FORTRESS® BUILDING PRODUCTS

INSTALLATION INSTRUCTIONS

EVOLUTION™

STEEL PERGOLA

EVOLUTION STEEL PERGOLA: TRADITIONAL

TABLE OF CONTENTS

INTRODUCTION

READ INSTRUCTIONS COMPLETELY BEFORE STARTING INSTALLATION

General Guidelines

It is the responsibility of the installer to meet all code and safety requirements, and to obtain all required building permits. The pergola installer should determine and implement appropriate installation techniques for each installation situation. Neither Fortress Building Proucts nor its distributors shall not be held liable for improper or unsafe installations.

Personal Protection Equipment (PPE) must be worn anytime you're using power tools and working with Evolution Pergola. Eye protection, hearing protection, closed-toe shoes, gloves, long sleeves, and pants must be worn to keep yourself safe.

As the steel pergola parts are cut, all metal shavings and/or chips must be removed from inside the Evolution Pergola parts. At the end of a work period, all steel shavings and/or chips must be cleaned off the jobsite. Not doing so could result in the staining of surrounding surfaces.

As the steel pergola parts are cut, **DO NOT** allow metal shavings and/or chips to get dropped or blown into a pool, hot tub, or any other body of water. Staining could occur if this were to happen.

Fortress Building Products does not cover all possible installation scenarios within these instructions. In some cases, it may be necessary for you to consult a professional engineer, building code official, or local dealer. In addition, it may become necessary to use brackets other than Fortress' when more complex installations take place.

Required Tools


Goggles


Safety Gloves


Tape Measurer


Speed Square


Level Tool


Pencil


String


Ear Protector


Close-Toed Shoes


Touch-Up Paint


Bit Extender


Drill


Clamps


File

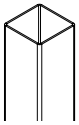

Concrete Drill Bit: 5/16” [8mm]

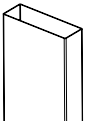

Hex Head Nut Driver Bits: 9/16”, 5/16” [14mm, 8mm]


Metal Cutting Miter Saw

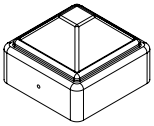

Ground Stakes

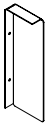
Components

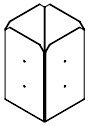

Post
3-1/2” x 3-1/2” x 10’
[89mm x 89mm x 3048mm]

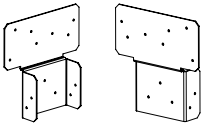

Joist
2” x 6” x 12’, 14’, 16’, 18’ or 20’
[51mm x 152mm x 3658mm, 4267mm, 4877mm, 5486mm, 6096mm]

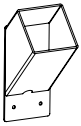

Purlin
2” x 2” x 10’
[51mm x 51mm x 3048mm]

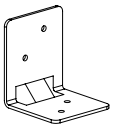

Pressed Dome Cap
2” [51mm]


