

# Base & Cap System™ - Framing Guide

See <http://baseandcap.com> – For details specific to your install.

**Minimum 5° roof slope required for polycarbonate.**

**Introduction:** Focus is on wood framing, but frames can also be fabricated from steel or aluminum. Layout is the same for all frame types.

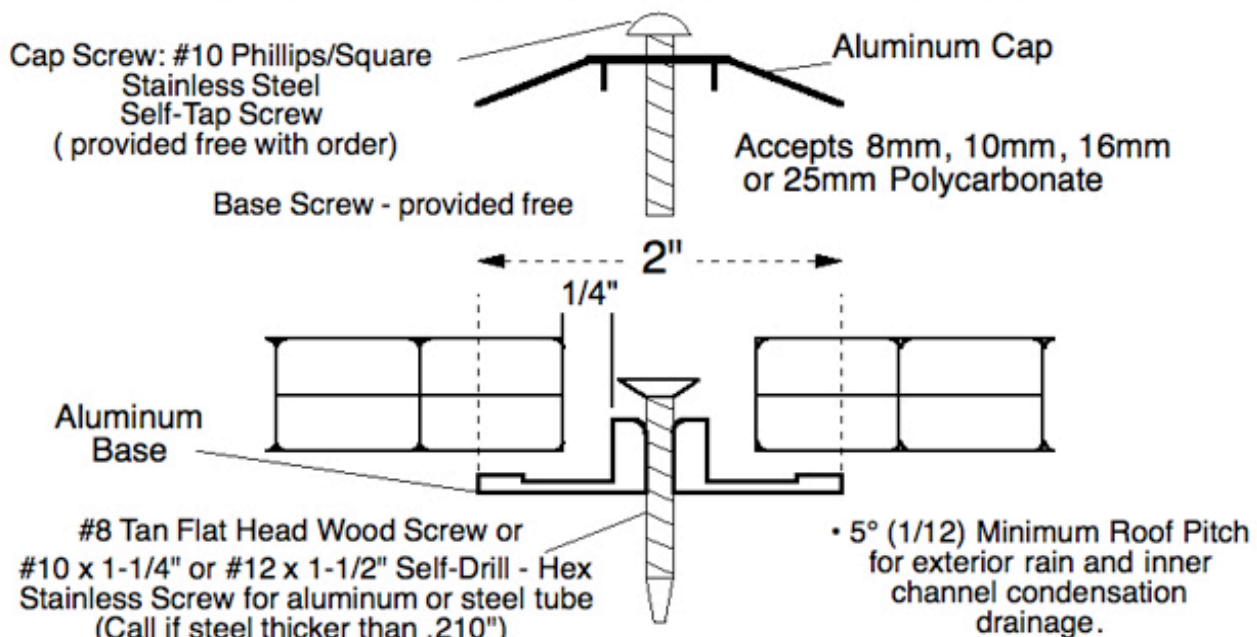
**Select Polycarbonate:** Options currently range from 8mm to 25mm. The thicker the sheet the higher the insulation and strength. Thick sheets require less framing to support the load. Ultimately the frame supports the load. Polycarbonate is simply a sheet that gets fastened to the frame. **Bronze expands & contracts more and may create noise on large sheets.**

