Installation Guide for C.I. TAKIRON IVY573 Panels System

1. IVY573 Wall Cladding Components

Item	Part Number	Description
Panel	IVY573	cPVC, 4ft Wide x 8ft Height x 2mm Thick
Preformed Corners	7L952	8ft Preformed 90° L Corner, 3.75” x 3.75” x 8ft long
	7R952	8ft Preformed Radius Corner, 3.75” x 3.75” x 8ft long
Transition Parts	INRL	Inside 3way L/Radius Corner Transition
	INRR	Inside 3way Radius Corner Transition
	OUTRL	Outside 3way L/Radius Corner Transition
Welding Rod	Welding Rod 6171	Welding Rod for gaps, 0.16” x 1000ft per coil
Adhesive Tape	Takitape 47	Double sided Adhesive Tape, 0.78” W x 33ft Long
Adhesive	Takibond 47	Silicone Adhesive, 11fl oz/330ml per tube

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800 South Raymond Ave., Fullerton, CA 92831

2. Recommended Tools

- Tape measure
- Level
- Straight Edge, Carpenter's Square
- 1.5mm to 2mm spacer (e.g. a quarter)
- Utility knife, Hole saw and Plunge saw (using fine toothed blade)
- Caulking gun
- 6" to 9" roller
- Weldrod Heat Welder Gun (Leister Model Hot Jet S, TriacAT or similar) with 4mm Speed Nozzle
- Trim knives
- Personal protective equipment – protective glass/goggles, face mask and gloves

3. Environmental Conditions

a) IVY573 Panels should be stored horizontally in crates or containers. Do not store Panels vertically. The Panels should be stored off the ground to prevent condensation and distortion.
b) IVY573 Panels and TakiBond 47 Adhesive should be acclimated at a temperature between 65°F (18.3°C) and 85°F (29.4°C) for a minimum of 24 hours prior to the start of installation.
c) Take care to protect TakiBond 47 Adhesive from frost and temperatures below 40°F (4.4°C) or irreversible damage to the adhesive could occur.
d) During the entire process of installation, the temperature of the install area and the Panels themselves should be between 65°F (18.3°C) and 85°F (29.4°C) and the relative humidity should not exceed 80%.
e) The IVY573 Panels should not be exposed to prolonged direct sunlight during or after installation work as this could result in warping and/or discoloration.
f) The panels are to be used in areas with ambient temperature between 50°F (10°C) and 140°F (60°C).
g) The IVY573 Panels have a maximum operating temperature of 140°F (60°C). Cleaning liquids heated above this temperature should not be used on the Panels. Devices that generate extreme temperatures above the 140°F should be located a minimum of 12" from the panels or permanent distortion/damage to the panels could occur.
h) Installation should not begin until building is enclosed (windows and doors are installed), permanent heating and cooling equipment is in operation and residual moisture from plaster, concrete or terrazzo work has dissipated.
i) Due to the formula and different manufacturing processes required to produce the IVY573 Panels and Accessories it is possible that a slight color variance may occur between the different products. The color variance is normally very minor and does not affect the product performance or warranty.

4. Acceptable Substrates

a) IVY573 Panels should not be applied to any wall surface made of combustible materials (such as plywood) or the FM4882 Approval will not be applicable.
b) If FM 4882 is required and it is unavoidable to use combustible substrates, the IVY573 Panels must be mounted to proper incombustible boards (12mm or greater thickness) which cover the combustible substrate.
c) IVY573 Panels are typically installed on noncombustible surface such as dry wall, mortar or concrete. It is recommended that surfaces be primed to seal the surface that the Takibond is to adhere to.
d) Brick, cinderblocks and blockwork are naturally uneven and do not allow complete adhesion of the panels. It is recommended to install drywall, cement board or another appropriate substrate before installing the panels.
e) Poured acrylic/epoxy floors with builtin cove should be in place prior to wall installation.

5. Recommended Substrate Conditions

The substrate surface should fulfill these requirements:

