METALWORKS™ Tin

Installation Instructions

1. GENERAL

CAUTION: The edges of the metal panels are sharp!! Wear heavy protective gloves when handling the metal panels.

MetalWorks Tin panels are produced from steel or aluminum and are designed to emulate an antique-type visual. Periodic "wrinkles" or dents may cause panels to appear not to be flat; these characteristics add to the antique effect and are not considered manufacturing defects.

The metal panels are installed using one of two methods. The first method is to nail 2' x 4' panels directly to an existing ceiling. The second method, described in Section 8, is to lay 2' x 2' panels into a grid ceiling using either Armstrong 15/16" grid or 9/16" grid. As a result of the strain put on panels when they are embossed, you may find it necessary to use hold down clips (item 5600HDC) to keep the panels flat in the grid. Due to the natural characteristics of Lay-in and Tegular edges on this tin product, panels may not lay flush.

If you are using Bare Steel sheets or cornices (unfinished), they should be cleaned with denatured alcohol and wiped dry before installing. These panels must be painted using an oil-based paint. Water-based paints may rust the panels. For best results, use a semi-gloss or high-gloss paint. To leave unfinished steel panels in their natural color, use clear gloss polyurethane. Other panels with prepainted colors or finished metal surfaces have a PVC film that should be removed before or during installation.

2. PREPARATION FOR NAIL-UP CEILING PANEL INSTALLATION

You will find it beneficial to build scaffolding so you can reach the ceiling comfortably and walk about freely without climbing up and down ladders. This can be done with sawhorses, planks and plywood sheets. Standard rolling scaffolds may also be used. Be aware that installing metal panels using this method is a two-person operation; one person to hold the panel in position and another to fasten it. Make sure the scaffold you are using allows two people to work safely while on the scaffold.

3. INSTALLATION OF SUBSTRATE

Plywood option:

3/8" plywood or 3/8" OSB (oriented strand board) must be secured to the joists. Be aware that the new ceiling will be as flat as the existing joists, or ceiling surface, that you are fastening to. Nail or screw the plywood to the ceiling making sure the plywood is secured to the joists. Cover the entire ceiling with the plywood sheets.

4. LAYOUT

Measure the room and determine the layout of the panels. The metal nail-up panels are 24-3/8" x 48-3/8". The 3/8" oversize measurement is to account for the overlap when panels meet. Full-sized decorative metal panels will be installed in the center of the room. We suggest you install border panels along the edges of the room. Border panels have shallower embossing than the decorative panels and form a more attractive interface with the cornice.

(Armstrong®)

The layout should be balanced so the borders on opposite sides of the room are equal. To do this, find the center of the room in both directions. Strike a chalk line in one direction down the center of the room. Find the center of the room in the other direction and strike another chalk line at a 90-degree angle to the first.
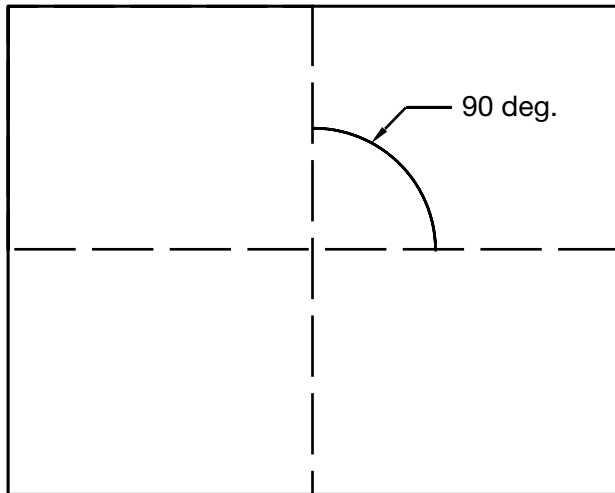
Determine the direction you want to run the 2' x 4' panels in the room. If you start with a full panel near the center of the room aligned with the two chalk lines, measure how much is left at the wall when the last full panel would be installed. If this border is too large or too small, shift the center line half the panel width (or length) short of the center of the room. Do the same in the other direction and shift the other center line if necessary. Resnap the chalk lines to indicate the new "centering." Use the resulting chalk lines as a guide to install the full panels.

