IB Roof Systems™

TABLE A.1 – SUBSTRATE REQUIREMENTS		
Deck	**Required Criteria**	**Application**
APA Plywood Sheathing	Plywood sheathing shall be C-D, Exposure 1-min. 4-ply-not less than 15/32” thick	Maximum joist spacing 24” o.c. or less with min. 1/8” to 1/4” spacing between panels
APA Oriented Strand Board Sheathing (OSB)	OSB sheathing shall be PS 2-10, Exposure 1, Structural 1 not less than 7/16” thick	Install with all sides bearing on and secured to joist and cross blocking in accordance with APA-The Engineered Wood Association requirements
Wood Plank	Minimum 1” nominal thickness and have a nominal width of 4” to 6”. Tongue and Groove or shiplap planks. Kiln-dried lumber	All boards must be supported on rafters at each end and be securely fastened. Cover knotholes or cracks greater than 1/4” with securely nailed sheet metal
22 ga. Steel	Cold formed steel decking— minimum finish coat of primer paint on both sides. G-90 galvanized steel recommended-minimum 22 gauge	Comply with Factory Mutual gauge and span requirements, and guidelines contained in FM LPDS 1-28 and 1-29
24 – 26 ga. Steel	Requires written approval from IB Technical Services Manager	Mandatory fastener withdrawal tests in accordance with ANSI / SPRI FX-1 required
Structural Concrete	Minimum deck thickness for structural concrete is 4 inches	Roof deck shall be allowed to cure prior to application of the roofing system. Evaluate surface moisture and deck dryness as required with the ASTM D4263 or hot bitumen test procedures.
	Minimum 2500 psi compressive strength	
	Finished to a smooth uniform surface free of sharp edges, ridges, and irregular surfaces	
	Sumps for roof drains shall be provided in the casting of the deck	
	Wood nailers shall be cast into the deck at perimeter edges and openings for non-insulated assemblies	Repair cracks greater than 1/8 inch in width in accordance with the deck manufacturer’s recommendations.
	Underside of deck shall be constructed to allow drying and prevent moisture entrapment. Deck forms shall be removed or vented. Do not install materials or finishes to underside of deck that are impermeable or restrict drying.	
Precast / Pre-Stressed Concrete	Minimum deck thickness 2”	Inspect deck panels prior to roof installation. Correct offset and variations in camber between units.
	Fill joints with suitable masonry grout at vertical offsets between panels troweled to provide a smooth, uniform surface	
Lightweight Insulating Concrete	Minimum deck thickness of 2”	Comply with requirements of deck manufacturer. Do not install during periods of inclement weather, rain or ambient temperatures below freezing. Frozen decks shall be replaced. Inspect deck for signs of entrapment or excess moisture.
	Minimum compressive strength of 200 psi and a minimum density of 22 pcf for adhered roofing systems	
	Lightweight Insulating Concrete fill must be cured and dry for adhered application of IB roof assemblies	Cellular lightweight insulating concrete may be installed over approved galvanized non-slotted decking or structural / precast concrete decks.
	Installation over non-venting substrates requires review and written approval of IB Technical Services Manager	
Cementitious Wood Fiber	Minimum deck thickness of 2”	Decks shall be protected from the weather during storage and application; any wet or deformed decking shall be removed and replaced.
	Secure all panels to supports to resist uplift and lateral movement	
	Grout and level deflections and irregularities between panels to provide a level, smooth deck	Composite deck panels containing EPS / XPS polystyrene insulation are not suitable for use with solvent-based roof system adhesives.
	Installation in high humidity environments requires careful design, maintenance, and air / moisture control to prevent excess moisture accumulation and deck deterioration	
Gypsum	Minimum deck thickness of 2”	Comply with requirements of deck manufacturer. Do not install during periods of inclement weather, rain or ambient temperatures below freezing. Frozen decks shall be replaced.
	Poured decks reinforced with steel mesh over gypsum formboard	Decks should be inspected for signs of entrapment or excess moisture.
	Precast units formed with reinforced steel edges for clipped or fastened application to supports	Mandatory fastener withdrawal tests in accordance with ANSI/SPRI FX-1 required.