Joist Cap

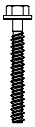

Post to Pier Bracket


Double Beam To Post Bracket

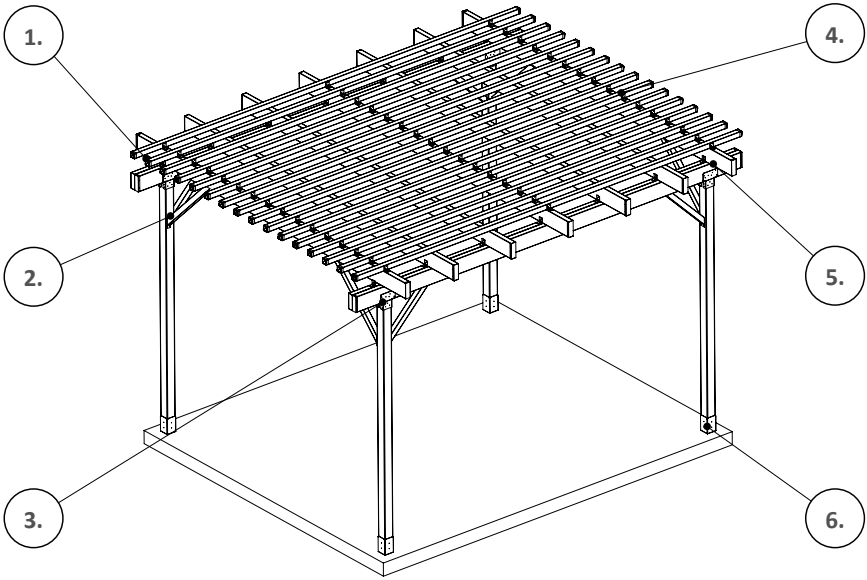

Lateral Bracing Bracket

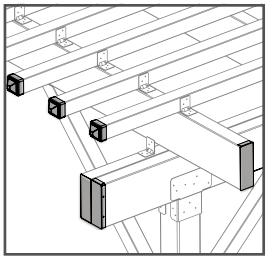

F-10 Bracket


Evolution Self-drilling Screw
#12

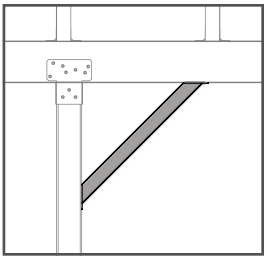

Concrete Anchor
3/8” [10mm]

EVOLUTION PERGOLA: INSTALLATION OVERVIEW

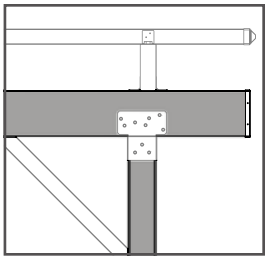




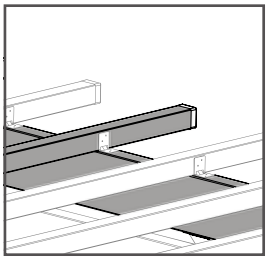
1.
Joist & Pressed Dome Caps



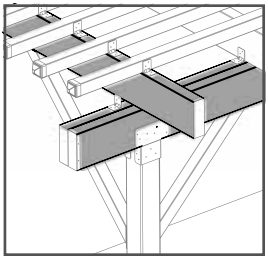
2.
Lateral Bracing Assembly



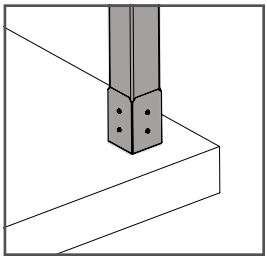
3.
Post To Double Beam Joist



4.
Joist To Purlin



5.
Joist to Double Beam Joist

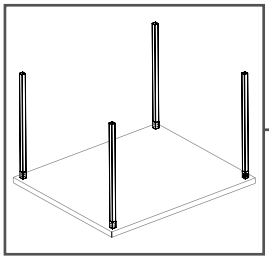


6.
Post to Foundation

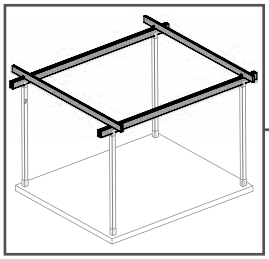
Note:

Construction methodologies are always improving. Please visit FortressBP.com for the most up-to-date Installation Instructions.

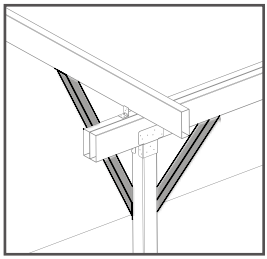
Evolution Pergola Installation Process (Overview)



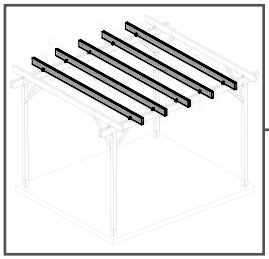
1.
Mount Posts
To Foundation



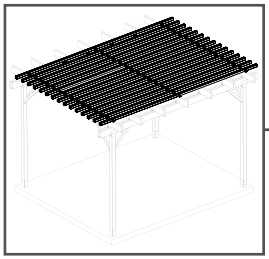
2.
Install Frame Joists
(Double & Single Beam)