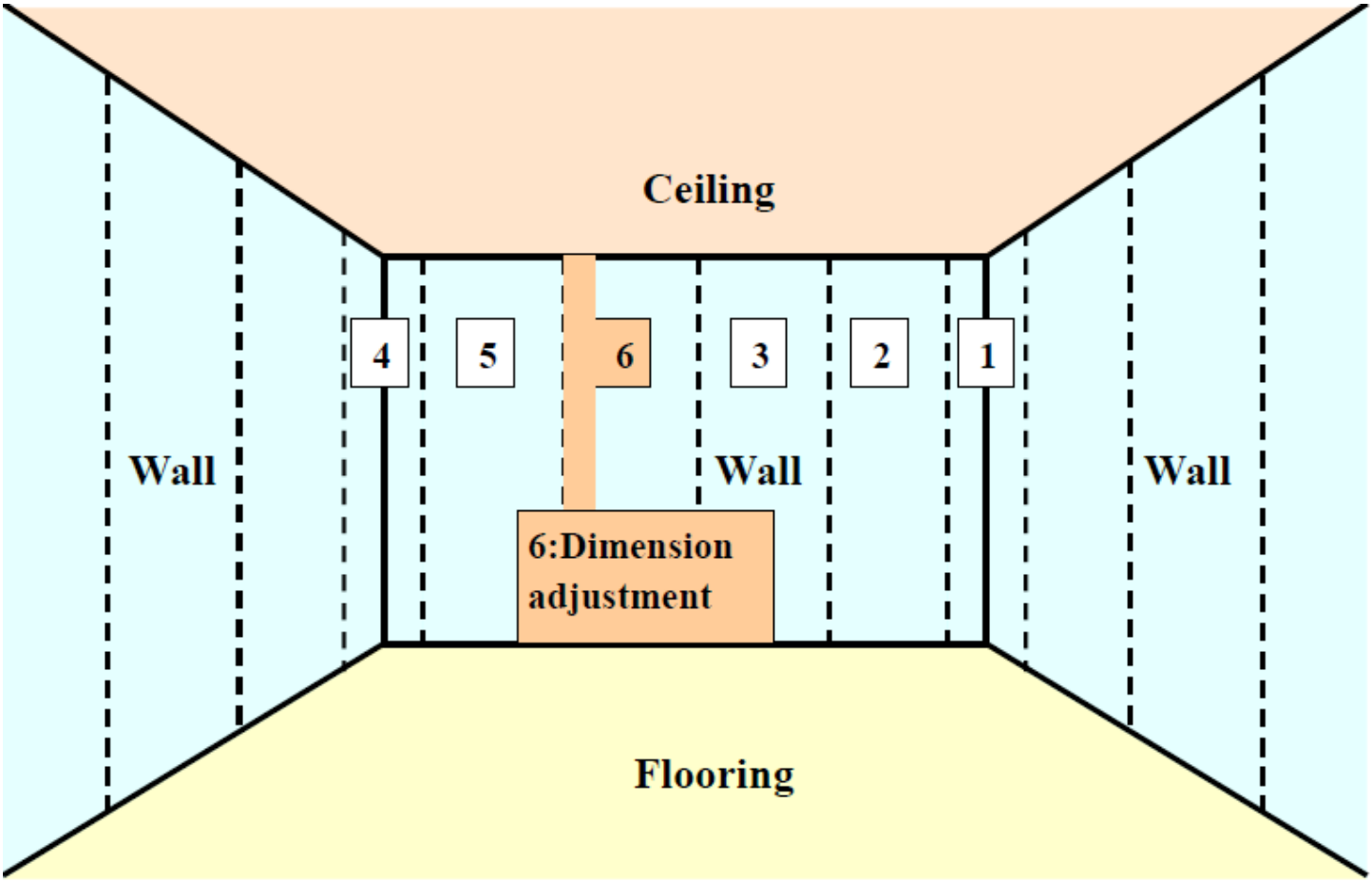
a) Any harsh irregularities or uneven surfaces must be removed as much as possible to result in a smooth surface. Otherwise the IVY573 Panel will not seat properly to the substrate and appear wavy or rippled.
b) Be free of any contaminates such as dust, mold or rust
c) Be in a dry condition with no moisture
d) In cases where chalking is observed on mortar surfaces, treat the surfaces with PVA primer. Make sure that substrate surfaces are smooth and that joints are smoothfinished and dry.
e) Painted surfaces will not allow TakiBond 47 Adhesive to achieve full bond strength. The painted surface will need to be roughen up and any loose paint, dirt and residue removed.
f) Ceramic tiles must be thoroughly deep cleaned and allowed to dry out before affixing any cladding.
g) When proper flat surfaces are not available due to very serious irregularities, mortar finishing or installation of an under layer panel is required.
h) The substrate must be straight to within +/- 0.12” (3mm) over a 6.5ft (2 meters) height.

6. Services and Fittings

a) Plumbing and Electrical work should always be carried out by qualified professionals and the following recommendations should be carried out.
b) Where feasible, pipework should be removed to create a ‘first fix state’ and ‘tails’ should be left which can penetrate the holes drilled in the panels when it is fitted to the wall.
c) Holes in the panels should be drilled 0.12” (3mm) oversize to allow for expansion around pipes, fixings and bolts. These should be sealed using a high quality sealant which will accommodate normal levels of expansion.
d) Steam and hot water pipes should be insulated and a 0.12” to 0.2” (3mm to 5mm) expansion gap is required.
e) Electrical equipment must be moved or altered by a qualified electrician and electrical switches, cables and power points should be in a ‘first fix state’ when possible.