TABLE A.2 – INSULATION FASTENER SCHEDULE FOR ADHERED IB ROOF MEMBRANES

Deck Types: min. 22 ga. Steel, min. 4" Structural Concrete, 1/2" – 3/4" Plywood, 1" or greater Wood Plank, Tongue and Groove

Insulation Type		Thickness	4' x 4'			4' x 8'		
			Field	Perimeter	Corner	Field	Perimeter	Corner
Polyisocyanurate	IB Energy Board II/III	1.0" – 1.4"	6	9	12	12	18	24
	IB Energy Board II/III	1.5" – 1.9"	5	8	10	10	15	20
	IB Energy Board II/III	2.0" Min.	4	6	8	8	12	16
Polystyrene	EPS / XPS[2]	1.0" Min.	6	9	12	12	18	24
	EPS / XPS[2]	1.5" Min.	6	9	12	12	18	24
Cover Board	DensDeck® Prime / DEXCell® FA Glass Mat Board	.25" Min.	6	9	12	12	18	24
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	.25" Min.	6	9	12	12	18	24
	Structodek® HD Red Primed Board	.50"	6	9	12	12	18	24
	DensDeck® Prime / DensDeck® StormX Prime	.50" - .625" Min.	5	8	10	10	15	20
	DEXCell® FA Glass Mat Board / DEXCell® Cement Roof Board	.50" - .625" Min.	5	8	10	10	15	20
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	.50" - .625" Min.	5	8	10	10	15	20
	ACFoam® HD Cover Board / Hshield HD ISO	.50"	5	8	10	10	15	20

Deck Types: Min. 24 ga. Steel, LWIC over Steel Form Deck[1], 7/16" OSB, Cementitious Wood Fiber, Poured Gypsum

Insulation Type		Thickness	4' x 4'			4' x 8'		
			Field	Perimeter	Corner	Field	Perimeter	Corner
Polyisocyanurate	IB Energy Board II/III	1.0" – 1.9"	8	12	16	16	24	32
	IB Energy Board II/III	2.0" Min.	6	9	12	12	18	24
Polystyrene	EPS / XPS[2]	1.0" Min.	8	12	16	16	24	32
	EPS / XPS[2]	1.5" Min.	8	12	16	16	24	32
Cover Board	DensDeck® Prime / DEXCell® FA Glass Mat Board	.25" Min.	8	12	16	16	24	32
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	.25" Min.	8	12	16	16	24	32
	Structodek® HD Red Primed Board	. 50"	8	12	16	16	24	32
	DensDeck® Prime / DensDeck® StormX Prime	.50" - .625" Min.	6	9	12	12	18	24
	DEXCell® FA Glass Mat Board / DEXCell® Cement Roof Board	.50" - .625" Min.	6	9	12	12	18	24
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	.50" - .625" Min.	6	9	12	12	18	24
	ACFoam® HD Cover Board / Hshield HD ISO	.50"	6	9	12	12	18	24

The above fastening guidelines are approved by IB Roof Systems for use in accordance with our current specifications and meet minimum IB installation requirements for issuance of standard published IB warranties. Roof deck fastener withdrawal resistance must meet or exceed IB required minimums. Fasteners and plates must be IB labeled and approved for the specific deck type. Buildings with field of roof design velocity pressures above -30 psf and projects requiring IB Wind Riders may require additional fasteners and roof system securement. IB Roof Systems does not practice architecture or engineering. It is the responsibility of the designer of record, building owner or roofing contractor to determine required roof assembly wind resistance and comply with applicable code requirements. Contact IB for additional information and refer to published IB roof assembly Approval listings, General Requirements, Specifications, and Construction Details for information on roof components and fastening rates to meet specific project design requirements.

