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The details shown on the following pages are suggestions or guidelines for installing the Mirage II roof panel system. The installation details shown here are proven methods of construction, but they are not intended to cover all building requirements, designs or codes. The details may require changes or revisions due to individual project conditions.

Installation procedures shall be in accordance with the manufacturer's printed instructions, details or approved shop drawings. Installers should thoroughly familiarize themselves with all instructions prior to beginning the installation process.

The designer/installer is responsible to ensure the following:

That the details here meet the particular building requirements.

Awareness of and allowance for expansion/contraction of the roof panels.

That adequate water tightness is maintained.

That a proper uniform substructure is used to avoid panel distortion and that the substructure meets necessary code requirements.

That all supporting members have been examined and are straight, level and plumb.

McElroy Metal can provide all flashings and accessories shown in the installation drawings unless noted otherwise. Panels, flashing and trim shall be installed true and in proper alignment with any exposed fasteners equally spaced for the best appearance. Sealant shall be field applied on a clean, dry surface.

Some field cutting and fitting of panels and flashings is to be expected and to be considered a part of normal installation work. Workmanship shall be of the best industry standards and with installation performed by experienced metal craftsmen.

Oil canning of metal panels is in the product and is not a cause for rejection. Striated panels are recommended as they reduce the appearance of oil canning.

Contents of this manual are subject to change without notice. To confirm this book is the most current copy, please visit McElroy Metal's website at www.mcelroymetal.com.
FASTENER PATTERNS

MIRAGE II 16" PANEL

1/4-14 X 1 1/4" TEK2 ZAC FASTENERS
GENERAL INFORMATION

PANEL FOLDING

PAN DOWN PANEL
(FORMS DRIP EDGE)
(USED AT SOME EAVE DETAIL LOCATIONS)

PAN UP PANEL
(FORMS PANEL STOP)
(USED AT HIGH EAVE, HI-SIDE TIE-IN, RIDGE AND HIP LOCATIONS)
NOTES: 1. Eave Plate to run from steel line to steel line. Attach to Eave Structural Member with #10-16 x 1" Pancake Head Fasteners at 1'-0" O.C.
2. Simple Eave Trim to run from out of wall to out of wall. Attach to Eave Plate with #10-16 x 1" Pancake Head Fasteners at 5'-0" O.C.
3. Install Inside Closure with continuous run of 1" Roll Tape Sealant on bottom and Butyl Tube Sealant on top.
4. Attach roof panel to Eave Plate with 1/4-14 x 1 1/4" TEK2 ZAC. Fasteners must penetrate sealant.
5. Field form Drip Edge on panel using panel bending tool.
NOTES: 1. Eave Plate to run from steel line to steel line. Attach to Eave Structural Member with #10-16 x 1" TEK2 Pancake Head Fasteners at 1'-0" O.C.
2. Simple Eave Trim to run from out of wall to out of wall. Attach to Eave Plate with #10-16 x 1" Pancake Head Fasteners at 5'-0" O.C.
3. Install Inside Closure with continuous run of 1" Roll Tape Sealant on bottom and Butyl Tube Sealant on top.
4. Attach roof panel to Eave Plate with 1/4-14 x 1 1/4" TEK2 ZAC. Fasteners must penetrate sealant.
5. Gutter straps are to be placed between the two roof sheets and in line from end to end as show.
6. The gutter is not required to be fastened to the gutter straps on pitches less than 2:12.

NOTE: SLIDING SNOW AND ICE COULD CAUSE DAMAGE TO GUTTER SYSTEM.
NOTES: 1. Eave Plate to run from steel line to steel line. Attach to Eave Structural Member with #10-16 x 1” Pancake Head Fasteners at 1'-0" O.C.
2. Sculptured Eave Trim to run from out of wall to out of wall. Attach to Eave Plate with #10-16 x 1” Pancake Head Fasteners at 5'-0” O.C.
3. Install Inside Closure with continuous run of 1” Roll Tape Sealant on bottom and Butyl Tube Sealant on top.
4. Attach roof panel to Eave Plate with 1/4-14 x 1 1/4” TEK2 ZAC. Fasteners must penetrate sealant.
5. Field form Drip Edge on panel using panel bending tool.
**MIRAGE II**

**HIGH-SIDE EAVE DETAIL - 5" BARGE**

1/4-14 x 7/8" LAP TEK ZAC FASTENER (@ EACH PANEL RIB)

OUTSIDE CLOSURE W/ 1" ROLL TAPE SEALANT (TOP & BOTTOM OF CLOSURE)

MIRAGE II PANEL

#10-16 X 1" TEK2 PANCAKE HEAD FASTENER (2 PER CLIP)

EAVE STRUCTURAL MEMBER

*NOTE: THERE IS NO BARGE CLIP FOR THE 5 1/2" BARGE TRIM. INSTALLER MUST USE BARGE CLEAT AS SHOWN IN DETAIL. WHEN USING 7" BARGE TRIM, INSTALLER MAY USE EITHER BARGE CLEAT OR BARGE CLIP.*

**NOTES:**

1. Field form End Dam using End Dam tool.
2. Attach Barge Cleat to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at each major rib.
3. Notch Barge Trim around ribs of roof panels and attach with 1/4-14 x 7/8" Lap Tek Zac at Major Ribs. Fasteners must penetrate tape sealant.