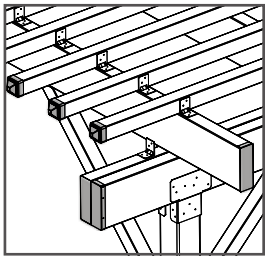
3.
Install Lateral
Bracing Assembly



4.
Install Remaining
Joists



5.
Install Purlins



6.
Install Joist &
Pressed Dome Caps

EVOLUTION PERGOLA: PROJECT PLANNING

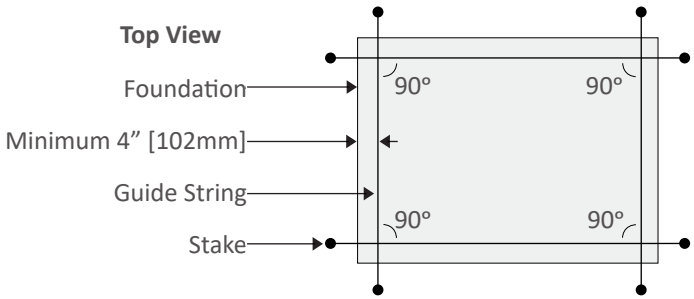
Step 1: Create a Perimiter For The Pergola Using Stakes & Guide String

1. Using Stakes and Guide String, create a perimeter for the pergola. Each guide string should be positioned a minimum of 4" [102mm] from the edge of the foundation. As shown in Fig. 1.

Tip:

- Before starting the pregola project, confirm that the building foundation is level and square.
- Be sure corners are set at 90° angles.

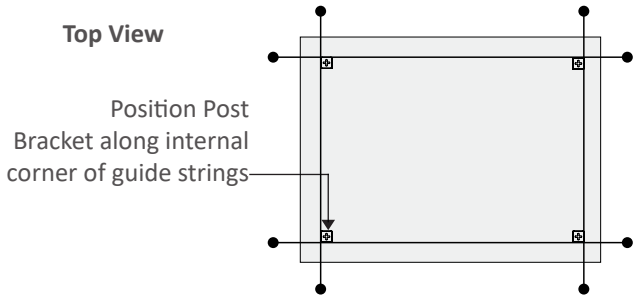
Fig. 1



Step 2: Mark Post Bracket Locations

1. Position Post to Pier Brackets along internal corners of guide strings. As shown in Fig. 2.
2. Using a pencil, mark post bracket and bolt hole locations.

Fig. 2



EVOLUTION PERGOLA: CUTTING & PAINTING

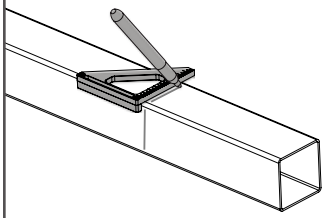
Step 1: Mark Cut Points

1. Position the Post, Joist or Purlin on a flat surface, preferably a table.
2. Using a pencil, mark desired length onto product being cut.
3. Using a Speed Square, straighten cut point markings on top and side faces. As shown in Fig. 3.

Tip:

- Before making cuts, confirm cut length is correct.

Fig. 3



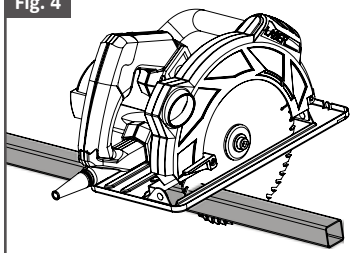
Step 2: Cut Components To Length

1. Cut the components using a portable band saw, metal cutting circular saw or grinder with a cutoff disc. As shown in Fig. 4. Be sure to follow cut marks on top and side faces.

Tip:

- Be sure to support product to prevent bending during cutting.
- Be sure to not over heat the material when making cuts with a grinder.