## Base & Cap System™

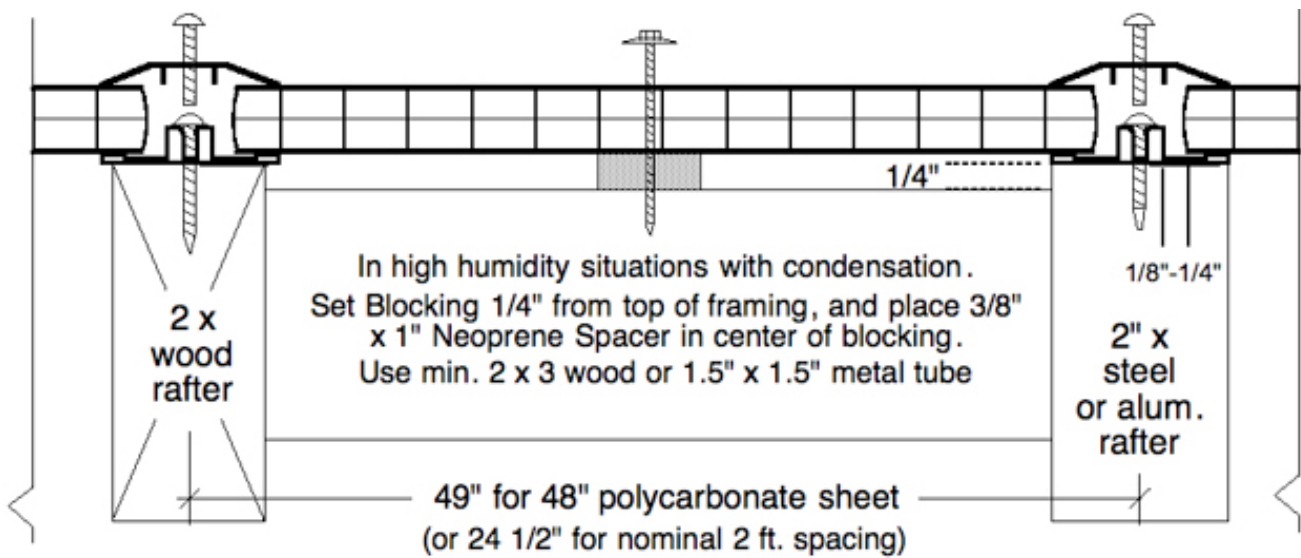
- System can be used on Stud & Rafter or Purlin & Girt framing.  
Note: Roof purlins & wall girts are set on outside of trusses, bows, rafters or posts.
- Installation flexibility.
- Polycarbonate sits on Base Extrusion at critical sheet joining location.
- Watertight installation.

Base & Cap System™ includes screws to attach Base to Frame & Cap to Base. Order screws, with .75" EPDM bonded washers for perimeter of roof or wall area, body of sheet and along both surfaces of Corner Trim. **See Base & Cap System™ Installation Guide – Screw Counting Procedure, to determine screws needs.**

## Base & Cap - Exploded View: Sheet Joining



**Base & Cap System™ placed on placed on vertically running rafters** and studs (below). Dimension from outside of structure to center of first or last framing member and Base is 48-1/2", less if using Roof Corner Overhang Detail. On-Center dimension between Intermediate framing members and Base is 49". Use spacer if high humidity.



