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Revised 3/22/09

Installation Guide for the Luminous 360 Perimeter Angle With Single and Multiple Arcs Using a Pattern

This installation guide is for a Luminous 360 SkyCeiling where single or multiple arcs are used which cannot be installed with a pivot arm.

What is a Pattern:

A pattern is a section or sections of 1/4″ x 3 1/2″ plywood which matches a section or sections of curved perimeter angle. See Drawing P3.

1. The outside edge of each pattern is the same radius as the inside edge of the vertical leg of the perimeter angle. See Detail S1 on Drawing P2.
2. The ends of each pattern are cut at the same angle as the ends of the specified run of curved perimeter angle.
3. The pattern is used to install the curved perimeter angle accurately so the elevators fit well. (Elevators are manufactured to sit back from the edge of the grid 1/32″ and back from the edge of the perimeter angle 1/16″.) **Too much variation in the perimeter angle will give a less than optimal look.**

Using a Pattern:

For spans under 8′, a single section is required. For spans over 8′, multiple sections are required. If two or more sections are required, the pattern will be pre-assembled at the factory, knocked down for shipment and re-assembled on site.

To re-assemble the pattern, screw the loose section or sections to the gusset(s) using the screws provided.

IMPORTANT: Be sure to put the screws in the original holes. Be sure each gusset sits in the outline provided when screwing together. Double check the dimensions of the assembled pattern with those on Drawing P3. Any variation will cause less than an optimal finished product!

Once the straight run or runs of perimeter angle are installed, the pattern will be used as a template to locate:

1. The center of the curve
2. The location of the curved perimeter angle at each attachment point

Step 1: Initial Preparation

Make sure the opening dimensions will accept the perimeter angle.

1. See Drawings P1 and P2.
2. The finished opening should give 1/8" of play all the way around the perimeter.

In most situations, ledgers or angle brackets can be used to rest the perimeter angle on during installation.

1. Ledgers installed below the perimeter angle will require both room and fastening holes along the bottom face of the plenum sidewall.
2. If ledgers cannot be used because there is either not enough room or the plenum face has been finished and painted, then a second option is to use angle brackets.
    a. One leg of the bracket will need to extend above the vertical leg of the perimeter angle, which is 2".
    b. Enough room must be available between the vertical leg of the perimeter angle and the plenum wall for the bracket to not be removed until after the perimeter angle is installed.
3. If ledgers or brackets are used, be sure to pad the top of the ledgers so the painted surface will not be marred.
4. If ledgers or brackets are not an option:
    a. Extra hands may be required to install the perimeter angle so it is not kinked or marred when installing.

Step 2: Installing the Straight Perimeter Angle

The straight run or runs of perimeter angle **must be installed straight** and **must be level with the curved sections**.

1. We recommend installing them with a laser, string line or straight edge.
2. Elevators are manufactured to sit back from the edge of the grid 1/32" and back from the edge of the perimeter angle 1/16". **Too much variation in the perimeter angle will give a less than optimal look.**

If ledgers or brackets are used, install them under both ends of each section and, if the sections are long, also under the center.

Shim and screw the perimeter angle to the finished sidewall.

1. Place screws 1" in from every joint.
2. Center the screws ¾" above the horizontal leg.
3. Between joints, shim and screw every 12".
4. Shim as necessary to maintain a straight run.
5. **Screw holes should be pre-drilled in the perimeter angle to insure it doesn't crack.**

Important: The perimeter angle is a trim system. It is not designed to support the weight of the grid. All runners (and all spanners over 24 inches) should be suspended by wires as per applicable building codes.

Step 3: Installing the Curved Perimeter Angle

If ledgers or brackets are used:

1. Install them under both ends of each section and, if the sections are long, also under the center.
2. See P1 and P2 for dimensions. **The location of all butt joints may vary slightly due to the manufacturing process.**

Testing the pattern for fit:

1. It should sit comfortably in the finished opening
    a. Both ends should just touch the inside edge of the vertical leg of the perimeter angle at the mitered corners. **See cross section detail XS1 on Drawing P2.** If not, adjust the straight perimeter accordingly.
    b. There must be at least 1/16" clearance between the outside edge of the pattern and the finished opening to receive the vertical leg of

the perimeter angle. (Or more if angle brackets are used for support.)

2. With the pattern in place, make a center mark on the finished opening to be used for reference later. Make the mark so it can be located above the vertical leg of the perimeter angle (which is 2″) once it's installed.

Installing the perimeter angle with ledgers or brackets:

1. If ledgers or brackets are used, set the sections of perimeter angle in position on them and then drop the pattern onto the perimeter angle from above.
2. Gently shim the vertical leg of the perimeter angle to the pattern, being careful not to distort the pattern's shape.
3. Make sure the perimeter angle sits snugly against the pattern and all the joints fit well. If not, adjust the straight sections of perimeter angle as necessary.
4. Attach the two mitered ends of the curved run first, and then both sides of each butt joint, shimming and screwing 1″ in from the joints and 3/4″ above the bottom edge. **Screw holes should be pre-drilled in the perimeter angle to insure it doesn't crack.**
5. Once all the joints are stabilized, fill in the runs between, shimming and screwing every 6″.

Installing the perimeter angle without ledgers or brackets:

1. If blocking and brackets cannot be used, the perimeter angle can be taped into position on the pattern using quick-release tape.
    a. Be sure to test fit the pattern before taping the perimeter angle.
    b. Be careful not to mar the painted surface on the bottom of the perimeter angle.
2. Using enough hands to keep the pattern from distorting or cracking, drop the assembly into place and follow the attachment procedures from the previous section.

If a small gap or overlap occurs at the final junction of the perimeter angles:

Do not cut the perimeter angle! It will change the diameter of the circle! See Step 3.

Step 3: Double Checking the Installation

Using the drawing P2, make sure the "C dimensions" are met. The "C dimensions" are the most crucial dimensions for an optimal look. Check the evenness of the curve by holding the pattern against the inside of the vertical leg. If an adjustment is necessary, ease the screws off (or tighten as necessary) and re-shim, using the pattern as a guide.

For technical support, please call us toll free at 866-759-3228. We want your installation to go as smoothly as possible. Thank you for choosing The Sky Factory.