Fig. 4



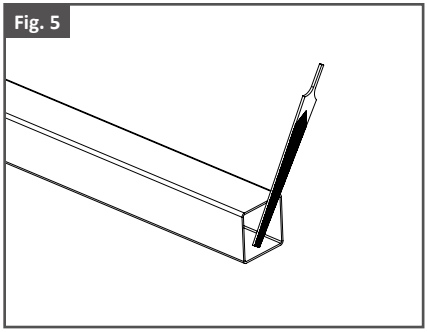
Step 3: Clean Cut Areas

1. Use a file to smooth cut edges. As shown in Fig. 5.
2. Remove any metal shavings and dust with a brush or rag.
3. Make sure surfaces to be painted are clean. **DO NOT** cut product over concrete. Be sure to remove any metal shavings to avoid stains.

Note:

- **DO NOT** allow metal shavings and/or chips to get dropped or blown into a pool, hot tub, or any other body of water.

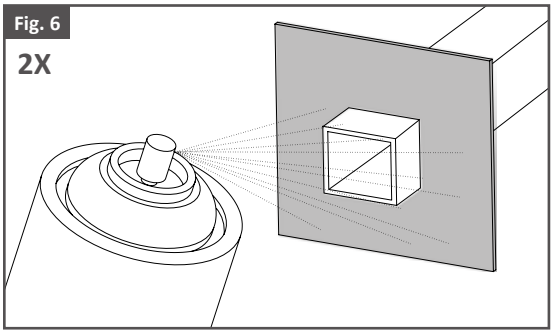
Fig. 5



Step 4: Apply Spray Paint To Cut Areas

1. Using a piece of cardboard as a mask, apply the 1st coat of Fortress zinc based touch-up paint.
2. Allow to dry before applying second coat.
3. Apply the 2nd coat of Fortress zinc based touch-up paint.
4. Allow to dry and install.

Fig. 6



EVOLUTION PERGOLA: PERGOLA CONNECTIONS

Connection 1: Post To Foundation

1. Cut posts to desired height. Reference cutting and painting instructions on pages 7 & 8.
2. Pre-drill concrete or slab, then mount Post to Pier Bracket to surface using 3/8" [10mm] concrete anchor. As shown in Fig. 7 & 8.
3. Insert post into Post to Pier Bracket. As shown in Fig. 9. Confirm that the post is level and plumb.
4. Fasten Post onto Post to Pier Bracket using Evolution Self-Drilling Screws. As shown in Fig. 10. Continuously check if post is level and plumb.

Note:

- Post installation requirements will vary in different geographical regions. Consult with your local building code officials for requirements.
- **It is critical for Posts and Post to Pier Bracket to maintain the 90° angles established in project planing instructions on pages 6 & 7.**
- **It is critical for post heights to be level once installed.**

