Parasolo PVC and PVC KEE Fastening Tables

Mechanically Attached Membrane Systems

Adhered Membrane Systems

RhinoBond Membrane Systems

Metal Roof Retrofit Systems

(Mechanically Attached and RhinoBond)

INDEX

TABLE 1
ADHERED SYSTEMS
INSULATION FASTENER & PLATE SELECTION

For insulation attachment, use Table 1 to determine the proper fastener and plate and Tables 2 & 3 to determine the number of fasteners per board.

Deck Type	Parafast Fastener Type	Parafast Plate Type	Penetration (min.)
Steel (Min. 22 gauge)	#12	3" (76 mm) Steel	3/4" (19 mm) through the deck
	HD #14		
Wood (Plywood, OS Board Plank)[2]	#12	3" (76 mm) Steel	1" (25 mm) thread into/through the deck
	HD #14		
	XHD #15		
Structural Concrete (Min. 2,500 psi)	HD #14	3" (76 mm) Steel	1" (25 mm) thread into the deck
	CD-10		1" (25 mm) shank into the deck
Gypsum Concrete and Cementitious Wood Fiber[2] (Tectum)	Polymer GypTec™	3" (51 mm) GypTec™	1 1/2" (38 mm) thread into the deck
	LD (Lite Deck)	3" (76 mm) LD (Lite Deck)	

[1] 24-26 gauge decks require a special approval from SIPLAST. SIPLAST does not approve the use of metal roof panels as roof decks.

[2] Fastener withdrawal testing is recommended for all decks in this section.

TABLE 2
ADHERED SYSTEMS
INSULATION ATTACHMENT

STANDARD ATTACHMENT FOR APPROVED STEEL, CONCRETE, WOOD[1], GYPSUM[1] & CEMENTITIOUS WOOD FIBER DECKS[1]

For insulation attachment, use Table 1 to determine the proper fastener and plate and Tables 2 & 3 to determine the number of fasteners per board.

Insulation Type	Board Size	Thickness	Standard Attachment Fasteners per Board		
			Field	Perimeter	Corner
Paratherm Polyiso	4' x 4' (1.2 m x 1.2 m)	Min. 1.4" (12 - 35 mm)	8	12	16
	4' x 4' (1.2 m x 1.2 m)	1.5" - 1.9" (38 - 48 mm)	5	8	16
	4' x 4' (1.2 m x 1.2 m)	2" (51 mm) minimum	4	6	16
	4' x 8' (1.2 m x 2.4 m)	Min. 1.4" (12 - 35 mm)	16	24	32
	4' x 8' (1.2 m x 2.4 m)	1.5" - 1.9" (38 - 48 mm)	10	15	32
	4' x 8' (1.2 m x 2.4 m)	2" (51 mm) minimum	8	12	32
Paratherm HD Polyiso	4' x 8' (1.2 m x 2.4 m)	1/2" (12 mm) minimum	8	12	32
Paratherm Barrier Polyiso	4' x 8' (1.2 m x 2.4 m)	1/2" (12 mm) minimum	8	12	32
USG SECUROCK® Brand Gypsum-Fiber roof Board	4' x 8' (1.2 m x 2.4 m)	1/4" (6 mm) minimum	8	12	32
	4' x 8' (1.2 m x 2.4 m)	5/8" (15 mm) minimum	6	9	32
DensDeck® Prime Roof Board and DensDeck® StormX™	4' x 8' (1.2 m x 2.4 m)	1/4" (6 mm) minimum	8	12	32
Blue Ridge STRUCTODEK® HD Fiberboard	4' x 8' (1.2 m x 2.4 m)	1/2" (12 mm) minimum	16	24	32

[1] Fastener withdrawal testing is recommended.

TABLE 3
ADHERED SYSTEMS
INSULATION ATTACHMENT

90 PSF UPLIFT RESISTANCE FOR APPROVED STEEL AND CONCRETE DECKS

For insulation attachment, use Table 1 to determine the proper fastener and plate, and Tables 2 & 3 to determine the number of fasteners per board.