[1]Requires prior written approval of IB Technical Services for existing dry Cellular LWIC over minimum 24-gauge Steel Form-Deck
[2]Requires minimum 1.5 lb./ft^3 density and minimum .25" layer of IB approved Gypsum or HD polyisocyanurate cover board or minimum 1.0" layer of IB Polyisocyanurate board above EPS/XPS insulation

TABLE A.3 – SUBSTRATE WITHDRAWAL RESISTANCE AND INSULATION FASTENER TABLE				
Deck / Substrate Type	**Fastener Withdrawal – Average Resistance Values[1]**	**Insulation Fastener / Plate Recommendations**		**Fastener Penetration into Deck**
		Fastener	**Plate**	
1” minimum Wood Plank	450 lbs.	SD #12, HD #14	3” Round Galvalume	1” Min.
1/2” minimum C-D, Exposure 1 Plywood	425 lbs.	SD #12, HD #14	3” Round Galvalume	1/2” through
5/8” OSB	350 lbs.	HD #14, XHD#15	3” Round Galvalume	1/2” through
7/16” OSB	275 lbs.	HD #14, XHD#15	3” Round Galvalume	1/2” through
22 ga. Steel	525 lbs.	SD #12, HD #14, XHD #15	3” Round Galvalume	3/4” through
24 ga. Steel	425 lbs.	HD #14, XHD#15	3” Round Galvalume	3/4” through
Cellular LWIC over 24 ga. Steel Form	425 lbs.	HD #14, XHD#15	3” Round Galvalume	3/4” through
Structural Concrete	800 lbs.	IB HD #14 or Dekspike	3” Round Galvalume	1-1/4” Min.
Poured Gypsum	300 lbs.	Deklite or GypTec	3” Round Gyp Plate	1-1/2” Min.
Cementitious Wood Fiber	300 lbs.	Deklite or GypTec	3” Round Gyp Plate	1-1/2” Min.
[1]Fasteners shall be IB Roof Systems supplied and approved for the specific substrate / roof deck type				

TABLE A.4 – IB INSULATION ADHESIVE SCHEDULE FOR ADHERED IB ROOF MEMBRANES					
Approved Decks / Substrates	**Insulation Type[2]**	**Thickness**	**Field**	**Perimeter**	**Corner**
- Structural Concrete - Cellular Lightweight Insulating Concrete - Cementitious Wood Fiber - Approved Existing Roof Systems[1]	Polyisocyanurate	1.0” Min.	12” o.c. (max.)	8” o.c. (max.)	6” o.c. (max.)
	EPS (1.5 pcf)[3] / XPS (1.55 pcf)[3]	1.5” Min.			
	HD ISO / Approved Composite	1.5” Min.			
	Gypsum Cover Board	.25” Min.			
	Cement Roof Board	.375” Min.			
	HD ISO Cover Board Structodek Wood Fiberboard (primed)	.50” Min.			
The above insulation adhesive guidelines are approved by IB Roof Systems for use in accordance with our current specifications and meet minimum IB installation requirements for issuance of standard published IB warranties. Roof deck insulation adhesive withdrawal resistance must meet or exceed IB required minimums. Contractor must confirm adequate adhesion to substrates with insulation adhesive pull tests in accordance with ANSI / SPRI IA-1. Insulation adhesive must be IB labeled and approved for the specific deck and substrate type. Buildings with field of roof design velocity pressures above -30 psf and projects requiring IB Wind Riders may require additional adhesive and supplemental roof system securement. IB Roof Systems does not practice architecture or engineering. It is the responsibility of the designer of record, building owner or roofing contractor to determine required roof assembly wind resistance and comply with applicable code requirements. Contact IB for additional information and refer to published IB roof assembly Approval listings, General Requirements, Specifications and Construction Details for information on roof components and adhesive application rates to meet specific project design requirements.					
[1]Prepared and primed existing smooth or granule surfaced asphaltic BUR and MB roof systems meeting IB specifications and requirements. [2]Roof insulation boards must be IB Roof Systems labeled, supplied, or approved for use with IB roof membranes and assemblies. [3]Requires minimum .25” layer of IB approved gypsum board, .375” cement board, .5” high density polyisocyanurate cover board, .5” high density wood fiber board, or minimum 1.0” layer of IB approved polyisocyanurate board above EPS/XPS insulation					

