

GENERAL DETAILS

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EA6010 - CFR GENERAL NOTES

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DESIGN AND PERFORMANCE CRITERIA

ROOF SYSTEM
THE ROOF SYSTEM CONSISTS OF 3 GAUGE PANELS WITH A NOMINAL COVERAGE OF 2" AND A PANEL SEAM THAT IS 1 1/2" x 1/2" OR 1 1/2" HIGH DEPENDING ON CLIP TYPE USED. REFER TO THE DETAILS AND SECTIONS FOR SPECIFIC PANEL, CLIP TYPE.

PANEL CLIP SPACING
THE ROOF SYSTEM USES A CLIP TO ATTACH THE PANELS TO THE ROOF SECONDARY MEMBERS. PANEL CLIP SPACING REQUIREMENTS AS A STANDARD ARE REQUIRED AT EVERY PURLIN AND/OR ROOF JOIST. LOOK IN THE DETAIL DRAWINGS FOR YOUR SPECIFIC FASTENER REQUIREMENTS. FASTENER PULL-OUT VALUES ARE DEPENDENT UPON ROOF LOCATION, SIZE, BUILDING CODE AND LOADING.

PANEL CLIP FASTENING REQUIREMENTS
STANDARD CLIP FASTENERS ARE DESIGNED TO FASTEN TO A STEEL STRUCTURAL MEMBER OF .060" MINIMUM THICKNESS (16 GA.) A MINIMUM OF TWO FASTENERS ARE REQUIRED TO ENGAGE THE STRUCTURAL MEMBER AT EVERY PANEL CLIP LOCATION. IN CERTAIN INSTANCES, THREE FASTENERS MAY BE REQUIRED PER CLIP. LOOK IN THE DETAIL DRAWINGS FOR YOUR SPECIFIC FASTENER REQUIREMENTS. FASTENER PULL-OUT VALUES ARE DEPENDENT UPON ROOF LOCATION, SIZE, BUILDING CODE AND LOADING.

ROOF TOP UNITS AND CURB SUPPORTS
THE ROOF SYSTEM IS ELEVATED ABOVE THE TOP OF THE ROOF SECONDARY STRUCTURAL MEMBERS AT ROOF JOIST LEVELS. THE SECONDARY STRUCTURAL MEMBERS REFER TO THE DETAILS FOR PROPER JAMB LOCATIONS AND DIMENSIONS.

THE ROOF SYSTEM IS DESIGNED AS A FLOATING SYSTEM. CURB FRAMING AND FLASHING MUST BE DESIGNED ACCORDINGLY TO ALLOW THE CURB SYSTEM TO MOVE WITH THE ROOF DURING THERMAL EXPANSION AND CONTRACTION. ROOF CURBS SHALL NOT SPAN THE RIDGE OF A BUILDING.

INSULATION REQUIREMENTS
INSULATION IS RECOMMENDED TO BE USED IN ALL ROOF APPLICATIONS TO AVOID PROBLEMS WITH CONDENSATION FORMING ON THE UNDERSIDE OF THE SHEETING. THE RECOMMENDED INSTALLATION TEMPERATURE RANGE IS 20 TO 90 DEGREES FAHRENHEIT. AT COLDER TEMPERATURES, THE MASTIC BECOMES TOO SOFT FOR PRACTICAL HANDLING, ON COLD BUT SUNNY DAYS, THE PANEL SURFACES MAY BECOME WARM ENOUGH TO ACCEPT THE APPLICATION OF HEATED MASTIC EVEN THOUGH THE AIR TEMPERATURE IS BELOW 20 DEGREES FAHRENHEIT.

PAINTED ROOF
PAINTED STANDING SEAM ROOF PANELS ARE OFTEN PROVIDED BY MBS. IN THIS CASE, GUTTER BRACKETS AND OUTSIDE COVERS WILL BE PANEL CUT TO MATCH THE ROOF COLOR AS A STANDARD.

MASTIC APPLICATION

TEMPERATURE EXTREMES
TEMPERATURE EXTREMES MUST BE CONSIDERED DURING INSTALLATION OF THE ROOF DUE TO THE SENSITIVITY OF MASTIC. THE RECOMMENDED INSTALLATION TEMPERATURE RANGE IS 20 TO 90 DEGREES FAHRENHEIT. AT COLDER TEMPERATURES, THE MASTIC STIFFENS RESULTING IN LOSS OF ADHESION AND COMPRESSIBILITY. AT HIGHER TEMPERATURES, THE MASTIC BECOMES TOO SOFT FOR PRACTICAL HANDLING, ON COLD BUT SUNNY DAYS, THE PANEL SURFACES MAY BECOME WARM ENOUGH TO ACCEPT THE APPLICATION OF HEATED MASTIC EVEN THOUGH THE AIR TEMPERATURE IS BELOW 20 DEGREES FAHRENHEIT.

WHEN OVERHEAT TEMPERATURES FALL BELOW FREEZING, THE MASTIC SHOULD BE STORED IN A HEATED ROOM SO IT WILL BE WARM ENOUGH TO USE THE FOLLOWING DAY. ON HOT DAYS, THE MASTIC CARTONS SHOULD BE STORED OFF THE ROOF IN A COOL, SHADED AREA. WHILE ON THE ROOF, MASTIC ROLLS SHOULD BE KEPT SHADDED UNTIL ACTUAL USE.

NEVER USE HOT WEATHER IT IS RECOMMENDED THAT THE FASTENERS BE TIGHTENED SLOWLY AND ONLY TIGHT ENOUGH THAT THE MASTIC IS IN FULL CONTACT WITH THE PANEL. WAITING, THEN ON THE NEXT SUNNY DAY, COMPLETE THE TIGHTENING PROCESS AFTER THE SUN WARM THE PANEL AND FLASHING SURFACES.

CONTAMINATION
TO AVOID PROPER ADHESION AND SEALING, THE MASTIC MUST HAVE COMPLETE CONTACT WITH ADJOINING SURFACES. CONTAMINANTS SUCH AS WATER, OIL, DIRT AND DUST PREVENT SUCH CONTACT. THE PANEL AND FLASHING SURFACES MUST BE DRY AND THOROUGHLY CLEANED OF ALL CONTAMINANTS. BEFORE APPLYING TAPE MASTIC, THE MASTIC SHOULD BE CHECKED FOR CONTAMINANTS. IF THE MASTIC SURFACES ARE CONTAMINATED, IT MUST NOT BE USED.

DURING COOL WEATHER, CONDENSATION OR LIGHT MIST CAN ACCUMULATE ON THE PANEL AND FLASHING SURFACE AND NOT BE EASILY NOTICED. IT IS RECOMMENDED THAT THE MASTIC ALWAYS BE KEPT UNDER PROTECTIVE COVER AND THAT THE PANEL AND FLASHING SURFACES BE WIPED DRY IMMEDIATELY BEFORE INSTALLATION.

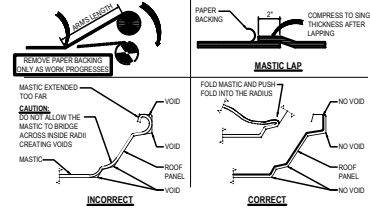
TAPE MASTIC IS PROVIDED WITH A PROTECTIVE PAPER TO REDUCE CONTAMINATION. IMMEDIATE REMOVAL OF THE PROTECTIVE PAPER WILL PREVENT THE MASTIC ADHESION TO THE PANEL OR FLASHING SURFACES. ALWAYS CHECK THAT THE PROTECTIVE PAPER IS COMPLETELY REMOVED. DO NOT REMOVE THE PROTECTIVE PAPER UNTIL IMMEDIATELY BEFORE THE PANEL OR FLASHING IS INSTALLED OVER THE MASTIC.

