

GENERAL INFORMATION

MANUFACTURER

Bird-X, Inc. AviAngle™ using Rigid PVC with UV inhibitors; resistant to virtually all weather and harsh environments when installed according to manufactures instructions.

PRODUCT DESCRIPTION

AviAngle™ is a Bird Exclusion device that excludes all pest birds and wildlife from ledge-based areas. A ledge is defined as any horizontal flat surface area that projects out from wall or similar structure. The combination of the smooth surface of the UV protected PVC material and the angle of the AviAngle™ prevents birds and wildlife from being able to get a stable foothold on the areas that have AviAngle™ installed. As such, birds and wildlife are permanently EXCLUDED from the treated areas for good!

AVIANGLE™ APPLICATION AREAS

AviAngle™ can be installed on several types of ledges and surface types where there is a flat surface and back support section that creates 90-degree angle. All ledge types and sizes such as eaves, I-beams, concrete girder ledges, angle iron, and more. AviAngle™ applications include parking garages, structural eaves, bridges/overpasses, and more. Since our product is modular, you can cover virtually any ledge depth without the waste of excess materials.

TARGET PEST BIRD SPECIES

All bird species (Pigeons, Starlings, Sparrows, and Swallows), Bats and Wildlife.

COMPLETE AVIANGLE™ PRODUCT LINE

The AviAngle™ Product Line is designed to exclude all pest birds and animals from being able to land on ledges. Birds, as well as other animals, are not able to obtain a level position and are unable to remain on treated areas and thus excluded from treated areas.

Overall usage, the AviAngle™ Base Unit is mounted on a flat surface area to create a 45-degree angle. Depending upon the depth of the surface area, will determine what and if any extender sections will be needed.

AviAngle™ can be installed using Bird-X Special Adhesive, wood screws, nails or clamps – depending on the surface area and the application.

AviAngle™ is the industry standard on public and private RFPs. If installed properly, AviAngle™ is long-lasting and requires NO maintenance.

AVIANGLE™ BASE UNIT

- 1) AviAngle™ Base Unit will cover approximately 6" of ledge depth when installed without any extender sections.
- 2) The top section of the AviAngle™ Base Unit has score lines to score and snap off excess materials so that you don't need to use a table saw to trim excess materials.
- 3) The AviAngle™ Base Unit has a vertical front drop-down leg. This feature allows:
 - a) The drop-down leg has adhesion ridges for better adhesion with surface area.
 - b) The drop-down leg covers any deficiencies in the surface ledge area, whereby the birds or other animals can get a foothold between the ledge imperfection. Thus, providing complete exclusion of treated areas.

MID-EXTENDER

- 1) The AviAngle™ Mid-Extender is designed to provide installers the option to cover larger ledges with the AviAngle™ product.
- 2) The AviAngle™ Mid-Extender adds approximately 3.5" to the AviAngle™ Base Unit.
- 3) There is a mounting clip at the bottom of the Mid-Extender. The mounting clip attaches to the top of the AviAngle™ Base Unit to provide a greater coverage area for larger ledges.
- 4) The Top-Extender would then be installed onto the top of the Mid-Extender.

TOP-EXTENDER

- 1) The AviAngle™ Top-Extender adds approximately 2" to the either the AviAngle™ Base Unit or to the AviAngle™ Base Unit combined with Mid-Extender.
- 2) There is a mounting clip at the bottom of the Top-Extender. The back section of the clip is longer to allow easier mounting either the Mid-Extender or the Top-Extender of the AviAngle™ Product Line and greater surface area for adhesion. Once PVC Cement is applied to the top of the AviAngle™ Base Unit or the Mid-Extender, the Top-Extender is installed onto the AviAngle™ Base Unit or the Mid-Extender.
- 3) The clip also has adhesion ridges for increased adhesion.
- 4) At the top of the Top-Extender is a return leg. This drop-down return leg has adhesion ridges for increased adhesion and to ensure the proper angle is maintained on the surface area.

AVIANGLE™ UNIVERSAL JOINDER CLIP

- 1) When multiple sections of AviAngle™ need to be joined together, installer will use a Joinder Clip to join the two sections of AviAngle™ together.

AVIANGLE™ UNIVERSAL END CAP CLIP & END CAP PLATE

- 1) When the ends of the AviAngle™ are open, installer needs to install end cap to close off the area under the AviAngle™. The installer will first install the End Cap Clips. See diagram. The End Cap Clips are designed so that a slight gap remains between the AviAngle™ Base Unit and the End Cap Clip and End Cap Plate. When looking at the End Cap Clip, you will see a section of the Clip that has an ID Stopper. This is the side of the Clip that gets installed onto the face of AviAngle™ Base Unit. Now, take the End Cap Plate and fit accordingly. Trim off any excess, insert the End Cap Plate into the End Cap Clip to close off end of AviAngle™ Base Unit. Note that we recommend applying PVC cement to the End Cap Plate when installing it into the End Cap Clip.