TABLE A.5 – INSULATION FASTENING TABLE FOR INDUCTION WELDED IB ROOF MEMBRANES				
Deck / Substrate Type	**Fastener Withdrawal – Average Resistance Values[1]**	**Insulation Fastener Recommendations**		**Fastener Penetration into Deck**
		Fastener/Plate	**Fastening Pattern F/P/C**	
Structural Concrete	800 lbs.	IB HD #14, CD-10 or Dekspike	6-9-12	1” Min.
22 ga. Steel	525 lbs.	XHD #15	6-9-12	3/4” through
24 ga. Steel	425 lbs.	XHD #15	8-12-16	3/4” through
16 ga. Purlin	700 lbs.	IB #12 Purlin	12” o.c.	3/4” through
½” minimum Plywood	425 lbs.	HD #14	8-12-16	½” through
1” minimum Wood Plank	450 lbs.	HD #14	8-12-16	1” Min.
LWIC over Steel Form Deck	425 lbs.	XHD #15	8-12-16	3/4” through
7/16” minimum OSB	Contact IB Technical Services for prior approval and fastening schedule per project			
5/8” minimum OSB	Contact IB Technical Services for prior approval and fastening schedule per project			
[1]Fasteners shall be IB Roof Systems supplied and approved for the specifics substrate / roof deck type. [2]Fastening density based on 4’ x 8’ board size and conformance with IB required withdrawal resistance values				

TABLE A.6 – STANDARD IN-SEAM MEMBRANE FASTENING SCHEDULE FOR IB MECHANICALLY ATTACHED ROOF MEMBRANES				
Deck Types	**Fastening Rate**	**IB Fastener**	**IB Plate**	**Pull-Test Resistance Values**
Structural Concrete	18” o.c.	IB HD #14, CD-10 or Dekspike	2” or 2-3/8” Barbed	800 lbs.
22 ga. Steel	18” o.c.	IB XHD #15	2-3/8” Barbed	525 lbs.
24 ga. Steel	12” o.c.	IB XHD #15	2-3/8” Barbed	425 lbs.
26 ga. Steel	Contact IB Technical Services for prior project approval and fastening schedule			
16 ga. Purlins	12” o.c.	IB #12 Purlin	2-3/8” Barbed	700 lbs.
1/2” minimum Plywood	12” o.c.	IB HD #14 or XHD #15	2” or 2-3/8” Barbed	425 lbs.
1” minimum Wood Plank	12” o.c.	IB HD #14 or XHD #15	2” or 2-3/8” Barbed	450 lbs.
LWIC over Steel Form Deck[1]	12” o.c.	IB XHD #15	2-3/8” Barbed	425 lbs.
Cementitious Wood Fiber	6” o.c.	IB Deklite or Gyptec	2” Barbed Gyp Plate	300 lbs.
Poured Gypsum	6” o.c.	IB Deklite or Gyptec	2” Barbed Gyp Plate	300 lbs.
7/16” minimum OSB	6” o.c.	IB HD #14 or XHD #15	2” or 2-3/8” Barbed	275 lbs.
5/8” minimum OSB	12” o.c.	IB HD #14 or XHD #15	2” or 2-3/8” Barbed	350 lbs.
[1]Requires prior written approval of IB Technical Services. Limited to existing dry Cellular LWIC fill over minimum 24 ga. Steel Form Deck with fastener penetration through the steel deck.				
The above fastening guidelines are approved by IB Roof Systems for use in accordance with our current specifications and meet minimum IB installation requirements for issuance of standard published IB warranties. IB Roof Systems does not certify or assume responsibility for the design, condition, or performance of the roof deck; or its conformance to local code or IB minimum fastener withdrawal resistance requirements. Fasteners and plates must be IB labeled and approved for the specific deck type. Buildings with field of roof design wind uplift pressure above -30 psf and projects requiring IB Wind Riders may require additional fasteners and roof system securement. IB Roof Systems does not practice architecture or engineering. It is the responsibility of the designer of record, building owner or roofing contractor to determine required roof assembly wind resistance and comply with applicable project design and code requirements. Contact IB for additional information and refer to published IB roof assembly approval listings, General Requirements, Specifications and Construction Details for information on roof components and fastening rates to meet specific project design requirements.				