COMPRESSION
TO AVOID PROPER COMPRESSION AND SEAL, THE TAPE MASTIC MUST BE COMPRESSED BETWEEN THE PANEL AND FLASHING SURFACES WITH FIRM AND UNIFORM PRESSURE. IN MOST CASES, THE REQUIRED PRESSURE IS APLIED BY THE CLAMPING ACTION OF SCREWS PULLING THE ADJOINING SURFACES TOGETHER. HOWEVER, THE TAPE SEALANT'S RESISTANCE TO PRESSURE BECOMES GREATER IN COLD WEATHER.

DURING COOL WEATHER, THE FASTENERS MUST BE TIGHTENED SLOWLY TO ALLOW THE MASTIC TIME TO COMPRESS. IF THE FASTENERS ARE TIGHTENED TOO FAST, THE FASTENERS MAY STRIP OUT BEFORE THE MASTIC COMPRESSION IS COMPLETELY ACCOMPLISHED. LEAVING THE REST OF THE MASTIC INADEQUATELY COMPRESSED.

INNER CORNERS
OUTSIDE CORNERS, SUCH AS WHERE THE PANEL FLAT MEETS A RIB, IS USUALLY THE MOST CRITICAL AREA TO SEAL. A COMMON MISTAKE FOR THE INSTALLER IS TO BRIDGE THE RIDGE.

WHEN THE LAPPING PANEL OR FLASHING IS PUSHED INTO PLACE, THE BRIDGED MASTIC IS STRETCHED AND THINNED. THE MASTIC MAY THEN BE TOO THIN TO ADEQUATELY SEAL. THIS CRITICAL AREA, WHEN TAPE MASTIC IS APPLIED AT AN INSIDE RADIUS, IT IS RECOMMENDED THAT THE MASTIC BE FOLDED BACK, THEN PUSH THE MASTIC FOLD INTO THE RADIUS.



ERECTOR'S RESPONSIBILITY

REGULATIONS
ERECTOR'S RESPONSIBILITY FOR THE OCCUPATIONAL SAFETY AND HEALTH ACT, LOCAL, STATE, AND/OR FEDERAL AGENCIES MUST BE ADHERED TO AT ALL TIMES. MBS IS NOT RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE, WHICH MAY BE THE RESULT OF FAILING TO MEET ANY OF THESE REGULATIONS.

IN COMPLIANCE WITH THE HAZARD COMMUNICATION RULE 1910.1200, MATERIAL SAFETY DATA SHEETS (MSDS) HAVE BEEN PROVIDED FOR YOUR USE AND SAFETY. THESE DATA SHEETS SHOULD BE MADE AVAILABLE TO ALL PERSONNEL THAT COME IN CONTACT WITH THESE PRODUCTS. THESE DATA SHEETS WILL GIVE YOU THE NECESSARY INFORMATION TO PROPERLY HANDLE SUCH MATERIALS AND WHAT TO DO IN CASE OF AN EMERGENCY. THE MSDS SHEETS ARE LOCATED ONLINE AND ARE AVAILABLE UPON REQUEST.

THE ERECTOR OF THE ROOF SYSTEM IS RESPONSIBLE FOR THE SAFE EXECUTION OF THIS DETAIL. THESE INSTRUCTIONS ARE INTENDED TO DESCRIBE THE SEQUENCE AND PROPER PLACEMENT OF PARTS. THEY ARE NOT INTENDED TO PRESCRIBE COMPREHENSIVE SAFETY PROCEDURES. THE PROCEDURES IN THIS DETAIL ARE BELIEVED TO BE RELIABLE. HOWEVER, MBS SHALL NOT BE RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE DUE TO THE MISAPPLICATION OF THESE PROCEDURES, IMPROPER ERECTION TECHNIQUES, OR NEGLIGENCE.

HANDLING AND HOISTING ON ROOF PANELS
DO NOT PLACE BUNDLES OF PANELS ON THE ROOF STRUCTURE WITHOUT FIRST VERIFYING THE STRUCTURE WILL SAFELY SUPPORT THE CONCENTRATED WEIGHT OF THE PANELS AND THE WEIGHT OF THE INSTALLATION CREW. SOME ROOF STRUCTURES MAY NOT BE DESIGNED TO SUPPORT THE WEIGHT OF A FULL PANEL BUNDLE WITHOUT ADDITIONAL STRUCTURE SUPPORT.

DO NOT USE A ROOF PANEL AS A WORKING PLATFORM. AN UNSECURED PANEL COULD COLLAPSE UNDER THE WEIGHT OF A PERSON STANDING BETWEEN PURLINS OR ON THE PANEL END.

DO NOT WALK ON THE LAST INSTALLED PANEL RUN, AS THE UNSECURED EDGE COULD COLLAPSE UNDER A PERSON'S WEIGHT. WHEN INSTALLING CLIPS OR MAKING END LAP CONNECTIONS, ETC., STAND UNDER THE ROOF STRUCTURE WILL SUPPORT YOUR WEIGHT.

AN APPROVED AND SAFE WALKING PLATFORM SHOULD BE USED IN HIGH TRAFFIC AREAS TO PREVENT THE ROOF PANEL FROM BEING DEFORMED, SCORCHED OR SQUEEZED.

SAFETY EQUIPMENT
THE USE OF SAFETY EQUIPMENT FOR THE ROOF PANEL INSTALLATION IS RECOMMENDED AT ALL TIMES DURING THE INSTALLATION PROCESS. HOWEVER, WHEN USING LADDERS, ENSURE THAT THE CLASP BELT HOODS AND WIRE CABLES ARE COVERED IN SUCH A MANNER THAT THEY WILL NOT SCRATCH THE PANEL SURFACE IF ACCIDENTALLY DRAGGED ALONG THE PANEL.

CREW SIZE
THE SIZE OF THE INDIVIDUAL ROOF PANELS SHOULD BE CONSIDERED WHEN DETERMINING CREW SIZE. IT IS RECOMMENDED THAT UNDER NORMAL CONDITIONS, THERE BE ONE PERSON FOR EVERY TEN FEET OF PANEL LENGTH, PLUS ONE.

PANEL OVERHANG
THE END OF UNSUPPORTED (CANTILEVERED) PANELS AT THE EAVE OR RIDGE, STANDING ON THE CANTILEVER PORTION MAY RESULT IN PANEL COLLAPSE.

POINT LOADS
PANELS NOT SUPPORTED BY THE STRUCTURAL STEEL PANELS ARE DESIGNED TO SUPPORT UNIFORM LOADS, WHICH ARE EVENLY DISTRIBUTED OVER THE PANEL SURFACES. POINT LOADS THAT OCCUR IN SMALL OR CONCENTRATED AREAS, SUCH AS HEAVY EQUIPMENT, LADDER, OR PLATFORM FEET, ETC. MAY CAUSE PANEL DEFORMATION OR EVEN PANEL COLLAPSE.

SLIP SURFACES
PANEL SURFACES AND STRUCTURAL STEEL SURFACES ARE HARD, SMOOTH, AND NONABSORBENT, WHICH CAUSES THESE SURFACES TO BE VERY SLIP WHEN WET OR COVERED WITH SNOW OR ICE. EVEN BLOWING SAND OR HEAVY DUST CAN MAKE THESE SURFACES DIFFICULT TO WALK ON WITHOUT SLIPPING.

UNPAINTED PANEL SURFACES ARE OFTEN COATED WITH TO ACCOMMODATE THE PANEL FABRICATION PROCESS. ALTHOUGH DESIGNED TO WASH AWAY OR EVAPORATE DURING NORMAL WEATHER, THE OIL ON NEW PANELS CAN BE EXTREMELY SLIPY, ESPECIALLY DURING PERIODS OF LIGHT FOG AND RAIN. CAUTION MUST BE EXERCISED TO PREVENT SLIPPING AND FALLING ON THE ROOF SURFACE OR EVEN BLENDING OFF THE ROOF. NON-SLIP FOOTWEAR IS A NECESSITY AND NON-SLIP WORKING PLATFORMS ARE RECOMMENDED.

