

HIGH PERFORMANCE WALL :

XR SERIES - CANADA

PATENT PENDING

DISCLAIMER

THE PROCEDURES PRESENTED IN THIS FIELD ASSEMBLY GUIDE ARE INTENDED AS A GUIDELINE ONLY, TO PROVIDE A BASIC UNDERSTANDING OF THE CONCEPTS INVOLVED IN THE PROPER AND AFFECTIVE INSTALLATION OF OUR HP+™ WALL SYSTEMS.

FOR CODE, DESIGN, AND INSTALLATION INFORMATION, PLEASE REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE DrJ ENGINEERING TECHNICAL EVALUATION REPORT.

IT REMAINS THE RESPONSIBILITY OF THE HP+™ WALL SYSTEMS INSTALLER AND/OR BUILDER TO MESURE ALL WORK PERFORMED CONFORMS TO APPLICABLE BUILDING CODE AND LABOUR SAFETY REGULATIONS GOVERNING THE CONSTRUCTION.

NOTE:

ALL REFERENCES TO MASTERSEAL® NP1™ OR 1/2" OR 1" FOAM SEALANT TAPE IS FOR BEST PRACTICE TO IMPROVE AIR TIGHTNESS

HIGH PERFORMANCE WALL : XR SERIES - CANADA

PATENT PENDING

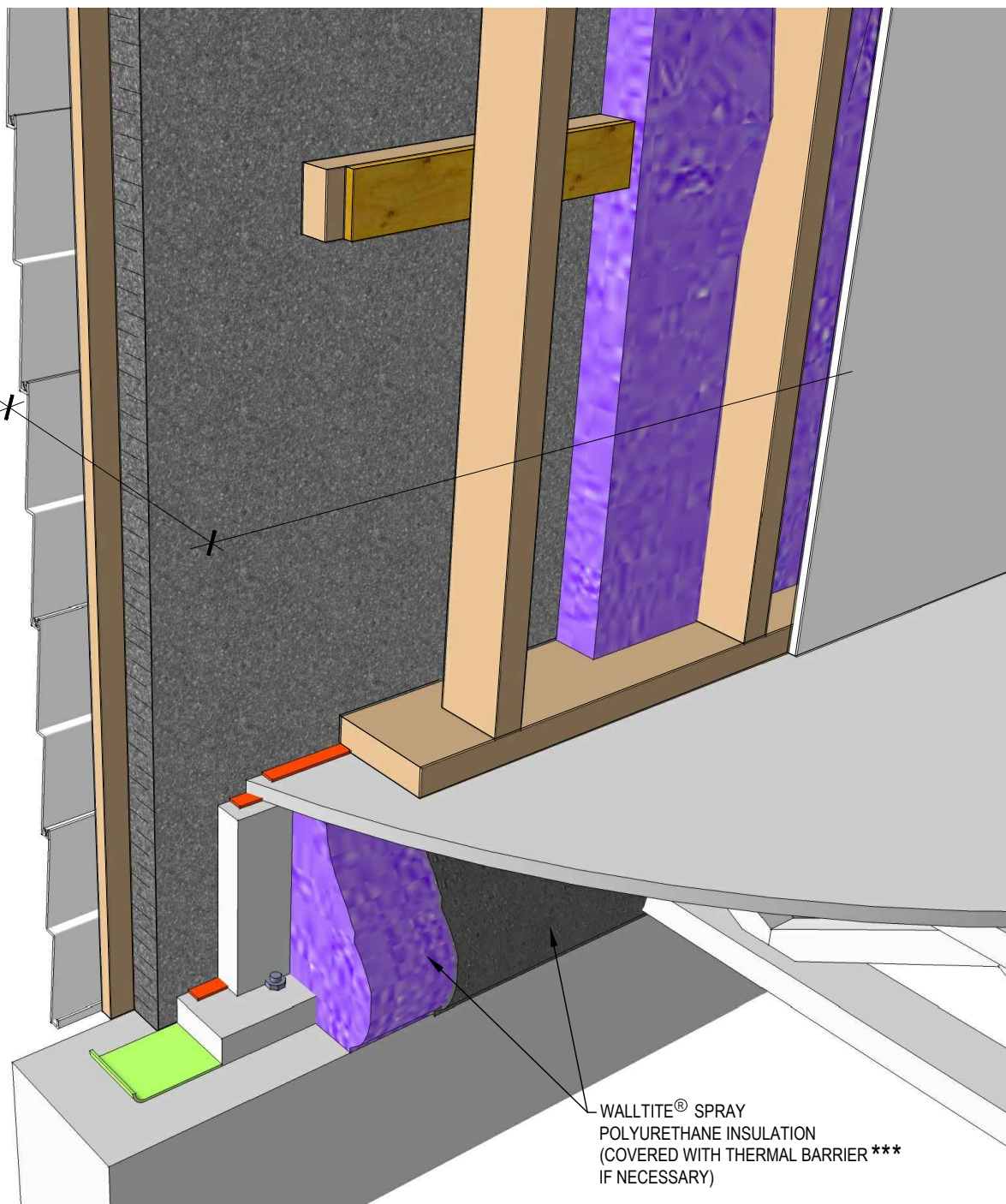
WALL COMPONENTS

- EXTERIOR CLADDING
- 1" x 3" VERT. STRAPPING @ 16" C/C OR 24" C/C
- 1" THICK NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE INSULATION (1.35 lb/ft³ MINIMUM DENSITY)
- HORIZONTAL WOOD GIRTS: 2" x 4" STUDS WITH 1/2" PLYWOOD STRIPS, @ 24" C/C
- 2" x 4" STUDS @ 16" C/C OR 24" C/C BETWEEN 2" x 6" BOTTOM AND TOP PLATES
- 2 1/2" THICK WALLTITE® SPRAYED POLYURETHANE ONTO SURFACE OF RIGID INSULATION AND FILLING WOOD GIRT CAVITY
- 1/2" GYPSUM BOARD

* TYPICAL WALL NOMINAL R VALUE

COMPONENTS	R VALUE
OUTSIDE AIR FILM	R 0.17
EXTERIOR CLADDING	+/- R 0.62
AIR SPACE 3/4"	R 1.02
NEOPOR® SHEATHING 1"	R 4.70
WALLTITE® CM01, 2 1/2"	R 13.5
AIR SPACE 3"	R 1.02
GYPSUM BOARD 1/2"	R 0.44
INSIDE AIR FILM	R 0.68
TOTAL R	R 22.15

* NOMINAL R VALUES DETERMINED ACCORDING TO COMMON INDUSTRY PRACTICE



WALLTITE® SPRAY
POLYURETHANE INSULATION
(COVERED WITH THERMAL BARRIER ***
IF NECESSARY)