**MIRAGE II PANEL CLIP**

PAN-UP PANEL

OUTSIDE CLOSURE (RECOMMENDED)

1/4-14 X 7/8" LAP TEK FASTENER (@ MAJOR RIBS)

*BARGE CLEAT

BARGE TRIM
(FIELD BREAK TO PITCH AND NOTCH OUT AT RIBS)

WALL FRAMING FASTENER

WALL PANEL

**OUTSIDE CLOSURE w/ 1" ROLL TAPE SEALANT (TOP & BOTTOM OF CLOSURE)**

**WALL FASTENER**

**1/4-14 X 7/8" LAP TEK Zac FASTENER (@ EVERY PANEL RIB)**

**BARGE TRIM (FIELD BREAK TO PITCH AND NOTCH OUT AT RIBS)**

**WALL PANEL**

1/4-14 X 7/8" LAP TEK FASTENER (@ MAJOR RIBS)

*BARGE CLEAT

OUTSIDE CLOSURE (RECOMMENDED)

WALL FASTENER

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

**TECHNICAL SERVICE**

1-800-950-9082
NOTES: 1. Place continuous run of Roll Tape Sealant on top of panel rib.
2. Install Barge Cleat to wall panel at major ribs with (1) 1/4-14 x 7/8" Lap Tek fastener.
3. Attach Barge Trim to roof panel at 1'-0" O.C. using 1/4-14 x 7/8" Lap Tek ZAC fasteners.

*NOTE: THER IS NO BARGE CLIP FOR THE 5" BARGE TRIM. INSTALLER MUST USE BARGE CLEAT AS SHOWN IN DETAIL WHEN USING 7" BARGE TRIM, INSTALLER MAY USE EITHER BARGE CLEAT OR BARGE CLIP.
NOTES: 1. Place continuous run of Roll Tape Sealant on top of panel rib.
2. Install Barge Cleat to wall panel at major ribs with (1) 1/4-14 x 7/8" Lap Tek fastener.
3. Attach Barge Trim to roof panel at 1'-0" O.C. using 1/4-14 x 7/8" Lap Tek ZAC fasteners.
NOTES: 1. Eave Plate to run from steel line to steel line. Attach to Eave Structural Member with #10-16 x 1” TEK2 Pancake Head Fasteners at 1'-0" O.C.
2. Simple Eave Trim to run from out of wall to out of wall. Attach to Eave Plate with #10-16 x 1” Pancake Head Fasteners at 5'-0" O.C.
3. Install Inside Closure with continuous run of 1” Roll Tape Sealant on bottom and Butyl Tube Sealant on top.
4. Attach roof panel to Eave Plate with 1/4-14 x 1 1/4” TEK2 ZAC. Fasteners must penetrate sealant.
5. Gutter straps are to be placed between the two roof sheets and in line from end to end as shown.
6. The gutter is not required to be fastened to the gutter straps on pitches less than 2:12.

NOTE: SLIDING SNOW AND ICE COULD CAUSE DAMAGE TO GUTTER SYSTEM.
HIGH-SIDE EAVE DETAIL - 7" BARGE

NOTE: WHEN USING 7" BARGE TRIM, INSTALLER MAY USE EITHER BARGE CLEAT OR BARGE CLIP.

1/4-14 X 7/8" LAP TEK ZAC FASTENER (@ EA. PANEL RIB)

OUTSIDE CLOSURE W/ 1" ROLL TAPE SEALANT (TOP & BOTTOM OF CLOSURE)

#10-16 X 1" TEK2 PANCAKE HEAD FASTENER (2 PER CLIP)

MIRAGE II PANEL

WALL FRAMING FASTENER

EAVE STRUCTURAL MEMBER

NOTES:

1. Field form End Dam using End Dam tool.
2. Attach Barge Clip to wall panels with 1/4-14 x 7/8" Lap Tek fasteners at each major rib.
3. Notch Barge Trim around ribs of roof panels and attach with 1/4-14 x 7/8" Lap Tek Zac at Major Ribs. Fasteners must penetrate tape sealant.
RAKE START - 7" BARGE

