

Installation, Operation & Maintenance Instructions

Installation

This booklet will provide you with detailed instructions for the installation of Linear Radiant Panels. Not all the following steps will be necessary for all applications. However, this will give you an idea of the maximum amount of work required for a radiant panel installation.

Radiant heating panels are finished with electrostatic powder paint. However, the panel surface must not come in contact with bare skin. Perspiration or grease from an ungloved hand can potentially leave a mark on the panel.

CAUTION
Installation personnel must wear clean white gloves when handling radiant panels.

CAUTION
Use a heat pad between radiant panel and copper pipe when making solder connection. Excessive heat can damage the paint finish.

SUPPLIES

With every job, the following will be supplied:

- Radiant Panels supplied crated in a logical manner (i.e. crated per floor or per room, etc.). See Fig. 1.
- Detailed shop drawings which show a legend that provides information about the different radiant panels found on the project (see Fig. 2). The numbering for the panels will be matched on the back of each panel. This will ensure quick and easy unpacking of the panels to the proper rooms.

Figure 1: Typical Crating

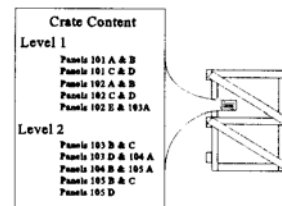
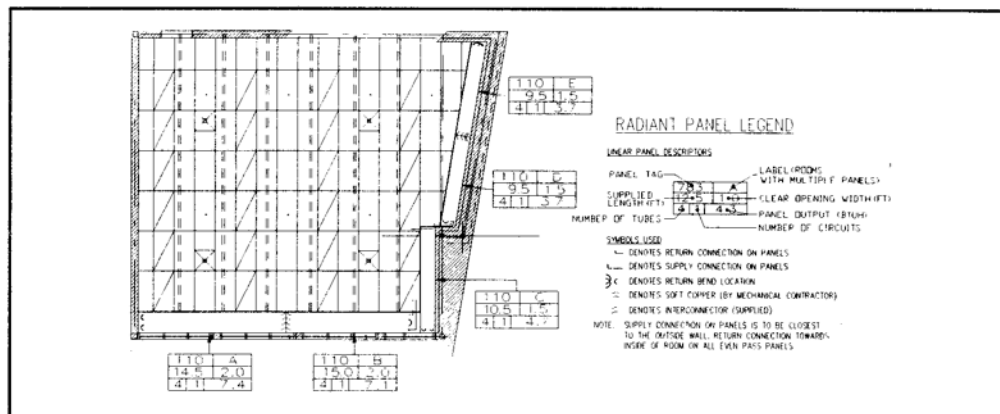


Figure 2: Shop Drawing Detail



- Straight interconnectors (See Figure 3) for connections between panels.
- White gloves for installation.
- Spray bomb for any touch-ups.

Figure 3: Interconnector



INSTALLATION PROCEDURE

When installing radiant panels, you should have both the mechanical piping plan and the radiant panel shop drawing. Before starting with the installation, please familiarize yourself with the panels and their location by reviewing both drawings.

Remember that when coming in contact with the panels you should always be wearing the white gloves provided for that purpose.

UNPACKING

The crates will be sent to the job site. Once on site, you will need to:

1. Open up the crates to gain access to radiant panels. Note that the radiant panels are bundled together in groups of two.
2. Follow the numbering system to bring the appropriate panels to the designated rooms.

MEASURING

The panels will arrive on site cut to the length given to the manufacturer and with expansion allowance. If the finished wall to wall measurement was supplied to the manufacturer, the panels will be cut to size when delivered. This means that the mechanical contractor will not need to measure and cut the panels. However, since most of the measurements will have been taken prior to the walls being put up, some of the panels will be sized to fit from stud to stud and will therefore require some cutting on site.

In anticipation of the cutting operation, the manufacturer will have held back the coil and the cross brace approximately 6" on one of the end panels in a run or on each panel if only one panel spans the wall to wall dimension.

To determine the quantity of material to cut from the panels, the opening should be measured **from wall to wall at the panel height** (see Fig. 5). Remember that in order to allow for expansion of the panels you must also remove 1/2" per panel. This means that for a room containing a series of 4 panels (as shown in Fig. 6), you will need to cut an additional 2" to allow for expansion.