7. Sizing IVY573 Panels

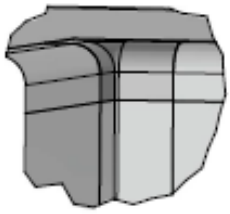
a) Keep the protective film on the wall cladding panels until all the trades have completed their work.
b) Inspect the panels to ensure there is no damage from shipment. If damage is found check to see if the damage is in an area of the panel that can be cut out and the panel salvaged.
c) In a safe manner set up your working area, work bench and tools.
d) The room layout should minimize the total number of joints and avoid having any seams or joints within 12” of a corner.
e) Preformed Corner pieces and 3way Transition pieces must be installed first. When determining the dimensions of the Panels, the location and dimensions of the Corner and Transition pieces must be counted for first. As an example, in the image below start the mounting work from the Preformed Corner pieces (#1 and #4) and finish by adjusting the dimensions at Panel #6.



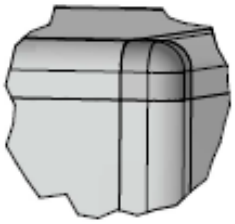
f) Determine the dimensions of the wall surface to be covered, measure the cutout portions for receptacles and other protrusions, and scribe cutting lines on the IVY573 Panel.
g) Any Plumbing and Electrical work should always be carried out by qualified professionals.
h) Holes cut in the panels using the Hole saw with fine toothed blade (>140 Teeth) for piping or fixtures should be oversized by ~3mm to allow for expansion
i) When cutting the IVY573 Panel use a utility knife or plunge saw with fine toothed blade (>140 teeth). Ensure all edges of the cut panels are clean and free from burrs.
j) When using a utility knife score initial cuts light and straight. Multiple scores may be required to completely cut through the panel.
k) Make sure the panel is held firmly in place when cutting and use a metal straight edge where possible.
l) Use Personal Protective Equipment including protective glass/goggles, face mask and gloves when making cuts.
m) Those edges that will be welded should be chamfered to allow a wider area for the weld rod to sit in. Using a Utility knife at a 45° angle scrap the length of the edge of the Panel where it is to be welded to create a small chamfer. Make sure the edges are free from burrs. The recommended spacing between adjacent Panels should be approximately 0.08" (~2mm) or the thickness of a quarter. The recommended spacing between a Panel and ceiling, floor, door frame or window frame should be approximately 0.125" (~3mm).
n) It is recommended to never overlap two adjacent panels or a panel and corner piece. Wherever possible try to have two adjacent surfaces always be mounted parallel or with each other to have a consistent spacing of approximately 2mm (the thickness of a quarter) to allow a proper heat welded seam.

8. Corner/Coving Considerations

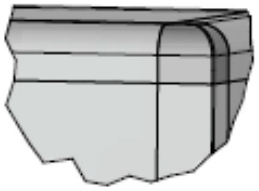
a) Because it is difficult to thermoform the Takiron panel into corners, Preformed Corners (or coving) and 3way Corner Transition pieces are offered. For vertical corners (either internal or external corners) and for horizontal ceiling coving use the Preformed Corners (90ºL or Radius) along with a 3way Corner Transition piece at the top.



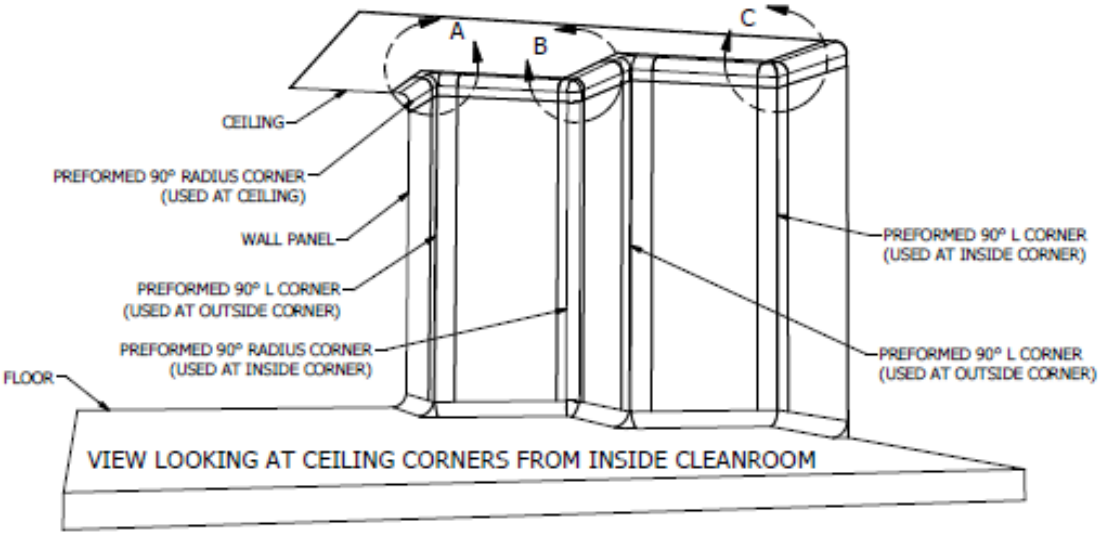
DETAIL A
OUTSIDE 3-WAY 90° L
ADIUS CORNER TRANSITION