Fig. 7

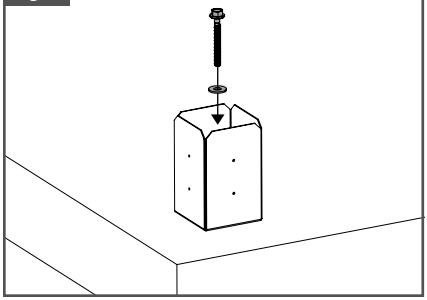


Fig. 8

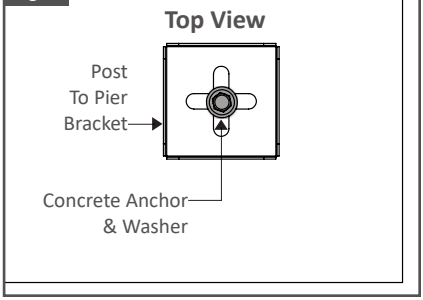


Fig. 9

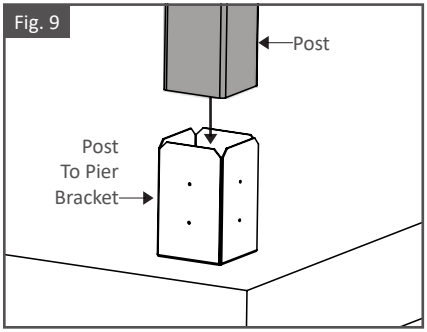
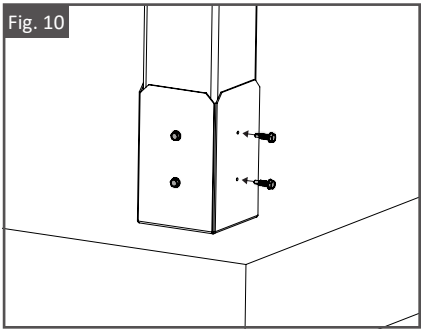


Fig. 10

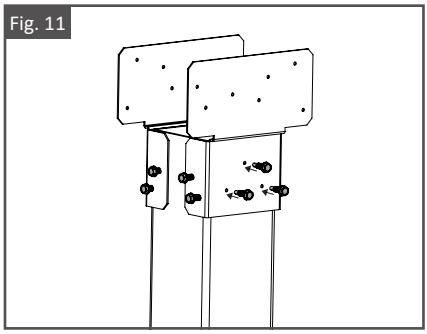


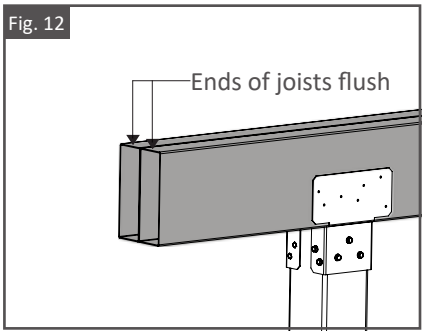
Connection 2: Post To Double Beam Joist

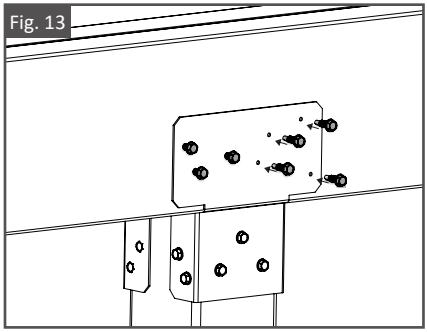
1. Using Evolution Self-Drilling Screws, fasten two Double Beam to Post Brackets onto top edge of post. As shown in Fig. 11.
2. Position joists into desired location. Be sure to have ends of joists flush. As shown in Fig. 12.
3. While keeping joists in position, fasten brackets onto joists. As shown in Fig. 13.

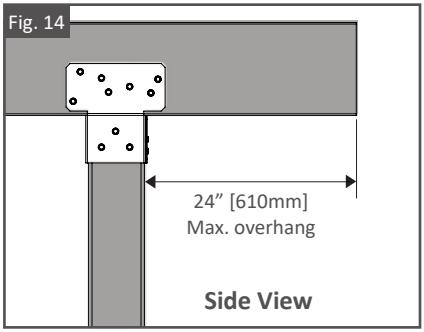
Note:

- The maximum joist to post overhang allowed is 24” [610mm]. As shown in Fig. 14.







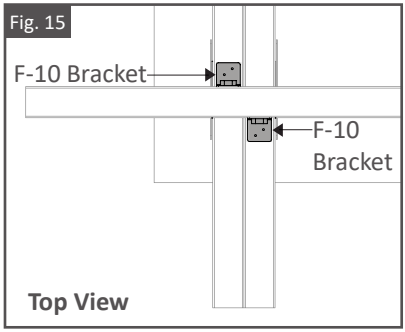


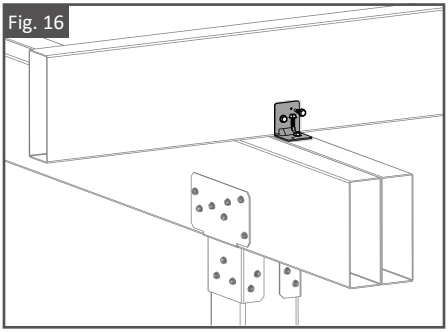
Connection 3: Double Beam Joist To Single Beam Joist