HIGH PERFORMANCE WALL : XR SERIES - CANADA

PATENT PENDING

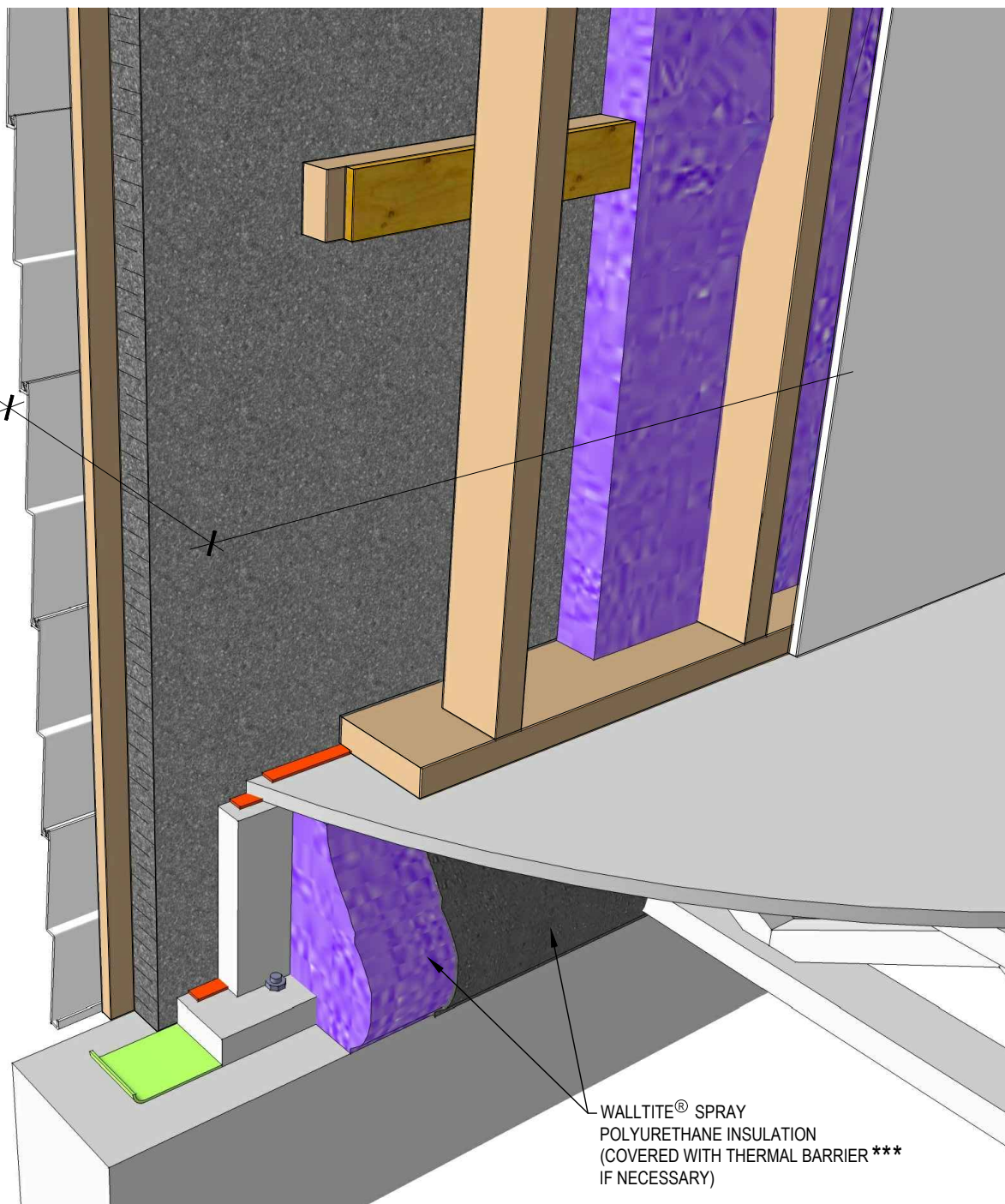
WALL COMPONENTS

- EXTERIOR CLADDING
- 1" x 3" VERT. STRAPPING @ 16" C/C OR 24" C/C
- 1 1/2" THICK NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE INSULATION (1.35 lb/ft³ MINIMUM DENSITY)
- HORIZONTAL WOOD GIRTS: 2" x 4" STUDS WITH 1/2" PLYWOOD STRIPS, @ 24" C/C
- 2" x 4" STUDS @ 16" C/C OR 24" C/C BETWEEN 2" x 6" BOTTOM AND TOP PLATES
- 2 1/2" THICK WALLTITE® SPRAYED POLYURETHANE ONTO SURFACE OF RIGID INSULATION AND FILLING WOOD GIRT CAVITY
- 1/2" GYPSUM BOARD

* TYPICAL WALL NOMINAL R VALUE

COMPONENTS	R VALUE
OUTSIDE AIR FILM	R 0.17
EXTERIOR CLADDING	+/- R 0.62
AIR SPACE 3/4"	R 1.02
NEOPOR® SHEATHING 1 1/2"	R 7.00
WALLTITE® CM01, 2 1/2"	R 13.5
AIR SPACE 3"	R 1.02
GYPSUM BOARD 1/2"	R 0.44
INSIDE AIR FILM	R 0.68
TOTAL R	R 24.45

* NOMINAL R VALUES DETERMINED ACCORDING TO COMMON INDUSTRY PRACTICE



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POLYURETHANE INSULATION
(COVERED WITH THERMAL BARRIER ***
IF NECESSARY)

HIGH PERFORMANCE WALL : XR SERIES - CANADA

PATENT PENDING

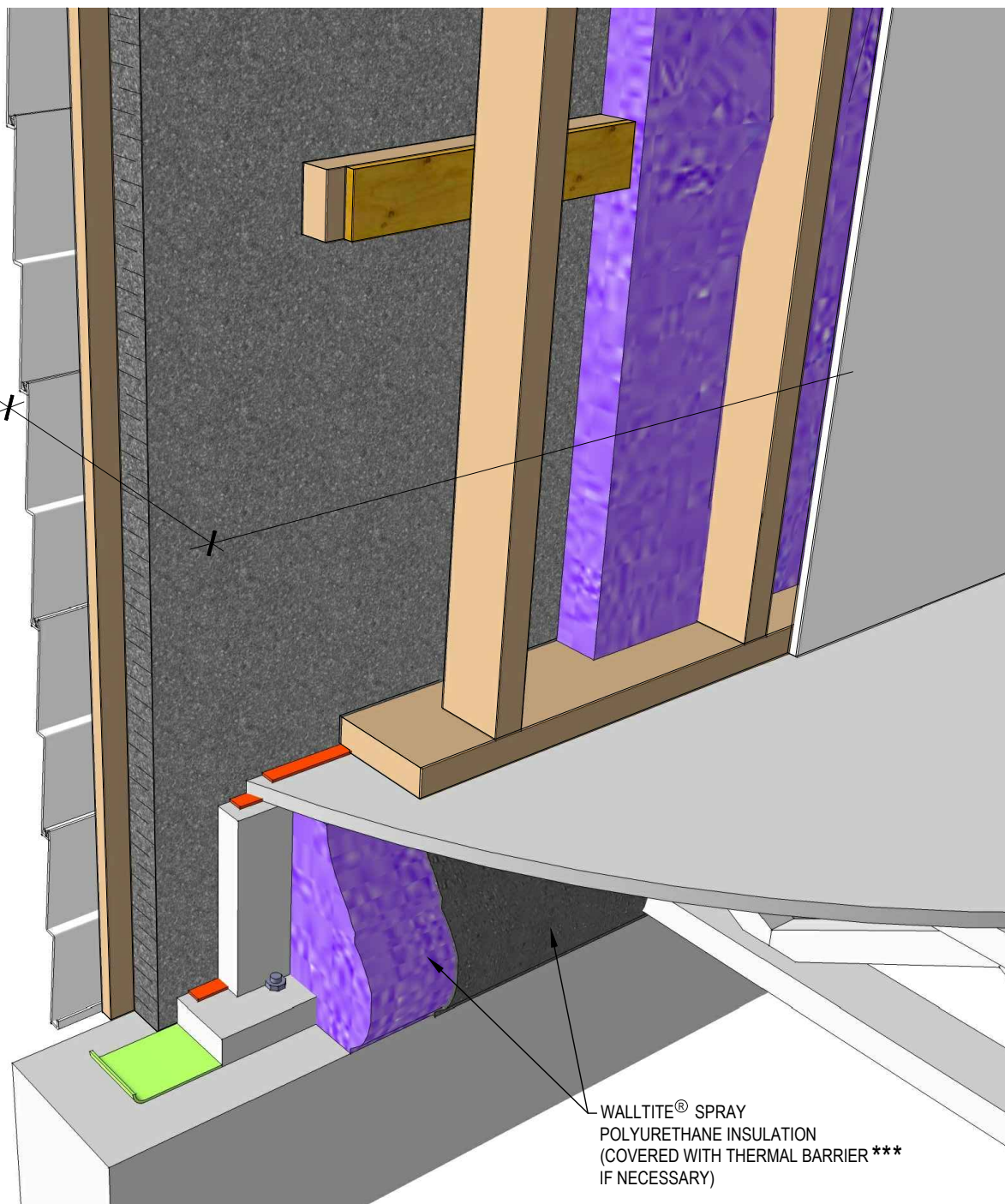
WALL COMPONENTS

- EXTERIOR CLADDING
- 1" x 3" VERT. STRAPPING @ 16" C/C OR 24" C/C
- 2" THICK NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE INSULATION (1.35 lb/ft³ MINIMUM DENSITY)
- HORIZONTAL WOOD GIRTS: 2" x 4" STUDS WITH 1/2" PLYWOOD STRIPS, @ 24" C/C
- 2" x 4" STUDS @ 16" C/C OR 24" C/C BETWEEN 2" x 6" BOTTOM AND TOP PLATES
- 2 1/2" THICK WALLTITE® SPRAYED POLYURETHANE ONTO SURFACE OF RIGID INSULATION AND FILLING WOOD GIRT CAVITY
- 1/2" GYPSUM BOARD

* TYPICAL WALL NOMINAL R VALUE

COMPONENTS	R VALUE
OUTSIDE AIR FILM	R 0.17
EXTERIOR CLADDING	+/- R 0.62
AIR SPACE 3/4"	R 1.02
NEOPOR® SHEATHING 2"	R 9.40
WALLTITE® CM01, 2 1/2"	R 13.5
AIR SPACE 3"	R 1.02
GYPSUM BOARD 1/2"	R 0.44
INSIDE AIR FILM	R 0.68
TOTAL R	R 26.85