DETAIL B
INSIDE 3-WAY
RADIUS CORNER TRANSITION



DETAIL C
INSIDE 3-WAY 90° L
RADIUS CORNER TRANSITION

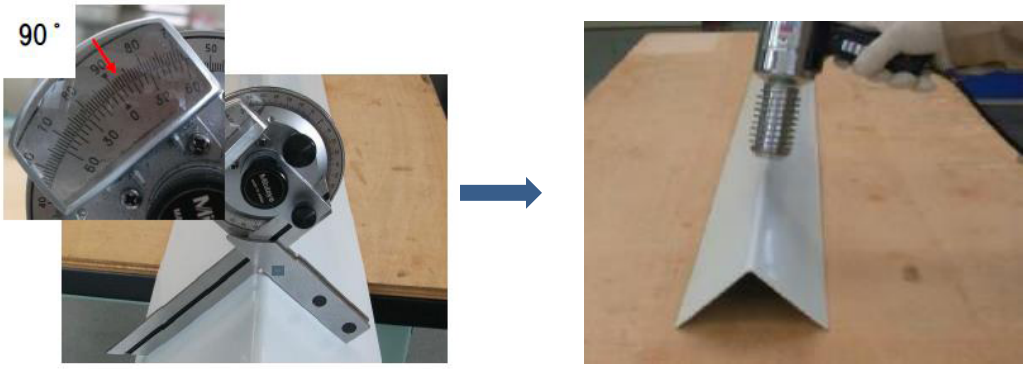


VIEW LOOKING AT CEILING CORNERS FROM INSIDE CLEANROOM

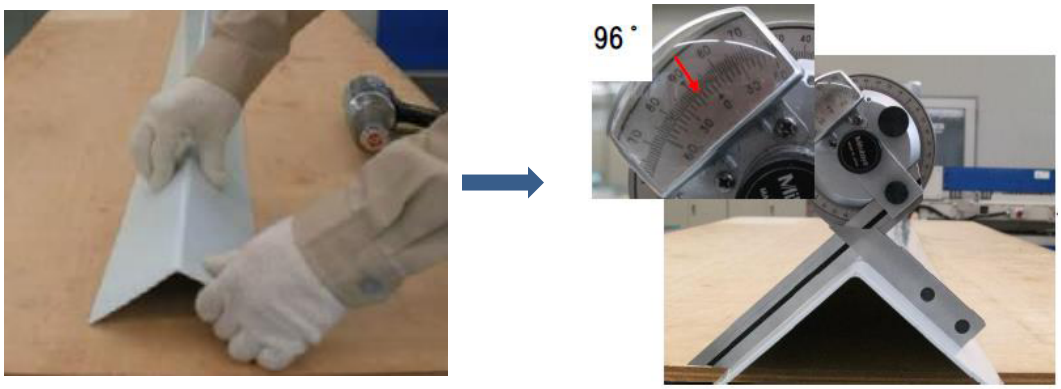
TAKIRON PART INFORMATION							
Item ID	Item Description	MFG p/n	Material	Available Colors	Dimensions	Radius	Column 8
TAKI-L-CORNER	8ft PREFORMED 90deg L CORNER	7L952	PVC	White	3.75"x3.75"x8'		2.0mm
TAKI-R-CORNER	8ft PREFORMED RADIUS CORNER	7R952	PVC	White	3.75"x3.75"x8'	R?	2.0mm
TAKI-RR-INCORNER	INSIDE 3-WAY RADIUS CORNER TRANSITION	INRR	PVC	White	?	R?	2.0mm
TAKI-RL-INCORNER	INSIDE 3-WAY L/RADIUS CORNER TRANSITION	INRL	PVC	White	?	90° / R?	2.0mm
TAKI-RL-OUTCORNER	OUTSIDE 3-WAY L/RADIUS CORNER TRANSITION	OUTRL	PVC	White	?	90° / R?	2.0mm

b) It is recommended to install all Preformed Corners and 3way Transition pieces first before installing panels.
c) When the walls are plumb and true simply cut the Preformed Corners using a jigsaw with a fine toothed blade (>140 Teeth):

