

# Nuvola Screw in Wire Hook Fastener

## Wire Suspension Hook

Typical Installation Details for Wire Hook Suspension



Designed and Engineered  
by **Decoustics**

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1. Prior to installation please check and verify that all required components have been received.  
( Use the attached drawings to identify all components received.)

2. Check and verify the quantities of components received against the quantities required for the project.

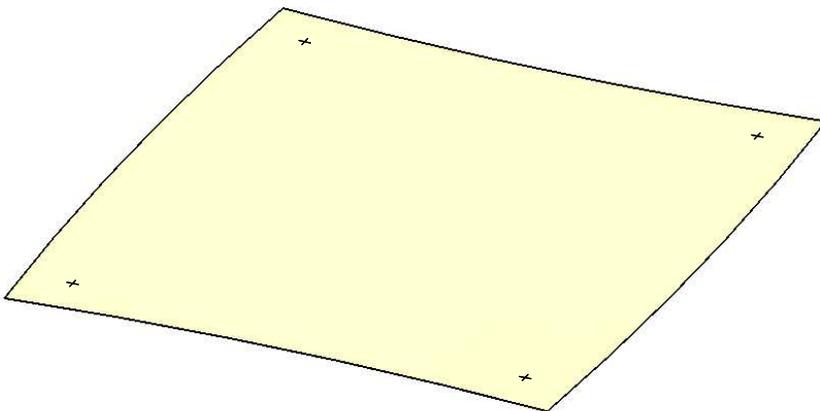


Nuvola Wire Hook  
Screw - In Fastener



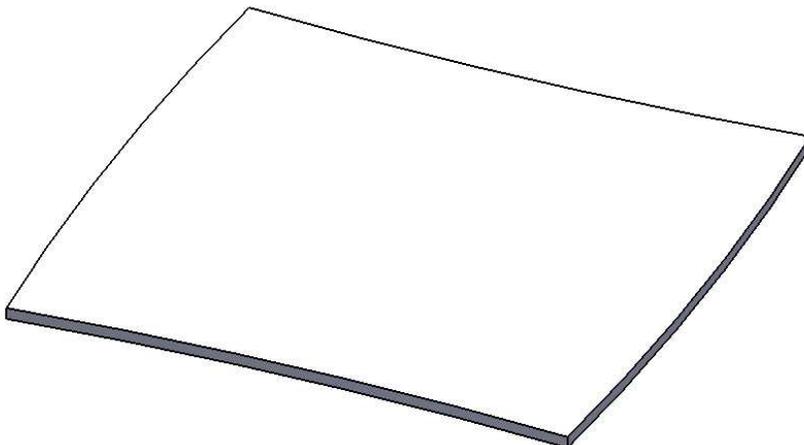
Adjustable  
Wire Cable Mountable  
Locking Hanger Hook

Note: Each hook comes complete with 5' (1525mm) of wire mounting cable (not shown).



### Nuvola Paper Template

It is recommended that when installing multiple panel installations of the same type, a paper template be utilized to maintain consistent placement of screw in fasteners.



### Nuvola Acoustical Panels

All Nuvola type acoustic panels come finished on all sides and faces. The panel shown is the Nuvola concave / convex flat acoustical panel.