Insulation Type	Board Size	Thickness	Attachment Fasteners/Board (For 90 psf Uplift Resistance)		
			Field	Perimeter	Corner
Paratherm Polyiso	4' x 4' (1.2 m x 1.2 m)	1.5" - 1.9" (38 - 48 mm)	8	12	16
	4' x 4' (1.2 m x 1.2 m)	2" (51 mm) minimum	5	6	16
	4' x 8' (1.2 m x 2.4 m)	1.5" - 1.9" (38 - 48 mm)	16	24	32
	4' x 8' (1.2 m x 2.4 m)	2" (51 mm) minimum	8	12	32
Paratherm HD Polyiso	4' x 8' (1.2 m x 2.4 m)	1/2" (12 mm) minimum	16	24	32
Paratherm Barrier Polyiso	4' x 8 (1.2 m x 2.4 m)	1/2" (12 mm) minimum	16	24	32
USG SECUROCK® Brand Gypsum-Fiber Roof Board	4' x 8' (1.2 m x 2.4 m)	1/4" (6 mm) minimum	10	15	32
	4' x 8' (1.2 m x 2.4 m)	5/8" (15 mm) minimum	6	9	32
DensDeck® Prime Roof Board and DensDeck® StormX™	4' x 8' (1.2 m x 2.4 m)	1/4" (6 mm) minimum	10	15	32
	4' x 8' (1.2 m x 2.4 m)	1/2" (12 mm) minimum	8	12	32

TABLE 4
MECHANICALLY ATTACHED SYSTEMS
INSULATION FASTENER & PLATE SELECTION

For insulation attachment, use Table 4 to determine the proper fastener and plate, and Table 5 to determine the number of fasteners per board.

Deck Type	Parafast Fastener Type	Parafast Plate Type	Penetration (min.)
Steel (22-18 gauge)[1]	#12	3" (76 mm) Steel	3/4" (19 mm) through the deck
	HD #14		
Steel[1, 2] (24-26 gauge)	HD #14	3" (76 mm) Steel	3/4" (19 mm) through the deck
	XHD #15		
Wood (Plywood, OSB and Plank[2])	#12	3" (76 mm) Steel	1" (25 mm) thread into/through the deck
	HD #14		
	XHD #15		
Structural Concrete (Min. 2,500 psi)	HD #14	3" (76 mm) Steel	1" (25 mm) thread into the deck
	CD-10		1" (25 mm) thread into the deck
Lightweight Insulating Concrete[1, 2] (LWIC over 22-24 ga. Standard Form Deck)	#12	3" (76 mm) Steel	3/4" (19 mm) thread through the steel form
	#14		
	XHD #15		
Gypsum Concrete and Cementitious Wood Fiber[2] (Tectum)	Polymer GypTec™	3" (51 mm) GypTec™	1 1/2" (38 mm) thread into the deck
	LD (Lite-Deck)	3" (76 mm) LD (Lite Deck)	

[1] 24-26 gauge decks require a special approval from SIPLAST. SIPLAST does not approve the use of metal panels as roof decks.

[2] Fastener withdrawal testing is recommended for all decks in this section.

TABLE 5
MECHANICALLY ATTACHED SYSTEMS
PRELIMINARY INSULATION ATTACHMENT

For preliminary insulation attachment, use Table 4 to determine the proper fastener and plate and Table 5 to determine the number of fasteners per board to meet Siplast minimum requirements.

Insulation Type	Board Size	Thickness	Number of Fasteners per Board		
			Field	Perimeter	Corner
Paratherm Polyiso	4' x 4' (1.2 m x 1.2 m)	Min. 1.2" (30 mm)	4	4	4
	4' x 8' (1.2 m x 2.4 m)	Min. 1.2" (30 mm)	6	6	6
	4' x 8' (1.2 m x 2.4 m)	≥ 1.3" (33 mm)	5	5	5
Perlite	4' x 4' (1.2 m x 1.2 m)	Min. 3/4" (19 mm)	4	4	4
Blue Ridge STRUCTODEK® HD Fiberboard	4' x 4' (1.2 m x 1.2 m)	Any	4	4	4
	4' x 8' (1.2 m x 2.4 m)	Any	6	6	6
Extruded or Expanded Polystyrene[1]	4' x 4' (1.2 m x 1.2 m)	Min. 1.2" (30 mm)	4	4	4
	4' x 8' (1.2 m x 2.4 m)	Min. 1.2" (30 mm)	6	6	6
	4' x 8' (1.2 m x 2.4 m)	≥ 1.3" (33 mm)	5	5	5
Fanfold[2]	2' x 4' (610 mm x 1.2 m)	3/8" (10 mm)	8	8	8
USG SECUROCK® Brand Gypsum-Fiber Roof Board	4' x 8' (1.2 m x 2.4 m)	1/4" -5/8" (6-15 mm)	6	6	6
DensDeck® Roof Board and DensDeck® StormX™	4' x 8' (1.2 m x 2.4 m)	1/4" - 5/8" (6-15 mm)	6	6	6

