ACRYLIC
Building Products Inc.

RF Roof Systems

Non Structural RF glazing system Installation Guide

Built with ACRYLITE®

RF Roof System Installation Guide

This guide was designed to make the installation of the RF Roof System as simple and straightforward as the system itself. Although individual conditions may vary and application methods are numerous, the information contained herein is based on general standards used in most applications.

It is strongly recommended that you read this guide completely before proceeding with your installation. Recommendations are made in regard to specific products and failure to follow such may void any warranty associated with these products. If you are unclear on any of the points described, be sure to contact your supplier for clarification before proceeding. Having a full understanding of your roof and the appropriate installation, handling and maintenance techniques will not only make the installation easier, but also reduce the possibility of frustration or problems.

Read this guide cover to cover, gather up your tools, lay out your components and roll up your sleeves. Before long, with a full understanding of these guidelines, you will have installed a top quality roof that will withstand the test of time.

1. Tools and Hardware

- Tape Measure.
- Square.
- Level.
- Felt tipped marker and/or Grease pencil.
- No.2 Robertson screwdriver (Red handle) and/or Phillips Screwdriver[1].
- Electric drill with 3/16" & 7/32" diameter drill bit.
- Rubber Mallet.
- Utility knife.
- Pliers.
- Plumb Line.
- Chalk Line.
- Step or Extension Ladders - 2 if more than one installer
  (Suitable to reach beyond your highest intended height)
- Mild liquid soap.
- Soft, non-abrasive cleaning rags.

The following items may be required; depending on the amount of altering you will be doing to the supplied products.

- Circular saw with blades suitable for cutting aluminum and plastics.
- Hacksaw and/or Miter saw.
- Tin snips
- Silicone sealant (Recommend - Tremco Spectrum I,GE Silpruf or Dow 795).
- Metal roof flashing (no less than 0.029 gauge).
- Safety Goggles

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1 Robertson screwdrivers are widely used in Canada while Phillips are more common in the United States. Other types of fasteners may be used provided they are equivalent to those described herein in all characteristics except the head. In these instances the screwdriver(s) may vary.

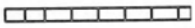
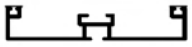
2. Do's and Don'ts

DO'S	DON'TS
DO, verify that you Deck or patio is structurally sound for safe support of your new patio cover, should be a wood deck with concrete piers or a concrete slab.	DON"T, install you cover onto Patio slabs, interlocking patio or a 'floating' deck supported by deck blocks.
DO whenever possible, follow the instructions in this guide.	DON'T proceed without reading this guide.
DO check local building regulations before you begin.	DON'T assume that any structure will withstand the loads exerted without checking.
DO make sure your superstructure is square and true.	DON'T leave even the slightest errors uncorrected.
DO use only full lengths of aluminum bars, caps and gasketing.	DON'T join two or more lengths together.
DO use only fasteners described in this guide and/ or provided with your roof.	DON'T use fasteners of a quality, length or type contrary to those described herein and/or provided with your roof.
DO fasten all components as described herein, paying particular attention to the spacing and frequency.	DON'T apply fasteners in areas not specifically outlined herein or spaced other than described herein.
DO remove any burrs from aluminum sections after cutting.[2]	DON'T install gasketing to aluminum sections without first removing burrs.[2]
DO cut all gaskets square	DON'T cut any gaskets on an angle.[2]
DO keep gaskets free of aluminum filings, sawdust and any other such dirt and debris.	DON'T install dirty gasketing, or a positive seal may be compromised.
DO store all materials indoors, under cover or keep them cool and protected from the sun and elements until installation.	DON'T store materials in direct sunlight. Expansion prior to installation can cause installation difficulties and the protective masking can stick to acrylic panels.
DO use only recommended silicone sealants.	DON'T use non-recommended silicone sealants. Some sealants can cause material deterioration.
DO avoid using sealants unless specifically outlined in this guide and in all cases do so sparingly.	DON'T use sealants unless specifically outlined herein.
DO make sure that wood stain or finish is thoroughly dry before attaching any roof component to it.	DON'T start before the stain is dry or use wood stains that contain petroleum distillates. DON'T bring any stain or finish in contact with any roof component.