ELECTRICAL CONDUCTANCE
METAL PANELS ARE EXCELLENT ELECTRICAL CONDUCTORS. A COMMON CAUSE OF INJURY IS THE CONTACT OF METAL PANELS WITH POWER LINES DURING HANDLING AND INSTALLATION. THE LOCATION OF ALL POWER LINES MUST BE NOTED AND, IF POSSIBLE, FLAGGED. THE INSTALLATION PROCESS MUST BE ROUTED TO AVOID ACCIDENTAL CONTACT WITH ALL POWER LINES AND HIGH VOLTAGE SERVICES AND EQUIPMENT. ALL TOOLS AND POWER CORDS MUST BE PROPERLY INSULATED AND GROUNDED AND THE USE OF APPROVED GROUND LIFT CIRCUIT BREAKERS IS RECOMMENDED.

FALSE SECURITY OF INSULATION
BLANKET AND RIDGE BOARD INSULATION BLOCK THE INSTALLER'S VIEW OF THE GROUND BELOW THE ROOF. SERIOUS INJURY CAN OCCUR WHEN THE INSTALLER GETS A FALSE SENSE OF SECURITY BECAUSE HE CANNOT SEE THE GROUND AND STEPS THROUGH THE INSULATION.

SHARP EDGES
SHARP EDGES ON PANELS AND FLASHING ARE RAZOR SHARP AND CAN CAUSE SEVERE CUTS IF PROPER PROTECTIVE HAND GEAR IS NOT WORN. BE CAREFUL NOT TO INJURE OTHERS WHILE MOVING PANELS AND FLASHING.

COORDINATION WITH OTHER TRADES
SUPPORTS FOR THE ROOF SYSTEM SHALL BE PROVIDED AND ARE REQUIRED AS SHOWN IN THE SECTIONS AND AS NOTED IN THESE SPECIFICATIONS. ALL NECESSARY CLEARANCE DIMENSIONS FOR PROPER ELEVATIONS RELATIVE TO THE ROOF PANELS HAVE BEEN SHOWN. THE ERECTOR SHALL BE RESPONSIBLE FOR COORDINATING THESE DIMENSIONAL REQUIREMENTS WITH OTHER TRADES ASSOCIATED WITH THE BUILDING ROOF SYSTEM.

ERECTION CARE
THE ERECTOR MUST BE SKILLED IN THE ERECTION OF METAL BUILDING SYSTEMS AND IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LOCAL, FEDERAL AND STATE CONSTRUCTION AND SAFETY REGULATIONS INCLUDING OSHA REGULATIONS AS WELL AS ANY APPLICABLE REQUIREMENTS OF LOCAL, NATIONAL, OR INTERNATIONAL UNION RULES OR PRACTICES. THE ERECTOR REMAINS SOLELY RESPONSIBLE FOR THE SAFETY AND APPROPRIATENESS OF ALL TECHNIQUES AND METHODS UTILIZED BY ITS CREW IN THE ERECTION OF THE METAL BUILDING SYSTEM AND/OR THE ROOF SYSTEM. THE ERECTOR IS ALSO RESPONSIBLE FOR SUPPLYING ANY SAFETY DEVICES SUCH AS SCAFFOLDS, RAINWATS, NETS, ETC. WHICH MAY BE REQUIRED TO SAFELY ERECT THE METAL BUILDING SYSTEM AND/OR ROOF SYSTEM.

THE ERECTOR OF THE ROOF SYSTEM SHALL EXERCISE GREAT CARE AND ATTENTION TO THE DETAILS AS SHOWN IN THESE DRAWINGS TO INSURE A SECURE AND PROPER FIT OF ALL COMPONENTS. MBS SHALL NOT BE RESPONSIBLE FOR SUPPLYING AND/OR COORDINATING THE ERECTION OF THE ROOF SYSTEM WITH OTHER TRADES.

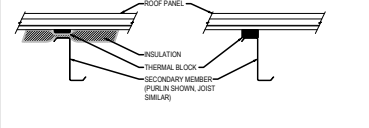
DUE CONSIDERATION MUST BE GIVEN BY THE ERECTOR TO THE EFFECTS OF THERMAL EXPANSION AND CONTRACTION WHEN ERECTING A ROOF TO EN TO AN EXISTING STRUCTURE TO INSURE A SAFE, SECURE, WEATHER TIGHT CONDITION. FLASHING FOR THE INS TO EXISTING BUILDINGS IS TYPICALLY NOT INCLUDED AS PART OF THE MATERIAL PROVIDED BY MBS. REFER TO THE SECTION DETAILS FOR SPECIFIC MATERIALS PROVIDED BY MBS.

THERMAL BLOCKS

PURPOSE
THERMAL BLOCKS ARE USED IN BOTH INSULATED AND UN-INSULATED CONDITIONS. THEY PROVIDE IMPROVED THERMAL PERFORMANCE VERSUS INSULATION WHICH ARE COMPRESSED AT THE SECONDARY MEMBERS UNDER THE PANEL. THEY ALSO PROVIDE SUPPORT TO THE PANEL, AND REDUCE PANEL FLUTTERING AND RUMBLE IN AN INSULATED CONDITION. IN UN-INSULATED CONDITIONS, THERMAL BLOCKS OR FOAM SPACERS THAT HAVE ADHESIVE TO ATTACH TO THE SECONDARY MEMBER TO PREVENT THEM FROM FALLING OUT OF THE CEILING.

LOCATION
THERMAL BLOCKS OR FOAM SPACERS ARE TO BE USED OVER EVERY SECONDARY MEMBER WITH THE EXCEPTION OF THE EAVE MEMBER WHERE THE EAVE PLATE IS LOCATED.

INSULATED ROOF					UNINSULATED ROOF				
INSULATION	THICK	BLOCK	CLIP	CLIP	BLOCK	CLIP	CLIP	CLIP	CLIP
R-2	2"	N/A	N/A	SHORT	R-2	1 1/2"	SHORT	R-2	1 1/2"
R-3	3"	N/A	N/A	SHORT	R-3	1 1/2"	TALL	R-3	1 1/2"
R-4	4"	N/A	N/A	SHORT	R-4	1 1/2"	TALL	R-4	1 1/2"
R-5	5"	H3031	1"	TALL	R-5	1 1/2"	H3031	1"	TALL
R-6	6"	H3031	1"	TALL	R-6	1 1/2"	H3031	1"	TALL
R-7	7"	H3031	1"	TALL	R-7	1 1/2"	H3031	1"	TALL
R-8	8"	H3031	1"	TALL	R-8	1 1/2"	H3031	1"	TALL
R-9	9"	H3031	1"	TALL	R-9	1 1/2"	H3031	1"	TALL
R-10	10"	H3031	1"	TALL	R-10	1 1/2"	H3031	1"	TALL
R-11	11"	H3031	1"	TALL	R-11	1 1/2"	H3031	1"	TALL
R-12	12"	H3031	1"	TALL	R-12	1 1/2"	H3031	1"	TALL



ROOF SYSTEM COMPONENT WITH DETAILING

DEFINITION
COMPONENTS WITH DETAILING DEFINITION IS A CASE WHERE MBS IS PROVIDING THE ROOF SYSTEM TO BE USED IN CONJUNCTION WITH ANOTHER STRUCTURE. MBS REFERS TO THAT AS "COMPONENTS WITH DETAILING" THIS MEANS THAT MBS SHALL CALCULATE THE QUANTITIES AND LENGTHS FOR THE MATERIAL REQUIRED. MBS IS PERFORMING NO ENGINEERING STUDY OF THE EXISTING STRUCTURE. THE ENGINEER OF RECORD ON THE PROJECT SHALL BE RESPONSIBLE FOR COORDINATING THE ROOF SYSTEM WITH THE OTHER TRADES OF THE PROJECT TO INSURE A SAFE, QUALITY AND PROPER APPLICATION OF THE ROOF SYSTEM.