Wood furring option:

If you are going to use this substrate, you must calculate the layout before you install the furring. Nail furring strips to the ceiling around the perimeter of the room about 1-1/2" from the walls. Nail furring strips across the joists where the panels will overlap each other every 24" (check your layout for these locations). Nail furring on 12" centers between the furring you have already installed. Shim the furring to make it level, if necessary. Fasten cross furring to the ceiling where the panels will overlap on the ends (again, check your layout for these locations).

5. BORDER PANEL INSTALLATION

Install border panels first. Once you know the width of the borders on each side of the room, cut and install border panels to reach from the wall to 1 inch past the edge of the last full panel that will be installed along that wall. You can use tin snips or electric sheet metal shears to cut the panels. If you have colored conehead nails for the panels, use the colored nails to secure the border panels to the substrate where they will be visible when the full panels are installed. Use 1-1/4" molding nails where these nails will be covered

by cornice or the edges of full panels. If you are installing unfinished steel panels that will be painted, use 1-1/4" molding nails everywhere to secure the border panels to the substrate.

With the long edge of the border panel against the wall, place the nails close to the wall so that the cornice will hide the nails when it is installed later. Nail the other long edge of the border panels very close to the edge toward the center of the room. The full panels will later hide these nails. Overlap the border panels when they meet by 1/2" - 3/4". Complete the border panel installation around the perimeter of the room.

When the border panels meet each other, there will be high spots on one panel meeting low spots on the other panel. Tap these high spots down using a nail head (tap on the point of a 10 penny nail and use the head as a metal forming tool) or small tack hammer.

6. FULL DECORATIVE PANEL INSTALLATION

Install full panels starting in the center of the room. Align the edges of the first panel with the perpendicular chalk lines and nail the panel in place. Nail down the center of the panel using conehead nails every 12" before nailing the edges. Place 1-1/4" molding nails **alongside the buttons** or raised bumps along the **outside edges** to secure the first panel. These nails will not interfere with the overlap of the next full panel.

When the panels overlap, the buttons will fit over each other like a ball and socket. Drive conehead nails **directly through the buttons** at the edges of the panels when the panels overlap. Drive the conehead nails through the buttons every 6".

Tighten any seams that are not closed by tapping against the overlapping edge with a block of wood and a hammer. When four panels overlap at a corner, you might have to predrill a hole through the four layers of metal for the conehead nail.

7. CORNICE INSTALLATION (USED ONLY WITH NAIL-UP PANELS)

Install the cornice so it covers an equal amount of the ceiling and the wall. Fasten the cornice to the ceiling with cone head nails driven through the buttons. We suggest that you predrill the buttons on the cornice. This makes it much easier to nail the cornice to the ceiling. If you predrill the cornice, **drill the buttons from the back side**, as the drill will want to walk off the button if you drill from the front side. It is not necessary to drive cone head nails in the bottom of the cornice. The nails in the top will hold the cornice tight against the wall.

