

IB DECKSHIELD SPECIFICATION

GUIDE SPECIFICATION FOR THE INSTALLATION OF IB DECKSHIELD DECKING MEMBRANE

1.00 GENERAL CONDITIONS

1.01 Description

- A. Scope: To install a fully adhered thermoplastic traffic membrane for decks, balconies, sun porches, walkways, courtyards, and other exterior walkways.
- B. Related Work: The work includes, but is not necessarily limited to the installation of:
 - 1. Rough Carpentry
 - 2. Fasteners
 - 3. Deck membrane.
 - 4. Prefabricated Flashings
 - 5. Sealants and Adhesives
 - 6. Plumbing Specialties: Roof Drains and deck drains.
- C. Upon successful completion of the work the following warranty may be obtain.
 - 1. 10 year Deckshield Limited Material Warranty

1.02 Quality Assurance

- A. This decking system shall be applied only by a contractor authorized by IBRS prior to bid.
- B. The membrane used in IB PVC Decking system shall be a product of a membrane manufacturer having over 10 years of decking experience.
- C. Upon completion of the decking project, the roofing contractor shall submit, to IB Roof Systems, a Material Request form, certifying that all work has been done in accordance with the contract specification and IBRS requirements.
- D. There shall be no deviation made from the contract specification or the approved shop drawings without prior written approval from the owner and IBRS.

1.03 Submittals

The roofing contractor shall submit to the owner's representative the following:

- A. Copies of specifications.
- B. Specimen copy of IBRS warranty.
- C. Dimensioned shop drawing which should include:
 - 1. Outline of deck/s, dimensions & height of each building.
 - 2. Submit any special details, not included in manual, for approval.
 - 3. Technical acceptance from IBRS.
 - 4. Existing deck covering, if recovered.
 - 5. Complete & fax notice of award form to IBRS.
- D. Certification that the system specified meets all identified code requirements.

1.04 Product Delivery, Storage, and Handling

- A. All products delivered to the job site shall be in the original unopened containers or wrappings.
- B. Handle all materials to prevent damage. Place all materials on pallets, and fully protect from moisture.
- C. Membrane rolls shall be stored lying down on pallets, and fully protected from moisture.
- D. Bonding adhesives shall be stored at temperatures above 40° F.
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on container or supplied by IBRS.

1.05 Job Conditions

- A. Only install as much new decking and flashings as can be made watertight each day.
- B. All decking shall be completed without exposing the building interior, its contents or employees, to inclement weather. Relative to the decking project, the contractor assumes all responsibility for maintaining the building in a dry condition during the project.

- C. All surfaces to receive new decking membrane, or flashings shall be thoroughly dry. Should surface moisture occur, the contractor shall provide the necessary equipment to dry the surface prior to application.
- D. Temporary waterstops shall be installed at the end of each workday, and shall be removed before proceeding with the next day's work.
- E. Arrange work sequence to avoid use of newly constructed decking for storage, walking surface, and equipment movement. Where such access is absolutely required, the contractor shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas.
- F. Prior to and during application, all dirt, debris, and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air, and/or similar methods.
- G. All new and existing decking, flashings, adhesive cans, metal work, and general construction debris shall be disposed of properly following all applicable local, state, and federal regulations.
- H. The contractor shall follow all safety regulations as recommended by OSHA.
- I. The contractor should take care during application and storage that overloading of the deck and structure does not occur.
- J. Liquid materials such as solvents and adhesives shall be stored and used away from open flames, sparks, and excessive heat.
- K. Until the deck is completed, contaminants, such as grease, fats, oils, and solvents, should not be allowed to come into contact with the decking membrane. Any such contact shall be reported to IBRS.
- L. The contractor shall verify that all roof drain lines are unblocked before starting work. Report any such blockages to the owner's representative and IBRS in writing.
- M. If any unusual or concealed condition is discovered, stop work and notify the owner and IBRS immediately in writing.
- N. All areas affected by construction activities shall be cleaned.
- O. The roofing contractor should take necessary precautions when using IB adhesives around air intakes. The smell of the adhesive could be a disturbance to the building owner and occupants. It is the roofing contractor's responsibility to coordinate equipment to be turned off and on, with the owner, if necessary.

1.06 Bidding Requirements

Bidders shall visit the site and carefully examine any areas in question as to conditions that could possibly affect proper execution of the work. All dimensions and quantities shall be determined or verified by the contractor.

1.07 Warranties

- A. Provide a 10 year Deckshield Limited Material Warranty, covering defects in material.

2.00 PRODUCTS

2.01 General

- A. The decking membrane manufacturer shall have over 10 years experience in producing PVC decking membrane.
- B. Any components other than those supplied or manufactured by IBRS may be submitted for review and acceptance.