DIAPHRAGM
THE ROOF IS DESIGNED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION AND SHALL NOT ACT AS A DIAPHRAGM FOR RESISTING LATERAL LOAD FORCES OR PROVIDING LATERAL STABILITY TO THE ROOF STRUCTURAL MEMBERS. DUE CONSIDERATION FOR THIS MUST BE ADDRESSED BY THE PROJECT ENGINEER OF RECORD. IN ADDITION, THE ROOF SYSTEM BECAUSE IT IS DESIGNED TO FLOAT, WILL NOT SUPPORT STRUCTURAL MEMBERS LATERALLY. WHEN REPLACING AN EXISTING SCREED DOWN ROOF, ADDITIONAL BRACING MAY BE REQUIRED TO LATERALLY SUPPORT THE MEMBERS. ENGINEERING MATERIAL FOR THESE USES SHALL NOT BE PROVIDED BY MBS.

BUILDING & PANEL PREPARATION

STEP 1: PLUMB AND SQUARE
THE FIRST STEP IN THE SUCCESSFUL INSTALLATION OF WALL PANELS IS TO MAKE THE PRIMARY FRAMING PLUMB AND SQUARE. FOR BEST RESULTS, IT IS RECOMMENDED THAT A PLUMB LINE BE USED WHEN ERECTING THE STRUCTURAL STEEL. MAKE SURE THAT THE FOUNDATION AND BUILDING STRUCTURE IS SQUARE, LEVEL, AND CORRECT TO THE OUT/OUT STEEL LINE DIMENSIONS.



FIELD CUTTING PANELS

WHEN FIELD CUTTING OR MITERING WALL PANELS, NON-ABRASIVE CUTTING TOOLS SUCH AS NIBBLERS OR TIN SNIPS SHALL BE USED. ABRASIVE CUTTING TOOLS SUCH AS MECHANICAL GRINDERS OR POWER SANDERS CAN DAMAGE THE MATERIAL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS. THE USE OF NON-APPROVED CUTTING DEVICES MAY VOID THE FACTORY WARRANTY.

WHEN FIELD CUTTING OR MITERING WALL PANELS FROM THE PANEL TO PREVENT SCRATCHING AND/OR CORROSION, THE MANUFACTURER WILL NOT ACCEPT CLAIMS FOR DAMAGE/DETERIORATION DUE TO USE OF UNAPPROVED TOOLS.

SPECIAL CONDITION AT A STRONG-BACK EAVE BEAM

IF THIS PROJECT HAS AN EAVE BEAM WITH (2) PURLINS, AS SHOWN, DO NOT ATTACH ROOF CLIPS TO THE "SECOND" PURLIN.



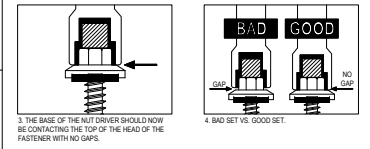
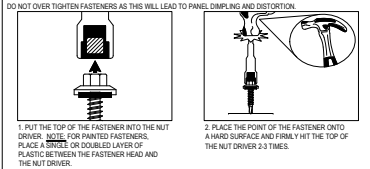
FASTENER INSTALLATION

RECOMMENDED TOOL TYPES - SEE ALSO FASTENER SCHEDULE
1. 2000 - 2000 RPM SCREW GUN WITH TORQUE ADJUSTABLE CLUTCH MANUAL OR ELECTRIC RIVET TOOL.

DO NOT USE IMPACTING TOOLS
TO AVOID PROPER FORCE TO THE TOOL, EXTENSION CORDS SHOULD BE CHECKED FOR PROPER WIRE SIZE/CORD LENGTH.
16 GAUGE WIRE, MAXIMUM CHORD LENGTH = 150'
14 GAUGE WIRE, MAXIMUM CHORD LENGTH = 200'
12 GAUGE WIRE, MAXIMUM CHORD LENGTH = 300'

REVISED INFO:
SET THE RIVET DRIVER AS DESCRIBED BEFORE TO INSTALLING FASTENERS TO PREVENT FASTENER WOBBLING. SOCKET EXTENSIONS (1" OR 2") ARE RECOMMENDED TO BE USED FOR INSTALLING PANEL CLIP FASTENERS TO MAINTAIN VERTICAL FASTENER INSTALLATION.

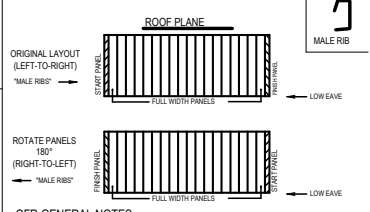
EXCESSIVE PRESSURE CAN CAUSE DRILL POINT FAILURE. LET THE FASTENER DO THE WORK.
DO NOT OVERTIGHTEN FASTENERS AS THIS WILL LEAD TO PANEL DUBLING AND DISTORTION.



ROOF SHEETING DIRECTION

1. THE ROOF SHEETING PLAN IS SHOWN WITH THE ROOF PANELS BEING ERECTED FROM "LEFT TO RIGHT". IF THE DESIRE IS TO ERECT THE ROOF PANELS FROM "LEFT TO RIGHT", FOLLOW THE ROOF SHEETING PLAN AS SHOWN. IF THE DESIRE IS TO ERECT THE ROOF PANELS FROM "RIGHT TO LEFT", FOLLOW THE INSTRUCTIONS SHOWN BELOW.

2. WHEN SETTING BUNDLES OF PANELS ON THE ROOF, THE "MALE RIB" MUST ALWAYS BE AWAY FROM THE END OF THE BUILDING WHERE THE SHEETING WILL BEGIN.



CFR GENERAL NOTES

GENERAL ROOF PANEL NOTES

EA6010

Detailer Notes:

1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.

EA6012 - CFR MODULARITY GUIDANCE

Download the DWG file by clicking here.

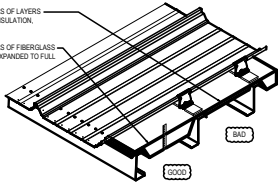
SPECIAL ATTENTION MUST BE GIVEN TO INSULATION SAG AND RECOMMEND PRE-DRILLING TO LOCATE CLIPS. MODULARITY TOOLS ARE AVAILABLE TO AID IN MODULARITY.

ENSURE THE INSULATION IS PERMITTED TO SAG AT MID-SPAN BETWEEN ROOF SECONDARY MEMBERS AND EXPANDED TO THE FULL THICKNESS WHILE STILL KEEPING CONTACT WITH BOTTOM OF PANEL.

DO NOT PULL THE INSULATION TAUT AS THIS WILL SIGNIFICANTLY REDUCE THE THERMAL PERFORMANCE OF THE ROOF SYSTEM AND COULD CAUSE ROOF PANEL MODULARITY ISSUES.

SINGLE OR MULTI LAYERS OF FIBERGLASS BLANKET INSULATION, PULLED TOO TIGHT

SINGLE OR MULTI LAYERS OF FIBERGLASS BLANKET INSULATION, EXPANDED TO FULL THICKNESS



PRE-DRILL ONE PLOT HOLE FOR ROOF PANEL CLIPS AT MID-SPANS, HIGH SIDE OR RIDGE AND PANEL END LAPS, IF ANY.

INSTALL NEXT VOID CLOSURE AT BUILDING EAVE.

ROOF PANEL CLIP

RAKE ANGLE

START PANEL

VOID CLOSURE

MEASURE OVER 2" FROM CENTER OF INSTALLED VOID CLOSURE AND MARK ON LEAVE PLATE TAPE MASTIC. INSTALL NEXT VOID CLOSURE AS SHOWN.

USE MODULARITY CLAMP(S) TO HOLD PANEL TRAPEZOID AT 5/16" WIDE ALONG FULL LENGTH OF PANEL SEAM. SEE SECTION A.

USE MODULARITY TOOLS TO HOLD PANEL CLIPS IN PLACE. PRIOR TO FASTENING, TO MAINTAIN A CONSTANT 24" WIDE PANEL COVERAGE.

DO NOT ADJUST THE PANEL WIDTH BY MORE THAN ± 1/8" ON ANY PANEL.