Figure 4: Panel with Coil Held Back

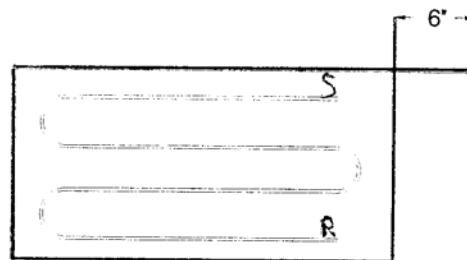


Figure 5: Measurement Height

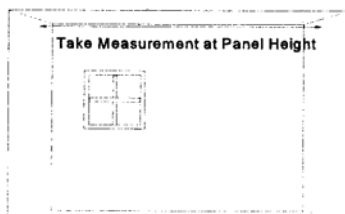
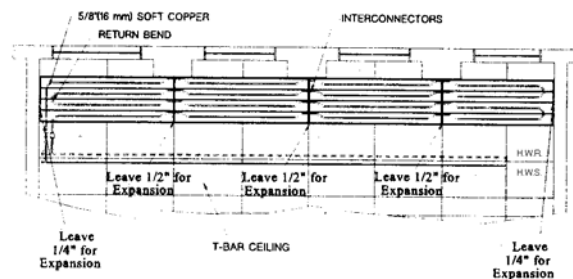


Figure 6: Installation of Radiant Panels in Series

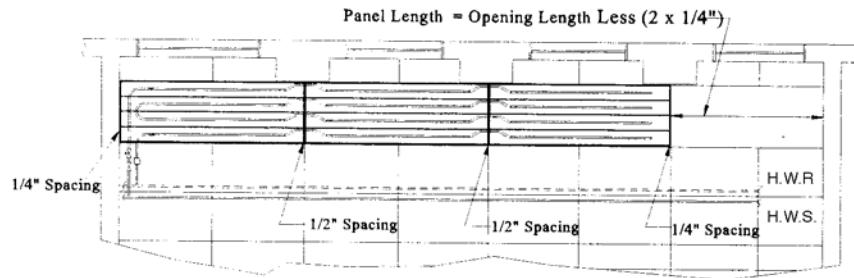


CUTTING

To cut the radiant panels to the required measurement, follow these steps

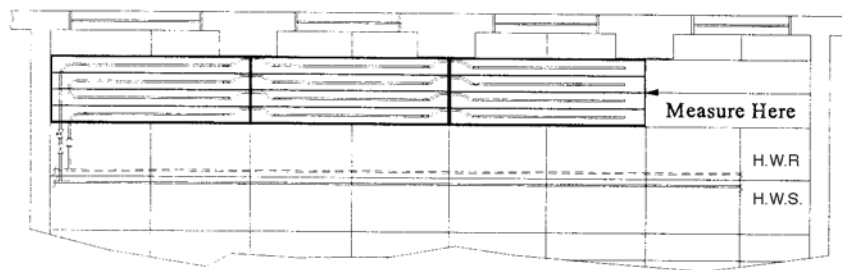
1. Install all but the last panel. See Fig. 7.

Figure 7: Installing Linear Radiant Panels



2. Measure the length of panel required. See Fig. 8.

Figure 8: Measuring for the Last Linear Radiant Panel



3. Allow 1/4" on either side of each panel in series to allow for expansion.
4. Lay the panel to be cut with the finished surface facing up.
5. Protect the finished surface before cutting.
6. Using a circular saw with a carbide tipped blade, or a jigsaw with an aluminum cutting blade, cut the panel.

INSTALLING IN T-BAR CEILINGS

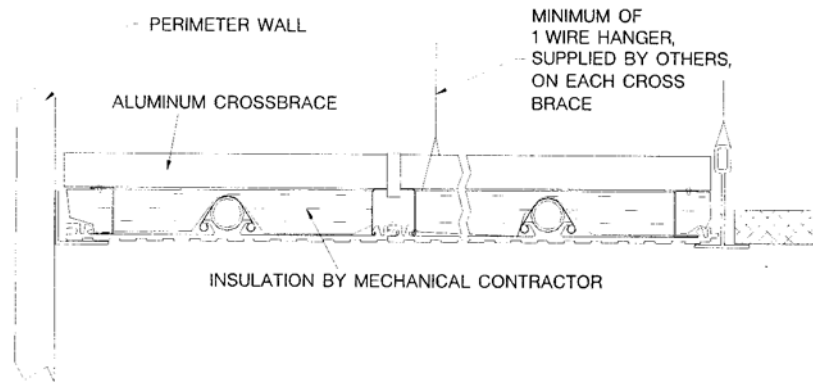
To install the panels in a t-bar ceiling, you must:

1. Ensure that the female edge of the radiant panel is positioned toward the exterior wall. See Fig. 9.
2. Lift the panel into place, making sure that 1/4" spacing is left at both ends of the panel for expansion.
3. Attach at least one tie wire from each cross brace to an anchor point found above the panel (for horizontal linear panels). See Fig. 10.