SUPPORT

Bird-X has the most knowledgeable and experienced sales consultants in the industry. From initial bidding, custom consultations, product recommendations, and installer referrals – Bird-X is prepared to assist with project evaluations. Call 1.800.662.5021 or email solutions@bird-x.com for more information.

INSTALLATION GUIDE

BEFORE YOU START

Examine the installation area. Notify architect and/or contractor of any hazardous or detrimental work conditions prior to starting the installation. Do not proceed until work conditions have been corrected.

SURFACE PREPARATION

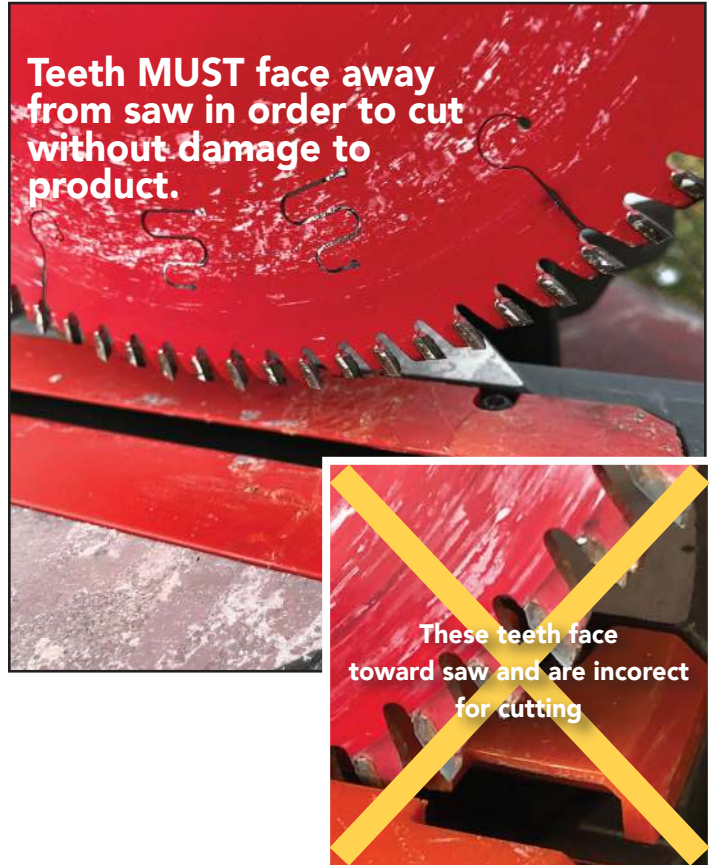
- Surfaces should be inspected and cleaned before beginning installation.
- Remove debris and make repairs as necessary – fallen tree branches, brush, peeling paint, loose parts, rubble, rust, etc.
- Use Bird-X Safety Solvent to clean and remove bird droppings and other residue from surfaces.
- Highly recommended that treatment area(s) are thoroughly power washed prior to the installation.
- Make sure surfaces are dry before installation.
- The ideal outside temperature should be above 50 degrees. For applications that are below 50 degrees, installer should utilize a polyurethane adhesive that is rated for colder temperatures and appropriate surface areas.

MOUNTING SYSTEMS

- Recommend using a polyurethane adhesive for all surfaces when installing AviAngle™. Installer must test section of AviAngle™ and adhesive to test area prior to installing AviAngle™ to ensure proper adhesion. Installer must follow all recommended instructions for applying adhesive, e.g. prep instructions, application temperatures.
- Screws – #12 flat Phillips-head wood screws
- Clamps – for temporary installations

REQUIRED TOOLS

- 25' Tape Measure
- Grease Pencil
- Razor Blade Knife
- Hand Saw
- Compound Miter Saw 12" Throat, Table Saw, Tin Snips
- Electric Grinder (Preferably Cordless)
- Caulk Gun And Heavy-Duty Construction Adhesive (We Recommended You Use An Electric Caulk Gun)
- Oscillating Multipurpose Tools For Cutting With Fine Tooth
- Access Equipment Or Ladder (Varying With Installation Height)



CRITICAL STEP

Installer must have compound miter saw with deep enough throat (recommended 12") to properly cut the AviAngle™ Base Unit. Prior to making any cuts, installer must make sure that the blade is appropriate for cutting the size/type of materials to avoid damaging the materials or injuring yourself. In most cases, the saw blade needs to be flipped with the teeth facing out away from the saw. This will ensure that when cutting the materials will not splinter and crack. Furthermore, you must use a finishing blade with 96 number of teeth. Recommended to cut a test piece first prior to cutting all sections.