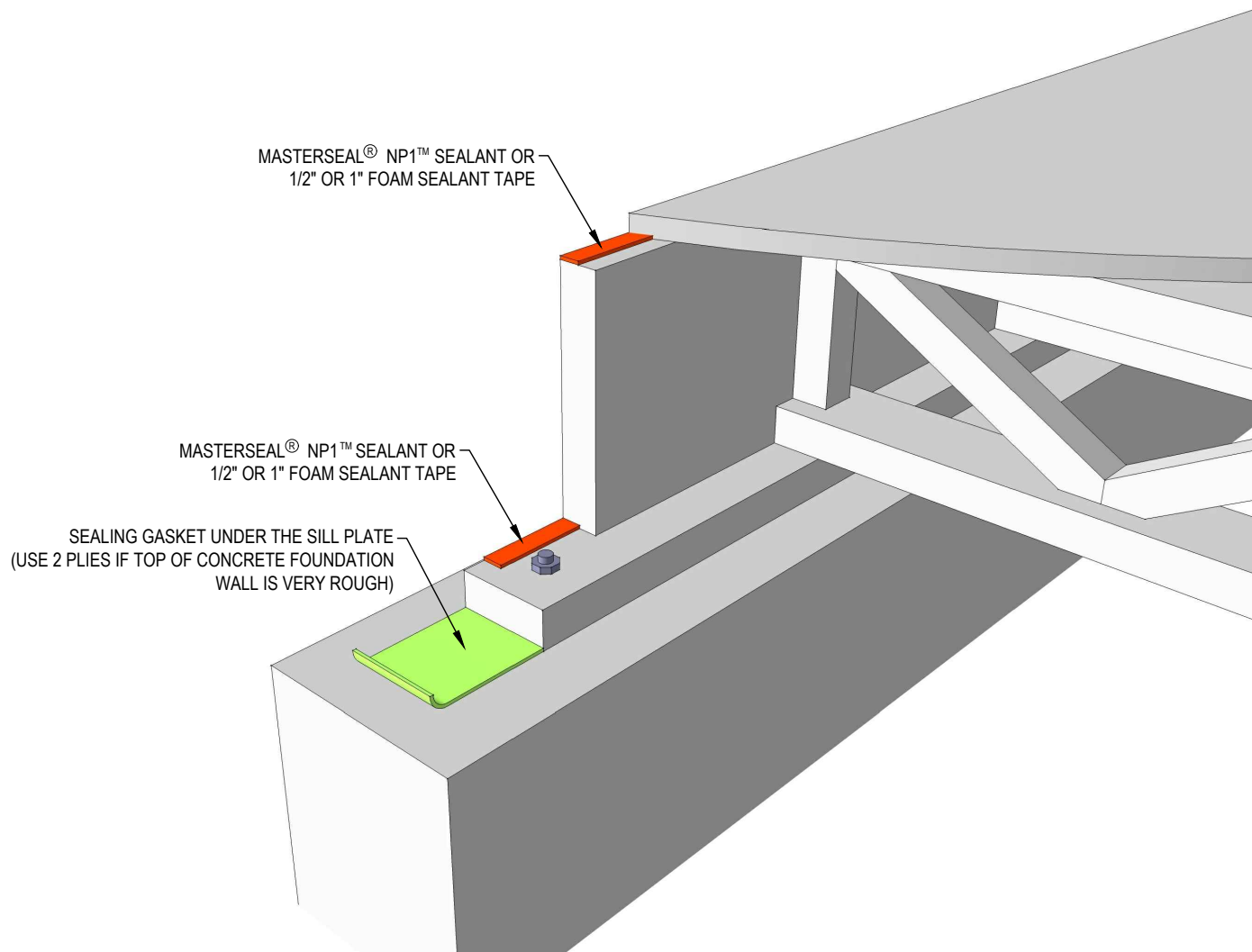
* NOMINAL R VALUES DETERMINED ACCORDING TO COMMON INDUSTRY PRACTICE



WALLTITE® SPRAY
POLYURETHANE INSULATION
(COVERED WITH THERMAL BARRIER ***
IF NECESSARY)