2.02 Approved Membrane

- A. IB PVC Decking membrane 60 mil nominal thickness.
- B. IB PVC Decking membrane meets Americans with Disabilities (ADA) requirements for slip coefficient on a flat surface.
- C. IB PVC Decking membrane shall conform to ASTM D4434 - 96 Standard for polyvinyl chloride sheet roofing. Classification: Type 3.
- D. As manufactured, the membrane shall conform to the physical properties noted on the following page.
- E. Membrane Colors: Gray and Tan. Sheet Size: 5' 8"x 90' (500 square feet)

IB PVC Decking Membrane Typical Physical Properties

Property	Test Method	ASTM Requirement	60 mil PVC/CPA
Overall Thickness, in.	D 751	± 10%, min .045	.060 ± 10%
Thickness over scrim, in	Optical	.016	.02
Breaking Strength, lbf	D 751, A Grab Method	MD 200 XMD 200	MD 326 XMD 288
Elongation @ break, %	D 751, A Grab Method	MD 15 ^A XMD 15 ^A	MD 35 XMD 35
Seam Strength	D 751, A Grab Method	75%	Pass
Retention of properties after heat aging	D 3045, 176° for 56 days ± 1 h		
Breaking Strength, % of original	D 751, A Grab Method	90%	Pass
Elongation, % of original	D 751, A Grab Method	90%	Pass
Tearing Strength, lbf	D 751 B-Tongue Tear Method, 8"x8"	MD 45 XMD 45	MD 65 XMD 50
Low temperature bend	D 2136	-40°F	Pass
Accelerated weathering	Practice G154	5000 hrs	
Cracking	7X magnification	None	None
Crazing	7X magnification	None	None
Linear dimensional change, %	D 1204, 176°F for 6h	MD ± 0.5 XMD ± 0.5	-.04 0.0
Change in weight after immersion in water	D 570, 158 ± 2°F for 168 ± 1h	± 3.0	< 3.0
Static puncture resistance	D 5602, 33 lbf @ 73°F ± 2°F	Pass	Pass
Dynamic Puncture Resistance	D 5635, 20J @ 73°F ± 2°F	Pass	Pass

2.03 Acceptable Substrates

- A. Smooth-Surfaced, Exterior Grade Plywood.
- B. Structural Concrete with Steel Trowel Finish.
- C. Cellular Concrete with Smooth Darby Finish .

2.04 Related Materials

- A. Prefabricated Details: Inside/outside corners, rail supports, cones for any size pipe or wire, and angle braces.
- B. CPA Clad Metal: Standard prefabricated and custom edge metal, for use on edge details.
- C. IB Membrane Adhesive: The adhesive for bonding IB decking membrane to acceptable substrates shall be as follows:

SUBSTRATE	RATE
smooth ac plywood	150 sq ft / gal
smooth structural concrete	175 sq ft / gal
smooth cellular concrete	175 sq ft / gal

- D. Floor Drains: Flat surface mounted PVC drain, that may securely sealed to drain pipes. 48-hour water test are recommended.
- E. IB Polyurethane Caulk: Colored caulk, as supplied by IB Roof Systems.
- F. IB Termination Bar: 1" X 10' aluminum bar to terminate edges.

3.00 EXECUTION

3.01 General

- A. The contractor has inspected and found the substrate suitable for the installation of the IB PVC membrane system.
- B. The contractor should coordinate the installation so that each area is made watertight at the end of the day.

3.02 Deck Preparation

The roof deck and existing roof construction must be structurally sound to provide support for the new roof system.

- A. New construction
 - 1. Wood Deck: Suggested deck is 3/4" exterior grade AC plywood (tongue & groove optional). Fill joints, knot holes, voids, and low areas with filler and sand smooth
 - 2. Concrete Deck: Patch all cracks, holes, joints, and score marks. Fill surface imperfections and variations with leveling compound. Test for and remove any surface contaminant.
- B. Re-roofing with removal of existing roofing
 - 1. Wood Deck: The minimum wood deck acceptable on a recover installation is 1/2" exterior grade AC plywood. Fill joints, knot holes, voids, and low areas with filler and sand smooth.
 - 2. Concrete Deck: Patch all cracks, holes, joints, and score marks. Fill surface imperfections and variations with leveling compound. Test for and remove any surface contaminant.

3.03 Substrate Preparation

- A. Verify that surfaces and site conditions are ready to receive work and conform to IBRS requirements.

- B. Verify that the deck is secure, solid, well supported, and in accordance with local code structural requirements.
- C. Verify that the deck is free of ice and snow, dry, clean and smooth, free of depressions, waves, projections, and properly sloped to drains or deck edges.
- D. Verify that all screws and/or nail heads are flush with or countersunk in the plywood surface being fastened to the joists/supports.
- E. Verify that adjacent precast deck members are flush within ¼” vertical variation, with grout keys filed flush.
- F. Notify the architect of any conditions that would prevent satisfactory completion of the work.