1/4-14 X 1 1/4" HWH TEK2 FASTENER
BARGE TRIM
RAKE ANGLE
1/4-14 X 7/8" LAP TEK FASTENERS (2 PER CLIP @ MAJOR RIBS)
WALL FRAMING FASTENER
BARGE CLIP (@ 5'-0" O.C.)
WALL PANEL

3/32" X 3/8" ROLL TAPE SEALANT (CONT. ALONG TOP OF PANEL RIB)
1/4-14 X 7/8" LAP TEK ZAC FASTENER (@ 1'-0" O.C.)
(DO NOT FASTEN THROUGH TOP OF BARGE CLIP)

NOTES: 1. Place continuous run of Roll Tape Sealant on top of panel rib.
2. Install Barge Clip to wall panel at 5'-0" O.C. with (2) 1/4-14 x 7/8" Lap Tek fastener.
3. Attach Barge Trim to roof panel at 1'-0" O.C. using 1/4-14 x 7/8" Lap Tek ZAC fasteners. **DO NOT ATTACH TO CLIPS.**

1/4-14 X 7/8" LAP TEK ZAC FASTENER (@ 1'-0" O.C.)
BARGE TRIM
BARGE CLIP (@ 5'-0" O.C.)
1/4-14 X 7/8" LAP TEK FASTENER (2 PER CLIP @ MAJOR RIBS)
WALL PANEL
FRAMING FASTENER
RAKE ANGLE

MIRAGE II PANEL
#10-16 X 1" TEK2 PANCake HEAD FASTENER (2 PER CLIP)
MIRAGE II CLIP
ROOF STRUCTURAL MEMBER
3/32" X 3/8" ROLL TAPE SEALANT (CONT. ALONG TOP OF PANEL RIB)
1/4-14 X 1 1/4" HWH TEK2 FASTENER
RAKE ANGLE

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.

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TECHNICAL SERVICE
1-800-950-9082
NOTE: WHEN USING 7” BARGE TRIM, INSTALLER MAY USE EITHER BARGE CLEAT OR BARGE CLIP.

MIRAGE II PANEL

#10-16 X 1” TEK2 PANCAKE HEAD FASTENER

MIRAGE II PANEL CLIP

ROOF STRUCTURAL MEMBER

1/4-14 X 7/8” LAP TEK ZAC FASTENER (@ 1'-0” O.C.)

3/32” X 3/8” ROLL TAPE SEALANT (CONT. ALONG TOP OF PANEL RIB)

BARGE TRIM

FIELD CUT CLIP AS REQUIRED

1/4-14 X 1 1/4” HWH TEK2 FASTENER

RAKE ANGLE

1/4-14 X 7/8” LAP TEK FASTENER (2 PER CLIP @ MAJOR RIBS)

FRAMING FASTENER

BARGE CLIP (@ 5'-0” O.C.)

WALL PANEL

NOTES: 1. Place continuous run of Roll Tape Sealant on top of panel rib.
2. Install Barge Clip to wall panel at 5'-0” O.C. with (2) 1/4-14 x 7/8” Lap Tek fastener.
3. Attach Barge Trim to roof panel at 1'-0” O.C. using 1/4-14 x 7/8” Lap Tek ZAC fasteners.

**DO NOT ATTACH TO CLIPS.**
NOTES: 1. Place continuous run of Roll Tape Sealant on top of panel rib.
2. Install Rake Tie-In Trim to panel rib with 1/4-14 x 7/8" Lap Tek ZAC fastener at 1'-0" O.C.
**DO NOT ATTACH TO CLIPS.**
RAKE END TIE-IN DETAIL

COUNTER FLASHING SEALANT (NOT BY MCELROY)
COUNTER FLASHING (NOT BY MCELROY)
RAKE TIE-IN TRIM
1/4-14 X 7/8" LAP TEK ZAC FASTENER (@ 1'-0" O.C.)
3/32" X 3/8" ROLL TAPE SEALANT (CONT. ALONG TOP OF PANEL RIB)
MIRAGE II PANEL
ROOF STRUCTURAL MEMBER
FIELD CUT CLIP AS REQUIRED
#10-16 X 1" TEK2 PANCAKE HEAD FASTENER
BUILDING LINE (NOT BY MCELROY)
FASTENER (NOT BY MCELROY)
FLEXIBLE MEMBRANE (NOT BY MCELROY)
1/4-14 X 1 1/4" HWH TEK2 FASTENER (@ EACH STRUCTURAL MEMBER)
RAKE ANGLE

NOTES: 1. Place continuous run of Roll Tape Sealant on top of panel rib.
2. Install Rake Tie-In Trim to panel rib with 1/4-14 x 7/8" Lap Tek ZAC fastener at 1'-0" O.C.
**DO NOT ATTACH TO CLIPS.**

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.
NOTES: 1. Place continuous run of 1" Roll Tape Sealant on panels where Outside Closures will be installed.
2. Install Outside Closures and place a continuous run of 1" Roll Tape along top of Outside Closures.
3. Install High Side Tie-In Trim and fasten to each panel rib with 1/4-14 x 7/8" Lap Tek ZAC fasteners. Fasteners must penetrate sealant.

