

GENERAL DETAILS

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EA6010 - SS360 GENERAL NOTES

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DESIGN AND PERFORMANCE CRITERIA

ROOF SYSTEM
THE ROOF SYSTEM CONSISTS OF 24 GAUGE PANELS WITH A NOMINAL COVERAGE OF 5' 2" AND A PANEL SEAM THAT IS 3' 10" ± 1" AND 1/2" HIGH (DEPENDS ON CLIP TYPE). 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.
FOR STRUCTURES NOT SUPPLIED BY MBS, MAXIMUM CLIP SPACING IS TO BE 5' 0" FOR PURLIN ROOFS AND 5' 4" FOR ROOF JOISTS.

PANEL CLIP FASTENING REQUIREMENTS
STANDARD CLIP FASTENERS ARE DESIGNED TO FASTEN TO A STEEL STRUCTURAL MEMBER OF 100" MINIMUM THICKNESS (IN GA). A MINIMUM OF TWO FASTENERS ARE REQUIRED TO ENGAGE THE STRUCTURAL MEMBER AT EVERY PANEL CLIP LOCATION. IN CERTAIN INSTANCES, THESE FASTENERS MAY BE REQUIRED PER CLIP REQUIRED. LOOK ON CHART AT RIGHT AND IN THE ERECTION DRAWINGS FOR YOUR SPECIFIC FASTENER REQUIREMENTS. FASTENER PULLOUT VALUES ARE DIFFERENT UPON PROJECT LOCATION, SIZE, BUILDING CODE AND LOADING.

ROOF TIE UNITS AND CURB SUPPORTS
THE ROOF SYSTEM IS ELEVATED ABOVE THE TOP OF THE ROOF SECONDARY STRUCTURAL MEMBERS. THE ROOF CURB SUB FRAMING IS LEVEL WITH THE SECONDARY STRUCTURAL MEMBERS. REFER TO THE DETAILS FOR ROOF 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 FLOAT 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 ON ALL ROOF APPLICATIONS TO AVOID PROBLEMS WITH CONDENSATION FORMING ON THE UNDERSIDE OF THE SHEETING. THIS ALSO PROVIDES A BUFFER BETWEEN THE PURLIN AND THE ROOF TO ELIMINATE NOISE AND PREVENT DAMAGE DUE TO METAL-TO-METAL CONTACT. NOISE REDUCING FOAM TAPE CAN BE SUPPLIED FOR USE IN LIMITED APPLICATIONS (CANOPES, ETC.) WHEN INCLUDED AS PART OF THE ROOF ORDER. REFER TO THE DETAILS FOR FOAM TAPE REQUIREMENTS.

PAINTED ROOF
STANDARD TRAPEZOIDAL SEAM ROOF PANELS ARE OBTAINED PROVIDED BY MBS. IN THIS CASE, GUTTER BRACKETS AND OUTSIDE CLOSURES WILL BE PAINTED 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 MASTICS. THE RECOMMENDED INSTALLATION TEMPERATURE RANGE IS 20 TO 20 DEGREES FAHRENHEIT. AT COLDER TEMPERATURES, THE MASTIC STIFFENS RESULTING IN LOSS OF ADHESION AND COMPRESSIBILITY. AT HOTTER TEMPERATURES, THE MASTIC BECOMES TOO SOFT FOR PROPER HANDLING. ON COLD BUT SUNNY DAYS, THE PANEL SURFACE 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 CARTRIDGES SHOULD BE STORED OFF THE ROOF IN A COOL AND SHADED AREA. WHILE ON THE ROOF, MASTIC ROLLS SHOULD BE KEPT SHADED UNTIL ACTUAL USE.

IN VERY COLD WEATHER, IT IS RECOMMENDED THAT THE FASTENERS BE TIGHTENED SLOWLY AND ONLY WHEN THEY ENOUGH THAT THE MASTIC IS IN FULL CONTACT WITH THE PANEL OR FLASHING. THEN ON THE NEXT SUNNY DAY, COMPLETE THE TIGHTENING PROCESS AFTER THE SUN WARMS THE PANEL AND FLASHING SURFACES.

CONTAMINATION
TO ASSURE 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.

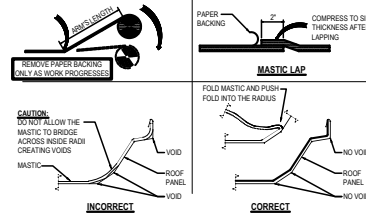
TAPE MASTIC IS PROVIDED WITH A PROTECTIVE PAPER TO REDUCE CONTAMINATION. INCOMPLETE REMOVAL OF THE PROTECTIVE PAPER WILL PREVENT THE MASTIC ADHESION TO THE PANEL OR FLASHING SURFACES. ALWAYS CHECK THAT THE PROTECTIVE PAPER IS COMPLETELY REMOVED. DO NOT REMOVE THE PROTECTIVE PAPER UNTIL IMMEDIATELY BEFORE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

COMPRESSION
TO ASSURE 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 APPLIED 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 COLD 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 COMPRESSES. ADEQUATELY, OR THE PANEL OR FLASHING MAY DEFORM IN THE IMMEDIATE AREA OF THE FASTENER, LEAVING THE REST OF THE MASTIC INSUFFICIENTLY COMPRESSED.

INSIDE CORNERS
AN INSIDE CORNER, SUCH AS WHERE THE PANEL PLATE MEETS A RIB, IS USUALLY THE MOST CRITICAL AREA TO SEAL. A COMMON MISTAKE FOR THE INSTALLER IS TO BRIDGE THE MASTIC ACROSS THE INSIDE RADIUS.

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 THE MASTIC FOLD INTO THE RADIUS.



ERECTORS RESPONSIBILITY

REGULATIONS
REGULATIONS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ACT, LOCAL, STATE, AND/OR FEDERAL AGENCIES SHOULD BE ADHERED TO AT ALL TIMES. MBS IS NOT RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE, WHICH MAY BE THE RESULT FROM 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 ARE LOCATED ONLINE AND ARE AVAILABLE UPON REQUEST).

THE ERECTOR OF THE ROOF SYSTEM IS RESPONSIBLE FOR THE SAFE EXECUTION OF THIS MANUAL. 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 MANUAL 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.

DO NOT PLACE BUNDLES OF PANELS OR 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 AT 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 MARKING END LAP CONNECTIONS, ETC., STAND WHERE THE ROOF STRUCTURAL 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, SCRATCHED, OR SCUFFED.

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 CLIP, RAIL, 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 WEIGHT 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
DO NOT STAND ON THE END OF UNSUPPORTED (CANTILEVERED) PANELS AT THE EAVE OR RIDGE. STANDING ON THE CANTILEVER PORTION MAY RESULT IN PANEL COLLAPSE.

POINT LOADS
PANELS PROPERLY 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 ON PANEL 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 BLENDED SAND OR HEAVY DUST CAN MAKE THESE SURFACES DIFFICULT TO WALK ON WITHOUT SLIPPING.

UNPAINTED METAL SURFACES ARE OFTEN COATED WITH OIL TO ACCOMMODATE THE PANEL FABRICATION PROCESS. ALTHOUGH DESIGNED TO WASH AWAY OR EVAPORATE DURING NORMAL WEATHER, THE OIL ON NEW PANELS CAN BE EXTREMELY SLIP, ESPECIALLY DURING PERIODS OF LIGHT RAIN AND NEW CAUTION MUST BE EXERCISED TO PREVENT SLIPPING AND FALLING ONTO THE ROOF SURFACE OR EVEN SLIDING 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 FAULT CIRCUIT BREAKERS IS RECOMMENDED.

FALSE SENSE OF SECURITY
BLUNTERY AND ROOF 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
SOME EDGES OF PANELS AND FLASHING ARE BAZAR 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 CREWS 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, RUNWAYS, 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 ON THESE DRAWINGS TO INSURE A SECURE AND PROPER FIT OF ALL COMPONENTS. MBS SHALL NOT BE RESPONSIBLE FOR SUPERVISING AND/OR COORDINATING THE ERECTION OF THE ROOF SYSTEM WITH OTHER TRADES.

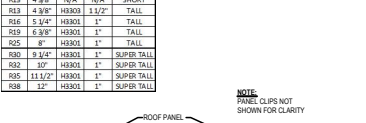
DO NOT CONSIDERATION MUST BE GIVEN BY THE ERECTOR TO THE EFFECTS OF THERMAL EXPANSION AND CONTRACTION WHEN ERECTING A ROOF TIE TO AN EXISTING STRUCTURE TO INSURE A SAFE, SECURE, WEATHER-TIGHT CONDITION. FLASHING FOR TIE-INS TO EXISTING BUILDINGS IS TYPICALLY NOT INCLUDED AS PART OF THE MATERIAL PROVIDED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

THERMAL BLOCKS

PURPOSE
THERMAL BLOCKS ARE USED IN BOTH INSULATED AND UNINSULATED CONDITIONS. THEY PROVIDE IMPROVED THERMAL PERFORMANCE WHERE INSULATION HAS BEEN COMPRESSED AT THE SECONDARY MEMBERS UNDER THE PANEL. THEY ALSO PROVIDE SUPPORT TO THE PANEL AND REDUCE PANEL FUTURE AND RUMBLE IN UNINSULATED CONDITIONS. UNINSULATED CONDITIONS UTILIZE THERMAL BLOCKS OR FOAM SPACERS THAT HAVE ADHESIVE TO ADHERE TO THE SECONDARY MEMBER TO PREVENT THEM FROM FALLING OUT OF PLACE.

LOCATIONS
THERMAL BLOCKS OR FOAM SPACERS ARE TO BE USED UNDER ANY SECONDARY MEMBER WITH THE EXCEPTION OF THE EAVE MEMBER WHERE THE EAVE PLATE IS LOCATED.

INSULATED ROOF				UNINSULATED ROOF			
INSULATION	ROOF	CLIP		BLOCK		CLIP	
IN.	THICK.	MM.	IN.	THICK.	CLIP		
R10	2"	N/A	N/A	SHORT	H3310	3/2"	SHORT
R10	3.9"	N/A	N/A	SHORT	H3305	1 1/2"	TALL
R11	3.9"	N/A	N/A	SHORT	H3307	2 1/2"	SUPER TALL
R13	4.9"	N/A	N/A	SHORT			
R13	4.9"	H3305	1 1/2"	TALL			
R16	5.9"	H3305	1"	TALL			
R19	6.9"	H3305	1"	TALL			
R20	8"	H3305	1"	TALL			
R20	9.24"	H3305	1"	SUPER TALL			
R22	10"	H3305	1"	SUPER TALL			
R25	11.12"	H3305	1"	SUPER TALL			
R28	12"	H3305	1"	SUPER 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 A "COMPONENTS WITH DETAILING". THIS SIMPLY MEANS THAT MBS SHALL CALCULATE THE QUANTITIES AND LENGTHS FOR THE MATERIAL REQUIRED. MBS IS PERFORMING AN 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.

DAPHRAGM
PANELS ARE DESIGNED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION AND WILL NOT ACT AS A DAPHRAGM 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, BEING IT IS DESIGNED TO FLOAT, WILL NOT SUPPORT STRUCTURAL MEMBERS. LATERALLY, WHEN REPLACING AN EXISTING SCREWDOWN ROOF, ADDITIONAL BRACING MAY BE REQUIRED TO LATERALLY SUPPORT THE MEMBERS. ENGINEERING AND 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 HAVE THE PRIMARY FRAMING PLUMB AND SQUARE. FOR BEST RESULTS, IT IS RECOMMENDED THAT A TRANSIT BE USED WHEN ERECTING THE STRUCTURAL STEEL. MAKE SURE THAT THE FOUNDATION AND BUILDING STRUCTURE IS SQUARE, LEVEL, AND CORRECT TO THE CUT-TO-CUT STEEL LINE DIMENSIONS. SEE FIGURE "A".

FIGURE "A"

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 SAWS CAN DAMAGE THE MATERIAL FINISH AND CREATE EXCESS METAL SHAVINGS THAT CAN CORRODE THE PANELS. THE USE OF UNAPPROVED CUTTING DEVICES MAY VOID THE FACTORY WARRANTY.