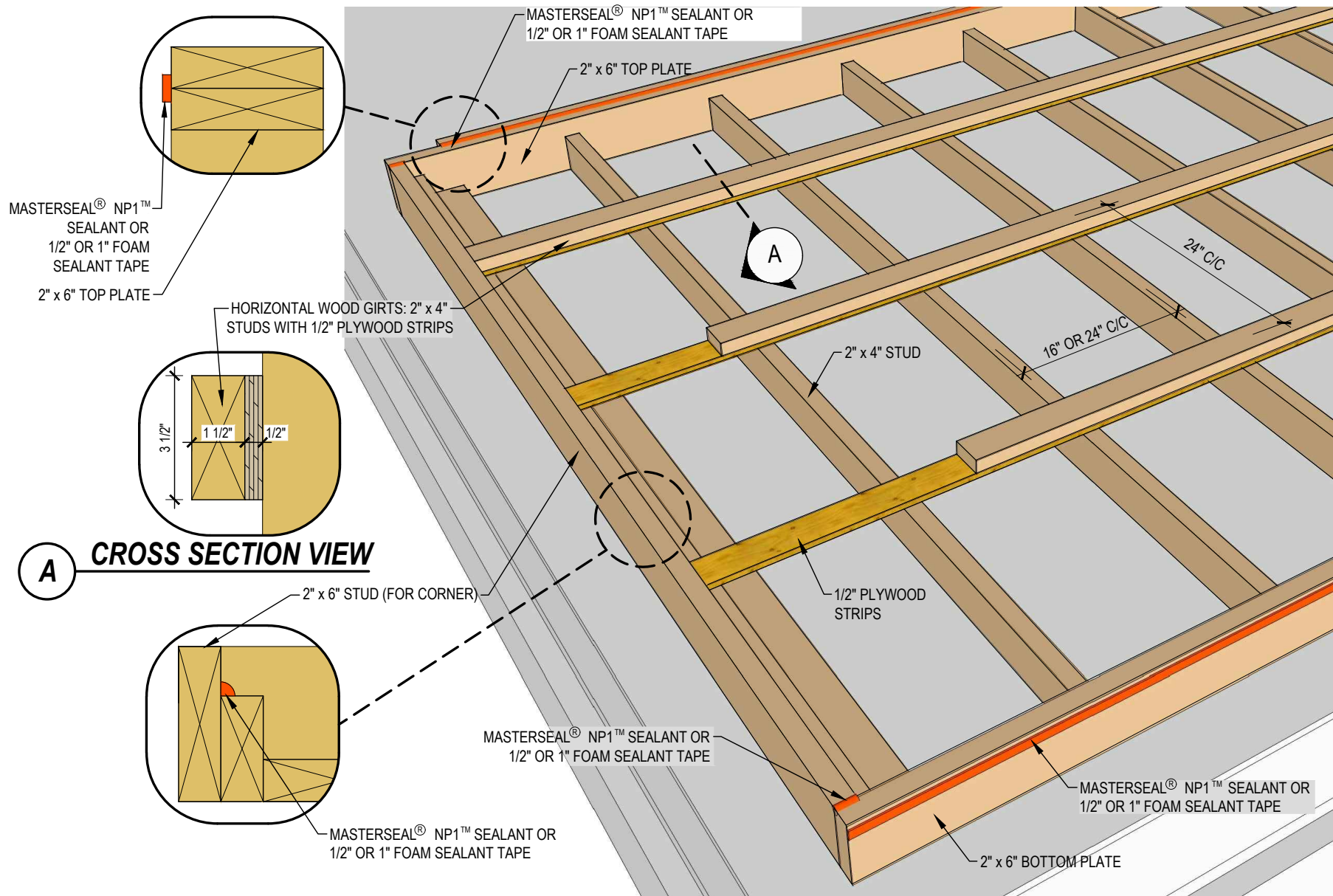
STEP 1 - FLOOR ASSEMBLY

ENSURE SEAL OF ALL FLOOR FRAMING COMPONENTS
ANCHORED TO FOUNDATION WALL



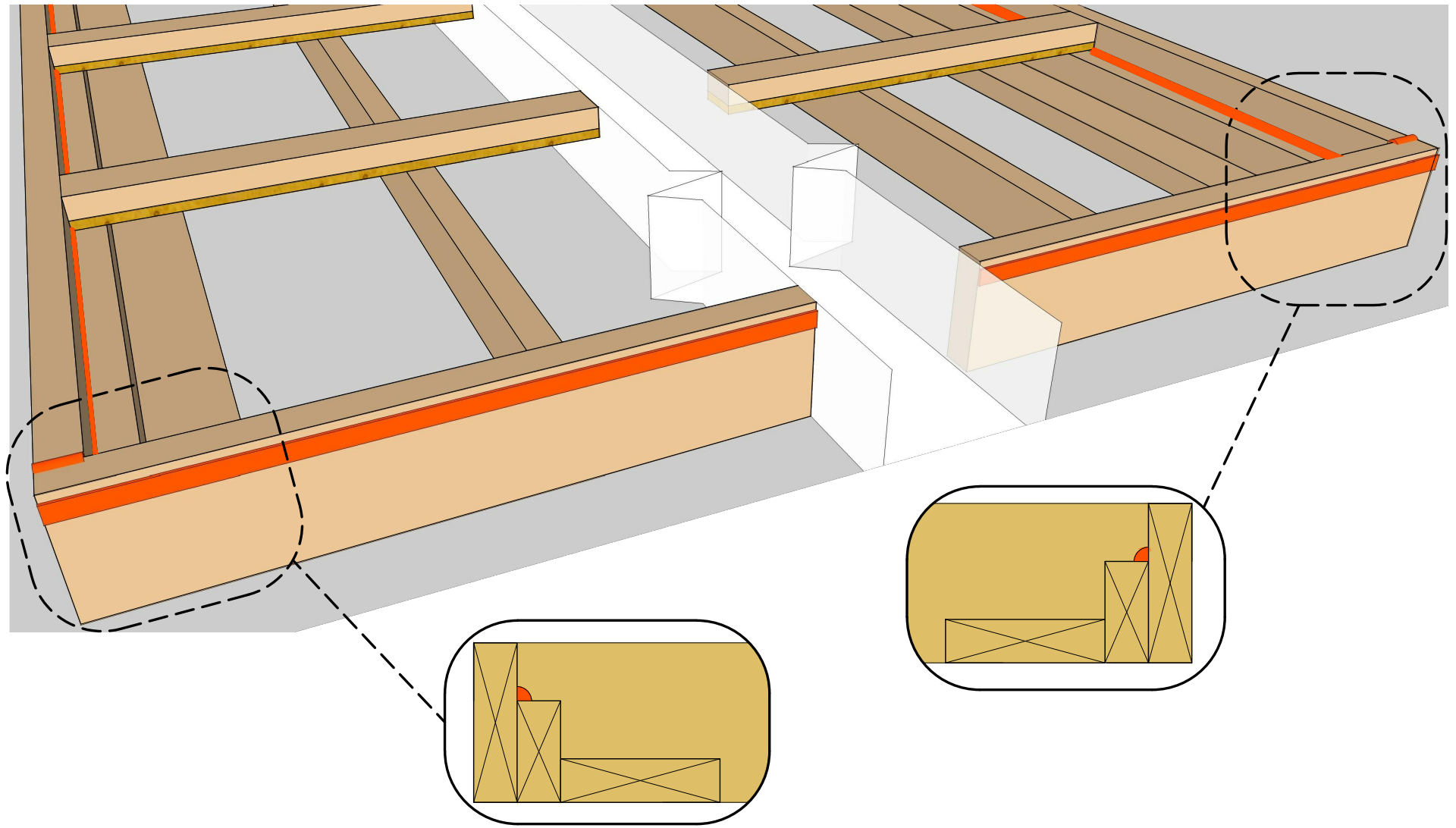
STEP 2A - WALL FRAMING

FIRST WALL FRAMING AND ASSEMBLY



STEP 2B - WALL FRAMING

FIRST WALL FRAMING AND ASSEMBLY

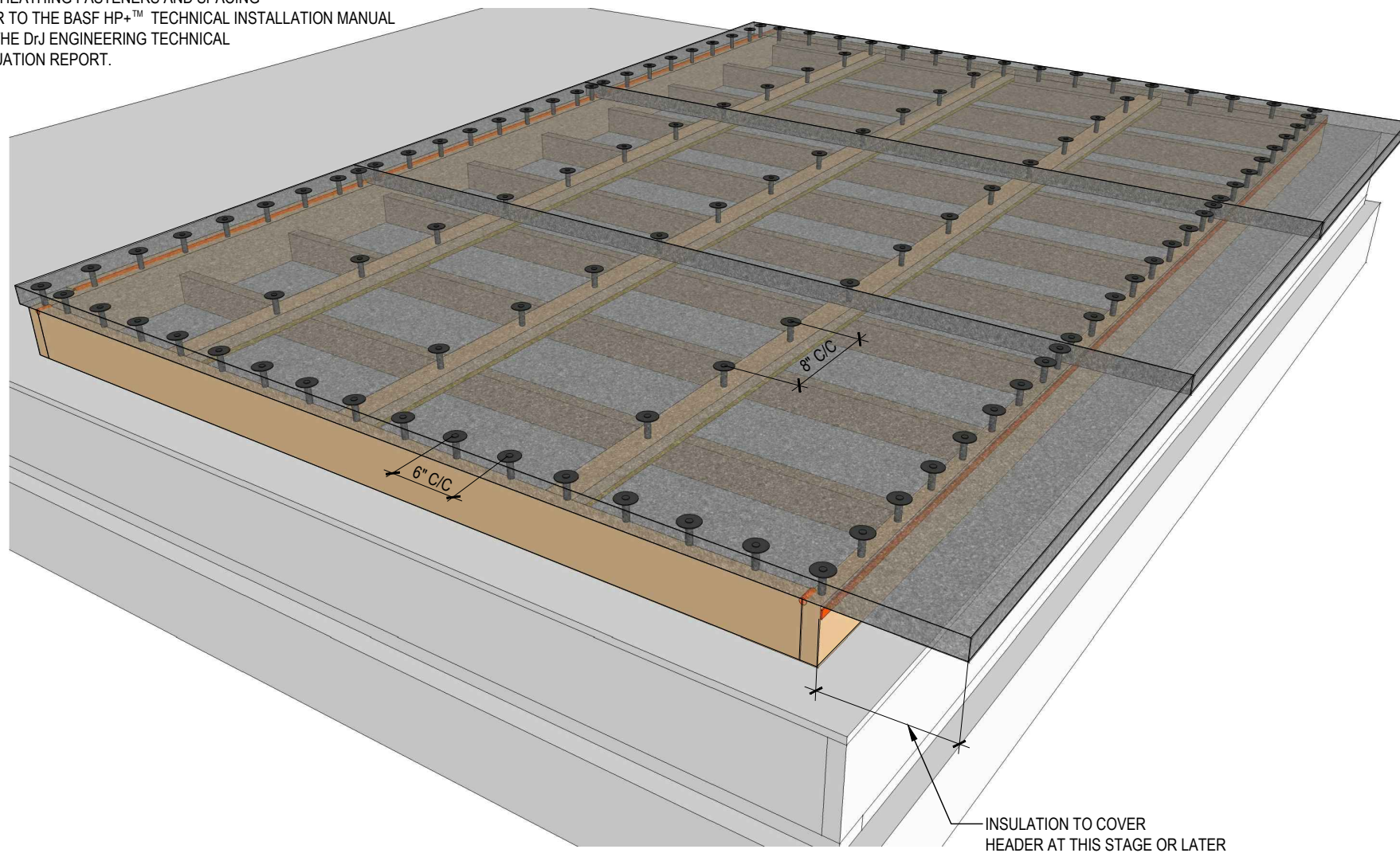


STEP 3A - EXTERIOR INSULATION

INSTALL NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE INSULATING SHEATHING

NOTE:

FOR SHEATHING FASTENERS AND SPACING
REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL
AND THE DrJ ENGINEERING TECHNICAL
EVALUATION REPORT.



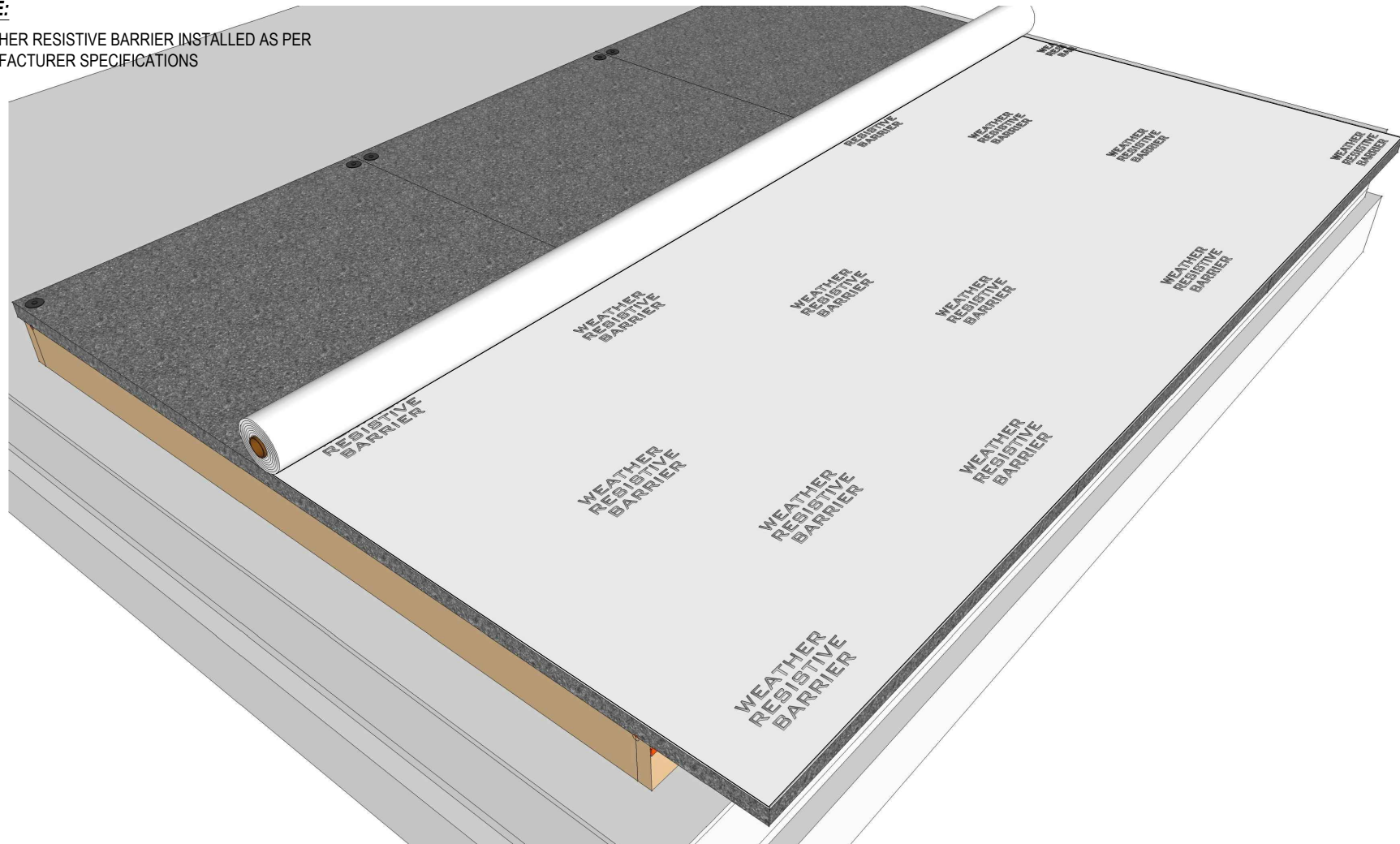
STEP 3B - WEATHER RESISTIVE BARRIER (WRB) - OPTIONAL

NOTE:

NEOPOR'S® FASTENERS ARE NOT SHOWN ON THIS PAGE AND THE FOLLOWING PAGES TO SIMPLIFY THE DRAWINGS.