2 Applies only when alterations are made to the supplied system or when fabricating custom systems from stock material

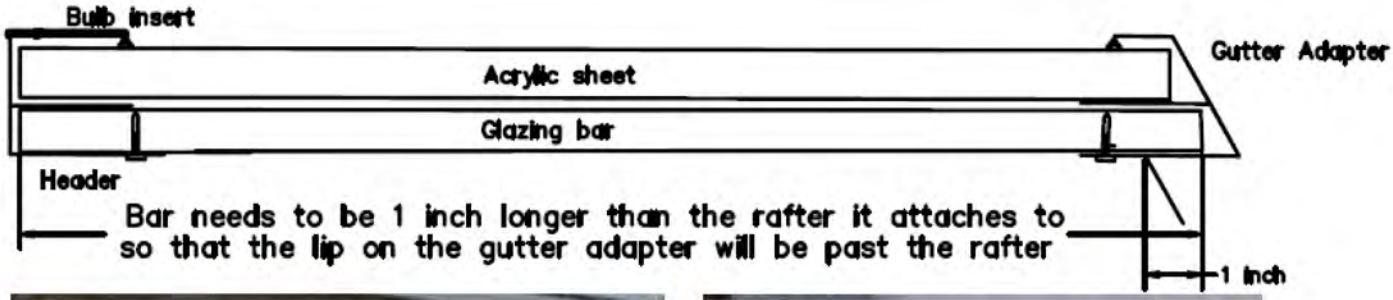
3. The Roof Components

The type and size of roof that you have ordered will determine which specific roof components are provided and the quantity of such. Some of the hardware is common to all roofs regardless of type and size. By fully reading through this guide and acquiring an understanding of how to assemble the roof, you should be able to make a determination of which components are appropriate to your specific application. The following list should assist in determining the quantity of components for most standard roof systems. NOTE: Sizes given are as a guide only. Actual factory dimensions will vary slightly.

		YOUR ROOF	EXAMPLE
Component	**Roof Size**	*X*	12 x 10
Acrylic Sheet 	Width in feet ÷4		12 ÷4 = 3pcs
Glazing Bar 	(Width in feet ÷4) + 1		3 + 1 = 4pcs
Bar Cap	(Width in feet ÷4) + 1		3 + 1 = 4pcs
Vinyl Insert	(Width in feet ÷4) + 1		3 + 1 = 4pcs
Gable divider	1 per end glazing bar		2pcs
Gutter Adapter	1 pcs for bottom of roof		1pc @ 12 ft
Header	1 pc at top of roof		1pc @ 12 ft
Bulb Insert	1 pc at top of roof		1pc @ 12 ft
Wedge Gasket	12 ft for top 12 ft for Bottom		24 ft

****Please not this guide does not take any responsibility for the load carrying ability of the wood structure. Prior to installing this roof you MUST ascertain if the structure is sufficient to carry the snow load or wind load for your area!******
****Your roof may be ordered with the bars at 2 ft centers, but unless specified it will be supplied at 4 ft centers.****

4. Installing the RF Roof System
Please note:



This way an Eves trough can be installed and the lip on the gutter adapter will prevent 'flow back'

4.1 Getting Started

Make sure the structure you are attaching is sufficiently designed to withstand the snow load and wind load in your area. If it is an existing structure, you will need to make sure the wood has not rotted or softened and it is safe to screw the glazing bars to.