ANY METAL SHAVINGS THAT ARE CREATED NEED TO BE CLEANED FROM THE PANEL TO PREVENT SCORING DURING 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)
A RAMP OR HIGHER RATED TOOLS (DO NOT USE IMPACTING TOOLS)
2000 - 2500 RPM SCREW GUN WITH TORQUE ADJUSTABLE CLUTCH
MANUAL OR ELECTRIC RIVET TOOL

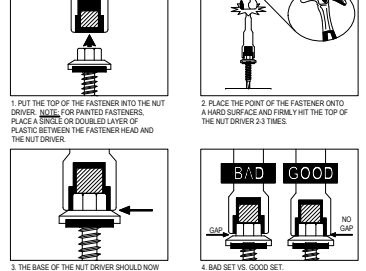
DO NOT USE IMPACTING TOOLS
TO ASSURE PROPER VOLTAGE TO THE TOOL, EXTENSION CORDS SHOULD BE CHECKED FOR PROPER WIRE SIZE/CORD LENGTH.
16 GAUGE WIRE, MAXIMUM CORD LENGTH = 100'
14 GAUGE WIRE, MAXIMUM CORD LENGTH = 200'
12 GAUGE WIRE, MAXIMUM CORD LENGTH = 300'

DRIVING TIPS
DO NOT DRIVER AS DESCRIBED BELOW PRIOR TO INSTALLING FASTENERS TO PREVENT FASTENER WOBBLING.

SOCKET EXTENSIONS 1/4" OR IF 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.

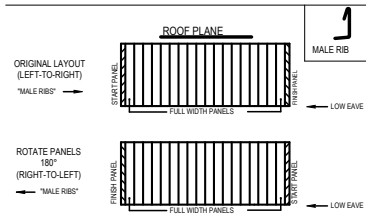
DO NOT OVER TIGHTEN FASTENERS AS THIS WILL LEAD TO PANEL DIMPLING AND DISTORTION.



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.



SS360 GENERAL NOTES

GENERAL ROOF PANEL NOTES

EA6010

Detailer Notes:

1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.

EA6010 - SSII GENERAL NOTES

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DESIGN AND PERFORMANCE CRITERIA

ROOF SYSTEM
THE ROOF SYSTEM CONSISTS OF 24 GAUGE PANELS WITH A NOMINAL COVERAGE OF 5'-2" AND A PANEL SEAM THAT IS 3'-10" ± 1" AND 1/2" HIGH (DEPENDS ON CLIP TYPE USED. REFER TO THE DETAILS AND SECTIONS FOR SPECIFIC PANEL CLIP TYPE.

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FOR STRUCTURES NOT SUPPLIED BY MBS, MAXIMUM CLIP SPACING IS TO BE 5'-0" FOR PURLIN ROOFS AND 5'-0" FOR ROOF JOISTS.

PANEL CLIP FASTENING REQUIREMENTS
STANDARD CLIP FASTENERS ARE DESIGNED TO FASTEN TO A STEEL STRUCTURAL MEMBER OF 100# MINIMUM THICKNESS (IN GA). A MINIMUM OF TWO FASTENERS ARE REQUIRED TO ENGAGE THE STRUCTURAL MEMBER AT EVERY PANEL CLIP LOCATION. IN CERTAIN INSTANCES, THESE FASTENERS MAY BE REQUIRED PER CLIP REQUIRED. LOOK ON CHART AT RIGHT AND IN THE ERECTION DRAWINGS FOR YOUR SPECIFIC FASTENER REQUIREMENTS. FASTENER PULLOUT VALUES ARE DIFFERENT UPON PROJECT LOCATION, SIZE, BUILDING CODE AND LOADING.

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THE ROOF SYSTEM IS ELEVATED ABOVE THE TOP OF THE ROOF SECONDARY STRUCTURAL MEMBERS. THE ROOF CURB SUB FRAMING IS LEVEL WITH THE SECONDARY STRUCTURAL MEMBERS. REFER TO THE DETAILS FOR PROPER JAMB LOCATIONS AND DIMENSIONS.

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MASTIC APPLICATION

TEMPERATURE EXTREMES
TEMPERATURE EXTREMES MUST BE CONSIDERED DURING INSTALLATION OF THE ROOF DUE TO THE SENSITIVITY OF MASTICS. THE RECOMMENDED INSTALLATION TEMPERATURE RANGE IS 20-30 DEGREES FAHRENHEIT. AT COLDER TEMPERATURES, THE MASTIC STIFFENS RESULTING IN LOSS OF ADHESION AND COMPRESSIBILITY. AT HOTTER TEMPERATURES, THE MASTIC BECOMES TOO SOFT FOR PROPER HANDLING. ON COLD BUT SUNNY DAYS, THE PANEL SURFACE 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 CARTRIDGES SHOULD BE STORED OFF THE ROOF IN A COOL AND SHADED AREA. WHILE ON THE ROOF, MASTIC ROLLS SHOULD BE KEPT SHADDED UNTIL ACTUAL USE.

IN VERY COLD WEATHER, IT IS RECOMMENDED THAT THE FASTENERS BE TIGHTENED SLOWLY AND ONLY THINLY ENOUGH THAT THE MASTIC IS IN FULL CONTACT WITH THE PANEL OR FLASHING. THEN ON THE NEXT SUNNY DAY, COMPLETE THE TIGHTENING PROCESS AFTER THE SUN WARMS THE PANEL AND FLASHING SURFACES.

CONTAMINATION
TO ASSURE 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.

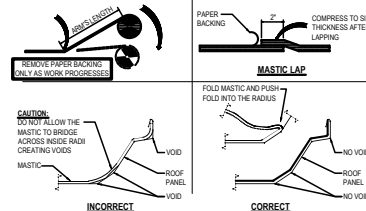
TAPE MASTIC IS PROVIDED WITH A PROTECTIVE PAPER TO REDUCE CONTAMINATION. INCOMPLETE REMOVAL OF THE PROTECTIVE PAPER WILL PREVENT THE MASTIC ADHESION TO THE PANEL OR FLASHING SURFACES. ALWAYS CHECK THAT THE PROTECTIVE PAPER IS COMPLETELY REMOVED. DO NOT REMOVE THE PROTECTIVE PAPER UNTIL IMMEDIATELY BEFORE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

COMPRESSION
TO ASSURE 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 APPLIED 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 COLD 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 COMPRESSES. ADEQUATELY, OR THE PANEL OR FLASHING MAY DEFORM IN THE IMMEDIATE AREA OF THE FASTENER, LEAVING THE REST OF THE MASTIC INSUFFICIENTLY COMPRESSED.

INSIDE CORNERS
AN INSIDE CORNER, SUCH AS WHERE THE PANEL PLATE MEETS A RIB, IS USUALLY THE MOST CRITICAL AREA TO SEAL. A COMMON MISTAKE FOR THE INSTALLER IS TO BRIDGE THE MASTIC ACROSS THE INSIDE RADIIUS.

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 RADIIUS, IT IS RECOMMENDED THAT THE MASTIC BE FOLDED BACK, THEN THE MASTIC FOLD INTO THE RADIIUS.



ERECTORS RESPONSIBILITY

REGULATIONS
REGULATIONS SET FORTH BY THE OCCUPATIONAL SAFETY AND HEALTH ACT, LOCAL, STATE, AND/OR FEDERAL AGENCIES SHOULD BE ADHERED TO AT ALL TIMES. MBS IS NOT RESPONSIBLE FOR INJURY, DAMAGE, OR FAILURE, WHICH MAY BE THE RESULT FROM 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 ARE LOCATED ONLINE AND ARE AVAILABLE UPON REQUEST).

THE ERECTOR OF THE ROOF SYSTEM IS RESPONSIBLE FOR THE SAFE EXECUTION OF THIS MANUAL. 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 MANUAL 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.

DO NOT PLACE BUNDLES OF PANELS OR 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 AT 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 MARKING END LAP CONNECTIONS, ETC., STAND WHERE THE ROOF STRUCTURAL 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, SCRATCHED, OR SCUFFED.

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 CLIP, END HOOKS 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 WEIGHT 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 OVERHANGS
DO NOT STAND ON THE END OF UNSUPPORTED (CANTILEVERED) PANELS AT THE EAVE OR RIDGE. STANDING ON THE CANTILEVER PORTION MAY RESULT IN PANEL COLLAPSE.

POINT LOADS
PANELS PROPERLY 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 ON PAVEMENT 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 BLENDED SAND OR HEAVY DUST CAN MAKE THESE SURFACES DIFFICULT TO WALK ON WITHOUT SLIPPING.

UNPAINTED PANEL SURFACES ARE OFTEN COATED WITH OIL TO ACCOMMODATE THE PANEL FABRICATION PROCESS. ALTHOUGH DESIGNED TO WASH AWAY OR EVAPORATE DURING NORMAL WEATHER, THE OIL ON NEW PANELS CAN BE EXTREMELY SLIP, ESPECIALLY DURING PERIODS OF LIGHT RAIN AND NEW CAUTION MUST BE EXERCISED TO PREVENT SLIPPING AND FALLING ONTO THE ROOF SURFACE OR EVEN SLIDING 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 FAULT CIRCUIT BREAKERS IS RECOMMENDED.

FALSE SENSE OF SECURITY
BLUNTERY AND ROUGH 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
SOME EDGES OF PANELS AND FLASHING ARE BAZAR 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 CREWS 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, RUNWAYS, 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 ON THESE DRAWINGS TO INSURE A SECURE AND PROPER FIT OF ALL COMPONENTS. MBS SHALL NOT BE RESPONSIBLE FOR SUPERVISING AND/OR COORDINATING THE ERECTION OF THE ROOF SYSTEM WITH OTHER TRADES.

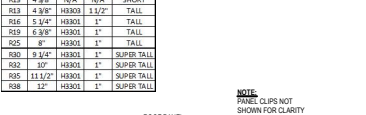
DO NOT CONSIDERATION MUST BE GIVEN BY THE ERECTOR TO THE EFFECTS OF THERMAL EXPANSION AND CONTRACTION WHEN ERECTING A ROOF TIE TO AN EXISTING STRUCTURE TO INSURE A SAFE, SECURE, WEATHERTIGHT CONDITION. FLASHING FOR TIE INS TO EXISTING BUILDINGS IS TYPICALLY NOT INCLUDED AS PART OF THE MATERIAL PROVIDED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

THERMAL BLOCKS

PURPOSE
THERMAL BLOCKS ARE USED IN BOTH INSULATED AND UNINSULATED CONDITIONS. THEY PROVIDE IMPROVED THERMAL PERFORMANCE WHERE INSULATION HAS BEEN COMPRESSED AT THE SECONDARY MEMBERS UNDER THE PANEL. THEY ALSO PROVIDE SUPPORT TO THE PANEL AND REDUCE PANEL FUTURE AND RUMBLE IN UNINSULATED CONDITIONS. UNINSULATED CONDITIONS UTILIZE THERMAL BLOCKS OR FOAM SPACERS THAT HAVE ADHESIVE TO ADHERE TO THE SECONDARY MEMBER TO PREVENT THEM FROM FALLING OUT OF PLACE.

LOCATIONS
THERMAL BLOCKS OR FOAM SPACERS ARE TO BE USED UNDER ANY SECONDARY MEMBER WITH THE EXCEPTION OF THE EAVE MEMBER WHERE THE EAVE PLATE IS LOCATED.

INSULATED ROOF				UNINSULATED ROOF			
INSULATION	ROOF	BL	CLIP	BL	CLIP	CLIP	CLIP
IN	THICK	MM	THICK	IN	THICK	MM	THICK
R7	2"	N/A	N/A	SHORT	H3310	3/2"	SHORT
R10	3/8"	N/A	N/A	SHORT	H3305	1 1/2"	TALL
R11	3/8"	N/A	N/A	SHORT	H3307	2 1/2"	SUPER TALL
R13	4/8"	N/A	N/A	SHORT			
R14	4/8"	H3309	1 1/2"	TALL			
R16	5/8"	H3305	1"	TALL			
R19	6/8"	H3305	1"	TALL			
R20	6/8"	H3305	1"	SUPER TALL			
R22	3/2"	H3305	1"	SUPER TALL			
R25	3/2"	H3305	1"	SUPER TALL			
R28	3/2"	H3305	1"	SUPER 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 A "COMPONENTS WITH DETAILING". THIS SIMPLY MEANS THAT MBS SHALL CALCULATE THE QUANTITIES AND LENGTHS FOR THE MATERIAL REQUIRED. MBS IS PERFORMING AN 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.