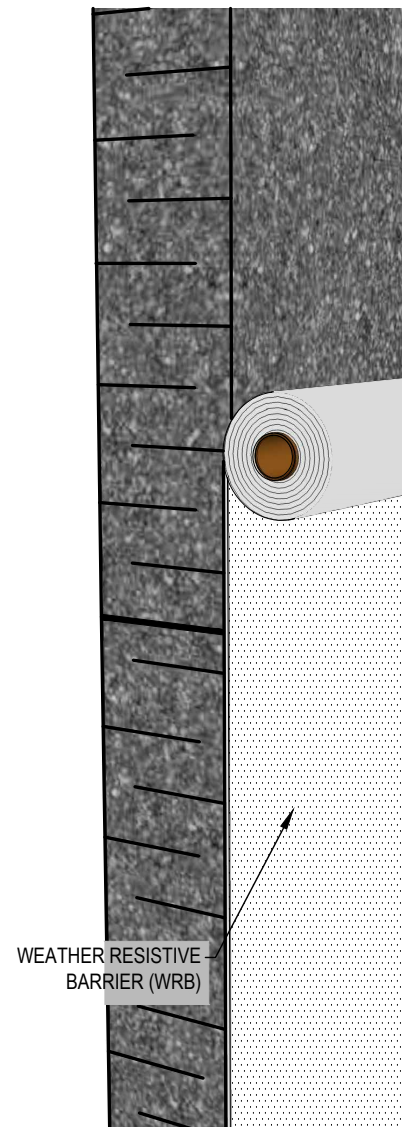
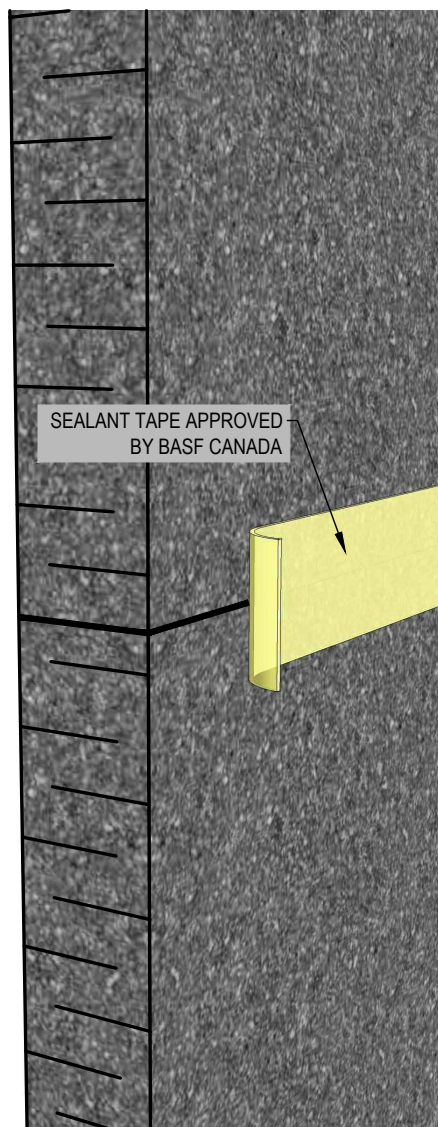
NOTE:

WEATHER RESISTIVE BARRIER INSTALLED AS PER MANUFACTURER SPECIFICATIONS



STEP 4 - NEOPOR® SEALING JOINTS - VARIOUS OPTIONS

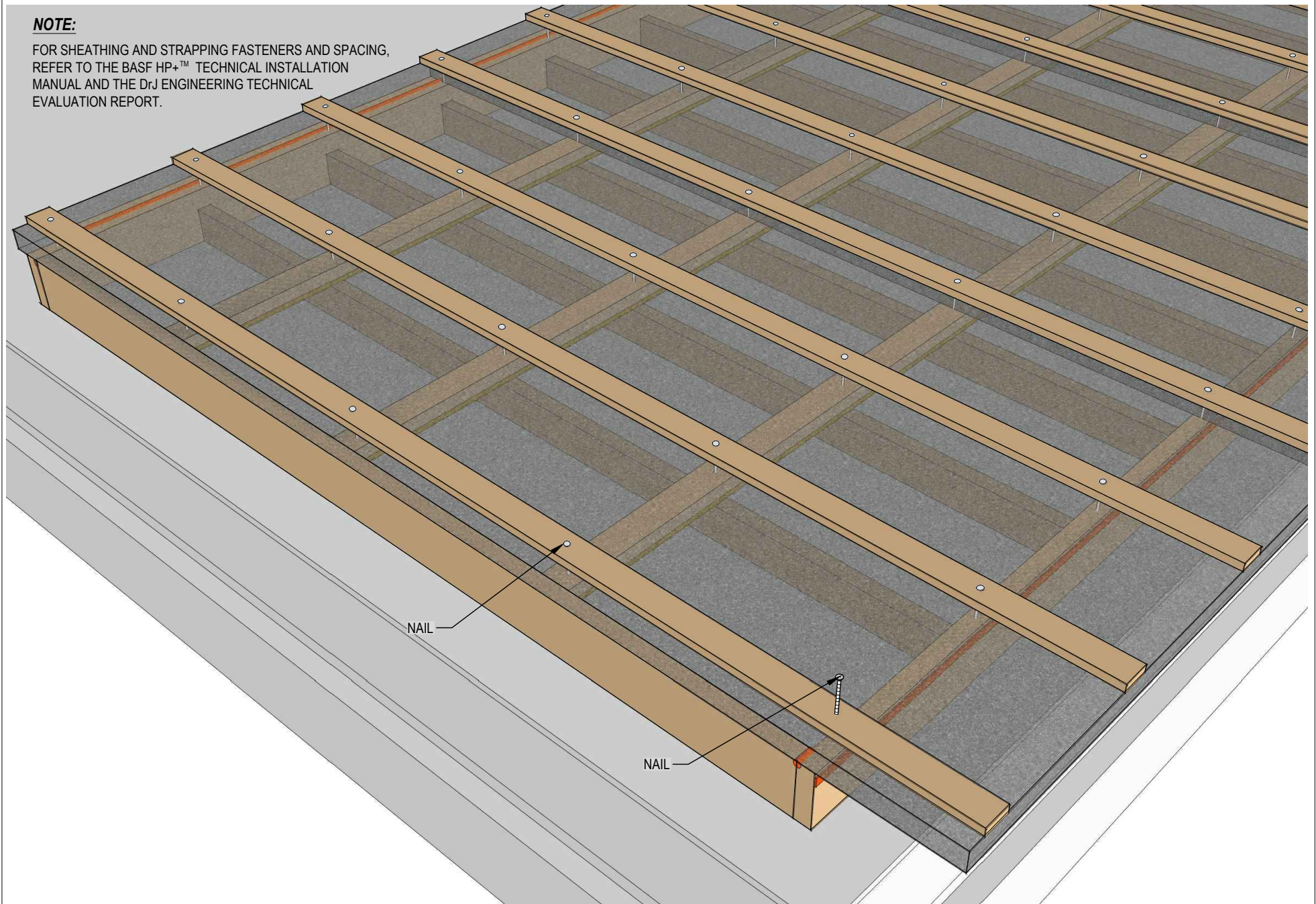
SEAL BUTT JOINTS; SHIPLAP AND T&G JOINTS MAY BE LEFT UNSEALED WHEN DESIGN SHEDS WATER