[1] Smooth Parasolo PVC must have a 3/16 oz. (85/170 gr.) polymat separator sheet. Fleece-back Parasolo PVC is acceptable.

[2] Fanfold attachment spacing is for each 2' x 4' (610 mm x 1.2 m) panel (2-1-2-1-2). PVC fleece-back only.

[3] Reference Table 6 of FM Global Property Loss Prevention Data Sheet 1-29 for additional information regarding preliminary securement of insulation to meet certain wind uplift requirements.

[4] Fastener withdrawal testing is recommended in this section.

TABLE 6
MECHANICALLY ATTACHED SYSTEMS
10' (3.05 m) WIDE PARASOLO PVC MEMBRANE ATTACHMENT

Deck Type	Minimum Pull-Out Values (lbf)	Parafast Fastener Type	Parafast Plate Type	Penetration (min.)	Standard Attachment	90 psf[1] Attachment
Steel 22 gauge (standard 33 ksi)	450	XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	3/4" (19 mm) through the deck	12" (305 mm) o.c.	6" (152 mm) o.c.
			2" (51 mm) Double Barbed XHD			
			2 3/8" (61 mm) Eyehook Seam Plate			
	350	HD #14	2 3/8" (61 mm) Eyehook Seam Plate	3/4" (19 mm) through the deck	6" (152 mm) o.c.	--
			2 3/8" (61 mm) Eyehook Seam Plate			
Steel 22 gauge (high strength 80 ksi)	750	SXHD #21	2 3/8" (61 mm) Eyehook Seam Plate	3/4" (19 mm) through the deck	12" (305 mm) o.c.	6" (305 mm) o.c.
	450	XHD #15	2 3/8" (61 mm) Barbed XHD	3/4" (19 mm) through the deck	12" (305 mm) o.c.	6" (152 mm) o.c.
			2 3/8" (61 mm) Eyehook Seam Plate			
Steel[1] (24-26 gauge)	350	HD #14 XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	3/4" (19 mm) through the deck	6" (152 mm) o.c.	--
			2 3/8" (61 mm) Eyehook Seam Plate			
			2 3/8" (61 mm) Eyehook Seam Plate			
2" (51 mm) Nominal Wood Plank	800	HD #14 XHD #15	2 3/8" (61 mm) Barbed XHD	1" (25 mm) into the deck	12" (305 mm) o.c.	9" (229 mm)o.c.
			2 3/8" (61 mm) Eyehook Seam Plate			
1" (25 mm) Nominal Wood Plank	450	HD #14 XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	1" (25 mm) into the deck	12" (305 mm) o.c.	--
			2 3/8" (61 mm) Eyehook Seam Plate			

[1] Fastener withdrawal testing is recommended in this section.

TABLE 6
MECHANICALLY ATTACHED SYSTEMS
(Continued)