DAPHRAGM
PANELS ARE DESIGNED TO ACCOMMODATE THERMAL EXPANSION AND CONTRACTION AND WILL NOT ACT AS A DAPHRAGM 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 SCREWDOWN ROOF, ADDITIONAL BRACING MAY BE REQUIRED TO LATERALLY SUPPORT THE MEMBERS. ENGINEERING AND 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 HAVE THE PRIMARY FRAMING PLUMB AND SQUARE. FOR BEST RESULTS, IT IS RECOMMENDED THAT A TRANSIT BE USED WHEN ERECTING THE STRUCTURAL STEEL. MAKE SURE THAT THE FOUNDATION AND BUILDING STRUCTURE IS SQUARE, LEVEL, AND CORRECT TO THE CUT-TO-CUT STEEL LINE DIMENSIONS. SEE FIGURE "A".

FIGURE "A"

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 SAWS CAN DAMAGE THE MATERIAL FINISH AND CREATE EXCESSIVE METAL SHAVINGS THAT CAN CORRODE THE PANELS. THE USE OF UNAPPROVED CUTTING DEVICES MAY VOID THE FACTORY WARRANTY.

ANY METAL SHAVINGS THAT ARE CREATED NEED TO BE CLEANED FROM THE PANEL TO PREVENT SCORING DURING 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)
A RHP OR HIGHER RATED TOOLS (DO NOT USE IMPACTING TOOLS)
2000 - 2500 RPM SCREW GUN WITH TORQUE ADJUSTABLE CLUTCH
MANUAL OR ELECTRIC RIVET TOOL

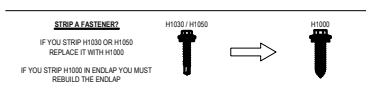
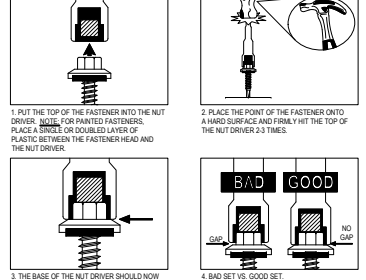
DO NOT USE IMPACTING TOOLS
TO ASSURE PROPER VOLTAGE TO THE TOOL, EXTENSION CORDS SHOULD BE CHECKED FOR PROPER WIRE SIZE/CORD LENGTH.
16 GAUGE WIRE, MAXIMUM CORD LENGTH = 100'
14 GAUGE WIRE, MAXIMUM CORD LENGTH = 200'
12 GAUGE WIRE, MAXIMUM CORD LENGTH = 300'

DRIVING TIPS
SET THE NUT DRIVER AS DESCRIBED BELOW PRIOR TO INSTALLING FASTENERS TO PREVENT FASTENER WOBBLING.

SOCKET EXTENSIONS (1" OR IF) 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.

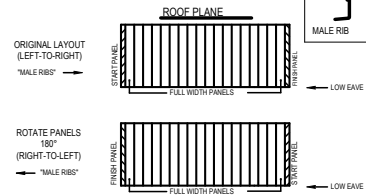
DO NOT OVER TIGHTEN FASTENERS AS THIS WILL LEAD TO PANEL DIMPLING AND DISTORTION.



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.



SSII GENERAL NOTES

GENERAL ROOF PANEL NOTES

EA6010

Detailer Notes:

1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.

EA6011 - SS360 BASIC PANEL INSTALLATION

Download the DWG file by clicking here.

BASIC INSTALLATION SEQUENCE

THE FOLLOWING STEPS OUTLINE THE BASIC INSTALLATION OF THE ROOF SYSTEM. REFERENCE THE SPECIFIC DETAILS WITHIN THIS SECTION DRAWING SET FOR CONDITIONS SPECIFIC TO THIS PROJECT.

START PANEL PREPARATION

THE ROOF SYSTEM IS DESIGNED TO BE ELEVATED AND TO FLOAT ABOVE THE ROOF SUPPORT MEMBERS. BEGIN AT THE LOWER RAKE CORNER BY INSTALLING THE EAVE PLATE. (REFERENCE EAVE PLATE INSTALLATION BELOW)

AFTER EAVE PLATE HAS BEEN INSTALLED, STITCH THE FIRST ROLL OF ROOF INSULATION FROM RIDGE / HIGH EAVE TO LOW EAVE.

INSTALL THE RAKE CLIPS AND RAKE ANGLE TO SUPPORT / SECURE THE START PANEL. (REFERENCE RAKE ANGLE / RAKE CLIP PREPARATION TO THE RIGHT)

FIELD CUT AND INSTALL START PANEL

THE START PANEL IS SUPPLIED AS A TALL SHEET AND WILL NEED TO BE CUT. REFER TO THE ROOF SHEETING PLAN FOR START / FINISH DIMENSIONS AND RAKE DETAILS TO DETERMINE PROPER PANEL CUT. INSTALL THE START PANEL, LOW EAVE PANEL FIRST IF PANEL RUN IS LONG ENOUGH TO REQUIRE ENDLAPS BY SECURING THE PANEL TO THE EAVE PLATE AND RAKE ANGLE. (REFERENCE LOW EAVE AND RAKE DETAILS). INSTALL PANEL CLIPS ON LEADING EDGE OF PANEL AS SHOWN IN THE PANEL CLIP DETAIL. CONTINUE TO INSTALL UPSLOPE START PANEL IF ENDLAPS ARE REQUIRED. (REFERENCE THE BACKUP PLATE DETAIL AND ENLAP DETAIL FOR ATTACHMENT OF START PANELS) AT RAKE ANGLE.

INTERMEDIATE PANEL & MODULARITY

THE INTERMEDIATE PANELS (FULL PANELS) SHOULD BE INSTALLED BY ROLLING THE PANEL INTO PLACE ENSURING THE SEAM IS FULLY ENGAGED. SECURE THE PANELS WITH PANEL CLIPS AND THE LOW EAVE ACROSS THE ROOF. IT IS RECOMMENDED TO INSTALL THE OUTSIDE CLOSURE AT THE HIGH EAVE / RIDGE AS THE ROOF PROGRESSES. THIS WILL HELP MAINTAIN MODULARITY. (REFERENCE HIGH EAVE / RIDGE DETAILS)

FINISH PANEL

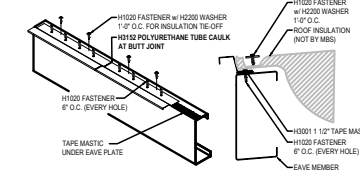
THE FINISH PANEL IS SIMILAR TO THE START PANEL INSTALLATION. THE RAKE ANGLE CLIPS AND RAKE ANGLE NEEDS TO BE INSTALLED ON TOP OF THE INSULATION PRIOR TO INSTALLING THE FINISH PANEL. THE FINISH PANEL SHOULD BE FIELD CUT AND ROLLED INTO PLACE AND SECURED TO THE RAKE ANGLE SIMILAR TO THE START PANEL.

TRIM INSTALLATION

TRIM INSTALLATION CAN BE DONE AFTER THE ROOF PANELS ALL HAVE BEEN INSTALLED OR CAN BE INSTALLED AS ENLAP PANELS HAVE BEEN INSTALLED FOR ATTACHMENT OF TRIMS. (REFERENCE TRIM DETAILS)

EAVE PLATE INSTALLATION

PLACE TAPE MASTIC ON TOP OF EAVE MEMBER PRIOR TO INSTALLING EAVE PLATE. INSTALL EAVE PLATE BY FASTENING EVERY HOLE TO EAVE MEMBER (IF O.C.). PRIOR TO INSULATION BEING INSTALLED. SECURE INSULATION WITH FASTENERS & INSULATION RETAINER WASHERS. NOTE: IF NO ROOF INSULATION IS USED, SECURE EAVE PLATE IN EVERY HOLE (IF O.C.).

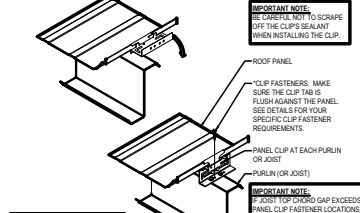


NOTE: H1020/H1019 (PURLIN/JOIST) FASTENER w/ H2020 WASHER 1" IF O.C. FOR INSULATION TIE-OFF PROVIDED AT HIGH SIDE / RIDGE

EP1010	BASIC EAVE / GUTTER	EP1100	BASIC EAVE / GUTTER	EPX100	BASIC EAVE / GUTTER
SHORT EAVE PLATE		TALL EAVE PLATE		SUPER TALL EAVE PLATE	

PANEL CLIP INSTALLATION

BEFORE INSTALLING THE PANEL CLIP, FEEL FOR THE SUPPORT MEMBER BELOW THE INSULATION. ALIGN CLIP CENTERED OVER THE SUPPORT MEMBER AND ROLL CLIP OVER THE MALE HOOK OF THE PANEL. FASTEN CLIP WITH FASTENERS AS SPECIFIED IN THE DETAILS BASED ON THE SUPPORT MEMBER AND INSULATION UTILIZED FOR THE ROOF SYSTEM.



CLIP FASTENER SELECTION

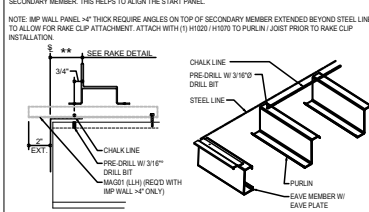
SEE DETAIL FIGURE 1

FASTENERS	STANDARD CLIPS	PARAMETER CLIPS
PURLIN APPLICATION	FASTENERS	FASTENERS
H1020 FOR INSULATION - 48-19 (8-38")	SS360-10 SHORT CLIP	SS360-10 12" SHORT CLIP
H1020 FOR INSULATION - 48-19 (8-38")	SS360-10 SHORT CLIP - REINFORCED	SS360-10 12" TALL CLIP
AND 48-38 (12")	SS360-21 TALL CLIP	
JOIST APPLICATION	SS360-21R TALL CLIP - REINFORCED	
H1019 FOR INSULATION - 48-19 (8-38")	SS360-21R TALL CLIP	
AND 48-38 (12")	SS360-21 SUPER TALL CLIP	

RAKE ANGLE / RAKE CLIP PREPARATION

PRIOR TO INSTALLING THE ROOF INSULATION THE SECONDARY MEMBER WILL NEED TO BE PRE-DRILLED FOR THE RAKE CLIPS. PRE-DRILLING WILL MAKE INSTALLATION OF THE RAKE AND CLIPS MUCH EASIER AFTER INSULATION IS IN PLACE. DO NOT INSTALL RAKE CLIPS UNTIL INSULATION (IF REQUIRED) IS INSTALLED. **RAKE CLIP IS INSTALLED ON TOP OF THE INSULATION.**

SNAP A CHALK LINE AS SHOWN BELOW FROM HIGH EAVE / RIDGE TO LOW EAVE. DRILL 3/16" Ø HOLE CENTERED ON SECONDARY MEMBER. THIS HELPS TO ALIGN THE START PANEL.

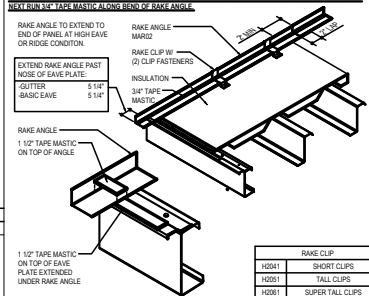


RAKE ANGLE / RAKE CLIP INSTALLATION

AFTER INSULATION IS IN PLACE AND PRIOR TO INSTALLING THE RAKE CLIPS AND RAKE ANGLE APPLY 1 1/2" TAPE MASTIC ON TOP OF THE EAVE PLATE BUT ONLY REMOVE PAPER BACKING WHERE THE RAKE ANGLE WILL REST. THIS WILL SEAL BETWEEN THE EAVE PLATE AND THE RAKE ANGLE.

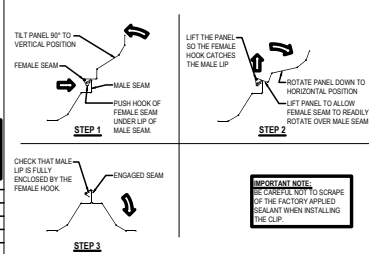
SLIDE RAKE CLIPS ONTO RAKE ANGLE PRIOR TO SECURING THE RAKE CLIPS TO THE SECONDARY MEMBERS. PLACE THE RAKE CLIPS AND ANGLE OVER THE INSULATION USING A SMALL DRIFT PIN TO LOCATE THE PRE-DRILLED HOLE. INSTALL FASTENERS THROUGH OPPOSITE CLIP HOLE INTO SECONDARY MEMBER. REMOVE DRIFT PIN AND INSTALL SECOND FASTENER TO SECURE CLIP. NOTE: (2) SCREWS ARE REQUIRED IN EVERY CLIP. DO NOT CUT INSULATION OUT FROM AROUND THE CLIP.