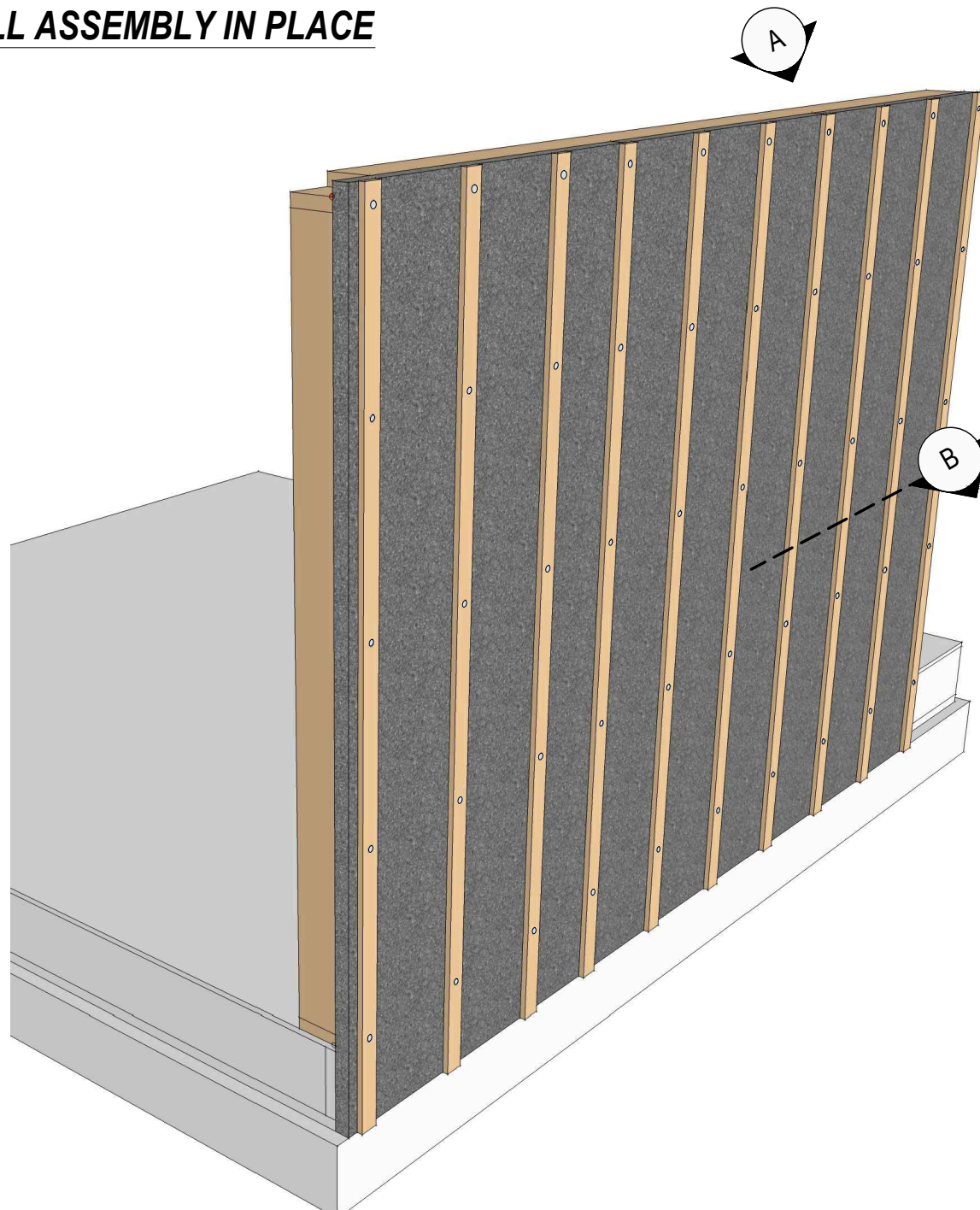
STEP 5 - STRAPPING INSTALLATION

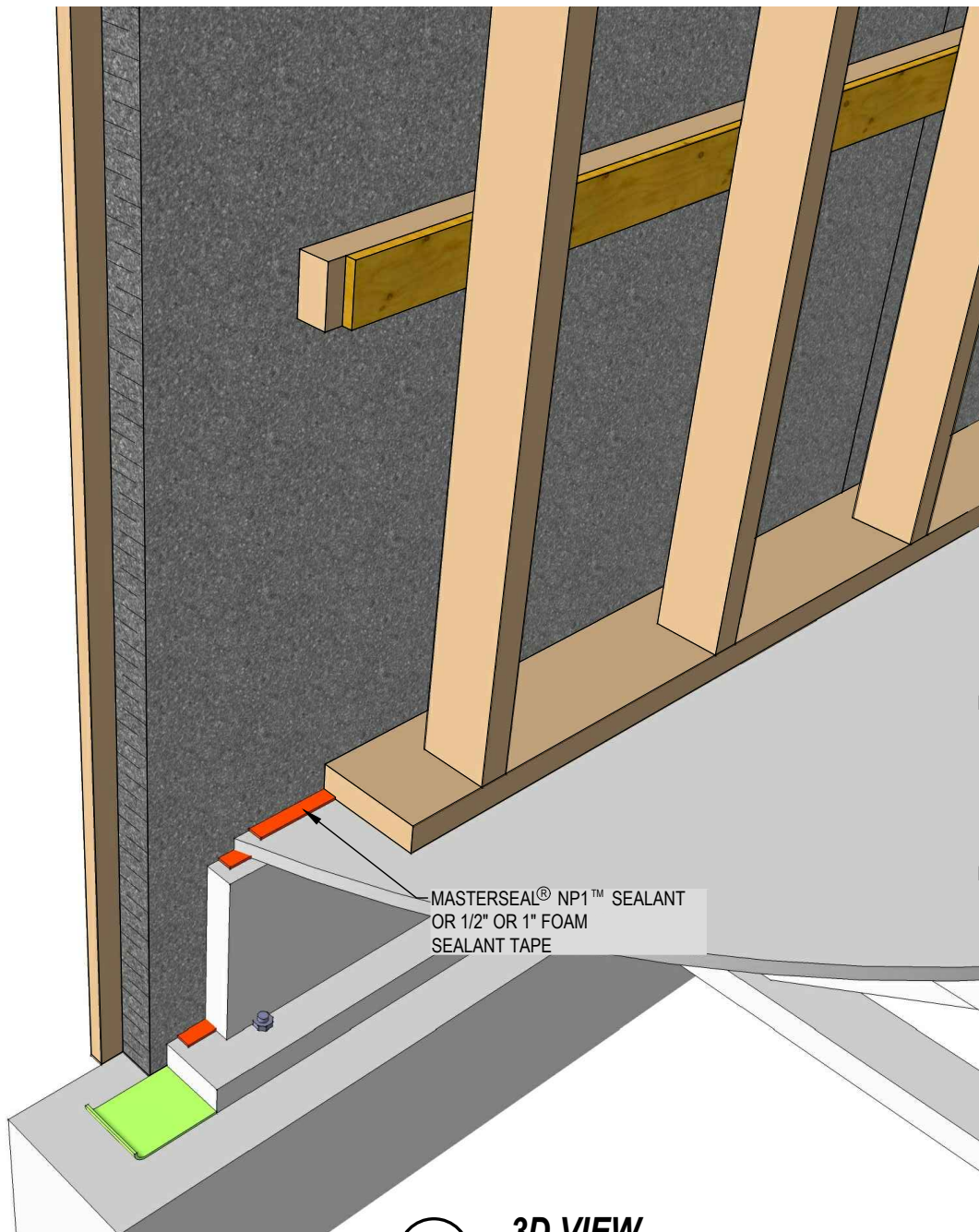
NOTE:

FOR SHEATHING AND STRAPPING FASTENERS AND SPACING, REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE DrJ ENGINEERING TECHNICAL EVALUATION REPORT.