3.04 IB CPA Clad Metal Edge (24 GA. White Only)

- A. All flashings shall be installed concurrently with the roof membrane as the job progresses.
- B. Clad metal flashings shall be formed and installed per detail drawings.
- C. Install clad metal and metal cleat in accordance with Factory Mutual’s Loss Preventions Data Sheet 1-49.
- D. The fastening flange of the clad metal shall be a minimum of 2 ½” in width. Install fasteners a minimum fastener 1” from the outside edge of the clad metal so the 6” cover strip can be welded to the clad metal, completely covering all fasteners by a 1” minimum.
- E. Clad metal shall be spaced ¼” apart. The joint shall be covered with 2” wide foil tape and then a 5” wide strip of flashing membrane shall be hot-air welded over the center of the joint.
- F. Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion/contraction.
- G. Clad metal may be painted with exterior latex paint after roofing project is completed. Caution should be taken to prevent over spray of paint on roofing or building surfaces.

Note: All clad metal shall be IB 24 ga. clad metal (available in white only).

3.05 Installation of IB PVC Decking Membrane

Note: Do not install when temperatures are below 40°F.

- A. Position membrane over approved substrate without stretching.
1. Allow 2-3" of membrane to go up the vertical walls, posts and over deck perimeter.
- B. Attachment: IB Water Borne Adhesive
1. Once the substrate is prepared, roll the membrane out and position it as to be installed, then carefully roll back the membrane half way. Apply adhesive as per step #2. Once the adhesive is applied, carefully roll the membrane back into its original position. Use a linoleum roller to apply even pressure over the newly glued membrane areas. The remaining unbonded half shall be folded back and the bonding procedure repeated.
 2. Over the properly installed and prepared substrate surface, IB Water Borne adhesive shall be applied using approved solvent resistant $\frac{3}{4}$ " nap paint rollers. The adhesive shall be applied at a rate of approximately 150-200 sf per gallon to the substrate, depending upon substrate and finish. The adhesive shall be applied in a smooth, even coating with no holidays, globs, puddles, or similar irregularities. Only an area that can be covered completely before the adhesive dries shall be coated.
 - a. Drying time increases with cooler temperatures and high humidity conditions. The contractor shall check with an IB representative prior to roof operations on such days.
 - b. The contractor shall count the amount of adhesive used per square, and shall count the number of buckets of adhesive used per area per day to verify that he is conforming to the specified adhesive rate.
 3. **NO BONDING ADHESIVE SHOULD BE APPLIED IN LAP AREAS.** All sheets shall be applied in the same manner, lapping all sheets as required by welding techniques.

Note: For pre-treated or sealed decks contact IBRS Technical Department.

- a. Laps: Position adjoining sheets, lapping edges a minimum of 1 $\frac{1}{2}$ ".
- b. All seams shall be hot air welded together.
- c. Mechanically fasten all perimeter edges and penetrations.
- d. Install flashings and accessories in accordance with manufacturer's latest detailed instructions.
- e. Seal all penetrations, drains and edges.

3.06 Hot-air Welding of Seams & Overlaps

A. General

1. Adjacent sheets shall be welded in accordance with the manufacturer's written instructions. All side and end laps shall be hot air welded.
2. Overlap is to be 3" when the plates are installed in the overlap.
3. Welding equipment shall be provided by or approved by IBRS
4. All surfaces to be welded shall be clean according to IBRS recommendations. No adhesive or other contaminants shall be present within the lap areas.

B. Hand Welding

The use of a 110v hand welder and silicone roller is required. This shall be done with great care as to not scorch and discolor the Deck Shield.

C. Quality Control of Welded Seams

The contractor shall check all welded seams, after cooling, for continuity by use of the seam probe. The contractor shall make on-site evaluation of welded seams daily. A final probing of all seams & details shall be made at the conclusion of the project.

3.07 Temporary Cutoff

- A. All flashings shall be installed concurrently with the decking membrane in order to maintain a watertight condition as the work progresses. When a break in the day's work occurs in the central area of a deck, a temporary waterstop shall be constructed to provide a 100% watertight seal. The waterstop shall be sealed to the deck and/or substrate so that water will not be allowed to travel under the new or existing decking. The edge of the membrane shall be sealed in a continuous heavy application of roof cement of 6" in width. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and disposed of off site. None of these materials shall be used in the new work.
- B. If inclement weather occurs while a temporary waterstop is in place, the contractor shall provide the necessary labor to monitor the situation and maintain a watertight condition.
- C. If any water is allowed to enter under the newly completed decking, the affected area shall be removed and replaced at the contractor's expense.

3.08 Completion

- A. Prior to leaving the site, the owner/project manager and contractor shall review the work. All defects, non-compliances with the specifications the Contractor must immediately correct these items to meet the satisfaction of the owner/project manager.
- B. All warranties, as required in section 1.00 of this specification, shall be submitted to IBRS for approval. All materials purchased from IB shall be paid in full prior to the issuance of any warranty.

DISCLAIMER

IB has attempted to obtain information from the manufacturers of other products often used in conjunction with IB products with respect to the characteristics of such products, as well as their compatibility with those of IB. In as much as these other products as supplied in the field are subject to possible variation in their production, and in as much as their specifications and performance characteristics are subject to change without notification by the manufacturers, IB expressly excludes from its warranty any responsibility for the performance or quality of the products of others used in conjunction with IB products.