TABLE A.7 – WIND RESISTANCE ENHANCEMENTS AT FIELD, PERIMETER, AND CORNER ZONE AREAS – STANDARD RECTANGULAR BUILDINGS WITH ROOF ANGLES 0º to ≤ 7º	
ASCE 7-10	
Roof Heights ≤ 60'	**Field of Roof (Zone 1):** Interior area of roof, exclusive of Perimeter Zone 2 and Corner Zone 3 areas.
Roof Heights ≤ 60'	**Perimeter (Zone 2):** Perimeter edges of roof, extending inward from roof edge a distance of .1 x Building Width (Lesser plan dimension), or .4 x **mean height of roof** (whichever is less), with a minimum of 4% of least horizontal dimension or 3 feet.
Roof Heights ≤ 60'	**Corner (Zone 3):** Dimensions set by the width and intersection of the building's Perimeter Zones.
Roof Heights > 60'	**Field of Roof (Zone 1):** Interior area of roof, exclusive of Perimeter Zone 2 and Corner Zone 3 areas.
Roof Heights > 60'	**Perimeter (Zone 2):** Perimeter edges of roof, extending inward from roof edge a distance of .1 x Building Width (Lesser plan dimension), with a minimum of 3 feet.
Roof Heights > 60'	**Corner (Zone 3);** Roof heights above 60 feet require the length of the Corner Zone along each perimeter edge outward from the corner, to be multiplied by a factor of two.
ASCE 7-16	
Roof Heights ≤ 60'	**Field of Roof (Zone 1'):** Interior area of roof which may remain when Zones 1, 2, and 3 are present; extending inward from inside edge of Field of Roof Zone 1 **Note: Not present on all buildings and roof layouts.**
Roof Heights ≤ 60'	**Field of Roof (Zone 1):** Interior area of roof, extending inward from inside edge of Perimeter Zone 2 to a distance of .6 x Mean Height of Roof.
Roof Heights ≤ 60'	**Perimeter (Zone 2):** Perimeter edges of roof, extending from roof edge inward a distance of .6 x Mean Height of Roof. Roofs with continuous parapet walls 3' in height or greater may use Perimeter Zone 2 wind uplift calculations and securement within Corner Zone areas.
Roof Heights ≤ 60'	**Corner (Zone 3):** Corner areas are L-shaped, extending inward and along the roof edge in both directions from the corner; width equal to .2 x Mean Height of Roof and length equal to .6 x Mean Height of Roof.
Roof Heights > 60'	**Field of Roof (Zone 1'):** Interior area of roof which may remain when Zones 1, 2, and 3 are present; extending inward from inside edge of Field of Roof Zone 1
Roof Heights > 60'	**Perimeter (Zone 2):** Perimeter edges of roof, extending from roof edge inward a distance of .1 x Building Width (Lesser plan dimension) with a minimum of 3 feet.
Roof Heights > 60'	**Corner (Zone3):** Roof heights above 60 feet require the length of the Corner Zone along each perimeter edge outward from the corner, to be multiplied by a factor of two.

TABLE A.8 – HALF SHEET SECUREMENT TABLE AND PERIMETER AND CORNER ZONE WIDTHS								
	Perimeter Zone Width		**Corner Zone Length**		**Corner Zone Width**		**Prescriptive # of Half-Width Sheets**	
Roof Height	**ASCE 7-10***	**ASCE 7-16**	**ASCE 7-10***	**ASCE 7-16**	**ASCE 7-10***	**ASCE 7-16**	**ASCE 7-10***	**ASCE 7-16**
15	6'	9'	6'	9'	6'	3'	2	3
30	12'	18'	12'	18'	12'	6'	4	6
45	18'	27'	18'	27'	18'	9'	6	9
59	24'	36'	24'	36'	24'	12'	8	12
*ASCE 7-10 allows perimeter zone width calculation of .1 x building width (lesser plan dimension) or .4 x building height, whichever is less.								