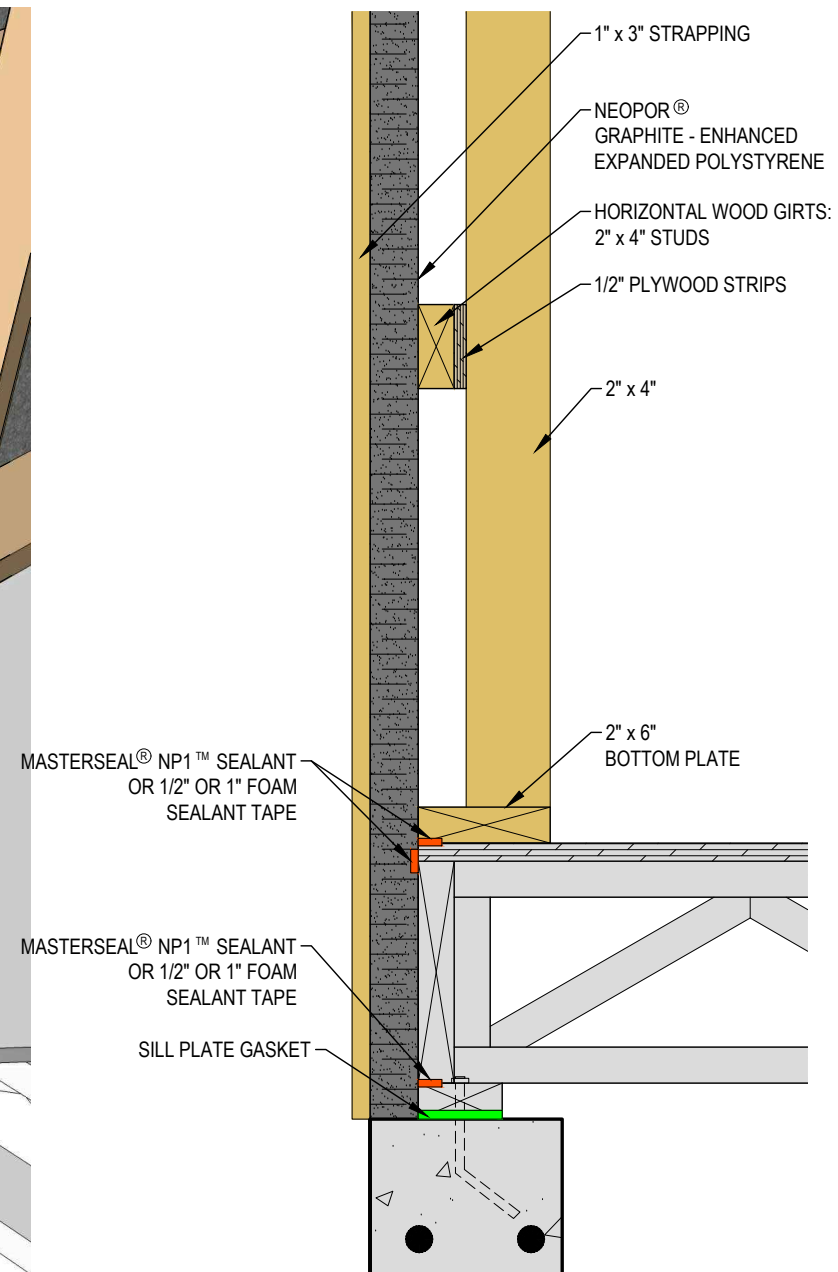


STEP 6 - RAISE WALL ASSEMBLY IN PLACE





A 3D VIEW




B SECTION

STEP 7A - WALL FRAMING WITH OPENING

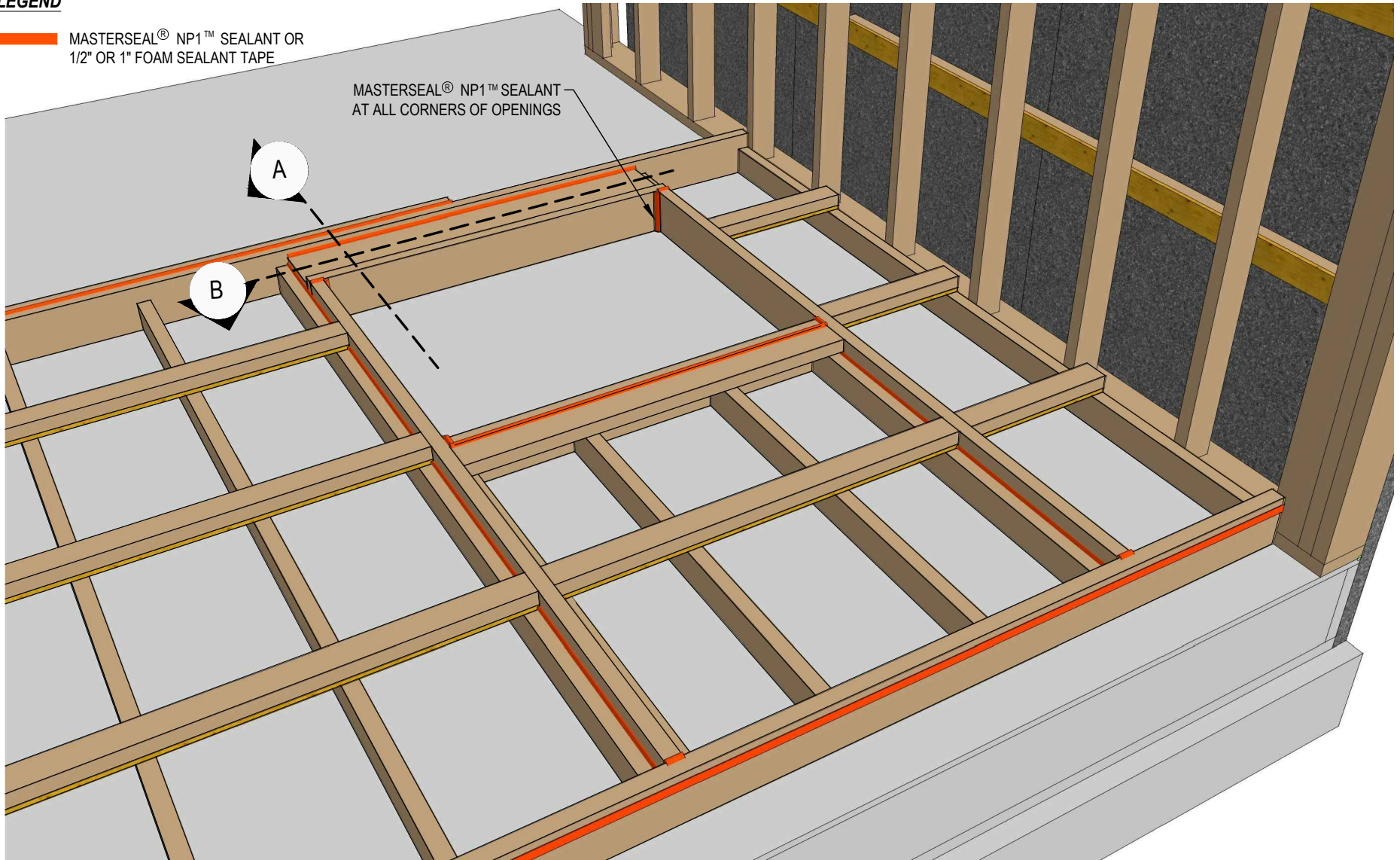
SECOND WALL FRAMING AND ASSEMBLY

APPLY MASTERSEAL® NP1™ SEALANT AT ALL CORNERS OF OPENINGS

LEGEND

 MASTERSEAL® NP1™ SEALANT OR
1/2" OR 1" FOAM SEALANT TAPE

MASTERSEAL® NP1™ SEALANT
AT ALL CORNERS OF OPENINGS

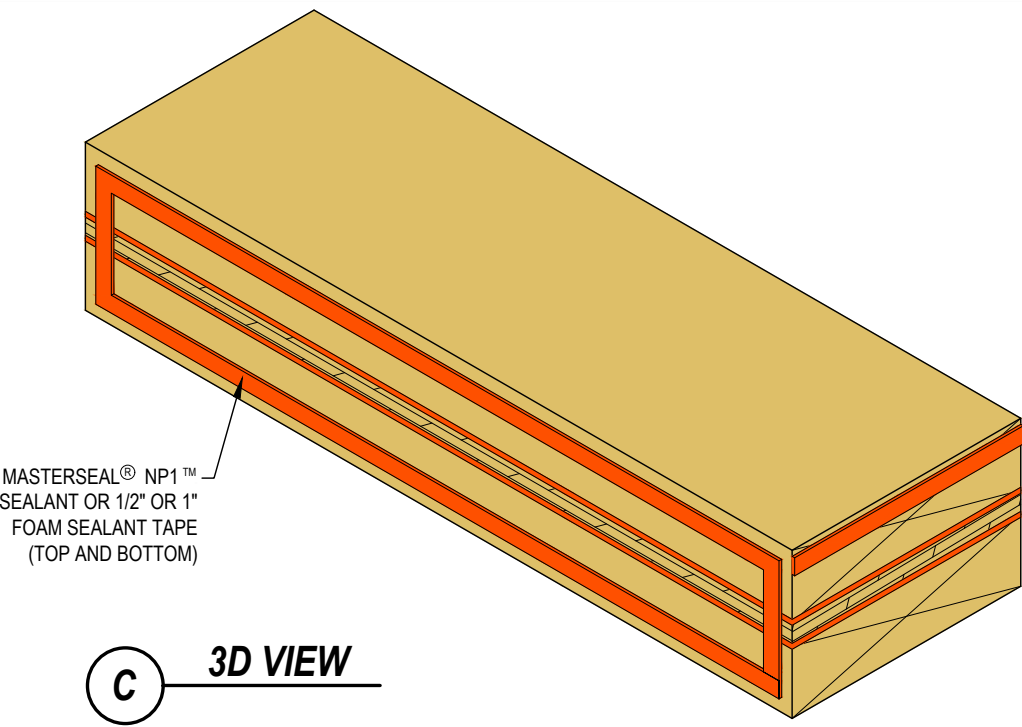
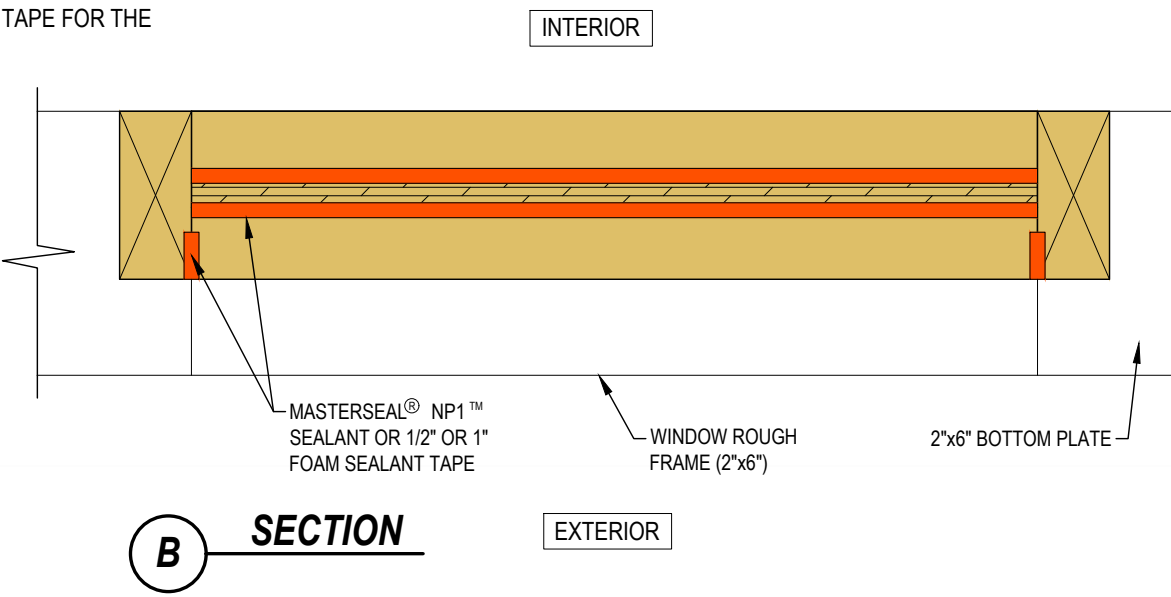
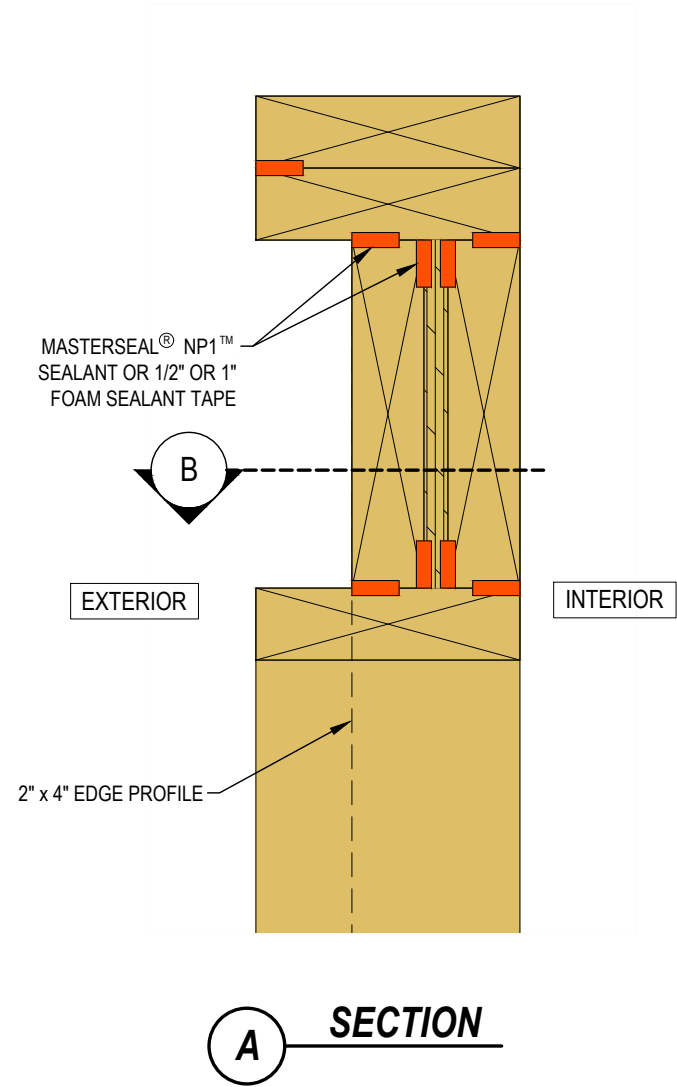


STEP 7B - LINTEL DETAILS

ALL REFERENCE TO MASTERSEAL® NP1™ OR 1/2" OR 1" FOAM SEALANT TAPE FOR THE LINTEL IS FOR BEST PRACTICE TO IMPROVE AIR TIGHTNESS