RAKE ANGLE / RAKE CLIP INSTALLATION



PANEL INSTALLATION

THE PANEL IS DESIGNED TO INTERLOCK AND HOOK TOGETHER AT THE SEAM. IN ORDER TO HOOK THE PANEL, LAY PANEL WITH FEMALE RIB OVER TOP OF THE MALE RIB. TILT THE LEADING PANEL UP UNTIL THE HOOK CATCHES THE LIP OF THE MALE RIB. ROTATE THE PANEL DOWN WHILE ENSURING THE PANEL HOOKS ENGAGED COMPLETELY UP THE RIB OF THE PANEL.



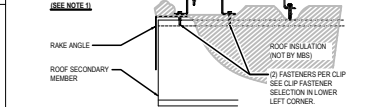
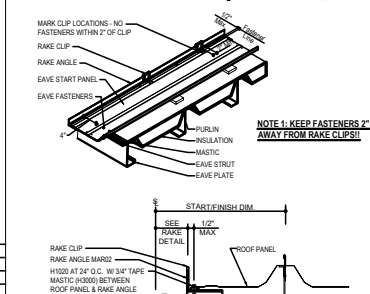
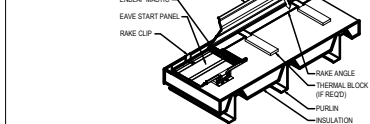
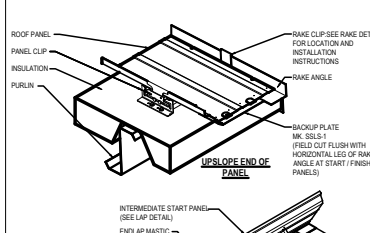
CLIP FASTENER SELECTION

SEE DETAIL FIGURE 1

FASTENERS	STANDARD CLIPS	PARAMETER CLIPS
PURLIN APPLICATION	FASTENERS	FASTENERS
H1020 FOR INSULATION - 48-19 (8-38")	SS360-10 SHORT CLIP	SS360-10 12" SHORT CLIP
H1020 FOR INSULATION - 48-19 (8-38")	SS360-10 SHORT CLIP - REINFORCED	SS360-10 12" TALL CLIP
AND 48-38 (12")	SS360-21 TALL CLIP	
JOIST APPLICATION	SS360-21R TALL CLIP - REINFORCED	
H1019 FOR INSULATION - 48-19 (8-38")	SS360-21R TALL CLIP	
AND 48-38 (12")	SS360-21 SUPER TALL CLIP	

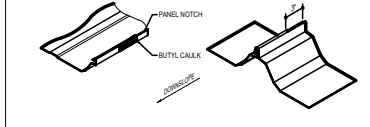
BACKUP PLATE INSTALLATION

THE BACKUP PLATE PROVIDES SUPPORT AT THE END AND HIGH SIDE OF THE PANEL TO ALLOW FOR COMPRESSION OF SEALANTS. THE BACKUP PLATE HAS NOTCHES THAT SLIDE ONTO THE PANEL TO LOCATE AND HOLD THE BACKUP PLATE IN PLACE. AT THE RAKE CONDITION, THE BACKUP PLATE IS TO BE FIELD CUT FLUSH WITH THE HORIZONTAL LEG OF THE RAKE ANGLE. DO NOT EXTEND BACKUP PLATE ON TOP OF RAKE ANGLE.



PANEL HIGH EAVE PREPARATION

BEFORE INSTALLING ALLOWING PANELS 5 APPLY 1" OF BUTYL CAULK ON THE MALE RIB FROM THE PANEL NOTCH DOWN SLOPE AS SHOWN TO SEAL PANEL SEAM. THE FEMALE RIB WILL NEED TO BE FIELD NOTCHED TO MATCH THE MALE RIB TO ALLOW THE OUTSIDE CLOSURE TO FIT PROPERLY. IT IS RECOMMENDED FOR THE NOTCH TO BE DONE BEFORE THE PANEL IS ROLLED INTO PLACE FOR EASE BUT CAN BE DONE AFTER. AFTER THE PANEL IS ROLLED INTO PLACE AND FIELD NOTCHED, SLIDE THE BACKUP PLATE ONTO THE PANEL.



OUTSIDE CLOSURE MASTIC INSTALLATION

START & FINISH PANEL NOTE: OUTSIDE CLOSURE CANNOT BE INSTALLED IN THE START / FINISH PANEL UNTIL THE RAKE TRIM IS INSTALLED.

NOTE: MASTIC IS INSTALLED. CLOSURE MUST BE INSTALLED IN THE PREVIOUS PANEL RUN.

STEP 1: APPLY THE PRECUT MASTIC ACROSS THE PANEL WITH THE BOTTOM OF THE MASTIC IN LINE WITH THE NOTCH. PRESS THE MASTIC INTO THE CORNERS OF THE TRAPEZOID TO ENSURE THERE ARE NO GAPS. CUT A 7" PRICE OF THE PRECUT MASTIC TO PLACE A PITIAL AROUND THE PANEL RIB WHERE THE NOTCH IS LOCATED. FOLD PRECUT MASTIC AS SHOWN AND PRESS INTO VOID UNDER SEAM. MARRY PITIAL TO PRECUT AND SEAL END OF PANEL SEAM.

STEP 2: ALIGN THE OUTSIDE CLOSURE WITH THE NOTCH AND SEAT INTO THE PRECUT MASTIC. ATTACH THE OUTSIDE CLOSURE THROUGH THE PREPUNCHED HOLES THROUGH THE PANEL AND INTO THE BACKUP PLATE.

STEP 3: INSTALL FASTENER THROUGH RIB INTO ADJACENT OUTSIDE CLOSURE TO DRAW THEM TOGETHER.

STEP 4: PRIOR TO INSTALLING TRIM, APPLY BUTYL CAULK DOWN PROFILE OF TRAPEZOID AND 1" MIN ONTO PANEL FLAT. ALSO APPLY BUTYL CAULK FULL LENGTH OF NOTCH AND ACROSS JOINT OF ADJACENT OUTSIDE CLOSURES. ROLL OUT TAPE MASTIC ACROSS TOP OF OUTSIDE CLOSURES FOR TRIM SEALANT.

STEP 5: INSTALL FASTENER THROUGH RIB INTO ADJACENT OUTSIDE CLOSURE TO DRAW THEM TOGETHER.

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STEP 57: PRIOR TO INSTALLING TRIM, APPLY BUTYL CAULK DOWN PROFILE OF

EA6011 - SSII BASIC PANEL INSTALLATION

Download the DWG file by clicking here.

BASIC INSTALLATION SEQUENCE

THE FOLLOWING STEPS OUTLINE THE BASIC INSTALLATION OF THE ROOF SYSTEM. REFERENCE THE SPECIFIC DETAILS WITHIN THIS SECTION DRAWING SET FOR CONDITIONS SPECIFIC TO THIS PROJECT.

START PANEL PREPARATION

THE ROOF SYSTEM IS DESIGNED TO BE ELEVATED AND FLOAT ABOVE THE ROOF SUPPORT MEMBERS. BEGIN AT THE LOWER RAKE CORNER BY INSTALLING THE EAVE PLATE. (REFERENCE EAVE PLATE INSTALLATION BELOW)

AFTER EAVE PLATE HAS BEEN INSTALLED, STITCH THE FIRST ROLL OF ROOF INSULATION FROM RIDGE / HIGH EAVE TO LOW EAVE.

INSTALL THE RAKE CLIPS AND RAKE ANGLE ALONG TO SUPPORT / SECURE THE START PANEL. (REFERENCE RAKE ANGLE / RAKE CLIP PREPARATION TO THE RIGHT)

FIELD CUT AND INSTALL START PANEL

THE START PANEL IS SUPPLIED AS A FULL SHEET AND WILL NEED TO BE CUT. REFER TO THE ROOF SHEETING PLAN FOR START / FINISH DIMENSIONS AND RAKE DETAILS TO DETERMINE PROPER PANEL CUT. INSTALL THE START PANEL, LOW EAVE PANEL FIRST IF PANEL RUN IS LONG ENOUGH TO REQUIRE ENDLAPS BY SECURING THE PANEL TO THE EAVE PLATE AND RAKE ANGLE. (REFERENCE LOW EAVE AND RAKE DETAILS). INSTALL PANEL CLIPS ON LEADING EDGE OF PANEL AS SHOWN IN THE PANEL CLIP DETAIL. CONTINUE TO INSTALL UPSLOPE START PANELS IF ENDLAPS ARE REQUIRED. REFERENCE THE BACKUP PLATE DETAIL AND ENDLAP DETAIL FOR ATTACHMENT OF START PANEL(S) AT RAKE ANGLE.

INTERMEDIATE PANEL & MODULARITY

THE INTERMEDIATE PANELS (FULL PANELS) SHOULD BE INSTALLED BY ROLLING THE PANEL INTO PLACE ENSURING THE SEAM IS FULLY ENGAGED. SECURE THE PANELS WITH PANEL CLIPS AND THE LOW EAVE ACROSS THE ROOF. IT IS RECOMMENDED TO INSTALL THE OUTSIDE CLOSURE AT THE HIGH EAVE / RIDGE AS THE ROOF PROGRESSES. THIS WILL HELP MAINTAIN MODULARITY. (REFERENCE HIGH EAVE / RIDGE DETAILS)

FINISH PANEL

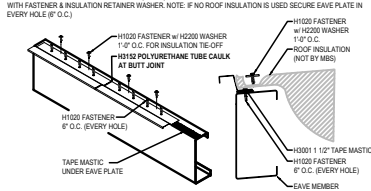
THE FINISH PANEL IS SIMILAR TO THE START PANEL INSTALLATION. THE RAKE ANGLE CLIPS AND RAKE ANGLE NEEDS TO BE INSTALLED ON TOP OF THE INSULATION PRIOR TO INSTALLING THE FINISH PANEL. THE FINISH PANEL SHOULD BE FIELD CUT AND ROLLED INTO PLACE AND SECURED TO THE RAKE ANGLE SIMILAR TO THE START PANEL.

TRIM INSTALLATION

TRIM INSTALLATION CAN BE DONE AFTER THE ROOF PANELS ALL HAVE BEEN INSTALLED OR CAN BE INSTALLED AS EAVE PANELS HAVE BEEN INSTALLED FOR ATTACHMENT OF TRIMS. (REFERENCE TRIM DETAILS)

EAVE PLATE INSTALLATION

PLACE TAPE MASTIC ON TOP OF EAVE MEMBER PRIOR TO INSTALLING EAVE PLATE. INSTALL EAVE PLATE BY FASTENING EVERY HOLE TO EAVE MEMBER (IF C.C.) PRIOR TO INSULATION BEING INSTALLED. SECURE INSULATION WITH FASTENERS & INSULATION RETAINER WASHERS. NOTE: IF NO ROOF INSULATION IS USED, SECURE EAVE PLATE IN EVERY HOLE (IF C.C.)

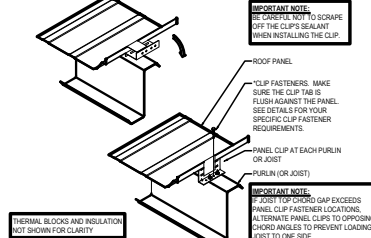


NOTE: H1020/H1019 (PURLIN/JOIST) FASTENER w/ H2020 WASHER 1\"/>

EPX100	BASIC EAVE / GUTTER	EPX110	BASIC EAVE / GUTTER	EPX108	BASIC EAVE / GUTTER
SHORT EAVE PLATE		TALL EAVE PLATE		SUPPER TALL EAVE PLATE	

PANEL CLIP INSTALLATION

BEFORE INSTALLING THE PANEL CLIP, FEEL FOR THE SUPPORT MEMBER BELOW THE INSULATION. ALIGN CLIP CENTERED OVER THE SUPPORT MEMBER AND ROLL CLIP OVER THE MALE HOOK OF THE INSULATION. CLIP OVER PANEL WITH FASTENERS AS SPECIFIED IN THE DETAILS BASED ON THE SUPPORT MEMBER AND INSULATION UTILIZED FOR THE ROOF SYSTEM.