Deck Type	Minimum Pull-Out Values (lbf)	Parafast Fastener Type	Parafast Plate Type	Penetration (min.)	Standard Attachment	90 psf[1] Attachment
3/4" (19 mm) Plywood Or OSB[1]	525	HD #14 XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	1" (25 mm) through the deck	12" (305 mm) o.c.	6" (152 mm) o.c.
			2 3/8" (61 mm) Eyehook Seam Plate			
15/32"(13 mm) Plywood Or 7/16" (13 mm) OSB[1]	400	HD #14 XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	1" (25 mm) through the deck	12" (305 mm) o.c.[3]	--
			2 3/8" (61 mm) Eyehook Seam Plate			
	300	HD #14 XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	1" (25 mm) through the deck	9" (229 mm) o.c.[3]	--
			2 3/8" (61 mm) Eyehook Seam Plate			
Structural Concrete (Min. 2,500 psi)	700	HD #14	2 3/8" (61 mm) Barbed XHD	1" (25 mm) into the deck	12" (305 mm) o.c.	6" (152 m) o.c.
			2 3/8" (61 mm) Eyehook Seam Plate			
	900	CD-10	2 3/8" (61 mm) Eyehook Seam Plate	1" (25 mm) into the deck	12" (305 mm) o.c.	6" (152 mm) o.c.
			2 3/8" (61 mm) Eyehook Seam Plate			
			2 3/8" (61 mm) Eyehook Seam Plate			--
Lightweight Insulating Concrete (22 gauge Standard Form)	450	XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	3/4" (19 mm) through the form	12" (305 mm) o.c.	--
			2 3/8" (61 mm) Eyehook Seam Plate			
	350	HD #14	2 3/8" (61 mm) Eyehook Seam Plate		6" (152 mm) o.c.	--
			2 3/8" (61 mm) Eyehook Seam Plate			

[1] Fastener withdrawal testing is recommended in this section.

TABLE 6[4]
MECHANICALLY ATTACHED SYSTEMS
(Continued)

Deck Type	Minimum Pull-Out Values (lbf)	Parafast Fastener Type	Parafast Plate Type	Penetration (min.)	Standard Attachment	90 psf[1] Attachment
Lightweight Insulating Concrete (24-26 gauge Standard Form) [2]	350	HD #14 XHD #15	2 3/8" (61 mm) Eyehook Seam Plate	3/4" (19 mm) through the form	6" (152 mm) o.c.	--
Gypsum Concrete	400	Polymer GypTec™	2" (51 mm) GypTec™	1 1/2" (38 mm) into the deck	9" (229 mm) o.c.	--
Cementitious Wood Fiber (Tectum)	300	Polymer GypTec™	2" (51 mm) GypTec™	1 1/2" (38 mm) into the deck	6" (152 mm) o.c.	--

[1] 90 psf is the attachment pattern to provide 90 lbf/ft (5.3 kPa) of uplift pressure resistance and may equate to FM I-90. Refer to the current FM Approvals RoofNav for Approved constructions.

[2] 24-26 gauge roof decks require a special approval from SIPLAST. SIPLAST does not approve the use of metal roof panels as roof decks.

[3] Standard pattern limited to:

- 40' (12.19 m) max height, Exposure B, Enclosed building in a non-special/high wind region.
- 30' (9.14 m) max height, Exposure C, Enclosed building in a non-special/high wind region.
- For buildings exceeding these specifics, p lease contact SIPLAST for assistance (e.g., coastal and mountain regions).

[4] Fastener withdrawal testing is recommended in this section.

Note: When designing for higher uplift pressures, please consult current FM Approvals/ROOFNAV.

TABLE 7[5]
MECHANICALLY ATTACHED SYSTEMS
METAL ROOF RETROFIT ATTACHMENT

Maximum Purlin & Fastener Row Spacing	Purlin Type	Minimum Pull-Out Values (lbf)	Parafast Purlin Fastener & Parafast RhinoBond PVC XHD Plate Maximum Spacing (o.c.)		
			Field	Perimeter	Corner
Up to 5' (1.52 m) [every purlin]	Min. 16 gauge	800	12" (305 mm)	10" (254 mm)	8" (203 mm)
	Min. 14 gauge	1000	18" (457 mm)	12" (305 mm)	9" (229 mm)
	Min. 12 gauge	1000	18" (457 mm)	12" (305 mm)	9" (229 mm)
Up to 10' (3.05 m) [every other purlin]	Min. 16 gauge	800	6" (152 mm)	6" (152 mm)[4]	6" (152 mm)[4]

General Comments/Requirements

1. This attachment table can only be used for projects that are:
   - Maximum roof slope = 2:12
   - Maximum building height = 40 feet (18.3 m)

2. The attachment capacity of the purlins to the secondary structure must be greater than the attachment capacity of the metal panels to the purlins, especially when an "every other purlin" attachment method is used.