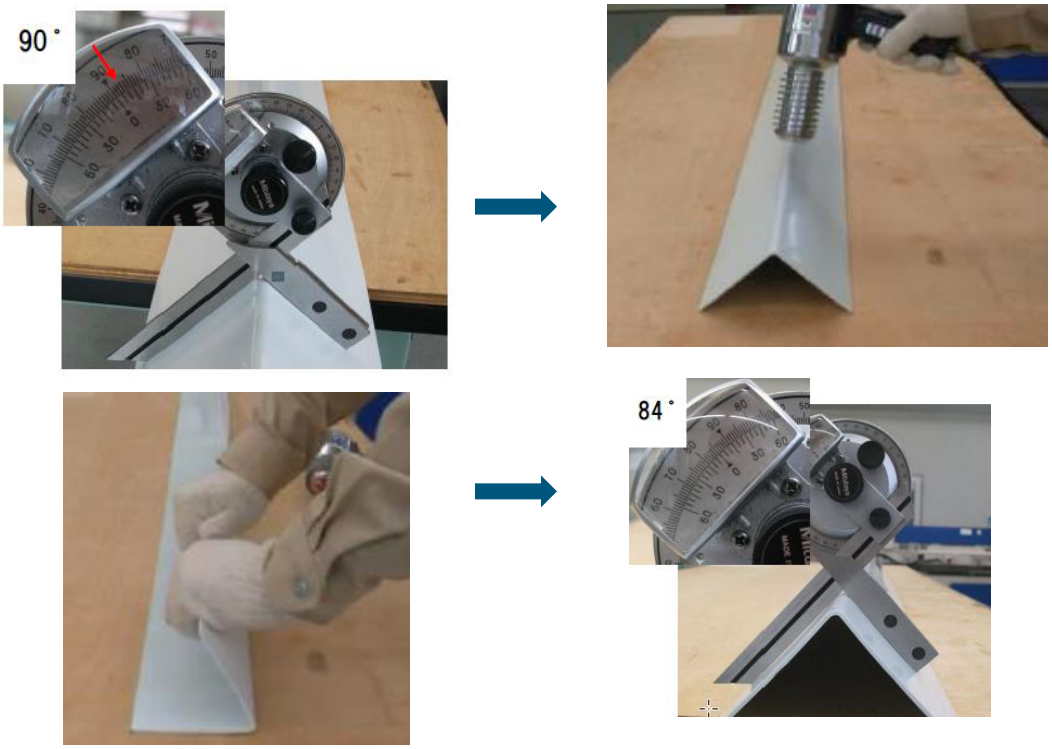

d) When the wall angle is greater than 90° the Preformed Corner will need to be heated and bent to the proper angle:



e) When the wall angle is greater than 90° the Preformed Corner will need to be heated and bent to the proper angle:



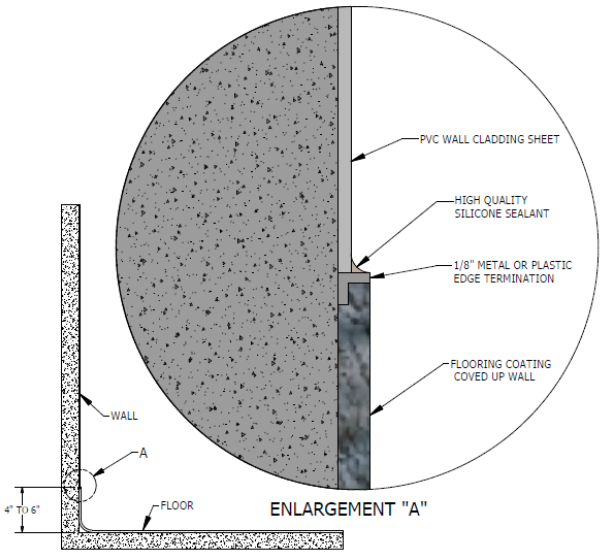
e) When the wall angle is less than 90° the Preformed Corner will need to be heated and bent to the proper angle:



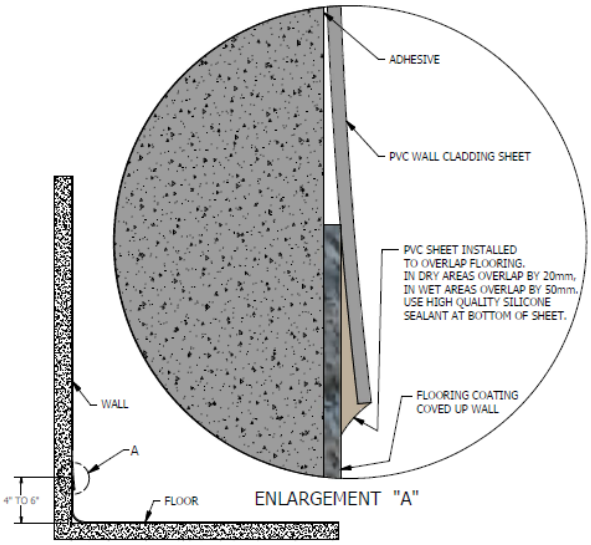
a) There may be cases where the corner is in an area with one of the walls having a depth less than the 3.75” width of the leg of the Preformed Corners/3way Corner Transition. The Preformed Corner/3way Corner Transition can be trimmed to fit on the narrow wall. Leave a 2mm gap between the corner piece and adjacent panel to allow a heat welded seam.

g) For wall to floor transition there are two recommended methods:

1. Cut the bottom panel to be flush with the floor coving transition piece. The seam between the panel and the floor coving must be sealed properly with a high quality silicone sealant or site/owner approved caulking.
2. In certain applications (with site/owner approval) it is possible have the panel overlap the floor coving. This allows any liquid used in cleaning the walls to roll down to the floor without getting into any joints. The seam between the overlapping panel and the floor coving must be sealed properly with a high quality silicone sealant or site/owner approved caulking.



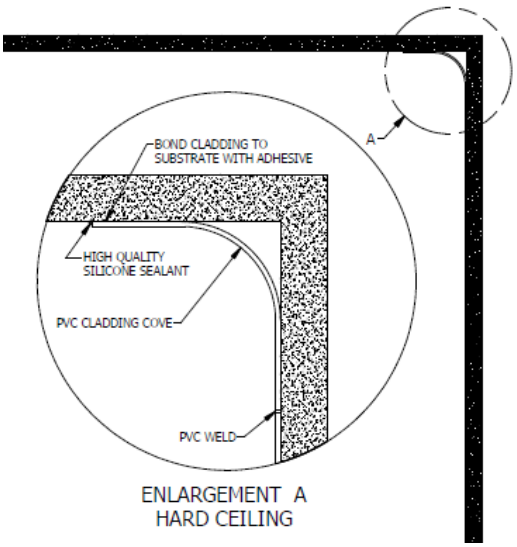
Flush

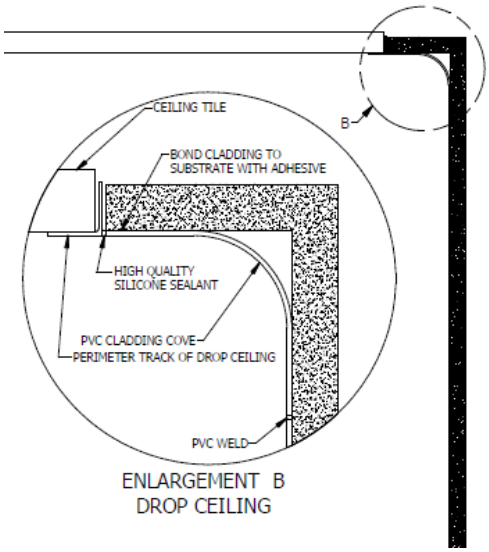


Overlap

a) For wall to ceiling transition there are several options:

1. The panels can be installed within a 2mm to 3mm gap of an existing ceiling. The joint between the panels and installed ceiling can be sealed with site/owner approved caulking.
2. The panels can extend above the ceiling height prior to the ceiling (hard or drop) being installed. If a drop ceiling is used, the perimeter track can be attached through the panel to the substrate. The joint between the panels and installed ceiling can be sealed with site/owner approved caulking.
3. A Preformed curved radius Corner can be used on top of the panel to bridge the gap between the panel and a hard ceiling. The height of the panel combined with the Preformed Corner should be positioned such that the Preformed curved radius Corner sits flush with the hard ceiling. There should be the 2mm gap between the top of the panel and the Preformed curved radius Corner for a heat welded seam. See the left image below.
4. If a Preformed curved radius Corner is to be used with a drop ceiling it is recommended to use a hard ceiling soffit approximately 4”5” wide around the perimeter of the room. This allows the Preformed Corner to be taped and glued to the hard ceiling and provides a surface for the drop ceiling perimeter track to attach to. See the right image below.