CLIP FASTENER SELECTION

CLIP APPLICATION

H1020 FOR INSULATION -R-19 (6.38")

H1025 FOR INSULATION -R-19 (6.38")

AND -R-38 (12")

JOIST APPLICATION

H1020 FOR INSULATION -R-19 (6.38")

H1075 FOR INSULATION -R-19 (6.38")

AND -R-38 (12")

STANDARD CLIPS

PART #

PART DESCRIPTION

SSPC-1

SHORT CLIP W/ 2 FASTENERS

SSPC-2

TALL CLIP W/ 2 FASTENERS

PERIMETER CLIPS

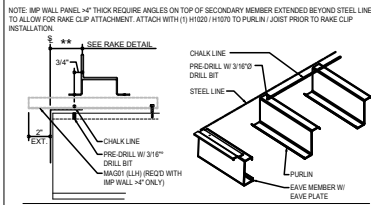
PART #

PART DESCRIPTION

RAKE ANGLE / RAKE CLIP PREPARATION

PRIOR TO INSTALLING THE ROOF INSULATION THE SECONDARY MEMBER WILL NEED TO BE PRE-DRILLED FOR THE RAKE CLIPS. PRE-DRILLING WILL MAKE INSTALLATION OF THE RAKE AND CLIP MUCH EASIER AFTER INSULATION IS IN PLACE. DO NOT INSTALL RAKE CLIPS UNTIL INSULATION (IF REQUIRED) IS INSTALLED. **RAKE CLIP IS INSTALLED ON TOP OF THE INSULATION.**

SNAP A CHALK LINE AS SHOWN BELOW FROM HIGH EAVE / RIDGE TO LOW EAVE. DRILL 3/16\"/>

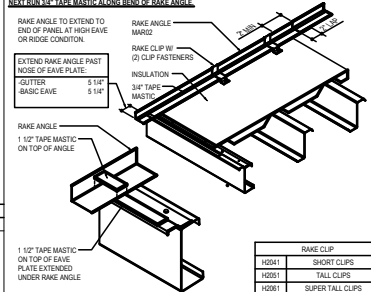


RAKE ANGLE / RAKE CLIP INSTALLATION

AFTER INSULATION IS IN PLACE AND PRIOR TO INSTALLING THE RAKE CLIPS AND RAKE ANGLE APPLY 1\"/>

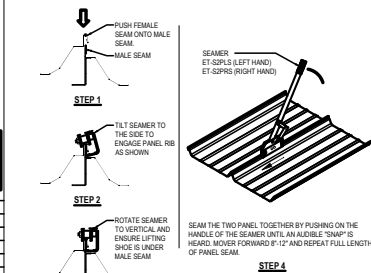
SLIDE RAKE CLIPS ONTO RAKE ANGLE PRIOR TO SECURING THE RAKE CLIPS TO THE SECONDARY MEMBERS. PLACE THE RAKE CLIPS AND ANGLE OVER THE INSULATION USING A SMALL DRIFT PIN TO LOCATE THE PRE-DRILLED HOLE. INSTALL FASTENERS THROUGH OPPOSITE CLIP HOLE INTO SECONDARY MEMBER. REMOVE DRIFT PIN AND INSTALL SECOND FASTENER TO SECURE CLIP. NOTE: (2) SCREWS ARE REQUIRED IN EVERY CLIP. DO NOT CUT INSULATION OUT FROM AROUND CLIP.

RAKE ANGLE / RAKE CLIP INSTALLATION



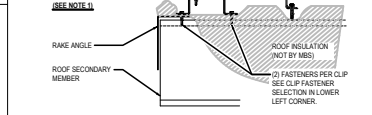
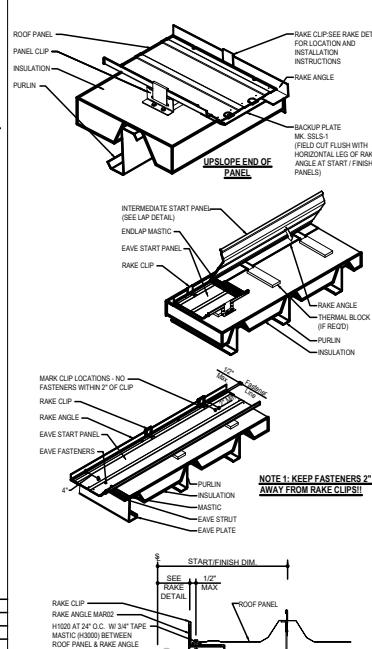
PANEL INSTALLATION

THE PANEL IS DESIGNED TO INTERLOCK AND LOCK TOGETHER AT THE SEAM. IN ORDER TO LOCK THE PANEL, LAY PANEL WITH FEMALE RIB OVER TOP OF THE MALE RIB. PUSH THE FEMALE SEAM ONTO THE MALE SEAM TO SNAP INTO PLACE. USE THE SEAMER TO SNAP THE FULL LENGTH OF THE SEAM INTO PLACE AS SHOWN BELOW.



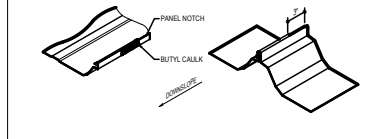
BACKUP PLATE INSTALLATION

THE BACKUP PLATE PROVIDES SUPPORT AT THE ENDLAP AND HIGH SIDE OF THE PANEL TO ALLOW FOR COMPRESSION OF SEALANTS. THE BACKUP PLATE HAS NOTCHES THAT SLIDE ONTO THE PANEL TO LOCATE AND HOLD THE BACKUP PLATE IN PLACE. AT THE RAKE CONDITION, THE BACKUP PLATE IS TO BE FIELD CUT FLUSH WITH THE HORIZONTAL LEG OF THE RAKE ANGLE. DO NOT EXTEND BACKUP PLATE ON TOP OF RAKE ANGLE.



PANEL HIGH EAVE PREPARATION

BEFORE INSTALLING ALLOWING PANELS 5\"/>



OUTSIDE CLOSURE MASTIC INSTALLATION

START & FINISH PANEL NOTE: OUTSIDE CLOSURE CANNOT BE INSTALLED IN THE START / FINISH PANEL UNTIL THE RAKE TRIM IS INSTALLED.

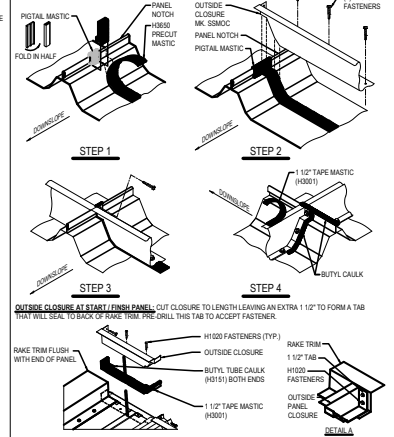
MODULARITY NOTE: OUTSIDE CLOSURE MUST BE INSTALLED AS ROOF PROGRESSES AS EVERY PANEL IS INSTALLED. CLOSURE MUST BE INSTALLED IN THE PREVIOUS PANEL RUN.

STEP 1: APPLY THE PRECUT MASTIC ACROSS THE PANEL WITH THE BOTTOM OF THE MASTIC IN LINE WITH THE NOTCH. PRESS THE MASTIC INTO THE CORNERS OF THE TRAPEZOID TO ENSURE THERE ARE NO GAPS. CUT A 7\"/>

STEP 2: ALIGN THE OUTSIDE CLOSURE WITH THE NOTCH AND SEAT INTO THE PRECUT MASTIC. ATTACH THE OUTSIDE CLOSURE THROUGH THE PREPUNCHED HOLES THROUGH THE PANEL AND INTO THE BACKUP PLATE.

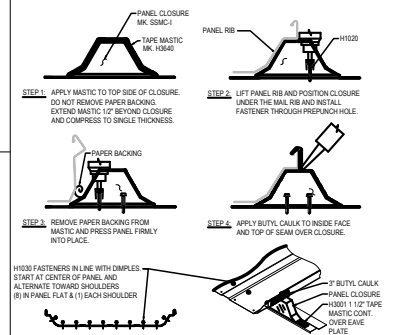
STEP 3: INSTALL FASTENER THROUGH RIB INTO ADJACENT OUTSIDE CLOSURE TO DRAW THEM TOGETHER.

STEP 4: PRIOR TO INSTALLING TRIM, APPLY BUTYL CAULK DOWN PROFILE OF TRAPEZOID AND 1\"/>



VOID CLOSURE INSTALLATION

IT IS CRITICAL TO ENSURE THAT THE TAPE MASTIC OVER THE CLOSURE DOES NOT LEAVE GAPS AT THE CORNERS AND THAT THE BUTYL CAULK IN PANEL RIB JOINS THE TAPE MASTIC OVER THE CLOSURE.



SSII BASIC INSTALLATION DETAIL

BASIC PANEL INSTALLATION INSTRUCTIONS
SEE ROOFLINE TRIM DETAILS FOR FURTHER INFORMATION

EA6011

Detailer Notes:

- 1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.
- 2) TURN ON THE CORRECT LAYER BASED ON THE SPECIFIC TRAPEZOIDAL PANEL PROFILE AND TURN OFF THE PANEL PROFILES NOT USED.

EA6012 - SS360 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 MULTIPLE LAYERS OF FIBERGLASS BLANKET INSULATION, PULLED TOO TIGHT

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

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

INSTALL NEXT VOID CLOSURE AT BUILDING EAVE.

ROOF PANEL CLIP

RIDGE ANGLE

START PANEL

VOID CLOSURE

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

USE MODULARITY CLAMP(S) TO HOLD PANEL TRAPEZOID AT 5 1/16" 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.

MODULARITY CLAMP (BUYOUT) MK. H7105

SECTION A

24" COVERAGE

STRETCHING PANEL COVERAGE

SHRINKING PANEL COVERAGE

CORRECT PANEL MODULARITY

ADJUSTING PANEL MODULARITY

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" 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 PROGRESSES, INSTALL MORE CLAMPS UPLOPE AS SHOWN.
6. ADD, ADJUST OR LEAVE CLAMPS OFF TO MAINTAIN PANEL MODULARITY AS NECESSARY.
7. LEAVE CLAMPS ON FIRST FULL SEAM.

START PANEL

RODGEHIGH EAVE

START PANEL OUTSIDE CLOSURE CANNOT BE INSTALLED UNTIL RAKE TRIM IS INSTALLED

DO NOT INSTALL OUTSIDE CLOSURE UNTIL ADJACENT PANEL IS INSTALLED

* CFR MODULARITY CLAMP (BUYOUT) MK. H7105

FULL PANEL

LOW EAVE

LOW EAVE NOTE: TO AID IN LOW EAVE PANEL MODULARITY, PRE-INSTALL PANEL VOID CLOSURES AT 24" O.C.

FASTENER SEQUENCE FOR SQUARE TO RAKE CENTER OF PANEL AND FASTEN FROM CENTER OUT

2" O.C. 1" O.C. 6" TO 8" O.C. OF VOID CLOSURE

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.

START PANEL OUTSIDE CLOSURE CANNOT BE INSTALLED UNTIL RAKE TRIM IS INSTALLED

OUTSIDE CLOSURE CAN BE INSTALLED AT THIS STEP (SEE BASIC PANEL INSTALLATION DETAIL)

DO NOT INSTALL OUTSIDE CLOSURE IN LEADING PANEL

RODGEHIGH EAVE

LOW EAVE

LOW EAVE NOTE: TO AID IN LOW EAVE PANEL MODULARITY, PRE-INSTALL PANEL VOID CLOSURES AT 24" O.C.

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 PROG CLAMP AS SHOWN.
3. REPEAT STEPS 2 THROUGH 5 FROM STAGE #1 NOTES.

START PANEL

RODGEHIGH EAVE

START PANEL OUTSIDE CLOSURE CANNOT BE INSTALLED UNTIL RAKE TRIM IS INSTALLED

PREVIOUSLY INSTALLED OUTSIDE CLOSURE

OUTSIDE CLOSURE CAN BE INSTALLED AT THIS STEP (SEE BASIC PANEL INSTALLATION DETAIL)

DO NOT INSTALL OUTSIDE CLOSURE IN LEADING PANEL

* CFR MODULARITY CLAMP (BUYOUT) MK. H7105

FULL PANEL

LOW EAVE

LOW EAVE NOTE: TO AID IN LOW EAVE PANEL MODULARITY, PRE-INSTALL PANEL VOID CLOSURES AT 24" O.C.

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 PROG THE CLAMP AS SHOWN.
3. INSTALL EAVE PLATE FASTENERS.
4. AS PANEL INSTALLATION PROGRESSES, LEAP PROG CLAMPS FROM THREE SEAMS BACK ONTO PANEL SEAM AS SHOWN.
5. MAINTAIN TWO RINGS OF CLAMPS ON PREVIOUS SEAMS AS PANEL INSTALLATION CONTINUES.
6. REPEAT ALL STEPS / STAGES OF THIS METHOD THROUGHOUT THE ROOF PANEL ERECTION.