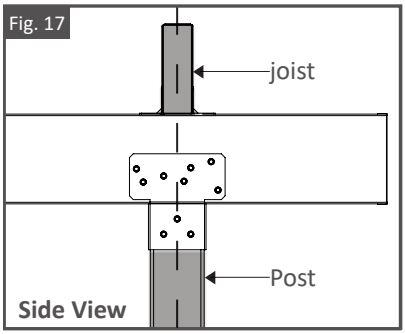
1. Stagger two F-10 Brackets, one on each side of the single beam joist. Fasten bracket using Evolution Self-Drilling Screws. As shown in Fig. 15 & 16.

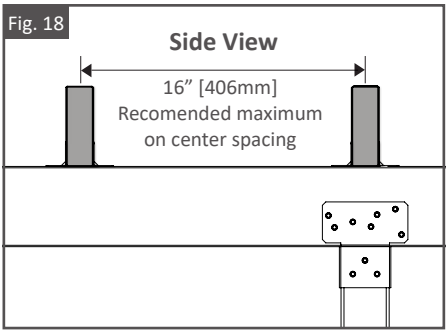
Tip:

- Be sure to have end joists on center with posts. As shown in Fig. 17. This will allow for the Lateral Bracing Assembly to be centered on both post and joist when installed.
- Recomended maximum on center spacing between single beam joists is 16” [406mm]. As shown in Fig. 18.







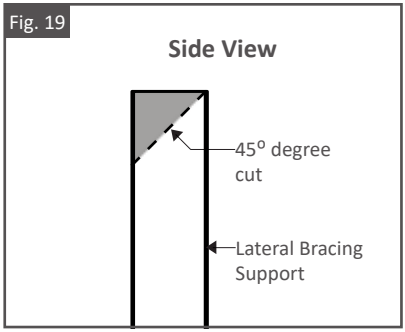


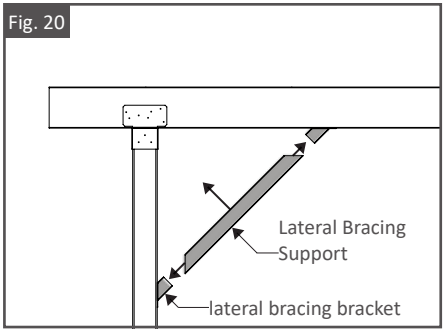
Connection 4: Lateral Bracing Assembly

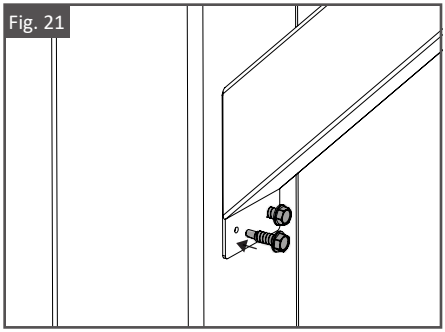
1. Cut 2” x 2” [51mm x 51mm] Lateral Bracing Support to desired length.
2. Cut both ends of 2” x 2” [51mm x 51mm] Lateral Bracing Support at a 45° angle. As shown in Fig. 19. Reference pages 7 - 9 for cutting and panting instructions.
3. Insert cut Lateral Bracing Bracket into 2” x 2” [51mm x 51mm] lateral bracing support, then position lateral bracing assembly into desired installation position set a 45° angle. As shown in Fig. 20.
4. Using Evolution Self-Drilling Screws, mount lateral bracing assembly onto post and joist. As shown in Fig. 21.

