Shield or H-Shield CG; or IB Approved UL Classified Polyisocyanurate Insulation Fire Classification Note(s): ¹UL Class A up to 3":12" when utilized with IB EnergyBoard II or AC Foam II, any thickness, over an existing insulated or non-insulated cap, sheet smooth or gravel surfaced (loose gravel may be removed).²UL Class Ap to 1/2*12" when utilized with one layer of 3" or two layers of 1.5" H-Shield CG, over an existing Class A, B or C roofing system (gravel may be removed from gravel built-up or ballasted or por ballasted single-ply system). ⁴UL class B up to %:12" when utilized with minimum 1.9" H-Shield CG over an existing Class A, B or C roofing system (gravel may be removed from gravel built-up or ballasted or the IB Approved Insulations or lesser thicknesses may not retain Classification

**Refer to Substrate Resistance Table for required pull-out values.

TGFU.R15546

For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

wiembranes.						a a a a a a a a a a a a a a a a a a a	manty Length		wallality type	
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)	
IB PVC Single-Ply 60 Mil	White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Warranty Plus (WP) Commercial Limited Material Warranty (CLMW)	
IB PVC Single-Ply 80 Mil	White*	Gray	Tan	Bronze	ChemGuard*	15 Year	20 Year	25 Year	Residential Limited Material Warranty (RLMW)	
*Meets CRRC, Title 24 & Energ	gyStar Standards					***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program				
Submitted By:						Project Name:				
Address: Email:						Address:				
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PRODUCT 0640

ENERGY STAR



Fastened

MA-CB-FL-EX-MRpf







MA-IN-FL-EX-MRpf

























Mec	hanically At	tached Me	embrane	- Cove	er Board -	Cement	itous V	Vood Fiber	(New or Tear	^r Off)
								- IB MEN	/BRANE	
	R WELD . 1.5" ────							GYPTE AND 2 SEAM	C FASTENER " GYPTEC BAF PLATE	RBED
								APPRC	oved cover i	BOARD
								CEMEN FIBER	ITITIOUS WO	DD
Fire Rating /	Deck Type			Cover E	Board			IB Mem	brane	Max. Design
Max. Slope ¹ Class "A" Unlimited	Cementitious Woo Fiber	od Ap	Type Approved Cover Board		Attachment GypTec or Deklite, 3" IB GypTec or Deklite Insulation Plate; (6 per 4' x 8')		GypTe Bar	Fasteners ec or DekLite, IB 2" bed Seam Plate	Attachment In-Seam 6" o.c. Min. x 67"	Pressure** Minimum Req. for IB Warranty
¹ Class "A" Unlimited	Cementitious Woo Fiber	od Ap	proved Cover Boa	ard	GypTec or Dek or Deklite Insula 4'	lite, 3" IB GypTec ation Plate; (6 per x 8') GypTec or DekLite, II Barbed Seam Plat			In-Seam 6" o.c. Min. x 31"	Minimum Req. for IB Warranty
Approved Cover Board: Board, minimum ¼" thick Fire Classification Note DexCell Glass-Mat Roof I up to ¼":12" when utilized **Refer to Substrate Ref	: DensDeck, DensDeck Pn ness; or minimum ½" IB H. (s): ¹ UL Class 'A' with unlin Board, or DexCell FA Glas d with minimum ½" H-Shiel sistance Table for require	ime, DensDeck Storm) D ISO; or minimum ½" nited slope when utiliz s Mat Roof Board, or n Id HD ISO. ⁴ UL Class ed pull-out values.	X, Securock Ultraligh thick Structodek HD ed with any of the fo ninimum 7/16" DexC A' up to ¼":12" when	nt Glass-Mat, S D Primed Ilowing gypsun cell Cement Boo n utilized with m	ecurock Ultralight Coa n cover boards: minim ard or minimum ½" gy inimum ¼" Securock	ted Glass-Mat, Secu um ¼" DensDeck, D osum board. ² UL Cla Gypsum Fiber Board	ırock Gypsum I ensDeck Prime ıss 'A' up to 4":1 I. ⁵ The use of o	Fiber Board, DexCell Gla , Securock Ultralight Gla 12" when utilized with mi ther IB Approved Cover	ass-Mat Roof Board, or DexCe ass-Mat, Securock Ultralight C nimum ½" Securock Gypsum I Boards may not achieve UL C	ll FA Glass Mat Roof pated Glass-Mat, Fiber Board. ³ UL Class 'A' lassification
For additional inform IB Roof Systems Sp	nation about IB Roof ecifications Manual. I	Systems requiren For Technical Serv	nents, recommen vices please com	ndations, ins tact IB Tech	stallation details, a nical Department	approvals, and li at 800-426-1626.	mitations fo	r the above assemb	lies, please refer to the	latest edition of the
Membranes:			Membrane Color			War	ranty Length	***	Warranty Ty	pe***
IB PVC Single-Ply	y 50 Mil White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Warranty Plus (WP)	Limit (TSW)
IB PVC Single-Ply	y 60 Mil White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Commercial Limited Mate	erial Warranty (CLMW)
IB PVC Single-Ply	y 80 Mil White*	Gray	Tan	Bronze	ChemGuard*	20 Year	25 Year	30 Year	Residential Limited Mater	ial Warranty (RLMW)
*Meets CRRC, Title	24 & EnergyStar Standa	rds				***Refer to War requirements c	ranty Selectio of the Warranty	n Guide for Warranty F / Program 	iders, Term Length Limitatio	ons, and eligibility
Submitted By: Address: Email:						Project Nam Address:	e:			
CURIS546	FM APPROV		ESR-2852	MU	AMI DADE C Approve	OUNTY		RATED PRODUCT 0640	Energy STAR	TITLE 224 COMPLENT