NOTE: SOME TRIM ITEMS AND FASTENERS HAVE BEEN REMOVED FOR CLARITY OF ISOMETRIC DETAIL.
FLOATING RIDGE DETAIL

FLOATING RIDGE FLASHING
1/4-14 X 7/8" LAP TEK ZAC FASTENER (@ MAJOR RIBS)
MIRAGE II CLIP
MIRAGE II PANEL

#10-16 X 1" TEK2 PANCAKE HEAD FASTENER (2 PER CLIP)
ROOF STRUCTURAL MEMBER

OUTSIDE CLOSURE W/ 1" ROLL TAPE SEALANT (TOP & BOTTOM)

NOTES: 1. Place continuous run of 1" Roll Tape Sealant on panels where Outside Closures will be installed.
2. Install Outside Closures and place a continuous run of 1" Roll Tape along top of Outside Closures.
3. Install Ridge Flashing and fasten to each panel rib with 1/4-14 x 7/8" Lap Tek ZAC fasteners. Fasteners must penetrate sealant.
Fixed Ridge Detail

Fixed Ridge Flashing:
- 1/4-14 x 7/8" Lap Tek ZAC Fastener (@ Major Ribs)

Mirage II Clip:
- #10-16 x 1" Tek2 Pancake Head Fastener (2 per Clip)

*MIRAGE II PANEL

Pan-Up Panel

Outside Closure w/ 1" Roll Tape Sealant (Top & Bottom)

Notes:
1. Place continuous run of 1" Roll Tape Sealant on panels where Outside Closures will be installed.
2. Install Outside Closures and place a continuous run of 1" Roll Tape along top of Outside Closures.
3. Install Ridge Flashing and fasten to each panel rib with 1/4-14 x 7/8" Lap Tek ZAC fasteners. Fasteners must penetrate sealant.

*MIRAGE II PANEL

Roof Structural Member

Pan-Up Panel

Alternate Fixed Ridge Flashing

Fixed Ridge Flashing

*Note: Some trim items and fasteners have been removed for clarity of isometric detail.
NOTES: 1. Place continuous run of 1” Roll Tape Sealant on panels where Outside Closures will be installed.
2. Install Outside Closures and place a continuous run of 1” Roll Tape along top of Outside Closures.
3. Install Hip Flashing and fasten to each panel rib with 1/4-14 x 7/8” Lap Tek ZAC fasteners. Fasteners must penetrate sealant.
NOTES: 1. Place continuous run of 1" Roll Tape Sealant on panels where Outside Closures will be installed.
2. Install Outside Closures and place a continuous run of 1" Roll Tape along top of Outside Closures.
3. Install Hip Flashing and fasten to each panel rib with 1/4-14 x 7/8" Lap Tek ZAC fasteners. Fasteners must penetrate sealant.
**NOTE:**
REQUIRED ON SLOPES
LESS THAN 3:12

**FACTORY APPLIED SEAM SEALANT**

**MIRAGE II CLIP**

**PANCAKE HEAD FASTENER (2 PER CLIP)**

**MIRAGE II PANEL**

**NOTE:**
SOME TRIM ITEMS AND
FASTENERS HAVE BEEN REMOVED
FOR CLARITY OF ISOMETRIC
DETAIL.

DETAIL SHOWN OVER OPEN FRAMING.
DETAILS OVER SOLID DECKING OR
RIGID INSULATION ARE SIMILAR.
**GUTTER/BARGE JUNCTION**

Stop end gutter as shown and extend 5/8" past end of building. Cut barge to allow gutter end overlap. Cut away roll edge of barge and fasten to gutter with rivets.

**ATTACH TRIM W/ 1/4-14 X 7/8" LAP TEK ZAC FASTENER (@ EACH RIB)**

Field notch trim as needed for ribs.

**STOP END SHEETS UNDER TRIM**

**POP RIVET TOPS TOGETHER AFTER ASSEMBLY**

**BARGE TRIM**

**BARGE CLIP OR BARGE CLEAT UNDER**

**NOTE:** Some trim items and fasteners have been removed for clarity of isometric detail.