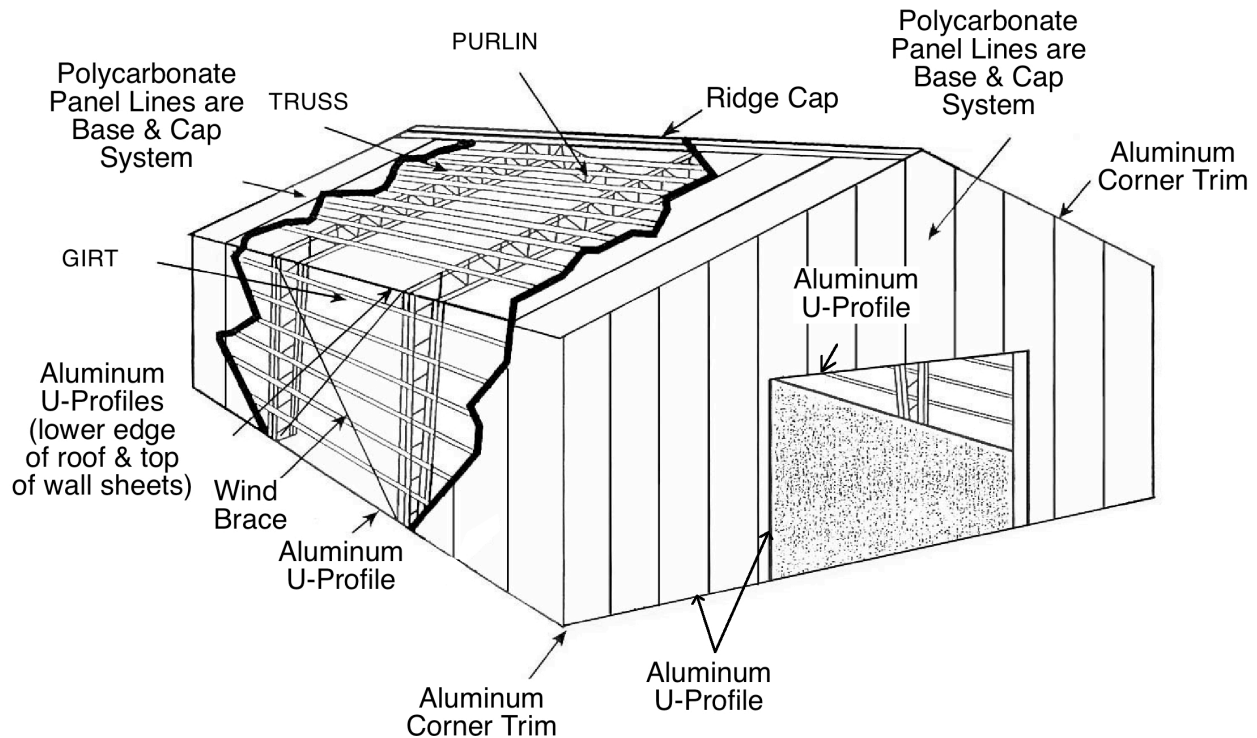
**Intermediate 49" On-Center Spacing**

Rafter		Blocking Spacing			
Sheet Thickness	Spacing	20 lb. load	35 lb. load	45 lb. load	60 lb. load
8mm	49"	every 3 ft.	every 2.5 ft.	every 2.25 ft.	every 2 ft.
10mm	"	every 3.5 ft.	every 3 ft.	every 2.75 ft.	every 2.25 ft.
16 & 25mm 3-wall	"	every 4 ft.	every 3.5 ft.	every 3.25 ft.	every 3 ft.
16mm X-Wall	"	every 5.5 ft.	every 5 ft.	every 4.5 ft.	every 3.75 ft.
25mm X-Wall	"	every 7.5 ft.	every 6.25 ft.	every 5.25 ft.	every 4.5 ft.

You may position rafter or stud between members, nominal 2’ o.c. framing, see below).

**Intermediate 24-1/2" On-Center Spacing** ( no spacer at blocking, but hold 3/8 " )

		Blocking Spacing			
Sheet Thickness	Spacing	20 lb. load	35 lb. load	45 lb. load	60 lb. load
8mm	24.5"	every 6 ft.	every 5 ft.	every 4 ft.	every 3 ft.
10mm	"	every 7 ft.	every 6 ft.	every 5 ft.	every 4 ft.
16 & 25mm 3-wall	"	not needed	every 7 ft.	every 6.5 ft.	every 6 ft.
16mm X-Wall	"	not needed	every 9 ft.	every 8 ft.	every 7 ft.
25mm X-Wall	"	not needed	not needed	not needed	not needed