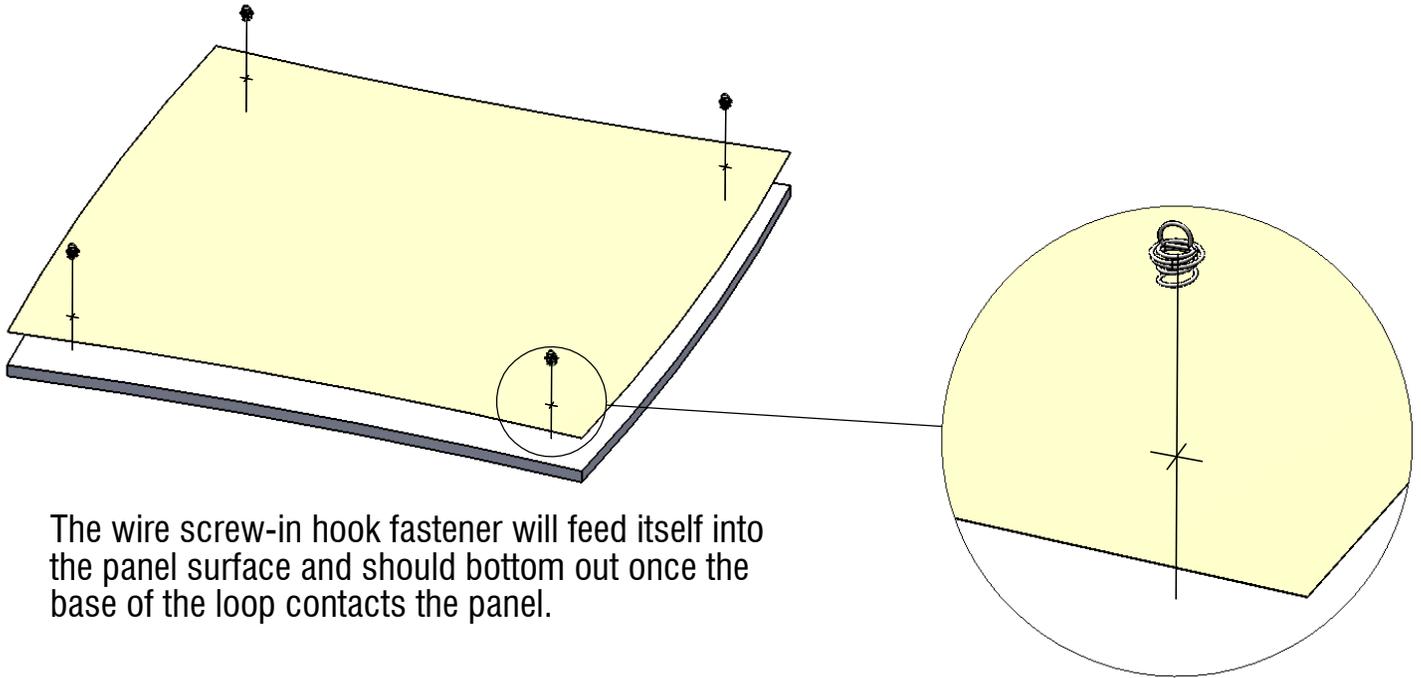
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3. Positioning of wire screw-in hook fasteners can be accommodated in two ways. If the panel is unique or of limited quantities the locating of fastener points can be accommodated by measuring and marking the mounting surface of the panel with a pencil.

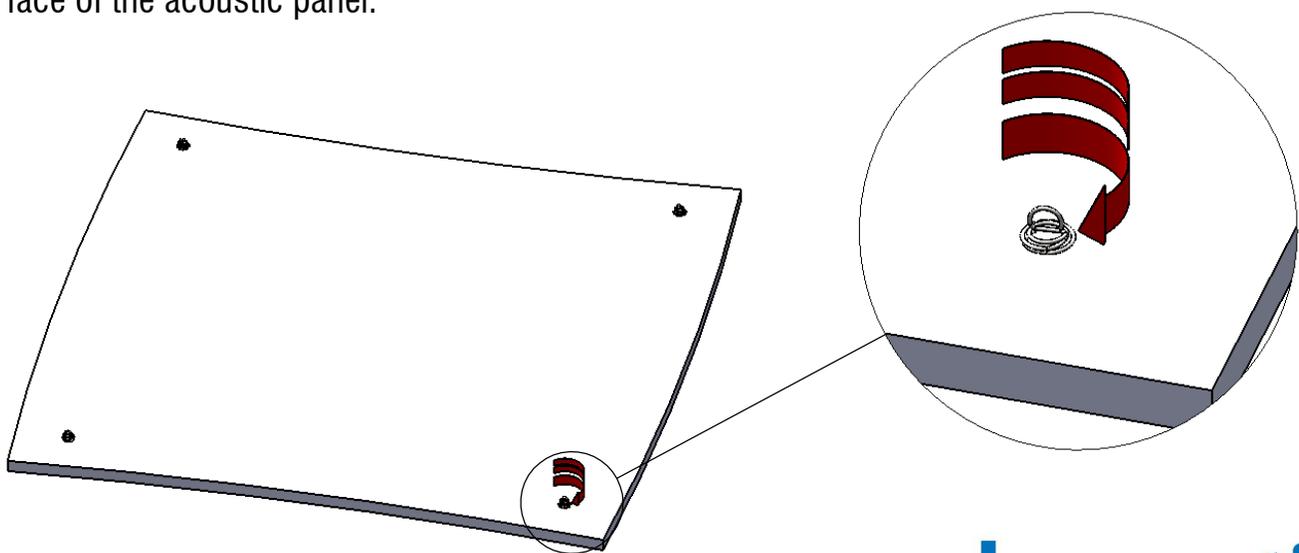
If the installation requirement is for large quantities of similar panels the use of an acoustic panel template would be advised. When using a template lay the pattern over the acoustic panel and using a pencil carefully locate the installation points for the wire screw in hook fasteners.