Figure 9: Female Edge



Figure 10: Tie Wire Location



4. Make all copper connections (supply and return or interconnectors). To solder the copper connections to the radiant panels, follow these steps:
 - a. Take off the clips holding the copper down using a nail slipped in the clip's loop.
 - b. Roll a discarded piece of copper under the panel's piping in order to raise it high enough for soldering.
 - c. Place a piece of heat sink material between the panel and the pipe to protect the panel.
 - d. Solder the copper connection to the piping.
 - e. Clip the piping back into place.
5. Perform an air pressure test by following the recommended procedure found in the specifications (if required).
6. Install the insulation with the foil side down. The insulation will need to be cut to length before being installed on the back of the panels.

INSTALLING IN GYPROC CEILINGS

To install radiant panels in a gyproc ceiling, you must:

1. Install the supplied frame around the opening in the gyproc. See Fig. 11. Manufacturer will supply one piece frame if called for in radiant panel specifications. Otherwise, framing material supplied and installed by ceiling contractor. Note: provisions must be made for access to back of panel for hard piped connections, for plastic tube (if specified), connections made with the panel below the ceiling, and excess tube placed back up above the ceiling.
2. Ensure that the female edge of the radiant panel is positioned toward the exterior wall. See Fig. 9.
3. Lift the panel into place.
4. Attach at least one tie wire from each cross brace to an anchor point found above the panel (for horizontal linear panels).
5. Make all copper connections (supply and return or interconnectors) through the access opening. To solder the copper connections to the radiant panels, follow these steps:
 - a. Take off the clips holding the copper down using a nail slipped in the clip's loop.
 - b. Roll a discarded piece of copper under the panel's piping in order to raise it high enough for soldering.
 - c. Place a piece of heat sink material between the

Figure 11: Frame Installation in Gyproc

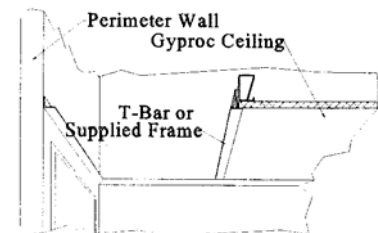
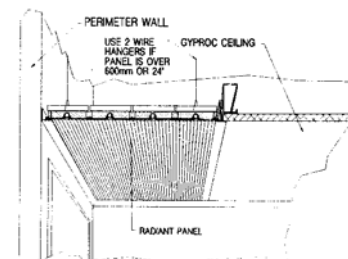
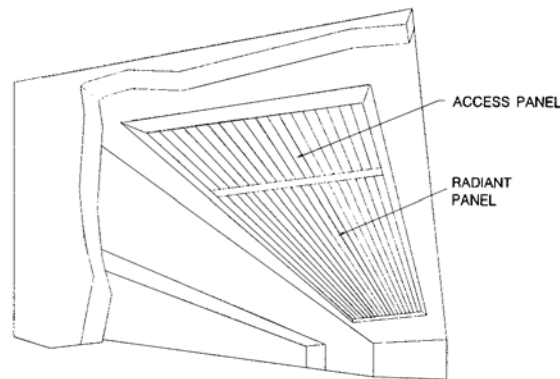


Figure 12: Linear Radiant Panel in Gyproc



- panel and the pipe to protect the panel.
 - d. Solder the copper connection to the piping.
 - e. Clip the piping back into place.
6. Perform an air pressure test by following the recommended procedure found in the specifications (if required).
 7. Install the insulation with the foil side down. The insulation will need to be cut to length before being installed on the back of the panels.
 8. Close up the remaining opening with the use of the supplied inactive access panel (if provided) as shown in Fig. 13.

Figure 13: Radiant Panel With Access Panel



MISCELLANEOUS

Venting

Once the panels are installed, the piping system must be vented in order to avoid air locking.

Cleaning & Touch-up

In the event that a panel has been dirtied, the panel's face can be cleaned by using an off the shelf mild household cleaner such as Fantastik or soapy water.

If the panels have been scratched, use the supplied spray paint to touch up the panel's face. A few steps should be followed in order to touch up radiant panels:

1. Sand the affected area to remove any roughness.
2. Wipe the area clean.
3. If using a cleaner to clean the surface, let the area dry before applying the paint.
4. Holding the spray can 6 to 12 inches away from the panel's surface, apply the paint in light coats.
5. Let the paint dry before handling (Approximately 20 minutes).
6. Repeat paint application until the scratch is covered.

Repainting

The type of powder coating used for radiant panels is an ant-graffiti paint and unless retouching a small area, paint will not adhere to the powder coated face of the panels. Therefore, for applications where an entire panel must be repainted either in white or in a different colour, please contact your nearest representative.