Whenever using power tools, be sure the wear safety glasses, particle mask and appropriate personal protective equipment.

INSTALLATION PROCESS

- Install AviAngle™ according to the Bird-X installation instructions.
- Install before 'bird season' begins – it is easier to keep the birds away than to rout them out once they have already established a living pattern.
- Ensure that surface area is clean and dry (see Surface Preparation section).
- Note for applications where AviAngle™ will be fit between end sections, e.g. like between cross sections in a parking garage, allow for 1/8" – 1/4" gap on both sides to allow for expansion and contractions of the AviAngle™.
- Measure the ledge depth to determine what AviAngle™ Sections (AviAngle™ Base Unit-AviAngle™ Mid-Extender-AviAngle™ Top-Extender).
- Once you determine the appropriate AviAngle™ pieces, measure the lengths of the areas that need to install AviAngle™. Determine the total linear footage that will be required to complete the installation.

Note: We recommend adding 10% - 20% to the overall total linear footage. This way allows for any cut adjustments or additional areas. AviAngle™ pieces come in 4' sections. (+/- 0" - 1")

- When taking measurements, ensure that the lower measurement and the top measurements are the same. More specifically, when measuring a parking garage, in most cases, the lower ledge is slightly longer than the top section. The top section is typically pitched in which would make the top section slightly smaller.



AviAngle™ has pre-measured scored areas making it easy to cut without the use of a saw.



To cut, place the section of AviAngle™ face down with the base closest to the center of the saw. Cut the desired length.



AviAngle™ can be cut either straight or with a miter cut in order to fit the area that needs to be covered.



JOINING AVIANGLE™ BASE UNIT WITH MID-EXTENDER OR TOP EXTENDER



It is recommended that you take the sections and put them together (without adhesive) and do a dry fit to make sure all cuts are correct.



Next, take PVC cement and apply to the top section of the AviAngle™ Base Unit or Mid-Extender.



Clip on the AviAngle™ Mid or Top Extender Section(s) and press firmly together. Allow section few minutes to dry. In most cases, we recommend assembling several sections and allowing them to dry and then going back to install.



HOW TO JOIN MULTIPLE SECTIONS OF AVIANGLE™

When multiple sections of AviAngle™ need to be joined together, you can use a Joinder Clip to combine these sections of AviAngle™ together. There is a variety of ways to join these sections together – please see below images for samples.



Joinder Clip



Top-Extender Overlap

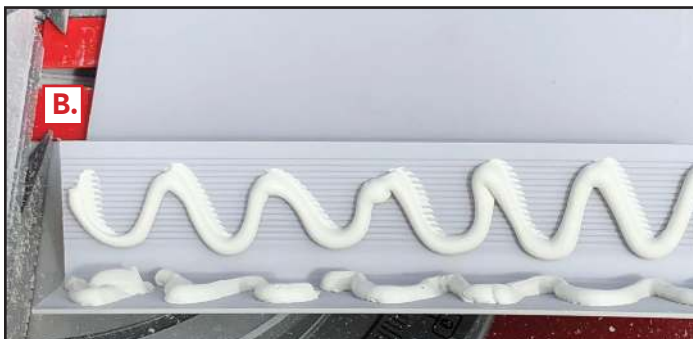


Joinder of Bases



Joinder of Bases and Top-Extenders

WHEN INSTALLING AVIANGLE™ TO CONCRETE OR METAL SURFACES



Installer must test section of AviAngle™ and adhesive to test area prior to installing AviAngle™ to ensure proper adhesion. Installer must follow all recommended instructions for applying adhesive, e.g. prep instructions, application temperatures. Now that you have your complete AviAngle™ sections together, apply adhesive to the front drop-down leg, the underside of the base plate that rests on the ledge and the top drop-down leg at the top of the Top-Extender. Note that when applying adhesive to the front drop down leg and the underside section, applying on a "S" pattern on the adhesion ridges will maximize adhesion rather than applying the adhesive in a straight line. Next, install your section of AviAngle™ to the surface area. Firmly press down (15-30 seconds) to ensure that adhesive is evenly displaced and not raised in any areas and that 1/8" – 1/4" space even on both sides.

WHEN INSTALLING AVIANGLE™ TO WOOD SURFACES

For applications to wood, installer would still follow the same application steps as described for concrete or metal applications. For additional support, installer can use a wood screws in the base plate to secure the AviAngle™ Base Unit onto wood surface areas.