TABLE A.9 – ALTERNATE SECUREMENT TABLE FOR PERIMETER AND CORNER ZONES					
Roof Height	**Deck Type**	**Securement @ Roof Edge[1]**	**# of Half Sheets**	**In-Seam Attachment o.c.[2]**	**Wind Speed[3]**
≤ 15 ft	Concrete, Steel, 1/2" Plywood, Wood Plank, 5/8" OSB	12" o.c.	0	12" o.c.	IB Standard Warranty
≤ 15 ft	CWF, GYP, 7/16" OSB	6" o.c.	0	6" o.c.	
16-30 ft	Concrete, 22 ga. Steel, 5/8" Plywood, Wood Plank, 5/8" OSB	12" o.c.	0	12" o.c.	
16-30 ft	24 ga. Steel, 1/2" Plywood, CWF, GYP, 7/16" OSB	6" o.c.	0	6" o.c.	
Roof Height	**Deck Type**	**Securement @ Wall Base[4]**	**# of Half Sheets**	**In-Seam Attachment o.c.[2]**	**Wind Speed[3]**
≤ 15 ft	Concrete, 22 ga. Steel, Wood Plank, 5/8" Plywood	12" o.c.	0	12" o.c.	IB Standard Warranty
≤ 15 ft	1/2" Plywood, 5/8" OSB	9" o.c.	0	9" o.c.	
≤ 15 ft	CWF, GYP, 7/16" OSB	6" o.c.	0	6" o.c.	
16-30 ft	Concrete, 22 ga. Steel, 5/8" Plywood, Wood Plank, 5/8" OSB	12" o.c.	0	12" o.c.	
16-30 ft	1/2" Plywood, 5/8" OSB	9" o.c.	0	9" o.c.	
16-30 ft	CWF, GYP, 7/16" OSB	6" o.c.	0	6" o.c.	

[1] Supplemental roof edge securement located behind metal drip edge and requires a minimum 12" IB Cover Strip.

[2] In-seam attachments and specified spacing must be in the first full width sheet in conjunction with specified perimeter edge securement. If supplemental roof edge securement is not accomplished, then perimeter half sheets per Table A.7 must be followed.

[3] Limited to buildings located in Risk Categories I and II and where basic wind speed contour does not exceed 95 mph per ASCE 7-16.

[4] Membrane securement at parapet wall base must be in an approved roof deck per standard IB Construction Details.

TABLE A.10 – BASE AND WALL FLASHING ALLOWABLE HEIGHT		
Detail Condition	**Fully Adhered**	**Mechanically Attached**
Base flashings: recommended minimum completed height	8"-12" above field membrane	8"-12" above field membrane
Base and wall flashings: allowable maximum heights (without intermediate fastening rows)	60" above field membrane	18" above field membrane