ADJUSTABLE MODULARITY TOOL (BY/OUT) MK. H9510

MODULARITY CLAMP (BY/OUT) MK. H7150

CFR MODULARITY TOOL (SUPPLIED MK. H7101)

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MODULARITY CLAMP (BY/OUT) MK. H7150

CFR MODULARITY TOOL (SUPPLIED MK. H7101)

MEASURE OVER 2" FROM CENTER OF INSTALLED VOID CLOSURE AND MARK ON LEAVE PLATE TAPE MASTIC. INSTALL NEXT VOID CLOSURE AS SHOWN.

USE MODULARITY CLAMP(S) TO HOLD PANEL TRAPEZOID AT 5/16" WIDE ALONG FULL LENGTH OF PANEL SEAM. SEE SECTION A.

USE MODULARITY TOOLS TO HOLD PANEL CLIPS IN PLACE. PRIOR TO FASTENING, TO MAINTAIN A CONSTANT 24" WIDE PANEL COVERAGE.

DO NOT ADJUST THE PANEL WIDTH BY MORE THAN ± 1/8" ON ANY PANEL.

ADJUSTABLE MODULARITY TOOL (BY/OUT) MK. H9510

MODULARITY CLAMP (BY/OUT) MK. H7150

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ADJUSTABLE MODULARITY TOOL (BY/OUT) MK. H9510

MODULARITY CLAMP (BY/OUT) MK. H7150

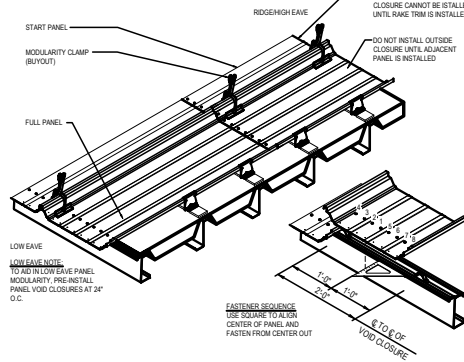
CFR MODULARITY TOOL (SUPPLIED MK. H7101)

PANEL MODULARITY SEQUENCE

THE PROCEDURES AND SEQUENCE SHOWN ARE RECOMMENDED TO AID IN MAINTAINING PANEL MODULARITY. THE TOOLS SHOWN ARE NOT REQUIRED BUT RECOMMENDED TO AID INSTALLATION.

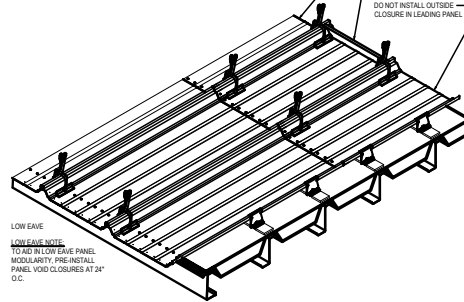
STAGE #1

1. AFTER INSTALLING START PANEL PRE-DRILL CLIP HOLES 2" O.C. AND MARK EAVE PLATE 1/4" O.C. TO LOCATE CENTER OF VOID CLOSURES AND CENTER OF PANEL FLAT.
2. ROLL FIRST FULL PANEL IN PLACE AND ALIGN CENTER OF PANEL FLAT TO SQUARE AS SHOWN BELOW.
3. APPLY THE LOW EAVE CLAMP AS SHOWN TO DRAW PANEL TIGHT TO CLOSURE.
4. INSTALL THE EAVE FASTENERS STARTING AT CENTER OF PANEL AND WORK BACK TO TRAILING RIB. THEN FROM CENTER OF PANEL TOWARD LEADING RIB.
5. AS PANEL INSTALLATION PROGRESS, INSTALL MORE CLAMPS UPSLOPE AS SHOWN.
6. ADD ADJUST OR LEAVE CLAMPS OFF TO MAINTAIN PANEL MODULARITY AS NECESSARY.
7. LEAVE CLAMPS ON FIRST FULL SEAM.



STAGE #2

1. INSTALL THE NEXT LOW EAVE PANEL AND ADD CLAMP.
2. REPEAT STEPS 2 THROUGH 6 FROM STAGE #1 NOTES.
3. LEAVE CLAMPS ON FIRST AND SECOND FULL SEAM.
4. INSTALL THE OUTSIDE CLOSURE IN THE FIRST FULL PANEL.
- 4.1. DO NOT INSTALL OUTSIDE CLOSURE IN THE LEADING PANEL.



STAGE #3

1. KEEP CLAMPS IN PLACE ON THE FIRST TWO SEAMS WITH THE EXCEPTION OF THE LOW EAVE CLAMP.
2. INSTALL THE NEXT LOW EAVE PANEL AND LEAP FROG THE CLAMP AS SHOWN.
3. INSTALL EAVE PLATE FASTENERS.
4. AS PANEL INSTALLATION PROGRESS, LEAP FROG CLAMPS FROM THREE SEAMS BACK ONTO PANEL SEAM AS SHOWN.
5. MAINTAIN TWO ROWS OF CLAMPS ON PREVIOUS SEAMS AS PANEL INSTALLATION CONTINUES.
6. REPEAT ALL STEPS 1 STAGES OF THIS METHOD THROUGHOUT THE ROOF PANEL ERECTION.



STAGE #4

1. KEEP CLAMPS IN PLACE ON THE FIRST TWO SEAMS WITH THE EXCEPTION OF THE LOW EAVE CLAMP.
2. INSTALL THE NEXT LOW EAVE PANEL AND LEAP FROG THE CLAMP AS SHOWN.
3. INSTALL EAVE PLATE FASTENERS.
4. AS PANEL INSTALLATION PROGRESS, LEAP FROG CLAMPS FROM THREE SEAMS BACK ONTO PANEL SEAM AS SHOWN.
5. MAINTAIN TWO ROWS OF CLAMPS ON PREVIOUS SEAMS AS PANEL INSTALLATION CONTINUES.
6. REPEAT ALL STEPS 1 STAGES OF THIS METHOD THROUGHOUT THE ROOF PANEL ERECTION.



MODULARITY GUIDANCE

SPECIAL ATTENTION TO ABOVE STEPS TO MAINTAIN PROPER PANEL MODULARITY AND THERMAL PERFORMANCE IS CRITICAL. FAILURE TO DO SO WILL RESULT IN UNSIGHTLY PANEL APPEARANCE.

EA6012

Detailer Notes:

- 1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.

EA6015 - CFR - HAND CRIMPING NOTES

Download the DWG file by clicking [here](#).

IMPORTANT NOTE:

THE INSTRUCTIONS ON THIS PAGE ONLY ADDRESS THE USE OF THE HAND CRIMPING TOOLS. INSTRUCTIONS FOR MECHANICAL SEAMING, IF REQUIRED, ARE OBTAINED IN THE SEAMING MANUAL, WHICH IS INCLUDED WITH THE MECHANICAL SEAMER KIT PROVIDED BY THE SEAMER RENTAL COMPANY.

SPECIALIZED SEAMING AND HAND CRIMPING TOOLS

THE FINISHED SEAM OF THE ROOF PANELS REQUIRES SPECIAL SEAMING TOOLS THAT ARE AVAILABLE ONLY THROUGH THE MBS. CAUTION: THE USE OF OTHER SEAMING / CRIMPING EQUIPMENT WILL RESULT IN FAULTY AND / OR DAMAGED SEAMS AND SHALL INVALIDATE ANY OF THE ROOF SYSTEMS MATERIAL AND WEATHER TIGHTNESS WARRANTIES.

SEAMING TOOL SOURCE

THE SEAMING TOOLS ARE PROVIDED BY MBS IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORDER DOCUMENTS. CONTACT YOUR SERVICE REPRESENTATIVE TO PURCHASE NECESSARY CRIMPING TOOLS. CONTACT THE SEAMER RENTAL COMPANY FOR RENTAL INFORMATION OF THE MECHANICAL SEAMER, IF REQUIRED.