WHEN INSTALLING AVIANGLE™ TEMPORARILY

For temporary installations, beam clamps can be used to secure the AviAngle™ base to the metal ledge/beam. This can be accomplished by clamping on the ends to secure the AviAngle™ base to the beam or a section can be cut into the front face to slide the beam clamp between the two sections.



WHEN INSTALLING AVIANGLE™ ON UNEVEN SURFACES

There are times that a level flat surface will not be possible. In these cases, installer needs to trim/cut away the underside sections of the AviAngle™ Base Unit to allow the AviAngle™ to be installed and remain flat onto the surface area.

Note: When installing smaller AviAngle™ Base Sections, it is recommended that you overlap the AviAngle™ Top-Section Extender Unit to interlock the pieces. See previous page image.



between the AviAngle™ Base Unit and the End Cap Clip and End Cap Plate. When looking at the End Cap Clip, you will see a section of the Clip that has an ID Stopper (see image below). This is the side of the Clip that gets installed onto the face of AviAngle™ Base Unit. Now, take the End Cap Plate and fit accordingly. Trim off any excess, insert the End Cap Plate into the End Cap Clip to close off end of AviAngle™ Base Unit. Note that we recommend applying PVC cement to the End Cap Plate when installing it into the End Cap Clip. (See section on how to join multiple sections of AviAngle™)

INSPECTION

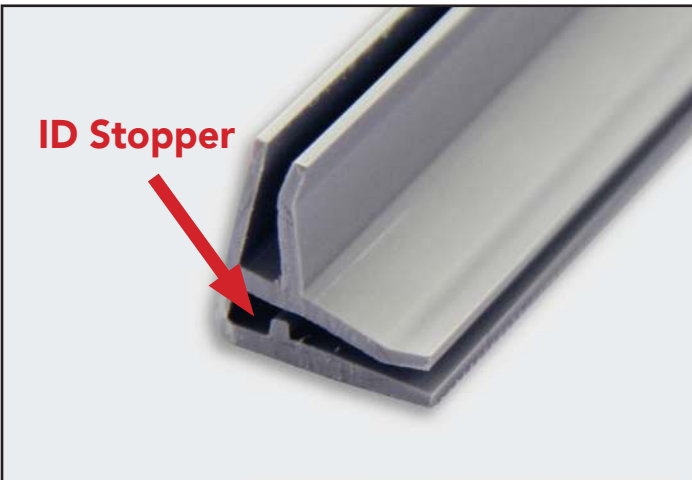
Visually inspect AviAngle™ installation for inadequate adherence to surfaces, loose screws, or interfering debris. Make any necessary repairs immediately.

STORAGE

Storage of Unused AviAngle™ Product must be kept in a cool and dry place. Recommended that users store unused product at temperatures between 40-80 degrees.

Product may expand and contract over time. The PVC standard is +/- of 64th of an inch per linear foot of product.

Before installing AviAngle™ base or assessor parts, the installer must inspect the product to ensure no product imperfections.



Before you order the appropriate AviAngle™ components needed to complete your installation, installer must determine the **BASE LEDGE** measurement.

STEP ONE - Determine Base Ledge Measurement

Look at the condition of the front of the ledge.

- Is the face of the ledge **DAMAGED**?
- Is the face of the ledge **BEVELED/CHAMFERED**?

If the answer is yes to either of these questions, then start your measurement at the front of the ledge area. One technique to ensuring an accurate measurement is to create a straight edge in the front of the (Damaged/BEVELED/CHAMFERED) as if it was a perfect 90-degree edge. Take your measurement from the front ledge of the said point to rear surface.

STEP TWO- Rear Surface Height

Look at the rear surface height.

- If the **REAR SURFACE HEIGHT** is greater than the **BASE LEDGE** measurement, AviAngle™ will be suitable for your application.
- If the **REAR SURFACE HEIGHT** is less than the **BASE LEDGE** measurement, installer may need to alter the **REAR SURFACE HEIGHT**, alter the bird control application or change the pitch of the AviAngle™ to ensure that the AviAngle™ Top-Extender has surface area to mount thereto.

AviAngle™ Adjustments

Depending upon the ledge condition, the AviAngle™ component may need to be adjusted.

- If the surface heights vary between both ends of the treatment area, the Top-Extender can be raised on one side or the other to vary the height on one side or the other.
- If additional height is required, the Top-Extender can be raised to increase the overall height of the AviAngle™ height (approximately 1/4" to 1/2") to finished coverage ledge depth area of 11.5". Note that if the Top-Extender Clip is extended for additional height, we recommend installing a **WAFER HEAD FINE THREAD SCREW** (see image above) at each section end.