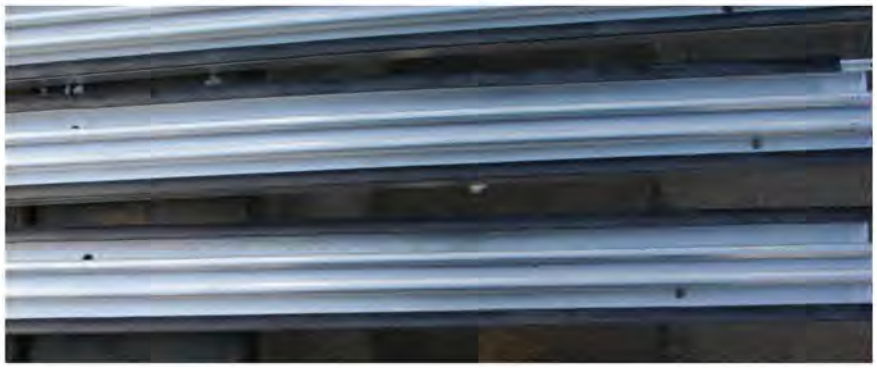
1. Determine that your rafter spacing will work with 2 ft. on center rafter spacing, and that the structure has at least 1" per foot slope. Some changes may be needed to make sure that the rafters are square to the header and are every 2 ft. even if your Acrylic panels are on 4 ft centers the rafters NEED to be every 2 ft to carry the snow.

If bars on 2 ft centers the rafters are spaced like this. If bars on 4 ft centers the rafters are like this

2. If the roof rafters are more than 10 ft long it is advised that there is a 'bridge brace' between the rafters at the half way mark to prevent any twisting or warping of the wood rafters.

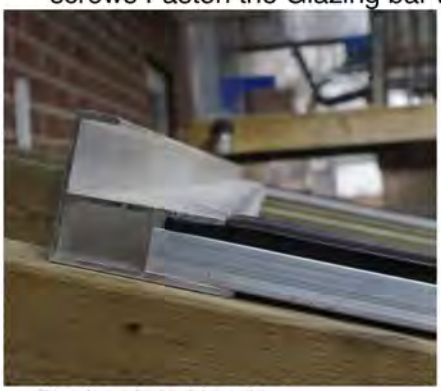
4.2 Placing and securing the header and Glazing bars

1. The first thing to do is to pre drill you rafters, you will need to drill a hole large enough for the wood screw you are using to attach your roof with. You should drill on either side of the center of the bar, approx. every 16” down the length of the bare starting about 4” from the end.
   NOTE: your glazing bar should be 1 inch longer than the overall length of the roof in order to accommodate your Gutter adapter



2. When drilling the outside bars you will need to Countersink the screws below the level of the bar so that you can slide your Gable divider in the bar. VERY important to remember this!

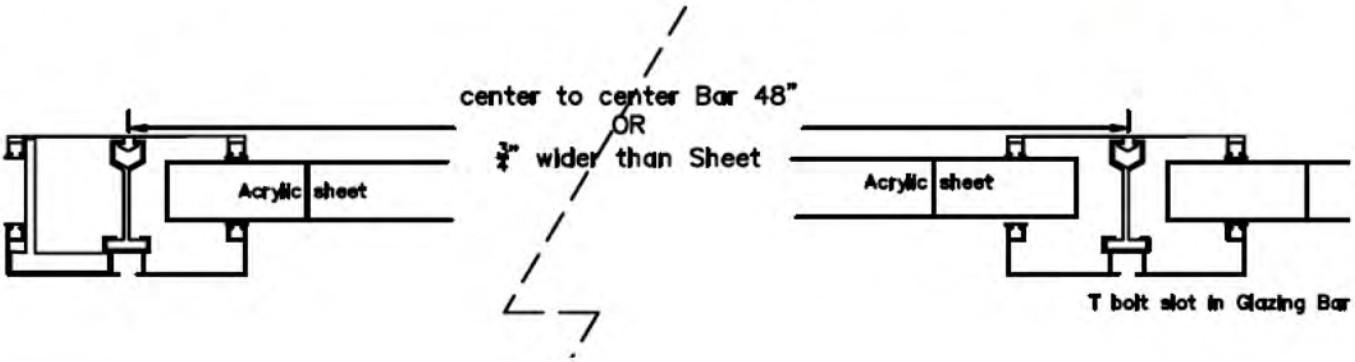
3. Mark the locations on your header where the Glazing bars need to be Insert the Glazing bars into the header, forcing the rubber flat , and pushing the bar Tight into the Header. Using #8 x 3 /4" Tek screws Fasten the Glazing bar to the header



Put bar into Header

tap tight in all the way

Screw in to header with 2 Tek screws



4. Once you have all the glazing bars in the right place put the header in the proper spot. Screw the rafters into place with a #8 x 2" wood screw (minimum length) and toe slightly in to give extra strength against up lift. NOTE if you are fastening to Pressure treated wood make sure you are using the appropriate fasteners for this! You can screw down all the bars leaving the last screw out of the bar at the low end of the roof.