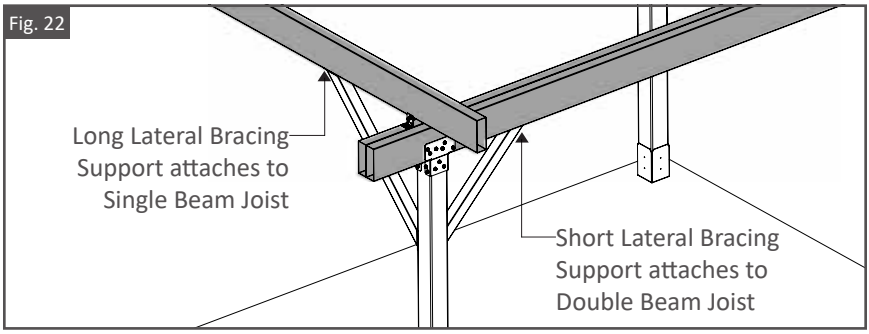
Note:

- 2” x 2” [51mm x 51mm] purlin tubing is repurposed as Lateral Bracing Support.
- Each corner will require two lengths of Lateral Bracing Supports. Short length attaches to the Double Beam Joist and longer length attaches to the single beam joist. As shown in Fig. 22.
- **Minimum length recommended for Lateral Bracing Support:** 24” [610mm].









Connection 5: Single Beam Joist To Purlin

1. Using Evolution Self-Drilling Screws, fasten one F-10 Bracket on each joist to purlin connection. Be sure to position F-10 brackets on same face of each connection. As shown in Fig. 23.

Tip:

- For each purlin, at a minimum, F-10 Brackets should be mounted to each end joist and the middle joist. As shown in Fig. 24.

- On center spacing between each purlin is as desired. As shown in Fig. 25.
- As a design alternative, Single Beam Joists can be rotated and installed horizontally. As shown in Fig. 26.

Fig. 23

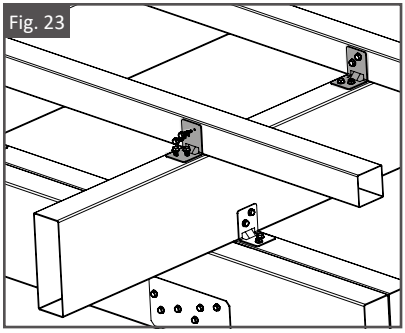


Fig. 24

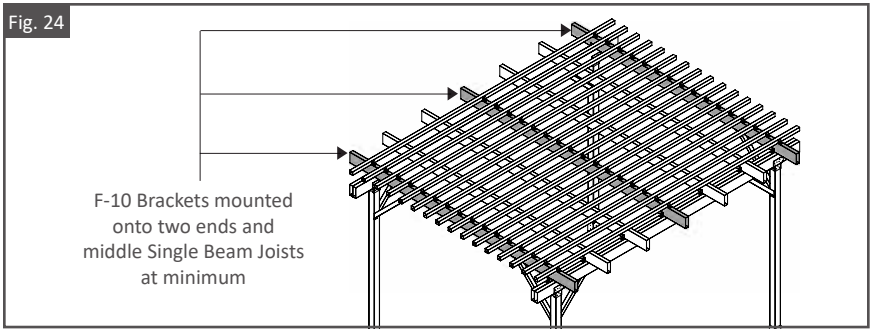


Fig. 25

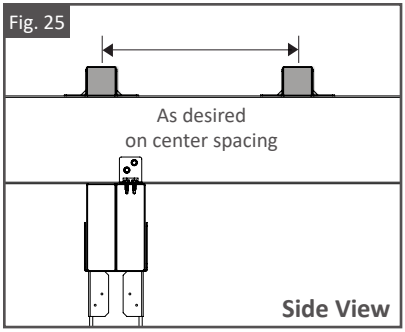
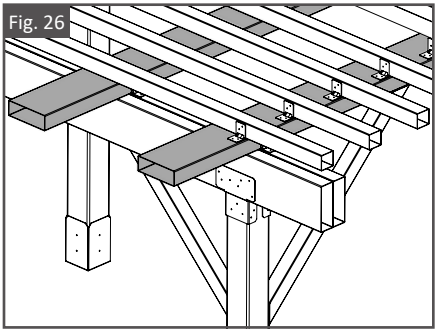
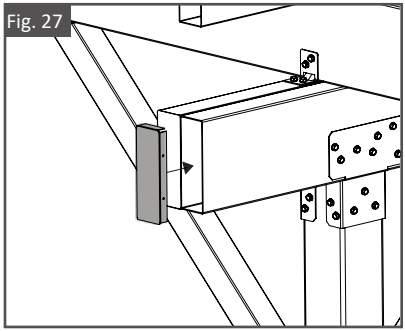