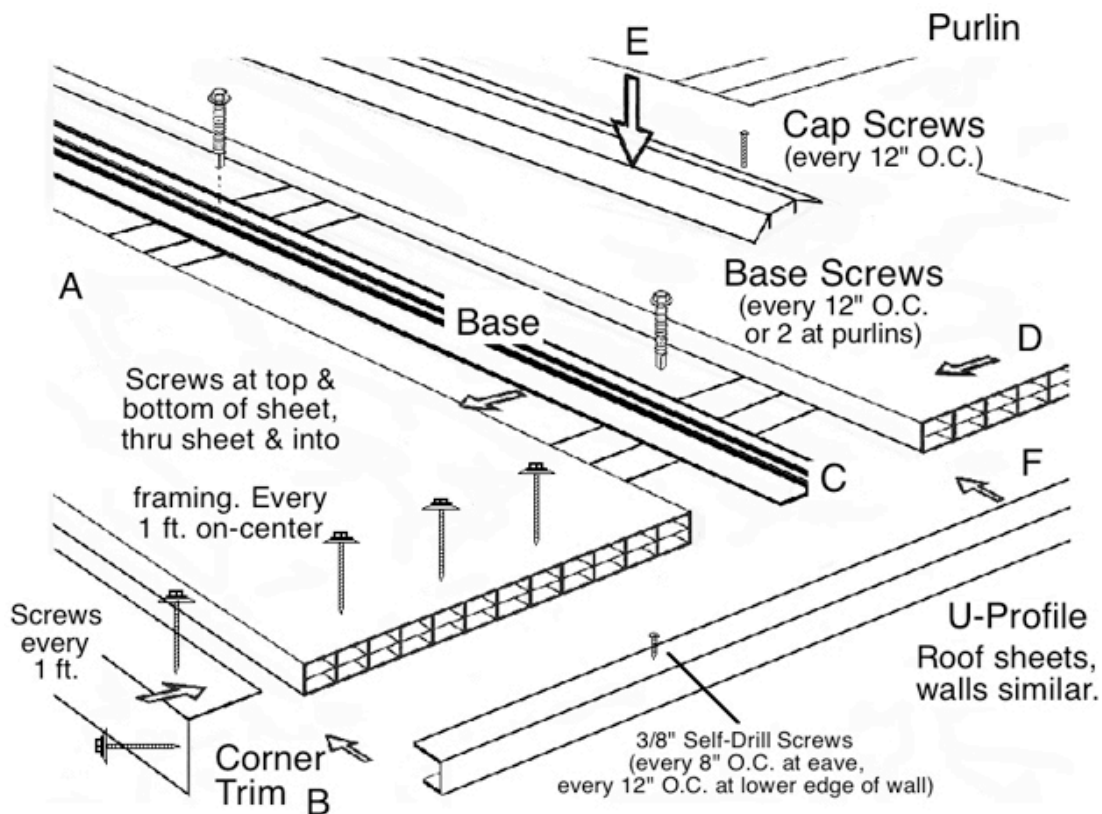


**Base & Cap System™ placed on horizontally running roof purlins and wall girts.** These horizontally running members are fastened to exterior of trusses or rafter and posts, see above. At corners place blocking between purlins or girts for sheet to rest on. Make sure top surface on this vertically running blocking lines up with outer surface of purlin or girt. Framing needs to be on same plane for sheet attachment.

Dimension from outside of structure to center of 1st or the last Base is 48-1/2", less if Roof Corner Overhang Detail. Place intermediate Base 49" on-center. Base will span between purlins, but use care to space purlins to support the load.

#### **Recommended Loading lbs./sq. ft. 48" wide Sheet – Purlin Style Framing**

<b>Purlin Spacing</b>	<b>48"</b>	<b>45"</b>	<b>42"</b>	<b>36"</b>	<b>30"</b>	<b>28"</b>
8mm	NA	NA	NA	20 lbs.	35 lbs.	40 lbs.
10mm	NA	NA	20 lbs.	35 lbs.	50 lbs.	60 lbs.
16mm 3-Wall	20 lbs.	25 lbs.	35 lbs.	70 lbs.	85 lbs.	95 lbs.
25mm 3-Wall	20 lbs.	25 lbs.	35 lbs.	70 lbs.	85 lbs.	95 lbs.
<b>Purlin Spacing</b>	<b>90"</b>	<b>75"</b>	<b>63"</b>	<b>54"</b>	<b>48"</b>	<b>36"</b>
16mm X-Wall	NA	NA	20 lbs.	35 lbs.	45 lbs.	80 lbs.
25mm X-Wall	20 lbs.	35 lbs.	45 lbs.	60 lbs.	80 lbs.	105 lbs.



### Structural Loads & Special Screw Positioning for High Wind Areas.

Structural Loads are stresses to structure from external or internal forces.

- Dead loads are gravity loads that are constant throughout the structure's life. These include equipment such as fans, heaters and plants suspended from the frame.
- Live loads are temporary, such as snow loads and wind loads.
- Snow loads are determined by factors influencing snow and ice accumulation on the structure. Snow loads vary considerably by geographic location. Ask your local bldg. dept. for snow load in your area. ( 12 inches of light, fluffy snow or 2 to 4 inches of heavy, wet snow = about 5 lbs per sq. ft.)
- Wind loads come from any direction, usually hit side walls at a perpendicular angle.

**Figures are in lbs. per sq. ft**

Wind	85 mph	90 mph	100 mph	120 mph	130 mph	140 mph	150 mph	160 mph
	18	20	25	36	43	48	56	85

Above wind load figures provided by polycarbonate manufacturer.

**Wind speeds up to 90 mph:** Screws with 3/4" sealing washers to be set at corners of glazed areas and every 1 ft. on-center. **Base & Cap System™:** Screws provided with system to attach Base to frame and Cap to Base. Base, Cap and Corner receive screws at ends of each Trim piece and every 1 ft. on center. **In winds of 110 mph+** decrease distance between screws to every 10". **In winds of 125 mph+** set screws every 8 inches. **In winds 135 to 150 mph** place screws every 6 inches. In winds over 110 mph always consult with engineer to receive a stamp and bldg. dept. approval. **For placement of screws in body sheet see Install Guide - Poly. Position & Attach, p 6.** Increase quantity of screws in mid sheet, horizontally across sheet, to every 12" for wind speeds 110-130 mph. 10" for 131-150 mph.