Fastened







Mechanically Attached Membrane - Cover Board - Gypsum Deck (Tear-Off)														
HOT AIR	WELD							IB N	MEMBRANE					
MIN. 1	1.5" 							GYI AN SEA	PTEC FASTENEF D 2" GYPTEC B/ AM PLATE	} ARBED				
APPROVED COVER BOARD														
								GY GY	PSUM DECK					
Fire Rating /	Fire Rating / Cover Board IB Membrane Max Decign													
Max. Slope	Деск Туре		Туре		Attac	ttachment		Fasteners	Attachment	Pressure**				
¹ Class "A" Unlimited	Poured Gypsum	Apj	Approved Cover Board		Gyp lec or Dekl or Deklite Insula 4'	te Insulation Plate; (6 per 4' x 8')		Fec or DekLite, IB arbed Seam Plate	2" In-Seam 6" o.c. Min. x 67"	Minimum Req. for IB Warranty				
¹ Class "A" Unlimited	Poured Gypsum	AAp	proved Cover Bo	oard	GypTec or Dekl or Deklite Insula 4'	eklite, 3" IB GypTec sulation Plate; (6 per 4' x 8') GypTec or DekL Barbed Seam			2" In-Seam 6" o.c. Min. x 31"	Minimum Req. for IB Warranty				
Approved Cover Board: Board, minimum ¼" thickm Fire Classification Note(s DexCell Glass-Mat Roof B up to ½":12" when utilized **Refer to Substrate Rest	DensDeck, DensDeck Pri less; or minimum ½" IB HI s): ¹ UL Class 'A' with unlin Board, or DexCell FA Glass with minimum ½" H-Shiel istance Table for require	me, DensDeck Storm)) ISO; or minimum ½" nited slope when utiliz; s Mat Roof Board, or n d HD ISO. ⁴ UL Class ; d pull-out values.	K, Securock Ultraligh thick Structodek HE ed with any of the fo ninimum 7/16" DexC A' up to ¼":12" when	nt Glass-Mat, S D Primed Ilowing gypsur cell Cement Bo n utilized with n	Securock Ultralight Coa n cover boards: minim ard or minimum ½" gy ninimum ¼" Securock	ted Glass-Mat, Secu um ¼" DensDeck, D osum board. ² UL Cla Gypsum Fiber Board	urock Gypsum JensDeck Prim ass 'A' up to 4" d. ⁵ The use of	Fiber Board, DexCel e, Securock Ultraligh :12" when utilized wit other IB Approved Co	ll Glass-Mat Roof Board, or DexCel t Glass-Mat, Securock Ultralight Co h minimum ½" Securock Gypsum F over Boards may not achieve UL Cl	l FA Glass Mat Roof ated Glass-Mat, iber Board. ³ UL Class 'A' assification.				
For additional inform IB Roof Systems Spe	ation about IB Roof ecifications Manual. I	Systems requirem For Technical Serv	ients, recommer vices please con	ndations, in: tact IB Tech	stallation details, a nical Department	approvals, and li at 800-426-1626	imitations f	or the above asse	emblies, please refer to the l	atest edition of the				
Membranes:			Membrane Color	:		War	ranty Lengt	h***	Warranty Typ	e***				
IB PVC Single-Ply	50 Mil White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Warranty Plus (WP)	Liniit (1377)				
IB PVC Single-Ply	60 Mil White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Commercial Limited Mater	ial Warranty (CLMW)				
IB PVC Single-Ply	80 Mil White*	Gray	Tan	Bronze	ChemGuard*	20 Year	25 Year	30 Year	Residential Limited Materi	al Warranty (RLMW)				
*Meets CRRC, Title 2	24 & EnergyStar Standar	ds				***Refer to War requirements o	ranty Selection of the Warrant	on Guide for Warran ty Program	ty Riders, Term Length Limitation	ns, and eligibility				
Submitted By: Address: Email:						Project Nam Address:	e:							
CURISSIE	FM APPROVE		ES :5R-2852	ML	AMI DADE C APPROVE	OUNTY		CRRC RATED PRODUCT 0640	Energy STAR					
