CRIMPING & SEAMING REQUIREMENTS

THE DESIGN OF THIS STRUCTURE REQUIRES SEAMING TO MEET DESIGN AND CODE REQUIREMENTS. SEE THE SEAMING PLAN FOR ROOF PLANE SPECIFIC SEAMING REQUIREMENTS.

THERE ARE THREE SEAM TYPES POSSIBLE WITH THE NUCOR CFR ROOF AS NOTED BELOW. ALL OF THESE SEAM TYPES CAN BE ACHIEVED WITH THE AVAILABLE CRIMPERS. WHEN VISE LOCK AND VISE LOCK 360 SEAMS ARE REQUIRED, IT IS RECOMMENDED TO RENT A MECHANICAL SEAMER TO AID IN THE SEAMING PROCESS.

1. NUCOR ROLL LOCK™ (SEE NOTES 1 AND 2 BELOW)
2. NUCOR VISE LOCK® (SEE NOTES 1, 2 AND 3 BELOW)
3. NUCOR VISE LOCK 360® (SEE NOTES 2 AND 3 BELOW)

NOTE 1

NUCOR ROLL LOCK SEAM IN THE MINIMUM REQUIRED BY DESIGN FOR ANY ROOF PLANE. ADDITIONAL SEAMING MAY BE REQUIRED BY THE BUILDER OR ARCHITECT. IT IS THE ERECTOR'S RESPONSIBILITY TO PERFORM ANY ADDITIONAL CRIMPING / SEAMING REQUIRED BY THE BUILDER, ARCHITECT, ETC. ABOVE AND BEYOND THE DESIGN REQUIREMENT OF THE MBS.

NOTE 2

MULTIPLE SEAM TYPES MAY BE REQUIRED BY DESIGN IN DIFFERENT ZONES OF THE ROOF PLANE. REVIEW THE ROOF SEAMING PLAN CAREFULLY FOR ROOF PLANE SPECIFIC SEAMING REQUIREMENTS.

NOTE 3

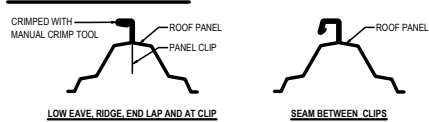
NOT ALL ROOF SYSTEMS REQUIRE MECHANICAL SEAMING. THE BUYER, ARCHITECT, OWNER, ETC. MAY ELECT TO SPECIFY A MECHANICALLY SEALED ROOF. OFTEN, FACTORY MUTUAL RATINGS ALSO REQUIRE A VISE LOCK 360 MECHANICAL SEAM.

SEE THE SEAMING MANUAL FOR IMPORTANT ERECTOR INFORMATION ABOUT THE VISE LOCK 360 SEAMER REQUIREMENTS.

WHEN TO CRIMP

AS WORK PROGRESSES, IT SHALL BE THE ERECTOR'S RESPONSIBILITY TO APPLY THE NUCOR ROLL LOCK HAND CRIMPING REQUIREMENTS IN SUCH A WAY AS TO ENSURE THAT THE PANELS HAVE BEEN ADEQUATELY SECURED AT THE COMPLETION OF EACH DAY'S WORK.

NUCOR ROLL LOCK SEAM™

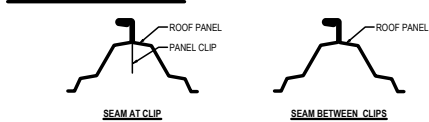


THE ROLL LOCK SEAM™ ROLL LOCK SEAM REQUIRES THE ROOF PANELS TO BE CRIMPED WITH A MANUAL CRIMPING TOOL BY THE COMPLETION OF EACH DAY'S WORK. THIS DOES NOT REQUIRE THE USE OF A MOTORIZED SEAMER.

CRIMPING IS REQUIRED AT THE FOLLOWING LOCATIONS

1. LOW EAVE 16"
2. RIDGE / HIGH SIDE 16"
3. ENDLAP 16"
4. AT CLIPS SINGLE CRIMP

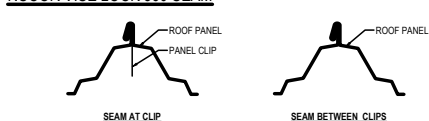
NUCOR VISE LOCK SEAM®



THE VISE LOCK SEAM® IS CONTINUOUS FULL LENGTH OF THE PANEL. THE VISE LOCK SEAM CAN BE ACHIEVED BY TWO DIFFERENT METHODS.

1. CONTINUALLY HAND CRIMPING THE SEAM WITH THE VISE LOCK HAND CRIMPER.
2. MECHANICALLY SEAMING WITH A VISE LOCK MOTORIZED SEAMER.

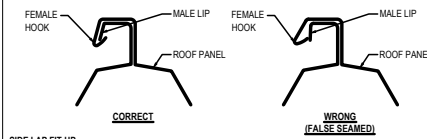
NUCOR VISE LOCK 360 SEAM®



THE VISE LOCK 360 SEAM® IS CONTINUOUS FULL LENGTH OF THE PANEL. THE VISE LOCK 360® SEAM CAN BE ACHIEVED BY TWO DIFFERENT METHODS.

1. CONTINUALLY HAND CRIMPING THE SEAM WITH THE VISE LOCK 360 HAND CRIMPER. THE SEAM NEEDS TO BE HAND CRIMPED INTO A VISE LOCK SEAM PRIOR TO USING THE VISE LOCK 360 CRIMPER.
2. MECHANICALLY SEAMING WITH A MOTORIZED SEAMER.

CHECK PANEL ASSEMBLY



SIDE LAP FIT-UP

BEFORE CRIMPING AND / OR SEAMING, INSPECT THE FULL LENGTH OF EACH PANEL SIDE LAP. CHECK THAT THE LIP AT THE MALE EDGE OF THE PANEL IS ENCLOSED BY THE HOOK OF THE ADJACENT PANEL'S FEMALE EDGE AS SHOWN IN THE DETAIL ABOVE. ANY CONDITIONS WHERE THE SEAM IS NOT ENGAGED PROPERLY MUST BE CORRECTED BEFORE ATTEMPTING TO CRIMP OR SEAM THE PANEL. FALSE SEAMING OCCURS WHEN THE PANELS ARE NOT PROPERLY ENGAGED. FALSE SEALED PANELS CANNOT PROVIDE THE REQUIRED WIND LOAD AND WEATHER RESISTANCE THEY WERE DESIGNED TO WITHSTAND. FALSE SEAMING CAN ALSO LEAD TO PANEL DAMAGE AND THE MBS NOR THE SEAMER RENTAL COMPANY CAN BE HELD RESPONSIBLE FOR ANY CONCERNS RELATED TO FALSE SEAMING.

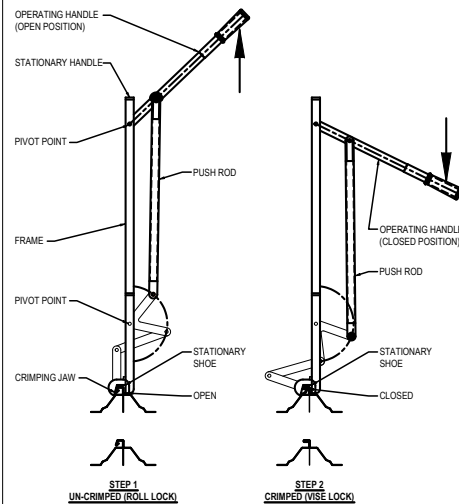
CLIP ALIGNMENT

BEFORE CRIMPING AND / OR SEAMING, INSPECT THAT EACH ROOF PANEL CLIP IS PROPERLY ENGAGED IN THE SIDE LAP ASSEMBLY. ANY DISPLACED CLIPS MUST BE CORRECTED BEFORE ATTEMPTING TO CRIMP / SEAM THE ROOF PANELS. PANEL CLIPS THAT ARE NOT PROPERLY ENGAGED AND ALIGNED CAN CAUSE FAULTY CRIMP / SEAM AND OBJECTIONABLE SEAM APPEARANCE. THE MBS NOR THE SEAMER RENTAL COMPANY CAN BE HELD RESPONSIBLE FOR ANY CONCERNS RELATED TO IMPROPERLY ALIGNED CLIPS.