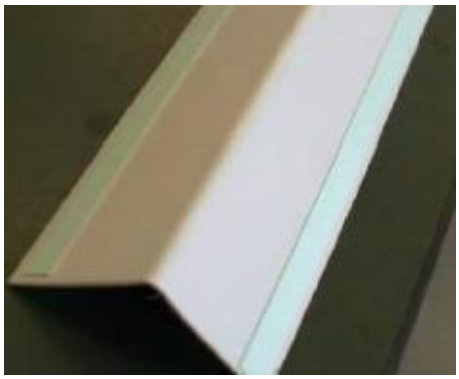




9. Applying doublesided adhesive tape

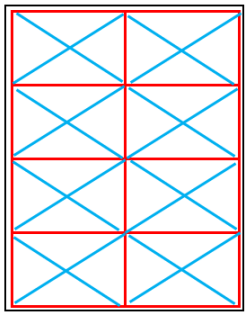
For Preformed Corner and/or 3-way Corner Transitional piece:

a) Attach Takitape 47 tape to the rear surface of the Preformed Corner and/or 3way Corner Transitional piece.
b) Attach the tape at the extreme perimeter of all the sides of the piece. Leave the interior surface protective plastic film for now.
c) Take care to keep the tape away from dust and particles, to eliminate the possibility of separation failure.



For Panels:

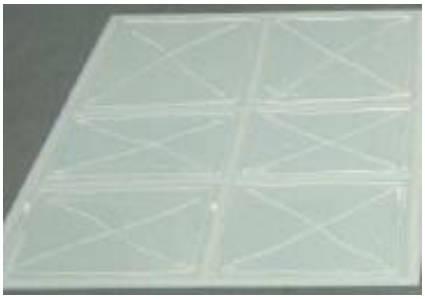
a) Attach Takitape 47 tape to the rear surface of the rear surface of IVY573 Panels.
b) You should use approximately 66ft (20m) of doublesided adhesive tape for each 4' x 8' panel.
c) Attach the tape at the extreme perimeter of the four sides of the Panel approximately 0.25" to 0.38" from the edge. For a 4' x 8' Panel apply the tape to create 2' x 2' boxes. For Panels cut to dimensions other than 4' x 8' apply the tape to create 8 equally spaced boxes. In the image on the right the Panel is represented by the black box. The Takitape 47 tape is the red lines and Takibond adhesive is the blue lines.
d) Do not overlap tape when attaching it to the panel.
e) Do not remove the tape's protective plastic film at this time.
f) Take care to keep the tape away from dust and particles, to eliminate the possibility of separation failure.



10. Aplpying the adhesive

a) Only use the specified adhesive Takibond 47.
b) Apply the adhesive evenly at a thickness of roughly 0.125” (3mm), along all the surfaces that will be mounted against the substrate.
c) For Preformed Corners:

d) For Panels you should use 2 cartridges of adhesive for each 4’ x 8’ panel applying the bead in the matrix shown in blue in the image above.



11. Fitting to Substrate

Fitting the Corner or Transitional piece to the substrate:
a) Remove the inner Takitape 47 protective plastic film.
b) Start the mounting from the reference surface side, taking care to ensure proper alignment to the reference surface.
c) Use extreme caution when placing the Preformed Corners and 3way Transition pieces against the substrate as it is very difficult to reposition once the Takitape 47 tape and Takibond 47 adhesive contacts the substrate.
d) Place the side with Takitape 47 tape and Takibond 47 adhesive against the substrate and apply slowly onto the substrate to ensure proper alignment.
e) Press the outside surface of the corner pieces that contacts the substrate to spread the adhesive on the inside of the piece for maximum coverage against the substrate.

Fitting the IVY573 panel to the surface:

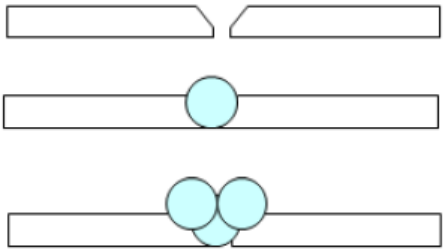
a) Remove the Takitape 47 protective plastic film from the interior sections (not the perimeter tape).
b) Start the mounting from the reference surface side, taking care to ensure proper alignment to the reference surface.

c) Use extreme caution when placing the panel against the substrate as it is very difficult to reposition panels once the Takitape 47 tape and Takibond 47 adhesive contacts the substrate.
d) Place the side of Panel with Takitape 47 tape and Takibond 47 adhesive against the substrate and apply slowly, taking care to prevent separating or overlapping the Panels.
e) When the Panel is situated properly immediately remove the Takitape 47 protective plastic film from the tape around the entire perimeter.
f) Using a 6”to 9” Wall Roller, roll the entire surface of the panel to spread the adhesive on the inside of the panel for maximum coverage against the substrate.