To install fasteners, position the wire screw-in hook fasteners on the panel and engage the fastener into the panel by applying downward force and a clockwise screw-in type motion.



The wire screw-in hook fastener will feed itself into the panel surface and should bottom out once the base of the loop contacts the panel.

4. The wire screw-in type hook fastener cannot be installed into the panel surface beyond the base of fastener loop. This feature ensures that the fastener cannot be screwed through to the front face of the acoustic panel.

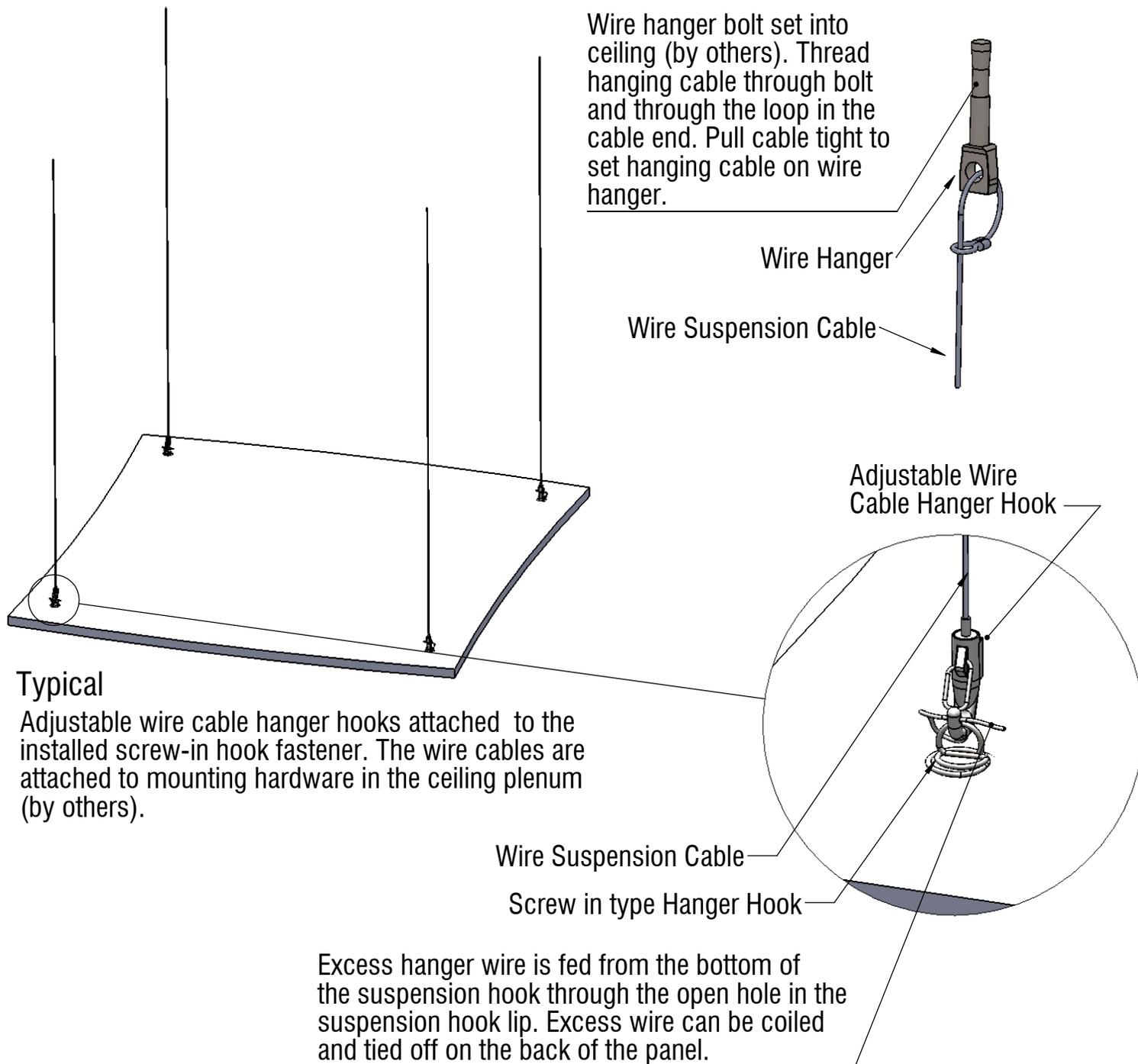


The wire screw-in hook fastener shown is fully installed into the face of the acoustical panel.

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5. Once the screw-in type hook fasteners have been installed into the Nuvola acoustic panel, the adjustable wire cable mountable hanger hooks can be attached to the screw-in loop. Note : the adjustable wire cable mountable hanger hooks are installed on the five foot (1525mm) length of suspension cable (supplied with each hanger hook) which can then be attached to mounting hardware installed in the ceiling plenum (by others).



**Typical**

Adjustable wire cable hanger hooks attached to the installed screw-in hook fastener. The wire cables are attached to mounting hardware in the ceiling plenum (by others).

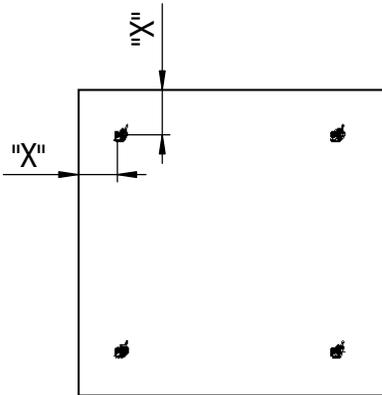