4.3 Installing the Vinyl Insert and Gable Divider.

The Vinyl insert and gable divider may need to be trimmed on site they will be 3 1/4" shorter than your Glazing bar.

1. Slide a Vinyl insert into each bar you may need to tap it gently with a rubber mallet in order to get it all the way up to the header, leaving open space at the end for the Gutter Adapter

2. The gable divider needs to be installed on each Outside bar in the outside section track of the end bars. Please make sure the screws fastening the end bars are counter sunk in order to allow the Divider to be inserted.

4.4 Installing the Gutter adapter

Once the vinyl insert and the gable divider have been put in place you can attach the Gutter adapter. The gutter adapter will be put on the ends of the glazing bars; and will start and end 'flush' with the 1st and last Glazing bar.

1. Place the gutter adapter flush with the end of the 1st glazing bar and tap it on with rubber mallet, work your way all the way down the length of the roof, one bar at a time. Make sure that you do not push the rubber up as you put the Gutter adapter on.

2. Once the gutter adapter is in place and is tight on the glazing bar drill a hole thru the glazing bar into the rafter below and install a screw in it.

3. When the Gutter Adapter has been put in place you will need to drill 'weep' holes in it at the end of each glazing bar. We suggest that they be drilled in using a 7/32 drill bit. Drill just above the groves in the Gutter Adapter so that the hole is directly on top the 'leg' of the profile. These holes allow any condensation that collects to run out rather than drip on the inside of the roof.

4.5 Installing the Roof Panels

1. Take a moment to ensure that your workspace is free of obstacles and that you have the ladder in place to get up and between the glazing bars. Take care from this point forward to avoid marring the roof panels with any abrasives or sharp objects or tools. If your roof panels are of considerable size you may wish to have assistance at this point.

2. You need to check carefully which side of the sheet is the top (goes to the header) and the bottom (goes to the gutter adapter). Please look closely at the provided acrylic sheets, the 'top' of the sheet has silver foil tape on it. You will need to have the end with the silver foil tape going to the Header. As you install the sheets remove the bottom layer of the protective coating from the sheet leaving the top in place. **Important: If the roof is not on an enclosed room or space put the printed side facing up, if the roof is part of an enclosed room put the Printed side down**.

3. Lift the roof panels into place and center over the gaskets in the glazing Bars on each side of it. Place the sheet on the glazing bar and push the sheet as far up into the Header as you can, then you can drop the end of the sheet into place and allow it to settle into the Gutter adapter. Make sure that the panel is centered with equal space on either side.

4. Repeat these steps with the next and all remaining panels.

5. Now you can install the Bulb insert. The Bulb insert will lay across the top of the roof against the Header, when the bulb insert is lifted to install the wedge gasket it will lock the buld insert onto the header. Start on one end and insert the wedge gasket down the full length of the bulb insert.

6. Then repeat this process down the bottom on the gutter adapter. Make sure not to trap the plastic cover on the acrylic, under either gasket.

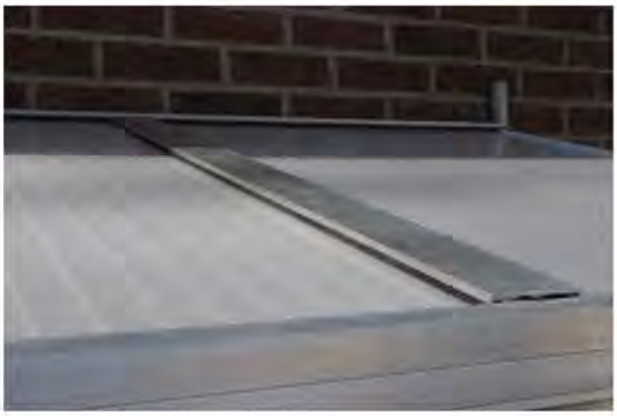
4.6 Applying the Bar Cap

1. Once you have installed the Acrylic Sheet you may now install the Bar Cap over each of the Glazing Bars. As you will be working over the roof panels, great care should be taken so that you don't damage or mar the surface.