You can make inside corners relatively easy by installing wood blocks (plinths) in the corners of the room so the cornice simply butts against them. They can be made from solid wood or made up from lumber pieced together. No miters or coping necessary! Finish the wood block the same as you finish the panels.
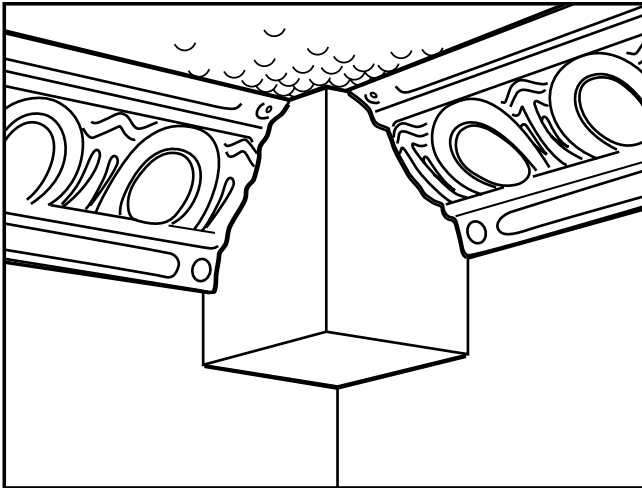
You can also cope inside corners. Butt one piece into the corner. Then trim the second piece on the adjacent wall to fit. First place a strip of masking tape across the end of a scrap piece of molding. Hold the scrap molding in the corner and use a compass or scribing tool to transfer the profile of the nailed-in-place piece to the scrap piece.
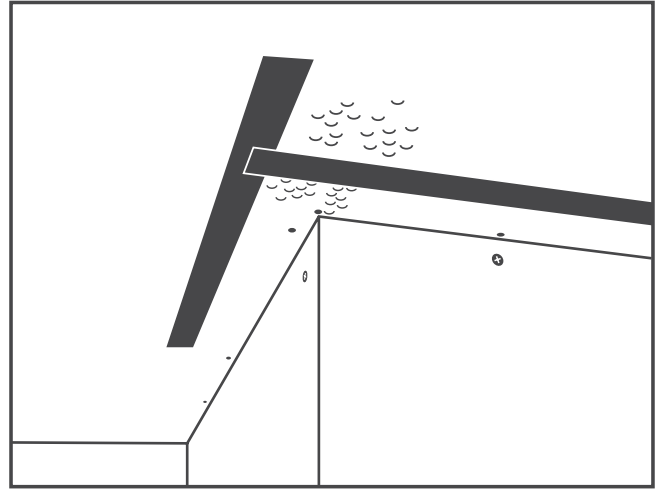
Hold a piece of cornice against one wall aligning it with the tape on the ceiling. Let it extend out past the corner and past the intersecting masking tape. Mark the molding at the bottom where it intersects the corner, and at the top where it meets the tape intersection. Draw a line to connect these two marks.
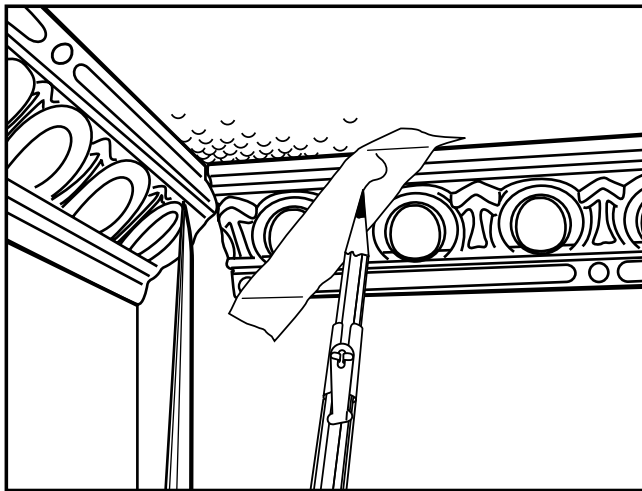
Cut along the scribed line and test fit the coped cut. You may have to make some minor trim cuts to make the parts fit. Once the coped end fits, you can use it as a template to mark a length of cornice for installation. If you are using bare steel cornices that will be painted, you can use putty to fill in any bad fitting joints.