SEAM DAMAGE

BEFORE CRIMPING AND / OR SEAMING, INSPECT THAT EACH ROOF PANEL MALE AND FEMALE ARE FREE FROM DISTORTION AND KINKS WHICH CAN LEAD TO DIFFICULTY AND / OR DAMAGE TO THE PANEL WHILE ATTEMPTING TO CRIMP / SEAM THE PANEL. ANY DISTORTIONS / KINKS MUST BE CORRECTED BEFORE ATTEMPTING TO CRIMP / SEAM THE PANELS. THE MBS NOR THE SEAMER RENTAL COMPANY CAN BE HELD RESPONSIBLE FOR ANY CONCERNS RELATED TO DAMAGE CAUSED IN THE FIELD.

MANUAL CRIMPING STAND-UP VISE LOCK CRIMPER



THE MANUAL CRIMPING PROCEDURE FOR THE STAND-UP VISE LOCK CRIMPER IS THE SAME PROCEDURE AS THE SMALL VISE LOCK HAND CRIMPER. THE STAND-UP AND SMALL HAND CRIMPERS CAN BE USED IN CONJUNCTION WITH EACH OTHER. THE MANUAL CRIMPERS CAN BE UTILIZED TO CREATE A CONTINUOUS SEAM BY MAKING ADJACENT CRIMPS WITH SLIGHT OVERLAP.

TOOL OPERATION

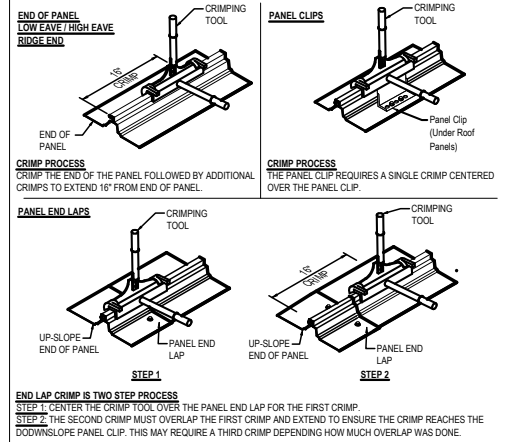
STEP 1

WITH THE HANDLE IN THE UPWARD (OPEN) POSITION, PLACE THE CRIMPER ON THE PANEL RIB. MAKE SURE THE CRIMPER HEAD IS COMPLETELY SEATED ON THE TOP OF THE PANEL RIB BEFORE CRIMPING. IT IS CRITICAL THAT THE OPERATING JAW IS TOWARD THE HOOK SIDE OF THE PANEL AS SHOWN ABOVE. OPERATING THE CRIMPER BACKWARDS ON THE PANEL WILL RESULT IN DAMAGE TO THE PANEL.

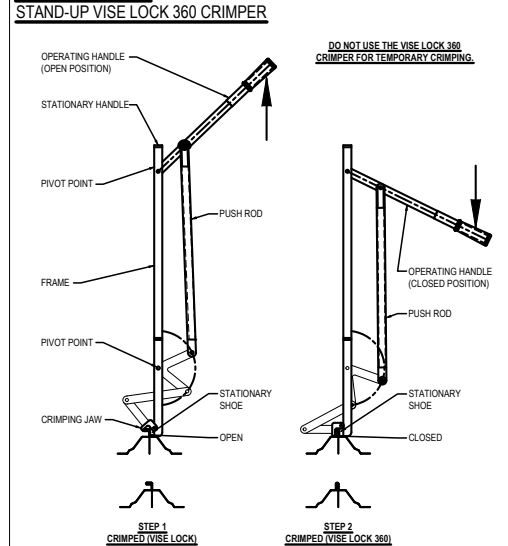
STEP 2

PUSH DOWN ON THE HANDLE UNTIL IT STOPS. RAISE HANDLE TO RELEASE CRIMPER. REPOSITION CRIMPER AS NECESSARY AND REPEAT TO EXTEND THE LENGTH OF THE CRIMP.

MANUAL CRIMPING - EAVE / END LAP / RIDGE / PANEL CLIP



MANUAL CRIMPING STAND-UP VISE LOCK 360 CRIMPER



THE MANUAL CRIMPING PROCEDURE FOR THE STAND-UP VISE LOCK 360 CRIMPER IS THE SAME PROCEDURE AS THE SMALL VISE LOCK 360 HAND CRIMPER. THE STAND-UP AND SMALL HAND VISE LOCK 360 CRIMPERS ARE DESIGNED TO BE USED IN CONJUNCTION WITH VISE LOCK CRIMPERS OR SEAMER. THE PANEL RIB MUST BE IN THE VISE LOCK SEAM PRIOR TO OPERATING THE VISE LOCK 360 CRIMPERS. THE MANUAL CRIMPERS CAN BE UTILIZED TO CREATE A CONTINUOUS SEAM BY MAKING ADJACENT CRIMPS WITH SLIGHT OVERLAP.

TOOL OPERATION

STEP 1

AFTER THE AREA HAS BEEN SEALED TO THE VISE LOCK SEAM, PLACE THE VISE LOCK 360 CRIMPER ON THE PANEL RIB WITH THE HANDLE IN THE UPWARD (OPEN) POSITION. MAKE SURE THE CRIMPER HEAD IS COMPLETELY SEATED ON THE TOP OF THE PANEL RIB BEFORE CRIMPING. IT IS CRITICAL THAT THE OPERATING JAW IS TOWARD THE HOOK SIDE OF THE PANEL AS SHOWN ABOVE. OPERATING THE CRIMPER BACKWARDS ON THE PANEL WILL RESULT IN DAMAGE TO THE PANEL.

STEP 2

PUSH DOWN ON THE HANDLE UNTIL IT STOPS. RAISE HANDLE TO RELEASE CRIMPER. REPOSITION CRIMPER AS NECESSARY AND REPEAT TO EXTEND THE LENGTH OF THE CRIMP.

IMPORTANT

IF THE 360 TOOL DOES NOT FORM THE VISE LOCK 360 SEAM CORRECTLY, STOP AND CHECK THE SEAM TO ENSURE A PROPER AND CONTINUOUS VISE LOCK SEAM HAS BEEN COMPLETED. IF NOT, RE-CRIMP / SEAM TO A PROPER VISE LOCK SEAM BEFORE ATTEMPTING TO SEAM TO THE VISE LOCK 360.