**- Nuvola Suspension Hardware Attachment**



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# Nuvola Panels - Recommended Placement of Wire Hook Screw in Fastener

Nuvola panels are designed to be acoustical, simple to install with a minimum requirement for extensive engineering. The Nuvola Wire Hook fastener facilitates the hanging of Nuvola panels however it is important to understand the best practices when locating and installing the Hook fasteners into the Nuvola panels. This document is intended as an outline of the considerations, do's and don'ts for the location and mounting of Wire Hook screw in type fasteners.



Plan View

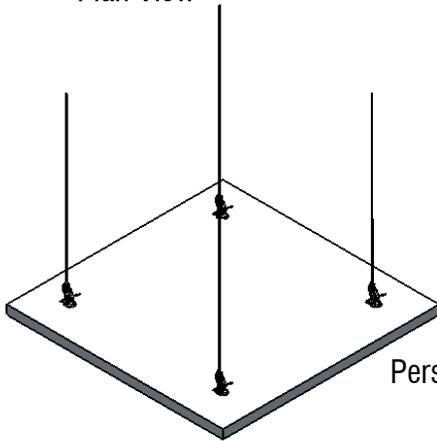
**Square Flat Nuvola Panels** - When locating Wire Hook fasteners in square Nuvola fasteners consideration must be made for the size of the panel to be suspended. Basic rules of thumb are as follows:

For panels 24" x 24" and smaller - maintain a minimum 4" spacing from the panels edge. (i.e. "X" = 4" )

For panels 36" x 36" to 24" x 24" - maintain a minimum spacing of 5" from the panel edge. (i.e. "X" = 5" )

For panels larger than 36" x 36" up to 48" x 48" - maintain a minimum spacing of 6" from the panel edge. (i.e. "X" = 6" )

When suspending square Nuvola panels it is important to consider an even distribution of loads. That is to say the mounting points should be equally spaced in locations that distribute and equalize the load per hanging point. This is also true when suspending triangular panels.