RODGEHIGH EAVE

LOW EAVE

LOW EAVE NOTE: TO AID IN LOW EAVE PANEL MODULARITY, PRE-INSTALL PANEL VOID CLOSURES AT 24" O.C.

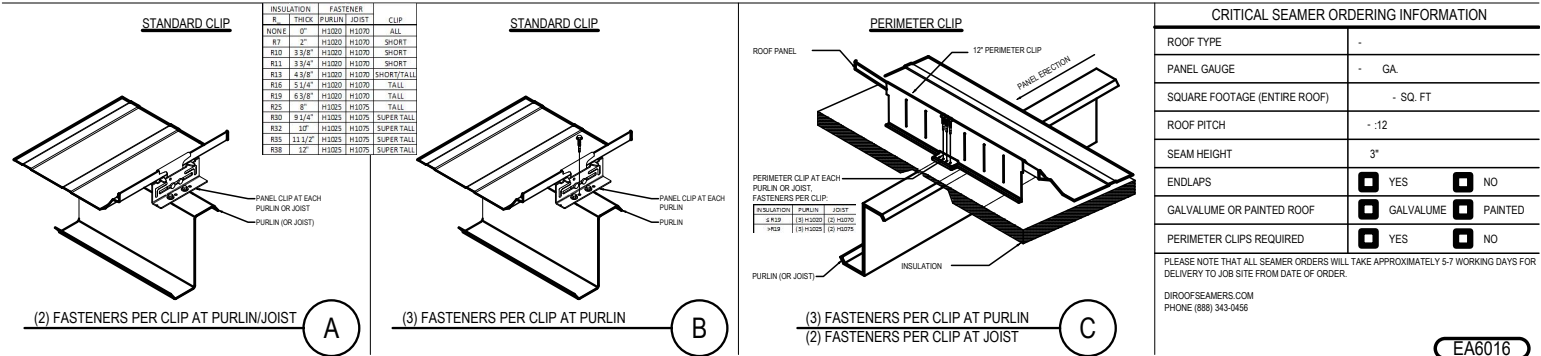
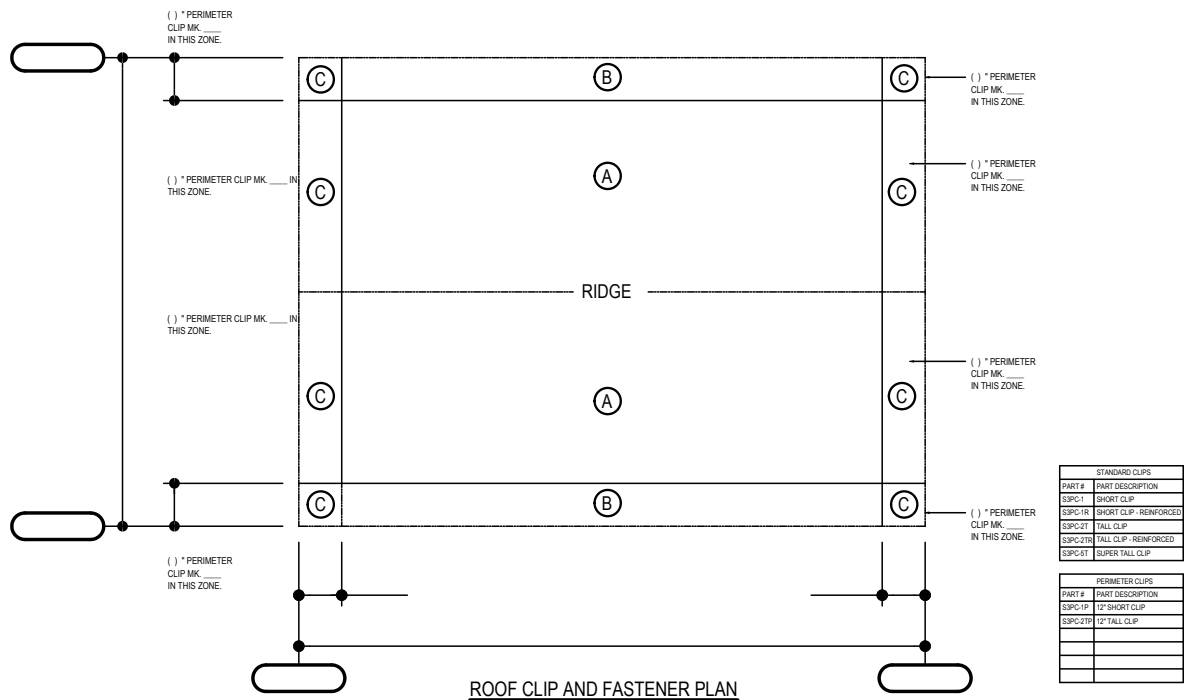
MODULARITY GUIDANCE
SPECIAL ATTENTION TO ABOVE STEPS TO MAINTAIN PROPER PANEL MODULARITY AND THERMAL PERFORMANCE IS CRITICAL. FAILURE TO DO SO WILL RESULT IN UNSIGHTLY PANEL APPEARANCE.

EA6012

Detailer Notes:

1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.

EA6016 - SS360 ROOF CLIP PLAN
[Download the DWG file by clicking here.](#)

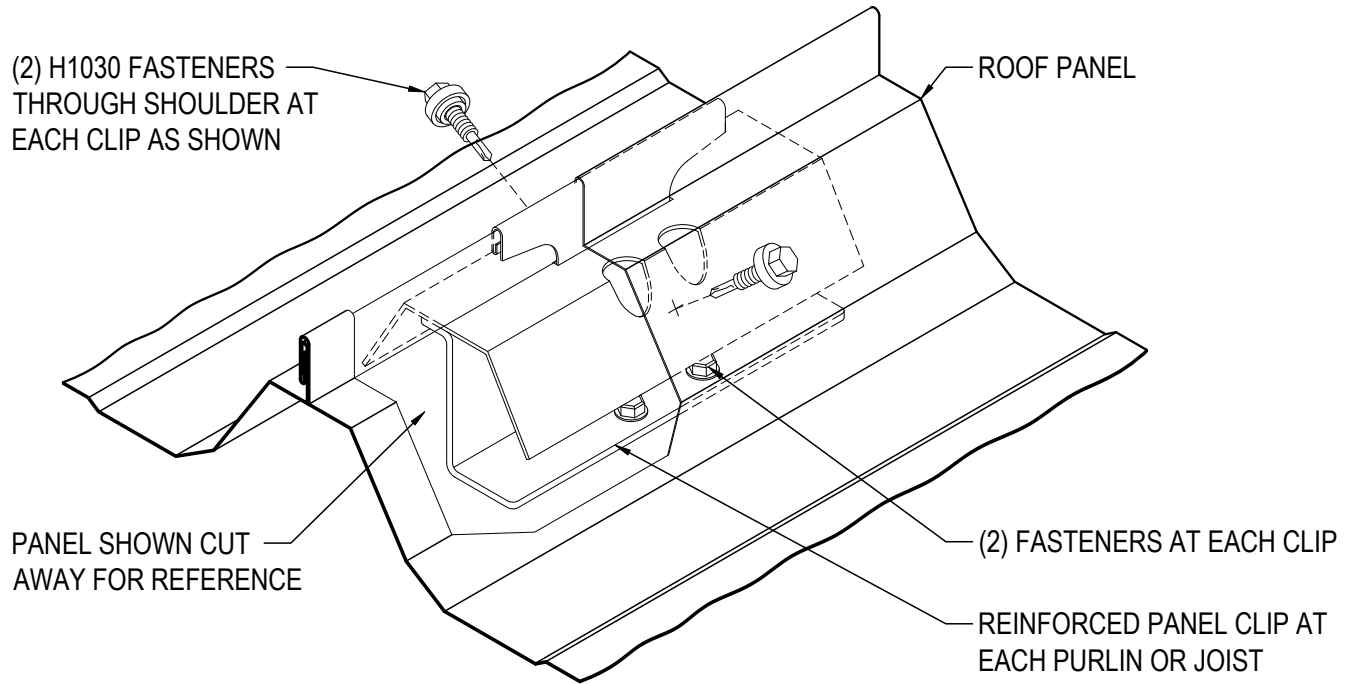


Detailer Notes:

- 1) THIS DETAIL REQUIRED ON EVERY TRAPEZOIDAL ROOF PROJECT.
- 2) DETAILER NOTE: ATTRIBUTES WITH "SP" TAG DO NOT NEED TO BE FILLED OUT.

EA6018 - SS360 REINFORCED PANEL CLIP

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



CLIP FASTENER SELECTION

PURLIN APPLICATION

H1020 FOR INSULATION $\leq R-19$ (6 3/8")

H1025 FOR INSULATION $> R-19$ (6 3/8")
AND $\leq R-25$ (8")

JOIST APPLICATION

H1070 FOR INSULATION $\leq R-19$ (6 3/8")

H1075 FOR INSULATION $> R-19$ (6 3/8")
AND $\leq R-25$ (8")

IMPORTANT NOTE:

IF JOIST TOP CHORD GAP EXCEEDS PANEL CLIP FASTENER LOCATIONS, ALTERNATE PANEL CLIPS TO OPPOSING CHORD ANGLES TO PREVENT LOADING JOIST TO ONE SIDE.

THERMAL BLOCKS AND INSULATION NOT SHOWN FOR CLARITY

REINFORCED CLIPS	
PART #	PART DESCRIPTION
S3PC-1R	SHORT CLIP - REINFORCED
S3PC-2TR	TALL CLIP - REINFORCED

SS360 REINFORCED PANEL CLIP

FACTORY MUTUAL APPROVED

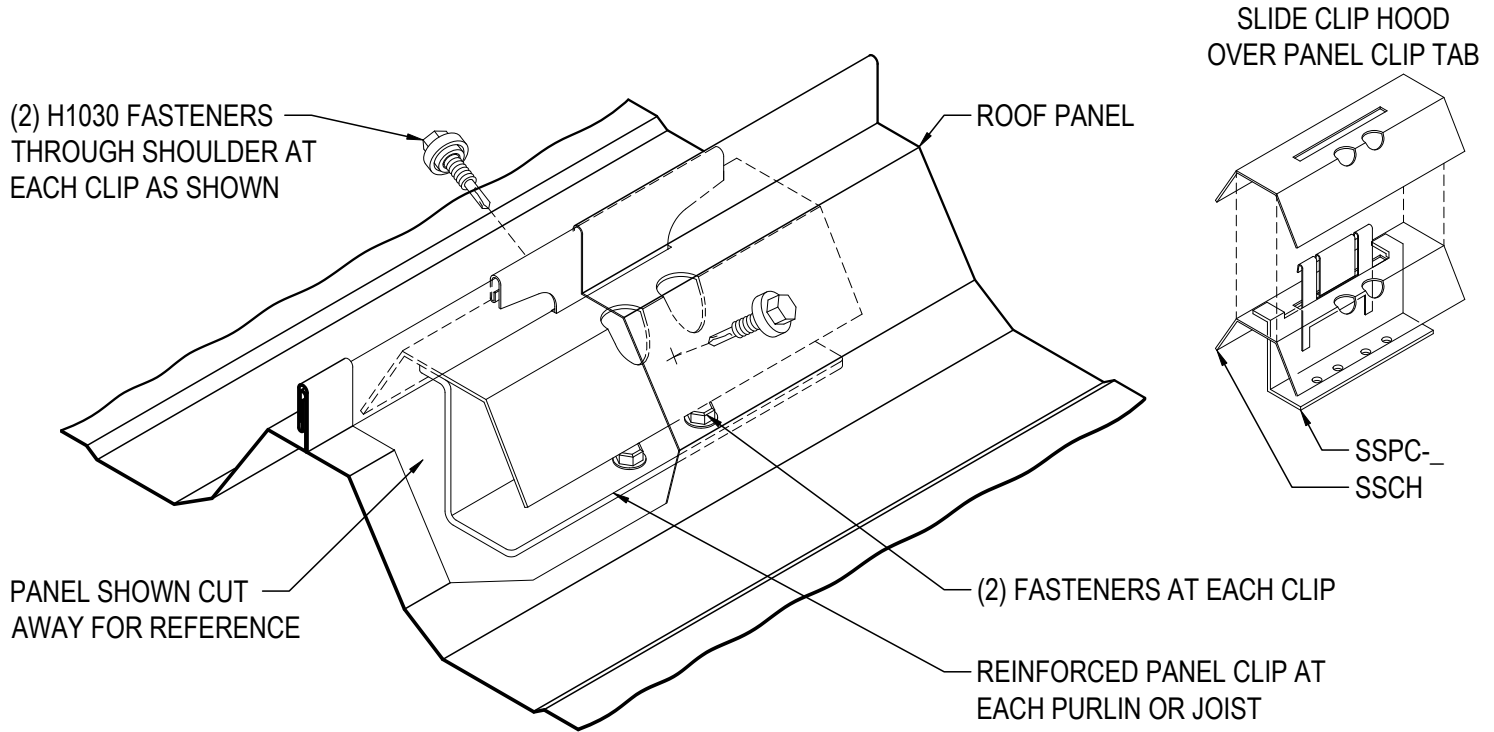
EA6018

Detailer Notes:

1) THIS DETAIL REQUIRED ONLY ON FM RATED PROJECTS WITH 24GA PANEL. IF 22GA PANEL IS USED THE REINFORCED CLIP IS NOT REQUIRED. REFERENCE THE PRAC MANUAL.