TABLE A.11 – INDUCTION WELDED WALL SUBSTRATE WITHDRAWAL RESISTANCE AND FASTENING TABLE

Wall / Substrate Type	Insulation / Cover Board Type attached to Wall	Thickness	Fastener[1]	Insulation Fastener Recommendations[2]			
				4' x 4'		4' x 8'	
				Perimeter	Corner	Perimeter	Corner
- Brick - Masonry - Structural - Concrete - ¾" Plywood	IB EnergyBoard II, IB Energy Board III, or other Approved ISO	Min. 1.0" – 1.9"	IB HD #14, Dekspike or CD-10	6	8	12	16
	IB EnergyBoard II, IB Energy Board III, or other Approved ISO	Min 2.0""	IB HD #14, Dekspike or CD-10	5	6	9	12
	DensDeck® Prime / DEXCell® FA Glass Mat Board	Min. 0.25"	IB HD #14, Dekspike or CD-10	6	8	12	16
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	Min. 0.25"	IB HD #14, Dekspike or CD-10	6	8	12	16
	DensDeck® Prime / DensDeck® StormX Prime	Min. .50" - .625"	IB HD #14, Dekspike or CD-10	5	6	9	12
	DEXCell® FA Glass Mat Board / DEXCell® Cement Roof Board	Min. .50" - .625"	IB HD #14, Dekspike or CD-10	5	6	9	12
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	Min. .50" - .625"	IB HD #14, Dekspike or CD-10	5	6	9	12
	Hshield HD ISO	0.50"	IB HD #14, Dekspike or CD-10	6	8	12	16
	Fastener/isoweld plates direct into approved substrate		IB HD #14, Dekspike or CD-10	5	6	9	12
- ½" Plywood - 24 ga. steel	IB EnergyBoard II, IB Energy Board III, or other Approved ISO	Min. 1.0" – 1.9"	IB HD #14, Dekspike or CD-10	6	8	12	16
	IB EnergyBoard II, IB Energy Board III, or other Approved ISO	Min 2.0""	IB HD #14, Dekspike or CD-10	5	6	9	12
	DensDeck® Prime / DEXCell® FA Glass Mat Board	Min. 0.25"	IB HD #14, Dekspike or CD-10	6	8	12	16
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	Min. 0.25"	IB HD #14, Dekspike or CD-10	6	8	12	16
	DensDeck® Prime / DensDeck® StormX Prime	Min. .50" - .625"	IB HD #14, Dekspike or CD-10	5	6	9	12
	DEXCell® FA Glass Mat Board / DEXCell® Cement Roof Board	Min. .50" - .625"	IB HD #14, Dekspike or CD-10	5	6	9	12
	Securock® UltraLight Coated Glass Mat Securock® Gypsum Fiber Roof Board	Min. .50" - .625"	IB HD #14, Dekspike or CD-10	5	6	9	12
	Hshield HD ISO	0.50"	IB HD #14, Dekspike or CD-10	6	8	12	16
	Fastener/isoweld plates direct into approved substrate		IB HD #14, Dekspike or CD-10	5	6	9	12

[1]Fasteners shall be IB Roof Systems supplied and approved for the specifics substrate / roof deck type.
[2]Fastening density based on 4' x 8' board size and conformance with IB required withdrawal resistance values

TABLE A.12 – FLASHING SECUREMENT		
Detail Condition	**Fully Adhered**	**Mechanically Attached**
Membrane termination to roof deck or base of walls:	12” o.c.	Fasten at in-seam spacing for field of roof / Min. 12” o.c.
Perimeter edge wood nailers, and parapet walls		
Curbs, expansion joints, wood blocking, columns, and similar vertical terminations in the field of roof		
Membrane termination: At pipes and small penetrations in field of roof (less than 12” o.c. diameter)	6” o.c. / Min. of 3 fastener and plates per detail	6” o.c. / Min. of 3 fastener and plates per detail
Membrane termination: At drains and large pipe / stack flashings in field of roof (12” o.c. diameter or greater)	12” o.c. / Min. 4 fasteners and plates per detail	Fasten at in-seam spacing for field of roof / Min. 12” o.c. (Min. 4 per detail)
Base flashing: Top edge at walls or parapets	12” o.c.	12” o.c.
With reglet or approved counterflashing / coping		
With termination bars	6” o.c.	6” o.c.
Intermediate rows: at high walls	12” o.c.	Fasten at in-seam spacing for field of roof / Min. 12” o.c.
Transitions, valleys, and tie-ins to sloped areas	12” o.c.	Fasten at in-seam spacing for field of roof / Min. 12” o.c.
Base flashing: Top edge at field of roof curbs, wood blocking, expansion joints, and similar vertical terminations	12” o.c.	12” o.c.
Perimeter Metal Edge Flashings:	Nails: 4” o.c. Screws: 12” o.c.	Nails: 4” o.c. Screws: 12” o.c.
IB PVC Clad Drip Edge or IB PVC Clad Gravel Stop		
Continuous metal cleat (22 ga. Min.)	Screws: 12” o.c.	Screws: 12: o.c.
IB Snap-Fascia	Screws: 12” o.c.	Screws: 12” o.c.
Anchor Tite Drip Edge		
IB Aluminum Lip Termination Bar	Screws: 6” o.c.	Screws: 6” o.c.
Sheet metal coping with exterior cleat (inside face securement)	Screws: 24” o.c.	Screws: 24” o.c.
[1]The above fastening schedules are minimum IB requirements for standard published IB warranty installations. Fastening schedules for high-wind and specific project design conditions, and/or to comply with ES-1 and applicable building codes may require supplemental increased fastening for compliance.		