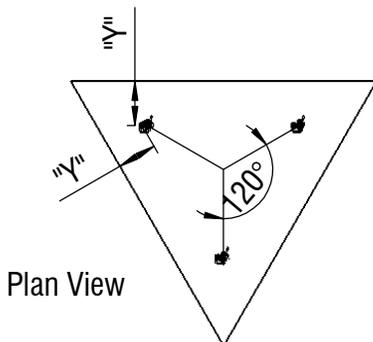
Perspective View

**Triangular Flat Nuvola Panels** - When locating Wire Hook fasteners in Triangular Nuvola fasteners consideration must be made for the size of the panel to be suspended. Basic rules of thumb are as follows:

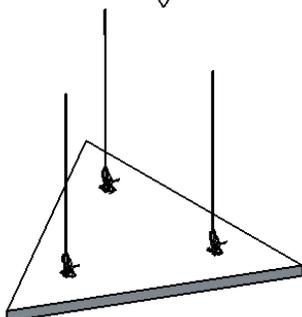
For panels 24" x 24" x 24" and smaller - maintain a minimum 4" spacing from the panels edge. (i.e. "Y" = 4" )

For panels 36" x 36" x 36" to 24" x 24" x 24" - maintain a minimum spacing of 5" from the panel edge. (i.e. "Y" = 5" )

For panels larger than 36" x 36" x 36" up to 48" x 48" x 48"- maintain a minimum spacing of 6" from the panel edge. (i.e. "Y" = 6" )



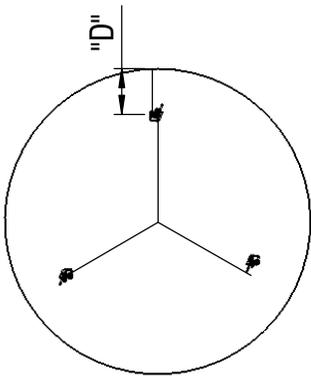
Plan View



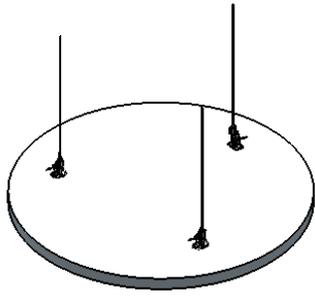
Perspective View

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Plan View



Perspective View

Round Flat Nuvola Panels - When locating Wire Hook fasteners in square Nuvola fasteners consideration must be made for the size of the panel to be suspended. Basic rules of thumb are as follows:

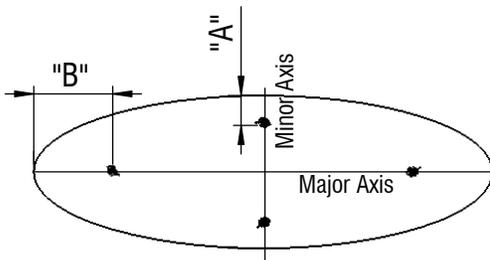
For panels 24" x 24" and smaller - maintain a minimum 4" spacing from the panels edge. (i.e. "D" = 4" )

For panels 36" x 36" to 24" x 24" - maintain a minimum spacing of 5" from the panel edge. (i.e. "D" = 5" )

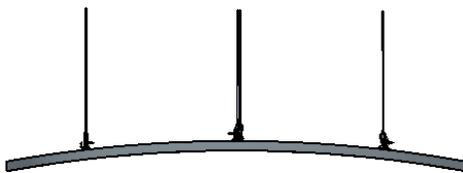
For panels larger than 36" x 36" up to 48" x 48" - maintain a minimum spacing of 6" from the panel edge. (i.e. "D" = 6" )

When suspending round Nuvola panels it is important to consider an even distribution of loads. That is to say the mounting points should be equally spaced in locations that distribute and equalize the load per hanging point.