EA6019 - SSII REINFORCED PANEL CLIP

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



CLIP FASTENER SELECTION

PURLIN APPLICATION

H1020 FOR INSULATION $\leq R-19$ (6 3/8")

H1025 FOR INSULATION $> R-19$ (6 3/8")
AND $\leq R-25$ (8")

JOIST APPLICATION

H1070 FOR INSULATION $\leq R-19$ (6 3/8")

H1075 FOR INSULATION $> R-19$ (6 3/8")
AND $\leq R-25$ (8")

IMPORTANT NOTE:

IF JOIST TOP CHORD GAP EXCEEDS PANEL CLIP FASTENER LOCATIONS, ALTERNATE PANEL CLIPS TO OPPOSING CHORD ANGLES TO PREVENT LOADING JOIST TO ONE SIDE.

THEMAL BLOCKS AND INSULATION NOT SHOWN FOR CLARITY

STANDARD CLIPS

PART #	PART DESCRIPTION
SSPC-1	SHORT CLIP
SSPC-2T	TALL CLIP

SSII REINFORCED PANEL CLIP

REINFORCED CLIP REQUIRED AS SHOWN ON PLAN

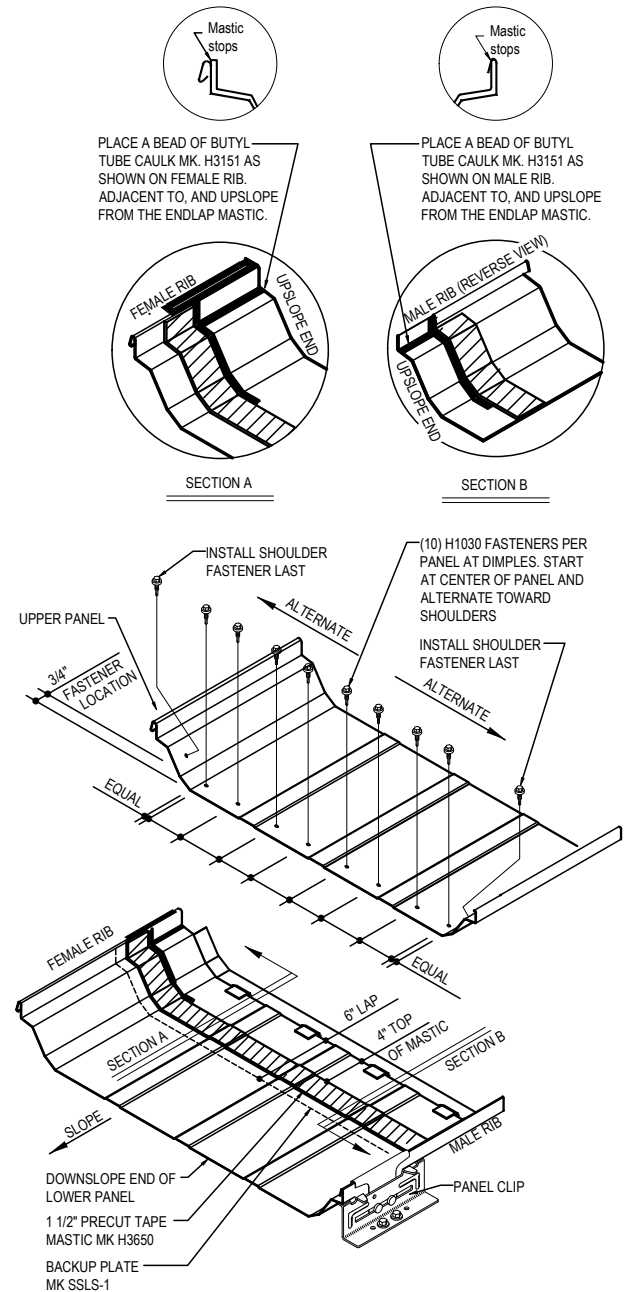
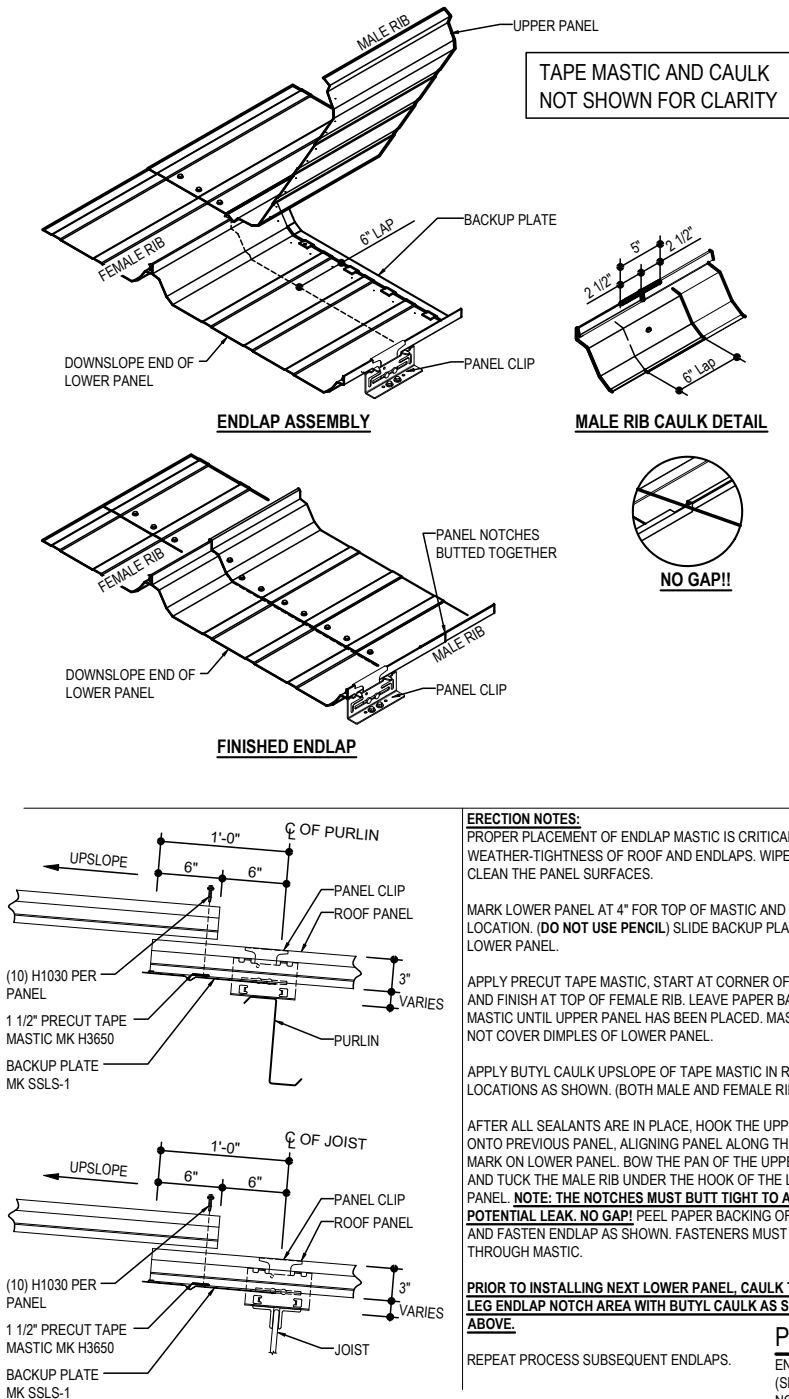
EA6019

Detailer Notes:

- 1) THIS DETAIL REQUIRED ONLY PER DESIGN.

EA6020 - SS360 PANEL ENDLAP

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



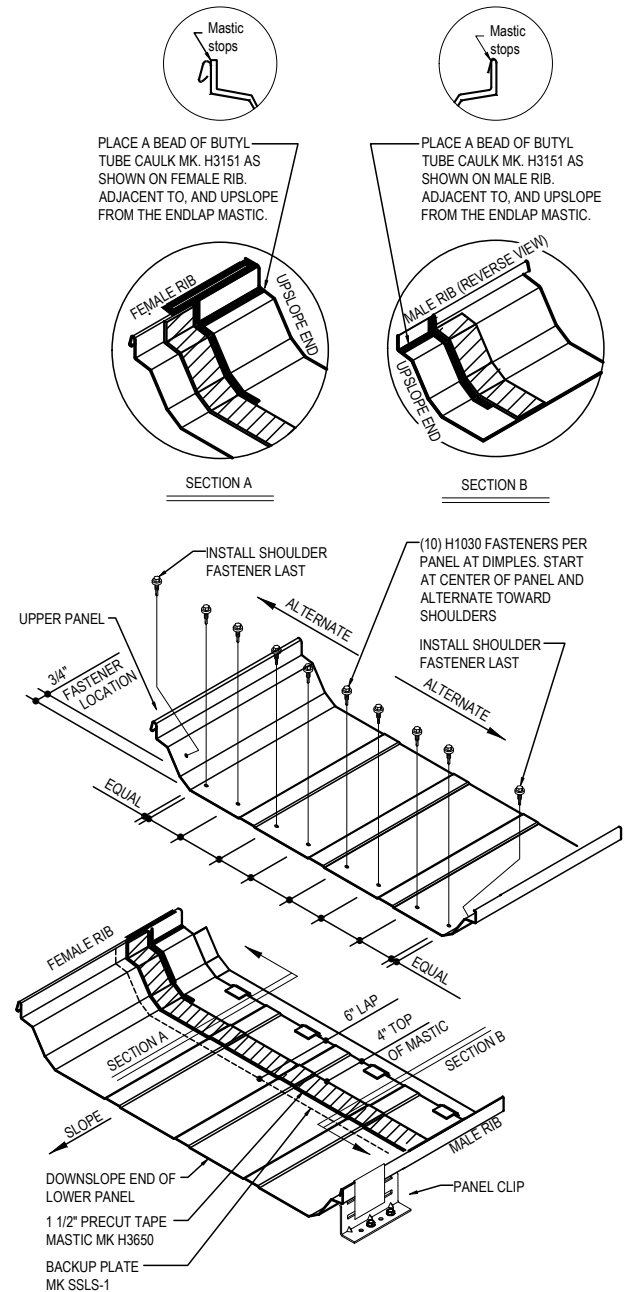
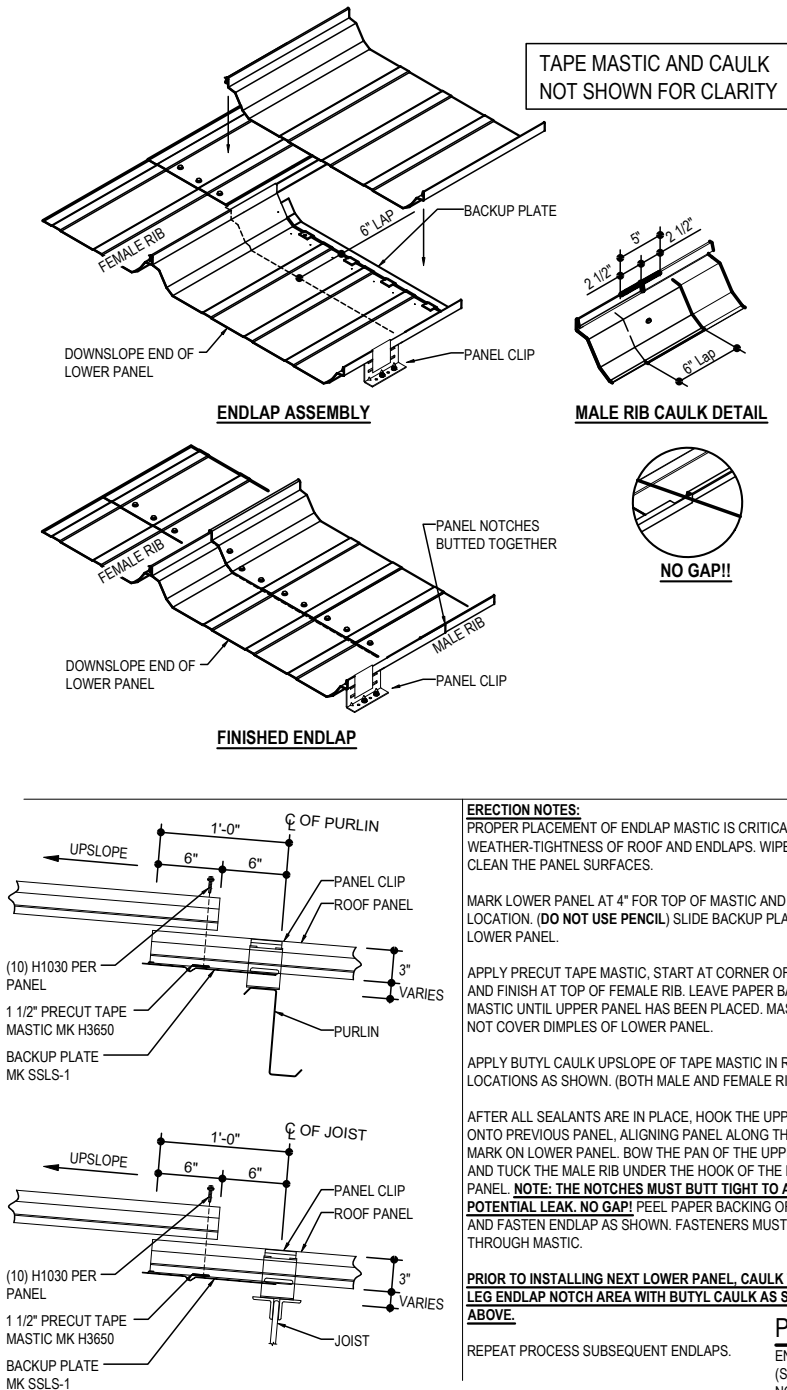
EA6020