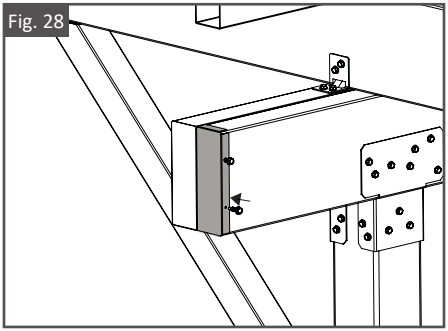
Fig. 26



Connection 6: Joist Cap

1. Position the Joist Cap on end of joist. As shown in Fig. 27.
2. Using Evolution Self-Drilling Screws, fasten Joist Cap onto joist. As shown in Fig. 28.



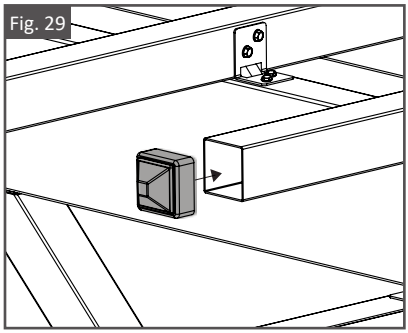


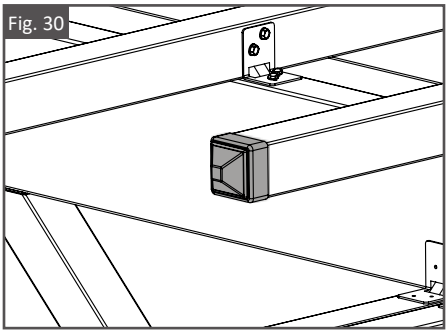
Connection 7: Pressed Dome Cap

1. Pressed Dome Caps are press fit into place. As shown in Fig. 29 & 30.

Tip:

- If required, use a rubber mallet to fully seat Pressed Dome Cap onto purlin.





CARE & MAINTENANCE

Care And Maintenance Of Fortress Building Products Powder-Coated Products And Surfaces:

- Immediately after installation of your Fortress Building Products, clean powder-coated products and surfaces with a solution of warm water and non-abrasive, pH neutral detergent solution. Surfaces should be thoroughly rinsed after cleaning to remove all residues. All surfaces should be cleaned using a soft cloth or sponge.
- Ensure construction materials such as concrete, plaster, and paint splashes are removed immediately before they have a chance to dry. Failure to remove these materials may cause damage to the powder-coated surfaces.
- **DO NOT** allow metal shavings and/or chips to get dropped or blown into a pool, hot tub, or any other body of water. Staining could occur if this were to happen.
- The frequency of cleaning depends in part on the standard of appearance and also the requirements to remove deposits that may cause damage to the powder coating after prolonged exposure. Fortress recommends cleaning in three to four monthly intervals.
- **WARNING: Do not use strong solvents such as thinners, or solutions containing chlorinated hydrocarbons, esters, or ketones. Abrasive cleaners or cutting compounds should not be used.**

WARRANTY

To obtain and review a copy of the warranty, please go to: https://Fortressbp.com/warranties. You can also contact: (844) 909-1999 or write to: Fortress Building Products Warranty, 1720 N 1st St, Garland, TX 75040 to obtain a copy of the warranty.

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