3. Fastener pull-out testing in accordance with ANSI/SPRI FX-1 2016 Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners is recommended. Minimum 1" (25 mm) Parafast Purlin Fastener embedment is required. Fastener pullout tests shall be conducted on the purlins with approved fasteners. Roof sections with low pullout results will require additional pullout tests or additional purlins.

4. Install fasteners into every purlin in perimeter and corner zones.

5. Fastener withdrawal testing is recommended in this section.

TABLE 8
PARAFAST PVC RHINOBOND® SYSTEMS
STEEL & CONCRETE DECK ATTACHMENT

Deck Type	Minimum Pull-Out Value (lbf)	Parafast Fastener	Parafast Plate	Minimum Penetration	Fastening Pattern 4' x 8' (2.4 m x 1.2 m) Boards (Field, Perimeter, Corner)		
					Standard Attachment	90 psf Uplift	120 psf Uplift
Steel 22 gauge (standard 33 ksi)	450	#15 XHD	RhinoBond® PVC XHD	3/4" (19 mm) through the deck	6, 9, 12	6, 10, 15	8, 15, 20
	600	#21 SXHD		1" (25 mm) through the deck	6, 9, 12	6, 10, 15	--
Steel 22 gauge (high strength 80 ksi)	450	#15 XHD	RhinoBond® PVC XHD	3/4" (19 mm) through the deck	6, 9, 12	6, 10, 15	8, 15, 20
	750	#21 SXHD		1" (25 mm) through the deck	6, 9, 12	6, 10, 15	8, 15, 20
Structural Concrete (Min. 2,500 psi)	700	#14 HD	RB PVC SXHD	1" (25 mm) into the deck	6, 9, 12	6, 10, 15	8, 15, 20
	900	CD-10		1" (25 mm) into the deck	6, 9, 12	6, 10, 15	8, 15, 20
Lightweight Insulating Concrete (LWIC over 22 gauge Standard Form)	450	#15 XHD	RB PVC SXHD	3/4" (19 mm) through form	6, 9, 12	--	--
	350	#14 HD		3/4" (19 mm) through form	6, 9, 12	--	--
Lightweight Insulating Concrete (LWIC over 24-26 gauge Standard Form)[1]	350	#15 XHD	RB PVC SXHD	3/4" (19 mm) through form	6, 9, 12	--	--
	350	#14 HD		3/4" (19 mm) through form	6, 9, 12	--	--

[1] Fastener withdrawal testing is recommended.

General Comments/Requirements

1. The Parafast RhinoBond® Attachment System is not acceptable over gypsum or cementitious wood fiber, but it is acceptable over structural or lightweight insulating concrete decks. However, other methods of attachment may be more appropriate, depending on the project type. Contact SIPLAST Technical Services for possible alternatives.
2. Confirm quality and condition of roof decking by visual inspection, if possible, and by fastener pull-out testing. Remove and replace all deteriorated decking.
3. The Parafast RhinoBond® PVC XHD Plate is used to attach rigid insulation to roof decks. The special coating on the plates allows for Siplast PVC membranes to be welded to each plate using the RhinoBond® magnetic induction welding tool. Parafast RhinoBond® Plates are different in type and color; the PVC plates are black in color. The appropriate plate must be used with the appropriate membrane type.
4. When installing Parafast RhinoBond® Fasteners through lightweight insulating concrete that is poured over structural concrete, the fastener must penetrate a minimum of 1" (25 mm) into the structural concrete deck. A 7/32" (5.5 mm) pre-drilled hole is required for Parafast C D-10 fasteners. A 3/16" (4.8 mm) pre-drilled hole is required f or Parafast HD #14 fasteners.
5. Supplemental fastening of insulation using Parafast fastener and insulation plate must be either plastic or a different shape to differentiate from RhinoBond® plate when additional fastening is required.
6. 24-26 gauge decks require a special approval from SIPLAST. Metal roof panels as are not acceptable as roof decks.
7. Fastener withdrawal testing is recommended.