Detailer Notes:

- 1) THIS DETAIL IS REQUIRED ON EVERY PROJECT WITH TRAPEZOIDAL ROOF PANEL WITH ENDLAPS.
- 2) TURN ON THE CORRECT LAYER BASED ON THE SPECIFIC TRAPEZOIDAL PANEL PROFILE AND TURN OFF THE PANEL PROFILES NOT USED.
- 3) THIS STANDARD DETAIL IS APPROVED FOR MIAMI-DADE USE. ALTERATIONS TO THIS DETAIL MAY IMPACT APPROVAL.

EA6020 - SSII PANEL ENDLAP

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



PANEL ENDLAP DETAIL

ENDLAP DETAIL WITH STRAIGHT OR STAGGERED ENLAPS
(SEE ROOF SHEETING PLAN)
NOTE: INSULATION AND THERMAL BLOCKS NOT SHOWN FOR CLARITY

EA6020

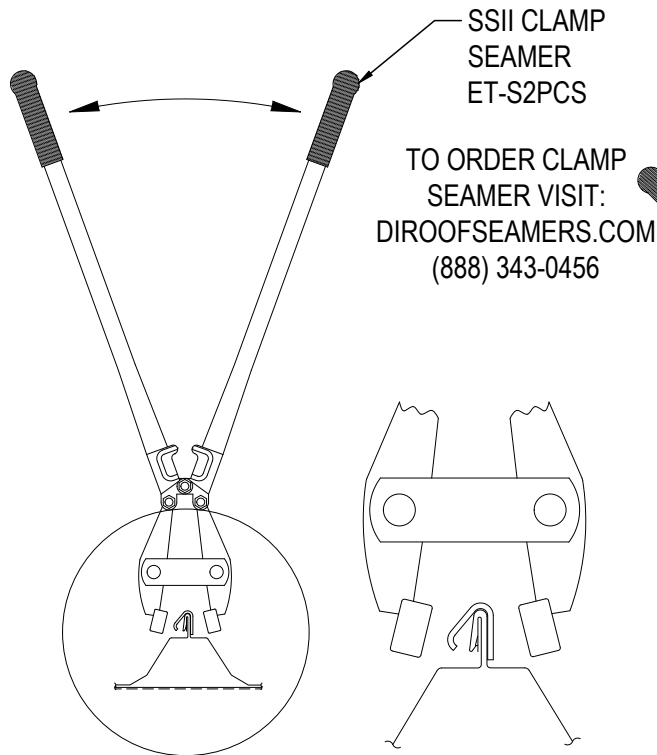
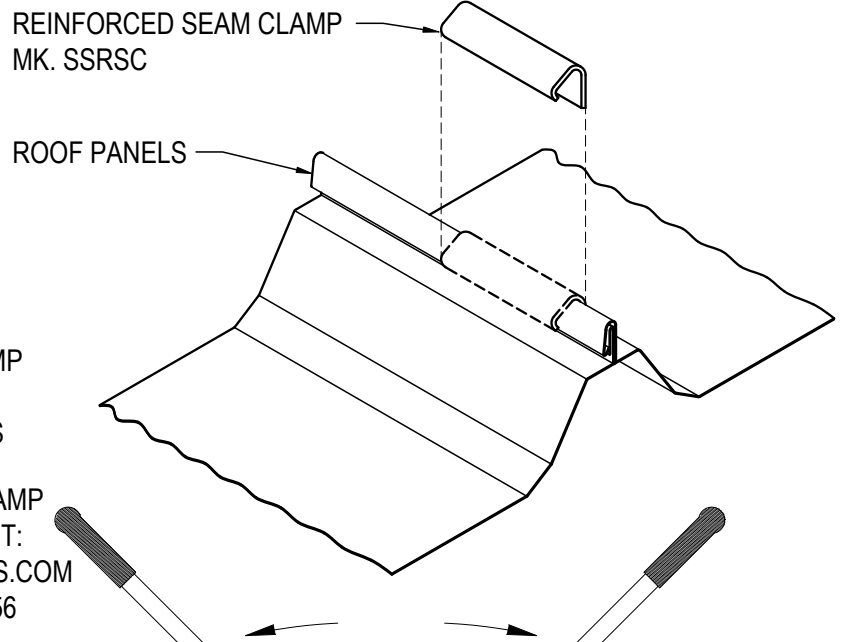
Detailer Notes:

- 1) THIS DETAIL IS REQUIRED ON EVERY PROJECT WITH TRAPEZOIDAL ROOF PANEL WITH ENDLAPS.
2) TURN ON THE CORRECT LAYER BASED ON THE SPECIFIC TRAPEZOIDAL PANEL PROFILE AND TURN OFF THE PANEL PROFILES NOT USED.

EA6029 - SSII REINFORCED SEAM CLAMP

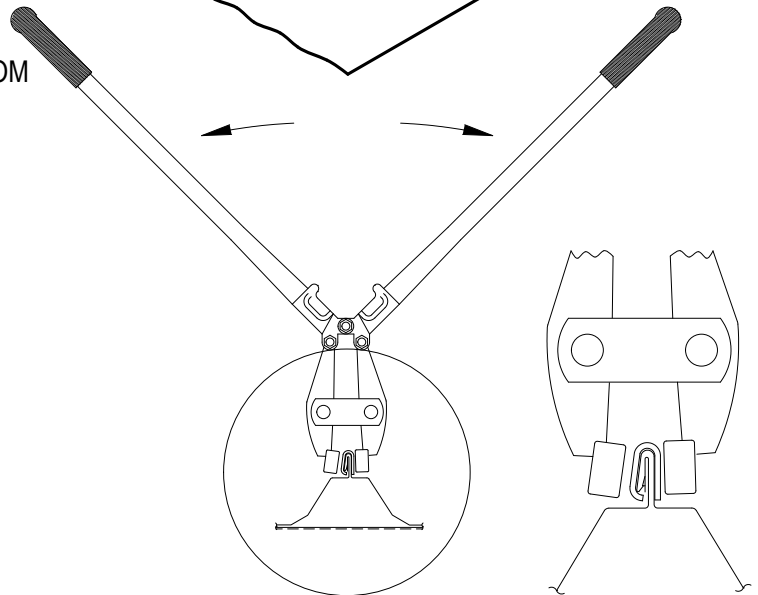
[Download the DWG file by clicking here.](#)

AFTER PANELS HAVE BEEN COMPLETELY INSTALLED AND SNAPPED TOGETHER, INSTALL REINFORCING CLAMP AT DESIGNATED LOCATIONS. USE THE CLAMP SEAMER AS SHOWN TO CRIMP THE CLAMP ONTO THE PANEL SEAM.



TO ORDER CLAMP SEAMER VISIT:
DIROOFSEAMERS.COM
(888) 343-0456

STEP 1
POSITION SEAMER OVER CLAMP



STEP 2
OPEN HANDLES TO CRIMP CLAMP TO SEAM

SSII REINFORCED SEAM CLAMP

REINFORCED SEAM CLAMP REQUIRED AS SHOWN ON PLAN

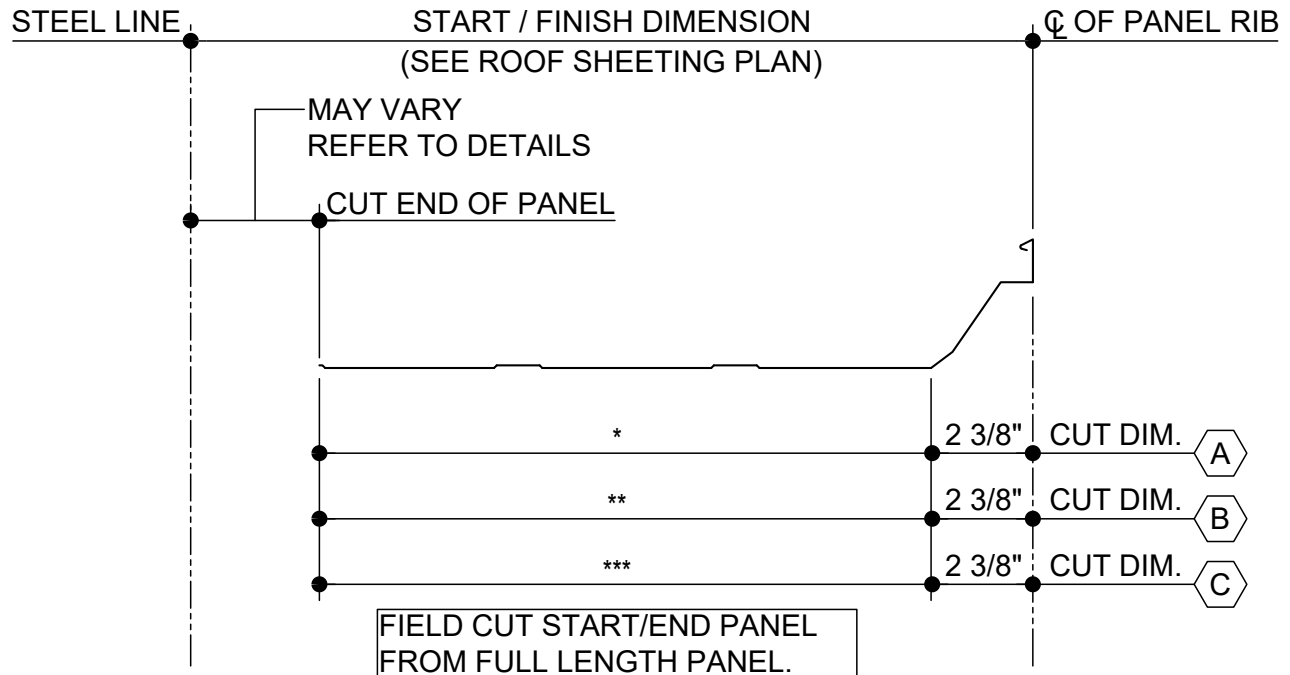
EA6029

Detailer Notes:

- 1) THIS DETAIL REQUIRED ONLY PER DESIGN.

EA6035 - SS360 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.