MA-CB-IN-EX-GYP











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LIGHTWEIGHT INSULATING CONCRETE

STEEL SUB DECK

Fire Rating / Max. Slope		Deck Type	Cover Board	/Insulation	IB Memb	Max. Design	
			Туре	Attachment	Fasteners	Attachment	Pressure**
	¹ Class "A"	Lightweight Concrete/	Approved Cover Board & Approved	Min. IB SD #12, 3" IB Insulation	IB HD #14 or XHD #15, IB	In-Seam	Minimum Req. for
	Unlimited	Steel	Insulation	Plate (6 per 4' x 8')	2-3/8" Barbed Seam Plate	18" o.c. Min. x 67"	IB Warranty
	¹ Class "A"	Lightweight Concrete/	Approved Cover Board & Approved	Min. IB SD #12, 3" IB Insulation	IB HD #14 or XHD #15, IB	In-Seam	Minimum Req. for
	Unlimited	Steel	Insulation	Plate (6 per 4' x 8')	2-3/8" Barbed Seam Plate	12" o.c. Min. x 67"	IB Warranty
	¹ Class "A"	Lightweight Concrete/	Approved Cover Board & Approved	Min. IB SD #12, 3" IB Insulation	IB HD #14 or XHD #15, IB	In-Seam	Minimum Req. for
	Unlimited	Steel	Insulation	Plate (6 per 4' x 8')	2-3/8" Barbed Seam Plate	6" o.c. Min. x 67"	IB Warranty
	¹ Class "A"	Lightweight Concrete/	Approved Cover Board & Approved	Min. IB SD #12, 3" IB Insulation	IB HD #14 or XHD #15, IB	In-Seam	Minimum Req. for
	Unlimited	Steel	Insulation	Plate (6 per 4' x 8')	2-3/8" Barbed Seam Plate	6" o.c. Min. x 31"	IB Warranty

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Approved Cover Board: DensDeck, DensDeck, Prime, DensDeck StormX, Securock Ultralight Glass-Mat, Securock Ultralight Coated Glass-Mat, Securock Gypsum Fiber Board, DexCell Glass-Mat Roof Board, or DexCell FA Glass Mat Roof Approved Insulation: BenergyBoard II or III, or IB Approved UL Classified Polyisocyanurate, IB Approved UL Classified Expanded Polystyrene, IB Approved UL Classified Extruded Polystyrene, IB Approved UL Classified Extruded Polystyrene Insulation:

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Fire Classification Note: 1UL Class 'A' with unlimited slope when utilized with any UL Classified insulation, any thickness, and covered with any of the following gypsum cover boards: minimum 4" DensDeck, DensDeck Prime, Securock Ultralight Glass-Mat, Securock Ultralight Coated Glass-Mat, DexCell Glass-Mat Roof Board, or DexCell FA Glass Mat Roof Board, or minimum 7/16" DexCell Cement Board or minimum %" gypsum board. ²UL Class 'A' up to 4":12" when utilized with any UL Classified insulation, any thickness, and covered with minimum %" Securock Gypsum Fiber Board. ³UL Class 'A' up to 2":12" when utilized with any UL Classified insulation, any thickness, and covered with minimum %" Securock Gypsum Fiber Board. ³UL Class 'A' up to 2":12" when utilized with any UL Classified insulation, any thickness, and covered with minimum %" Securock Gypsum Fiber Board. ³UL Class 'A' up to 2":12" when utilized with any UL Classified insulation. Board.⁴UL Class 'A' up to ½".12" when utilized with minimum 'A" H-Shield HD ISO over any UL Classified insulation (except expanded or extruded polystyrene), any combination, any thickness, may be used below the 1/2 in. minimum thickness. ⁵Use of other IB Approved Insulations and/or IB Approved Cover Boards may not achieve UL Classification.
**Refer to Substrate Resistance Table for required pull-out values.

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For additional information about IB Roof Systems requirements, recommendations, installation details, approvals, and limitations for the above assemblies, please refer to the latest edition of the IB Roof Systems Specifications Manual. For Technical Services please contact IB Technical Department at 800-426-1626.

Membranes:	Membrane Color:				Warranty Length***			warranty Type***		
IB PVC Single-Ply 50 Mil	White*	Gray	Tan	Bronze	ChemGuard*	10 Year	15 Year	20 Year	Total Systems - No Dollar Limit (TSW)	
IB PVC Single-Ply 60 Mil	White*	Cool Sand*	Cool Stone*	Gray	Tan	15 Year	20 Year	25 Year	Commercial Limited Material Warranty (CLMW) Residential Limited Material Warranty (RLMW)	
IB PVC Single-Ply 80 Mil	White*	Gray	Tan	Bronze	ChemGuard*	20 Year	25 Year	30 Year		
*Meets CRRC, Title 24 & EnergyStar Standards						***Refer to Warranty Selection Guide for Warranty Riders, Term Length Limitations, and eligibility requirements of the Warranty Program				
Submitted By:					Project Name:					
Address:						Address:				
Email:										
TGFU.R15546 APPROVED						OUNTY)		CRRC RATEO PRODUCT 0640	Energy STAR	







ENERGY STAR









MA DETAILS - TABLE OF CONTENTS

IB PVC MECHANICALLY ATTACHED INSULATION & SINGLE PLY LAYOUT DETAILS MA-AT-08 – One Perimeter Half Sheet Layout149 MA-AT-09 – Two Perimeter Half Sheet Layout150



Attachment Detail Drawing



MINIMUM FASTENER PENETRATIONS AT THE DECK (STANDARD ATTACHMENT):

Deck Type:	Penetration Depth:	Fastener Type:
Plywood or Oriented Strand Board:	1/2" completely through deck	IB HD #14 or IB SD #12
1" Minimum Wood Plank:	1" into deck	IB HD #14 or IB SD #12
Steel:	3/4" completely through top flute	IB XHD #15 or IBHD #14 , IB SD #12
Light Weight Insulating Concrete over Steel Deck:	3/4" completely through top flute	IB XHD #15 or IB HD #14
Light Weight Insulating Concrete:	1-1/2" into deck	Deklite or GypTec
Structural Concrete:	1-1/4" into deck	CD -10 or Dekspike
Poured Gypsum:	1-1/2" into deck	Deklite or GypTec
Cementitious Wood Fiber:	1-1/2" into deck	Deklite or GypTec

IB Standard Pull-Test Values for Fasteners						
7/16" OSB	275 lbs					
5/8" OSB	350 lbs					
1/2" Plywood	425 lbs					
1" Minimum Wood Plank	450 lbs					
22 ga. Steel	525 lbs					
24 ga. Steel	425 lbs					
Structural Concrete	800 lbs					
LWIC over 24 ga. Steel	425 lbs					
Poured Gypsum	300 lbs					
Cementitious Wood Fiber	300 lbs					
16 ga Purlin	700 lbs					

Scale:	Detail Name:	Detail Number:					
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