When suspending complex Nuvola type panels additional consideration must be given to the geometry of the panel to be suspended. Panels considered to be complex Nuvola shapes would include but not limited to, curved shaped panels including surf board shapes, panels curved in the horizontal dimension, and panels featuring random geometries (i.e. cloud panel shapes)



Plan View



Side View

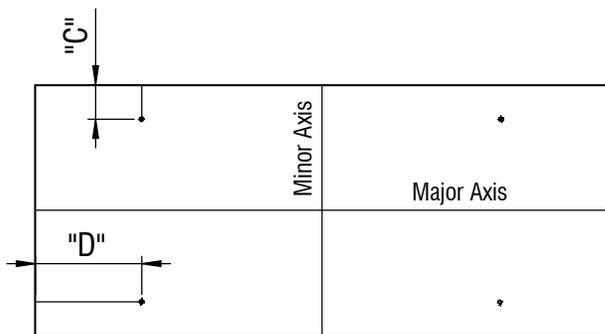
Curved Surf Board Shaped Nuvola Panels - When locating Wire Hook fasteners in Curved Surf Board Shaped Nuvola Panels consideration must be made for the size of the panel to be suspended and the geometry. It is important again to consider the stability and the distribution of loads to ensure that the panel will not put undue stress on the hanging points and create a instability in the suspension. Basic rules of thumb are as follows:

For panels 48" x 16" - along the minor axis maintain a minimum 4" spacing from the panels edge. (i.e. "A" = 4" ) Along the major axis maintain a minimum 8" spacing from the panels edge. (i.e. "B" = 8" )

For panels 72" x 24" - along the minor axis maintain a minimum 4" spacing from the panels edge. (i.e. "A" = 4" ) Along the major axis maintain a minimum 12" spacing from the panels edge. (i.e. "B" = 12" )

For general installations the information supplied will ensure that the product is suspended in an acceptable and structurally sound manner. Every installation is different and has different requirements that must be considered when supporting Nuvola panels.

# Special Consideration For Curved Rectangular Nuvola Panels



Plan View

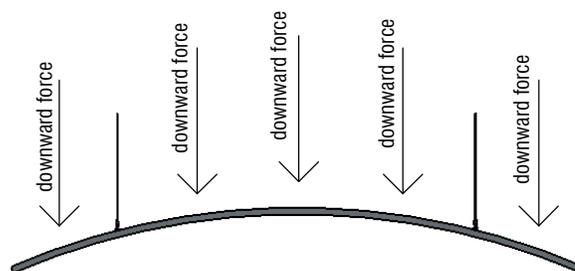
Curved Rectangular Nuvola Panels - When locating Wire Hook fasteners in Curved Rectangular Nuvola Panels consideration must be made for the size of the panel to be suspended and the geometry. It is important again to consider the stability and the distribution of loads to ensure that the panel will not put undue stress on the hanging points and create an instability in the suspension. Basic rules of thumb are as follows:

For panels 48" x 96" - along the minor axis maintain a minimum 6" spacing from the panel edge. (i.e. "C" = 6" ) Along the major axis maintain a minimum 18" spacing from the panels edge. (i.e. "D" = 18" )

When suspending Curved Rectangular Nuvola panels it is important to consider the even distribution of loads. That is to say the mounting points should be equally spaced in locations that distribute and equalize the load per hanging point. The reason this is important is because in a curved panel gravity acts on the panel establishing downward forces. If the hanging points are located at the extremities the weight of the panel creates enough downward force that the panel can shear in half along the Minor axis. Therefore the solution is to reduce the downward forces and the way to do this is to distribute the load more evenly. Therefore the mounting points need to be located closer to the Minor axis of the panel.



Side View



Typical distribution of downward force on a suspended curved Nuvola panel. The more even the distribution of forces the less chance the panel will shear.