TABLE 9
PARAFAST PVC RHINOBOND® SYSTEMS
METAL ROOF RETROFIT ATTACHMENT

Maximum Purlin & Fastener Row Spacing	Purlin Type	Parafast Purlin Fastener & Parafast RhinoBond® PVC SXHD Plate Maximum Spacing (o.c.)		
		Field	Perimeter	Corner
Up to 5' (1.52 m) [every purlin]	Min. 16 gauge	12" (305 mm)	10" (254 mm)	8" (203 mm)
	Min. 14 gauge	18" (457 mm)	12" (305 mm)	9" (229 mm)

General Comments/Requirements

1. This attachment table can only be used for projects that are:
   - Maximum roof slope = 2:12
   - Maximum building height = 40 feet (18.3 m)

2. Membrane must be attached to the Parafast RhinoBond® PVC SXHD Plates that are installed directly into the structural purlins with the appropriate Parafast Purlin Fasteners. The special coating on the plates allows for Siplast PVC membranes to be welded to each plate using the RhinoBond® magnetic induction welding tool. Parafast RhinoBond® Plates are different in type and color; the PVC plates are black in color. The appropriate plate must be used with the appropriate membrane type.

3. The attachment capacity of the purlins to the secondary structure must be greater than the attachment capacity of the metal panels to the purlins.

4. Fastener pull-out testing in accordance with ANSI/SPRI FX-1 2016 Standard Field Test Procedure for determining the Withdrawal Resistance of Roofing Fasteners is recommended. Minimum 1" (25 mm) Parafast Purlin Fastener embedment is required. Fastener pullout tests shall be conducted on the purlins with approved fasteners. Roof sections with low pullout results will require additional pullout tests or additional purlins.

5. Fasteners should be staggered 12" (305 mm) between rows.

6. Supplemental fastening of insulation using Parafast fasteners and insulation plates either plastic or a different shape to differentiate from RhinoBond® plates may be required.

7. Refer to the Parasolo PVC Mechanically Attached Installer's Guide and Parafast RhinoBond® Retrofit Roofing Systems Over Metal Roofs Guide for further information.

TABLE 10
PARAFAST PVC RHINOBOND® SYSTEMS
WOOD DECK ATTACHMENT INSULATED ASSEMBLIES

Deck Type	Parafast Fastener	Parafast Plate	Minimum Pull-Out Value (lbf)	Max. Building Height	Fasteners Per 4' x 8' (1.2 m x 2.4 m) Insulation Board		
					Field	Perimeter	Corner
	#14 #15	RB PVC XHD	300	60' (18 m)	6	10	10

General Comments/Requirements

1. Confirm quality and condition of roof decking by visual inspection, and by fastener pull-out testing. Remove and replace all deteriorated decking.

2. The Parafast RhinoBond® PVC XHD Plate is used to attach rigid insulation to roof decks. The special coating on the plates allows for Siplast PVC membranes to be welded to each plate using the RhinoBond® magnetic induction welding tool. Parafast PVC RhinoBond® Plates are black in color. The appropriate plate must be used with the appropriate membrane type.

3. Fasteners shall be of sufficient length to penetrate through the plywood or OSB sheathing a minimum of 3/4" (19 mm) and 1" (25 mm) embedment into the wood plank deck. Fasteners shall not be driven through the joints of the wood plank.

4. Fastener selection is based on the actual/specific deck performance matched with the fastener being used.

5. This attachment table can only be used for projects that are:
   - Exposure Category B or C
   - Enclosed building in a non-special/high wind region, e .g., mountains, coastal
   - For buildings exceeding these specifics, please contact SIPLAST for assistance

6. No individual pullout value can be less than the absolute minimum listed for the given fastening pattern. If the individual pullout values do not meet the minimum pull-out values, alternative fastening is required.