2. Make sure that the gasket is completely installed in the gasket race on each bar, often the gasket will be installed 'long' so any shrinkage will not cause the rubber to be short, you will need to trim the rubber now so it is the proper length.

3. The bar cap will come longer than you need it, so you will measure the distance between the Header and the gutter Adapter, the more accurate you can make this the better it is., once you have measured and cut the caps you can install them

4. Starting at the top end, work your way down the cap and hammer into place with a rubber mallet. Be **exceptionally careful** at this point so that you don't contact the roof panels with the mallet. You may wish to place a block of wood under the mallet at the point of contact as you are hammering. This could give you a greater contact area, protect the finish on the cap and reduce the possibility of slipping and contacting the panels.



5. Be sure that each cap is all the way down before proceeding to the next. The gasket should spread slightly as it achieves contact with the roof panel creating a watertight seal at this point.

6. In order to protect from leakage you can seal the connection at the top and bottom of the Bar cap, it is not required, but is advised in order to make the best installation possible.

7. At this point your roof should be complete. Take care to remove all your tools and equipment from the roof. You should now completely remove the protective plastic coatings from the acrylic sheets.

Should you be uncertain on any of the points outlined throughout this guide, return to that section and review the information. If you still require assistance, refer to Section 7: Assistance.

Enjoy your new acrylic patio cover for many years to come!

5. Care and Maintenance

By following the preceding guidelines, you should have installed a virtually maintenance free roof system. The materials used are of the finest quality and will last for years. However, you should keep the following in mind to maintain the roof at its peak for years to come.

Acrylic Sheet

- Use only water, mild detergent and soft rags to clean any surface of the acrylic.
- The acrylic can scratch and care should be taken during any cleaning.
- Never use cleaning fluids, solvents, ammonia or abrasive products to clean any surface of the acrylic.
- It is not recommended that you walk on the sheet
- Never attempt to fasten Deglas® SDP® Acrylic Sheet by drilling through the sheet and point fastening. Expansion and contraction can cause the sheet to crack at this point.

Gasketing and Sealants

- Never allow chemicals or solvents to contact the gasketing.
- Use only recommended sealants in conjunction with any of the system components.
- Use only enough sealant to achieve the desired result. Large accumulations of sealant can dam water or redirect it with undesired results.

Aluminum Components

- Never use solvents to clean the painted surfaces of the aluminum components.
- If you will be painting or 'touching up' the painted surfaces of the aluminum components, do so prior to installation.
- Avoid any hard impacting on the components to avoid denting.
- Avoid scratching the surface of the aluminum components with screwdrivers, utility knives or any

such sharp objects.
- Don't attempt to install bent or damaged aluminum components.

The Roof System
- Use only the components outline in this guide.
- Do not attempt to alter, adapt or improvise the described installation techniques without first checking with your supplier about the feasibility of your intentions.
- If cleaning the outside of the roof with a hose, the water should be directed down the slope and NEVER up the slope.

Finally, remember, IF IN DOUBT, DON'T!

6. Warranty

For copies of the ACRYLITE® warranties, please contact us.

7. Assistance

Care has been taken to deal with most applications and situations dealing with and arising from the installation and use of the Acrylic Building Products RF Roof Glazing System. However, as there are about as many ways to adapt and install the roofs, as there are unique installation sites, we are sure to have missed a detail or two. Should you need more information, clarification on any of the details of this guide, answers to any questions, additional products or information on how to locate a particular additional product, contact your supplier. In most cases your supplier will have the experience and knowledge of the products and installation techniques to answer all of your inquiries. Should you require even more information, contact Acrylic Building Products at 905-774-7427 and ask for technical assistance.