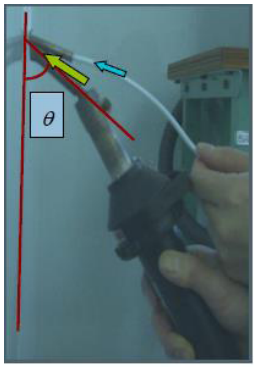
Try to maintain the recommended spacing between adjacent Panels (approximately 0.08” (~2mm) or the thickness of a quarter) and recommended spacing between a Panel and ceiling, floor, door frame or window frame (approximately 0.125”/~3mm).

12. Heat Welding Joints

a) It is recommended to install all panels prior to heat welding the seams.
b) If welding for the first time it is recommended to practice test welds on scrap pieces.
c) Peel back 6” the front protective film from all four sides of the IVY573 panel keeping the remaining protective film attached.
d) Only use the Takiron Welding rod 6171.
e) It is recommended to use the LEISTER Hot Jet S with a 4mm Speed Nozzle.
f) As mentioned in Section 7m it is recommended to chamfer the edges that are to be welded to provide a notch for the welding rod to placed in. If the seam exceeds the recommended 2mm width additional welding rod beads may be necessary.



g) Be certain there is no adhesive, dust or containments in the seams before heat welding, otherwise the welding rod will not adhere properly. Use a tool to scrape away any visible adhesive.
h) On the welder select an airflow setting of 4 (maximum), heater setting of 4 as a guideline, and welder compression of 1 to 2 kgf (2 to 4lb). This will soften the welding rod and panel edges to fuse the materials together under heat.
i) Insert the welding rod into the Nozzle of the welding gun.
j) The typical angle is shown in the photo to the right. Smaller angles cause accelerated melting of the rod,
k) Be certain there is no adhesive, dust or containments in the seams before heat welding, otherwise the welding rod will not adhere properly. Use a tool to scrape away any visible adhesive.
l) On the welder select an airflow setting of 4 (maximum), heater setting of 4 as a guideline, and welder compression of 1 to 2 kgf (2 to 4lb). This will soften the welding rod and panel edges to fuse the materials together under heat.
m) Insert the welding rod into the Nozzle of the welding gun.
n) The typical angle is shown in the photo to the right. Smaller angles cause accelerated melting of the rod,

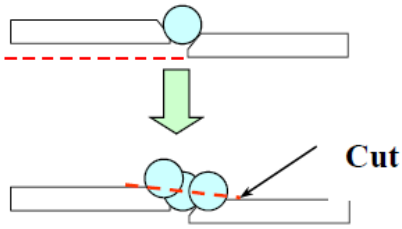


while larger angles result in suppressed melting. Make adjustments depending on the degree of melting.

k) Starting at the top of the seam apply 80% of the compression to the wall surface and 20% to the direction of the welding rod advancement. Take care to avoid forced advancement.

l) Begin welding by lightly advancing the welding rod through the Nozzle. After melting becomes stabilized additional manual advancement is no longer required.

m) Completely fill the gap with a slight excess protruding above the adjacent panels.



n) In the event the panel surfaces are not even, additional weld beads should be applied.

o) When welding the seams be extremely careful not to burn the edges of the panels.

p) Before the welded joints completely cool and solidify, you will need to remove the excess welding rod with two passes. Generally, this is after welding a seam 36” long. It is best to have one person weld and a second person do the trimming.

q) To avoid scratching the surface of the adjoining panels, soapy water or a Windextype product can be sprayed on the seams and edges of the panel. It will act as a coolant to help cool the welding rod and as a lubricant to prevent the knives from scratching the edges of the panel.

r) Use the Mozart Trim Knife for the first pass to remove the bulk of excess welding rod. Then use a Slim Trim Knife to make the final precision cut.

Mozart Trim Knife

Slim Trim Knife

13. Caulking nonwelded seams

a) The seams between IVY573 Panels and door/window frames or floor coving cannot be hot welded with Takiron Welding Rod 6171. A high quality silicone sealant or site/owner approved caulking should be used to fill these joints.

14. Completion and Maintenance

a) Remove the remainder of the Panel’s protective films only after all trades have finished their work.

b) Wipe all Panel surfaces with a soft cloth rag dampened with an alcoholbased cleaner (technical grade IPA is recommended) without strongly scrubbing the surfaces.

c) IVY573 requires very little maintenance. Do not use abrasive pads or wire wool cleaning products on the Panels. The Panels can be cleaned with most any commercial cleaning fluid including SporKlenz. The temperature of any cleaning fluid used must not exceed 140^0F to avoid damaging the Panels. Dilute the cleaning fluid to the appropriate concentration before using.