Outside corners are the toughest ones to make. Use masking tape to define a line parallel to the wall where the cornice will meet the ceiling. Do this on each side of the outside corner.
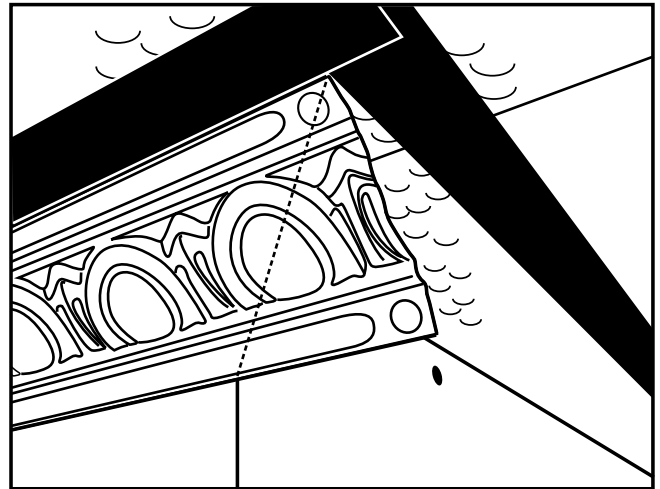
Cut the molding with snips. Do the same for the other side of the corner using another piece of cornice. Check the fit of the two pieces. Trim and fit the two pieces until the joint makes a satisfactory appearance. Use these pieces as templates for marking and cutting the actual pieces that will be installed. If the moldings will be painted, fill the joint line with caulk. If the moldings will be left unpainted, file the joint until it fits. It takes time and patience to make a good fit.

8. METAL LAY-IN & TEGULAR PANEL INSTALLATION

CAUTION: Be careful of the sharp edges on the metal panels. Wear heavy work gloves for protection from cuts.

This method uses angle molding of the same color as the grid at the walls. Do not use the metal cornice as a wall molding!

Lay out and hang grid as you would for any other 2' x 2' ceiling panel. All full panels should be the decorative panels of your choice.

The border panels should be the "nubby" panels shown below. Border panels have shallower embossing than the decorative panels and form a more attractive interface with the molding.

If you are using Bare Steel sheets (unfinished), they should be cleaned with denatured alcohol and wiped dry before installing. These panels must be painted using an oil-based paint. Water-based paints may rust the panels. For best results, use a semi-gloss or high-gloss paint. To leave unfinished steel panels in their natural color, use clear gloss polyurethane. Other panels with prepainted colors or finished metal surfaces have a PVC film that should be removed before or during installation.

Due to the strains put on the metal panels when they are embossed and characterisitcs of Tegular/Lay-in edges on tin panels, you may find it necessary to use hold-down clips (item 5600HDC) or back load the tin tile with a mineral fiber tile to keep the panels flat in the grid.

Panels can be cut with tin snips or with electric metal shears.

Border panels must be reinforced on the back so they do not sag. You can do this by nailing the panel to furring strips as shown using 1-1/4" molding nails (if the panels are to be painted) or matching conehead nails. Make the furring 3/4" shorter than the panel.
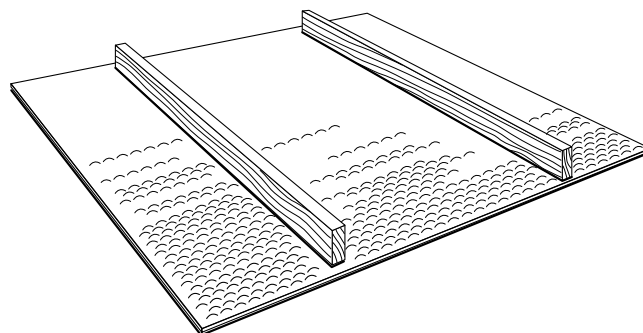
MORE INFORMATION

For more information, or for an Armstrong representative, call 1 877 ARMSTRONG.

For complete technical information, detail drawings, CAD design assistance, installation information and many other technical services, call TechLine™ services at 1 877 ARMSTRONG or FAX 1 800 572 TECH.

For the latest product selection and specification data, visit armstrong.com/tin

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