TABLE A.13 – BALLAST & PAVER SCHEDULE FOR BUILDINGS			
BALLAST SCHEDULE FOR BUILDINGS < 15 FT IN HEIGHT[1]			
Risk Category I or II, Exposure B urban, suburban. Exposure C rural locations. No exposure D or coastal locations			
Parapet Height	**Field**	**Perimeter**	**Corner**
< 36” (0.9m)	#4 Ballast (Nom.1-1/2”) @ 10 lbs. / sq. ft.	#4 Ballast (Nom.1-1/2”) @ 13 lbs. / sq. ft.	#4 Ballast (Nom.1-1/2”) @ 13 lbs. / sq. ft.
> 36” (0.9m)	#4 Ballast (Nom.1-1/2”) @ 10 lbs. / sq. ft.	#4 Ballast (Nom.1-1/2”) @ 10 lbs. / sq. ft.	#4 Ballast (Nom.1-1/2”) @ 10 lbs. / sq. ft.
BALLAST SCHEDULE FOR BUILDINGS > 15 FT TO < 35 FT IN HEIGHT[1]			
Risk Category I or II, Exposure B urban, suburban. Exposure C rural locations. No exposure D or coastal locations			
Parapet Height	**Field**	**Perimeter**	**Corner**
< 36” (0.9m)	#4 Ballast (Nom.1-1/2”) @ 10 lbs. / sq. ft.	#2 Ballast (Nom. 2-1/2”) @ 13 lbs. / sq. ft.	#2 Ballast (Nom. 2-1/2”) @ 13 lbs. / sq. ft.
> 36” (0.9m)	#4 Ballast (Nom.1-1/2”) @ 10 lbs. / sq. ft.	#2 Ballast (Nom.1-1/2”) @ 13 lbs. / sq. ft.	#2 Ballast (Nom.1-1/2”) @ 13 lbs. / sq. ft.
BALLAST SCHEDULE FOR BUILDINGS > 35 FT IN HEIGHT			
Contact IB Technical Services for prior approval			
PAVER SCHEDULE FOR BUILDINGS < 35 FT IN HEIGHT			
Risk Category I or II, Exposure B urban, suburban. Exposure C rural locations. No exposure D or coastal locations			
Parapet Height	**Field**	**Perimeter**	**Corner**
< 36” (0.9m)	Interlocking Pavers @ 10 lbs. / sq. ft.	Interlocking Pavers @ 22 lbs. / sq. ft.	Interlocking Pavers @ 22 lbs. / sq. ft.
> 36” (0.9m)	Interlocking Pavers @ 10 lbs. / sq. ft.	Interlocking Pavers @ 10 lbs. / sq. ft.	Interlocking Pavers @ 10 lbs. / sq. ft.
PAVER SCHEDULE FOR BUILDINGS > 35 FT IN HEIGHT TO 60 FT IN HEIGHT			
Risk Category I or II, Exposure B urban, suburban. Exposure C rural locations. No exposure D or coastal locations			
Parapet Height	**Field**	**Perimeter**	**Corner**
< 36” (0.9m)	Contact IB Technical Services for prior approval		
> 36” (0.9m)	Interlocking Pavers @ 22 lbs. / sq. ft.	Interlocking Pavers @ 22 lbs. / sq. ft.	Interlocking Pavers @ 22 lbs. / sq. ft.
PAVER SCHEDULE FOR BUILDINGS > 60 FT IN HEIGHT			
Contact IB Technical Services for prior approval			

[1]Approved lightweight interlocking concrete pavers or heavyweight standard concrete pavers are acceptable alternatives for # 2 and # 4 ballast.