7. If your project does not meet these requirements, you must contact SIPLAST for further information.

8. Fastener withdrawal testing is recommended.

TABLE 11
PARAFAST PVC RHINOBOND® SYSTEMS

WOOD DECK ATTACHMENT

UNINSULATED ASSEMBLIES WITH FIRE RESISTANT SLIP SHEET

Deck Type	Parafast Fastener	Parafast Plate	Minimum Pull-Out Value (lbf)	Max. Building Height	Fastener Grid Layout (Spacing shows plate/fastener location o.c. and then row spacing)		
					Field	Perimeter	Corner
	#14 #15	RB PVC XHD	300	60' (18 m)	32" o.c. rows spaced 24" apart	18" o.c. rows spaced 24" apart	18" o.c. rows spaced 24" apart

General Comments/Requirements

1. Contact Siplast for information regarding approved fire resistant slip sheets.

2. Confirm quality and condition of roof decking by visual inspection, and by fastener pull-out testing. Remove and replace all deteriorated decking.

3. The Parafast RhinoBond® PVC XHD Plate is used to attach rigid insulation to roof decks. The special coating on the plates allows for Siplast PVC membranes to be welded to each plate using the RhinoBond® magnetic induction welding tool. Parafast RhinoBond® Plates are different in type and color; the PVC plates are black in color. The appropriate plate must be used with the appropriate membrane type.

4. Fasteners shall be of sufficient length to penetrate through the plywood or OSB sheathing a minimum of 3/4" (19 mm) and 1" (25 mm) embedment into the wood plank deck. Fasteners shall not be driven through the joints of the wood plank.

5. Fastener selection is based on the actual/specific deck performance matched with the fastener being used.

6. This attachment table can only be used for projects that are:
   - Exposure Category B or C
   - Enclosed building in a non-special/high wind region, e .g., mountains, coastal
   - For buildings exceeding these specifics, please contact SIPLAST for assistance

7. No individual pullout value can be less than the absolute minimum listed for the given fastening pattern. If the individual pullout values do not meet the minimum pull-out values, alternative fastening is required.

8. If your project does not meet these requirements, you must contract SIPLAST for further information.

9. Fastener withdrawal testing is recommended.

TABLE 12
PARAFAST PVC RHINOBOND® SYSTEMS

WOOD JOIST ATTACHMENT

Membranes	Parafast Fastener	Parafast Plate	Fastener Embedment	Fastener Spacing Along Wood Joists	Wood Joist Spacing
Parasolo PVC Parasolo PVC KEE	HD #14	RB PVC XHD	1" (25 mm) into 2" x 8" (51 x 203 mm) support [1.5" (38 mm) through plywood or OSB decking joint and into lumber]	12" (305 mm)	96" (2.44 m)
				24" (610 mm)	48" (1.22 m)
				9" (229 mm)[5]	24" (610 mm)
				36" (914 mm)	24" (610 mm)
				24" (610 mm)	24" (610 mm)
				18" (452 mm)	24" (610 mm)

Contact Siplast for recommended fastening frequencies to meet specific testing, Code Agency, or guarantee requirements.

General Comments/Requirements:

1. Parafast RhinoBond® test results with fasteners driven into 2" x 8" (51 X 203 mm) wood joists over 1/2" (12 mm) plywood or OSB. SIPLAST does not take responsibility for the fastening of the wood substrate to the structure below.
2. Membrane must be attached to the Parafast RhinoBond® PVC Plates that are installed directly into the structural wood joists with Parafast #14 Fasteners. The special coating on the plates allows for Siplast PVC membranes to be welded to each plate using the RhinoBond® magnetic induction welding tool. Parafast RhinoBond® Plates are different in type and color; the PVC plates are black in color. The appropriate plate must be used with the appropriate membrane type.
3. Fastener pull-out testing in accordance with ANSI/SPRI FX-1 2016 Standard Field Test Procedure for determining the Withdrawal Resistance of Roofing Fasteners is recommended. Minimum 1" (25 mm) Parafast Fastener embedment is required. Fastener pullout tests shall be conducted in the wood joists with approved fasteners. Roof sections with low pullout results will require additional pullout tests or additional wood joists.
4. Supplemental fastening of insulation using Parafast fasteners and insulation plates either plastic or a different shape to differentiate from Parafast RhinoBond® plates may be required.
5. This fastening frequency is based on the frequency listed in current Florida Approvals for Siplast Parasolo RhinoBond® Systems.