CFR HAND CRIMPING NOTES
HAND CRIMPING TOOLS AND PROCEDURES

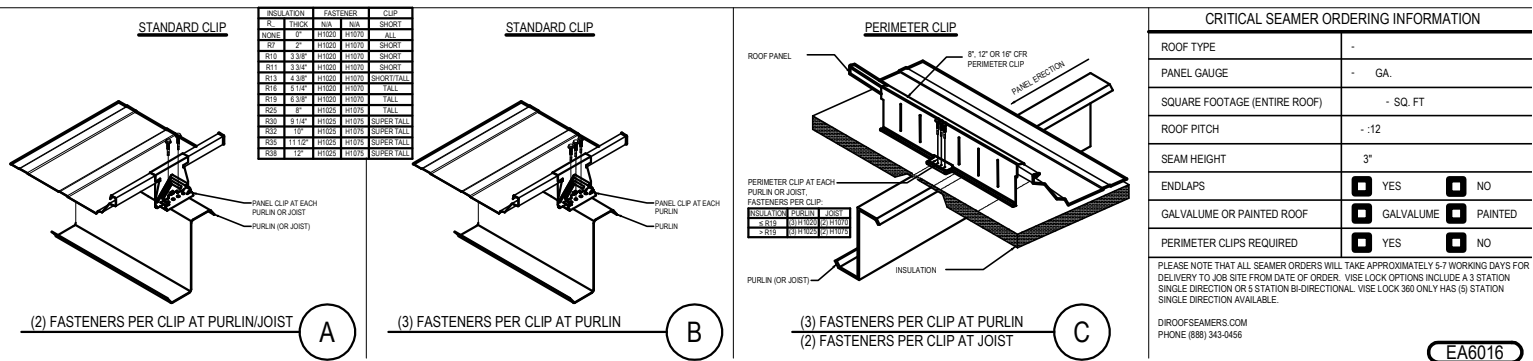
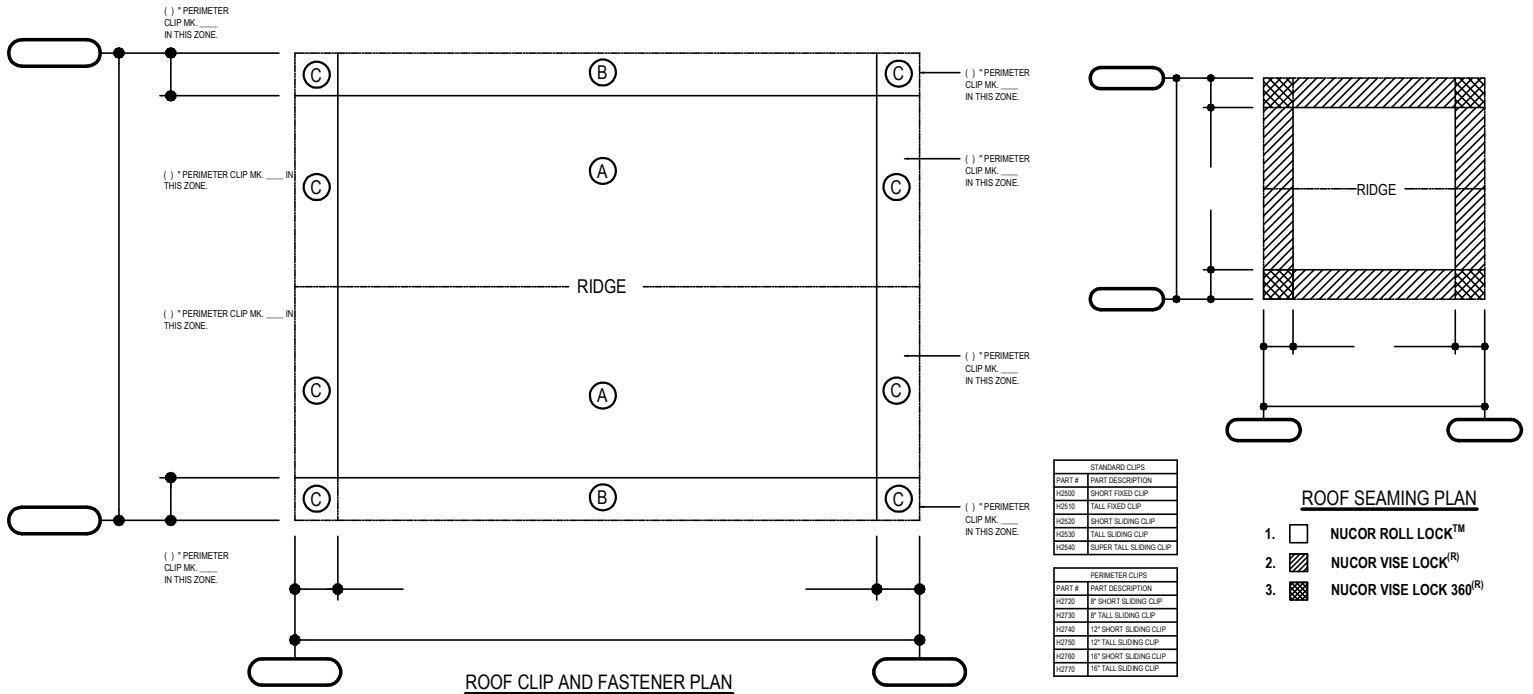
EA6015

Detailer Notes:

1) THIS DETAIL REQUIRED ON EVERY CFR ROOF PROJECT.

EA6016 - CFR ROOF CLIP & SEAMING PLAN

Download the DWG file by clicking [here](#).

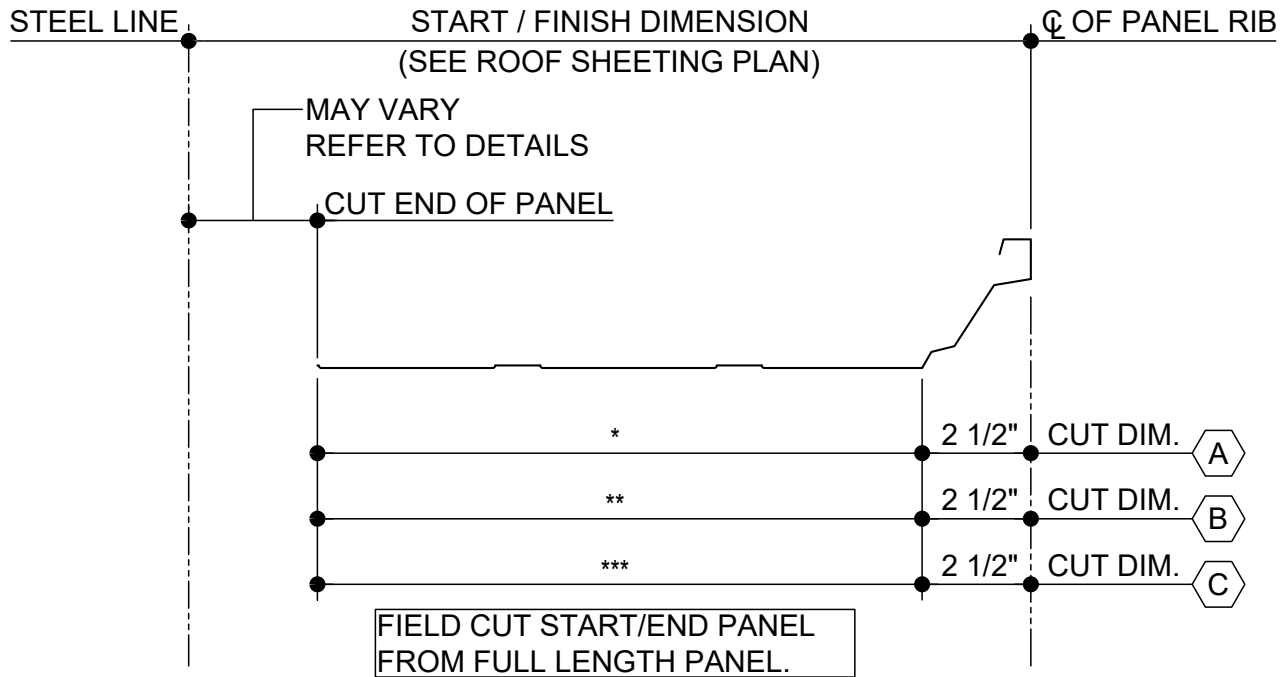


Detailer Notes:

1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.

EA6035 - CFR START / FINISH PANEL WIDTH DETAIL

[Download the DWG file by clicking here.](#)



START / END CUT PANEL DIMENSION DETAIL

- WHEN FIELD CUTTING OR MITERING ROOF PANELS, NON-ABRASIVE CUTTING TOOLS SUCH AS NIBBLERS OR TIN-SNIPS SHALL BE USED.
- ABRASIVE CUTTING TOOLS SUCH AS MECHANICAL GRINDERS, SAWS, SHEARS OR SCISSORS CAN DAMAGE THE PANEL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS.
- THE USE OF NON-APPROVED CUTTING DEVICES MAY VOID YOUR FACTORY WARRANTY.

EA6035

Detailer Notes:

- 1) THIS DETAIL IS REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.