LEGEND

MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE

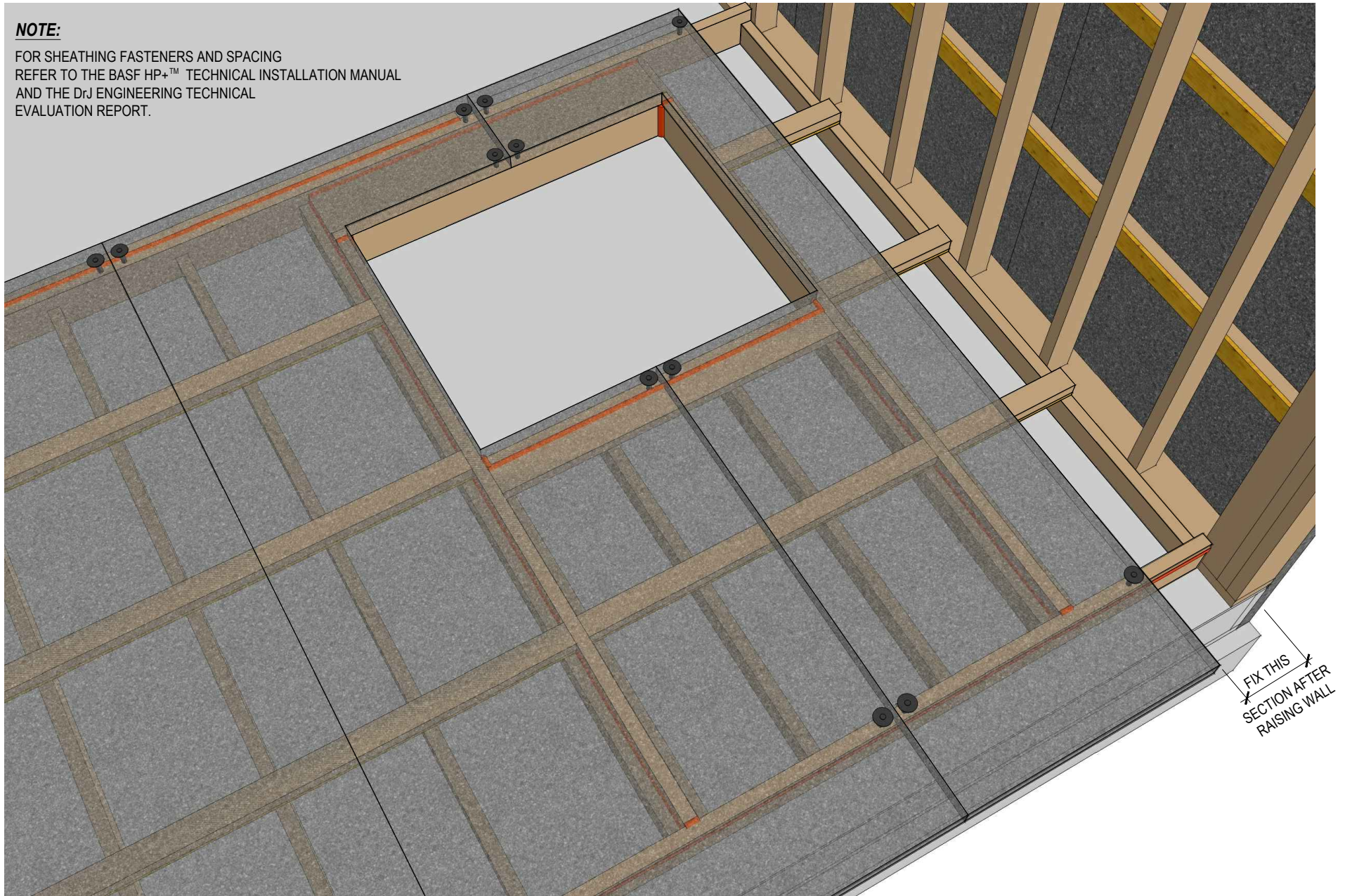


STEP 8 - EXTERIOR INSULATION

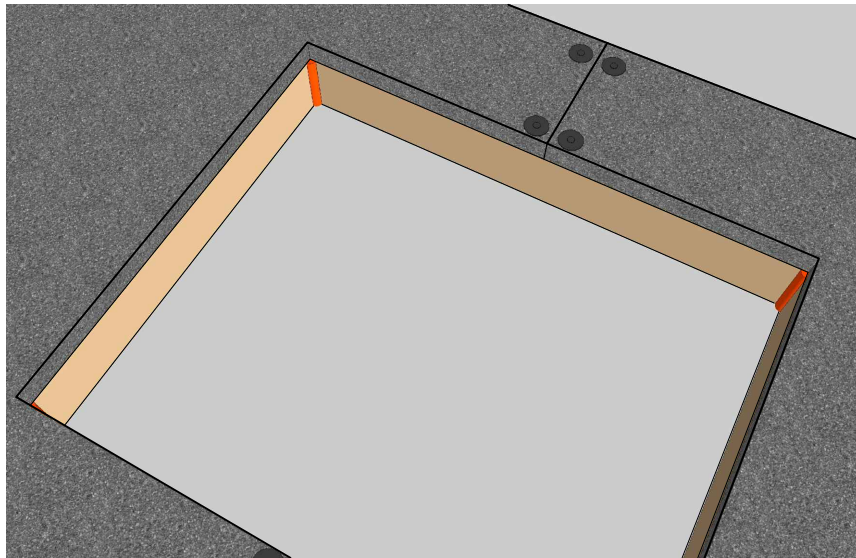
INSTALL NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE INSULATION

NOTE:

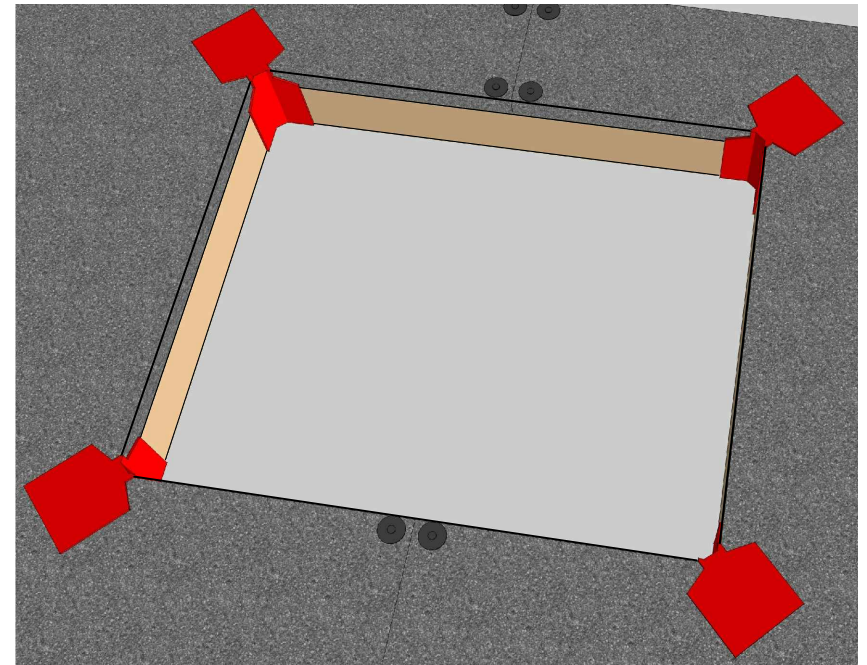
FOR SHEATHING FASTENERS AND SPACING
REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL
AND THE DrJ ENGINEERING TECHNICAL
EVALUATION REPORT.



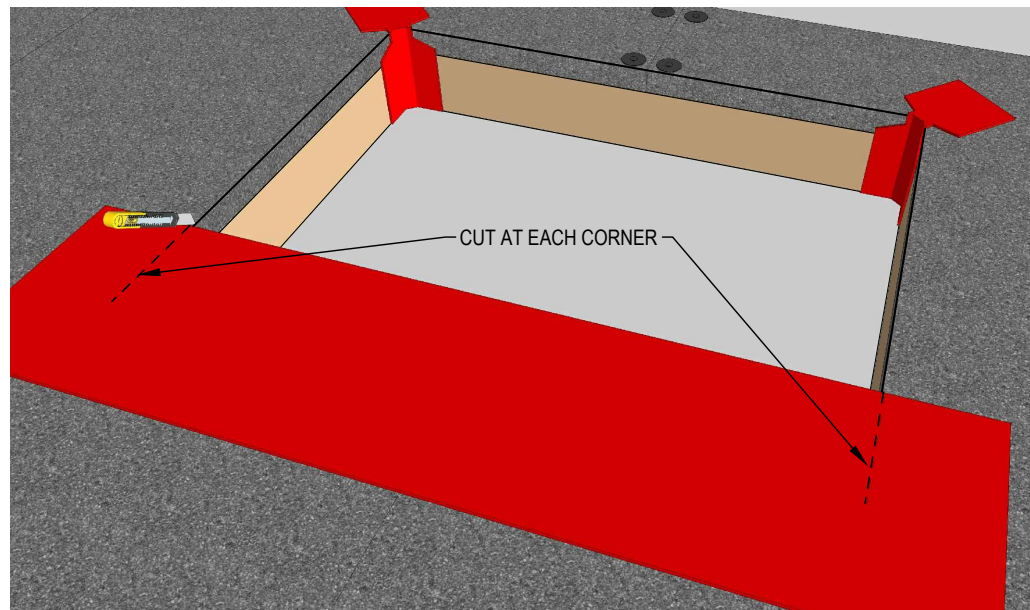
STEP 9A - AIR / WATER TIGHTNESS OF OPENINGS



A - ENSURE THAT MASTERSEAL® NP1™ SEALANT HAS BEEN APPLIED IN ALL CORNERS OF OPENINGS

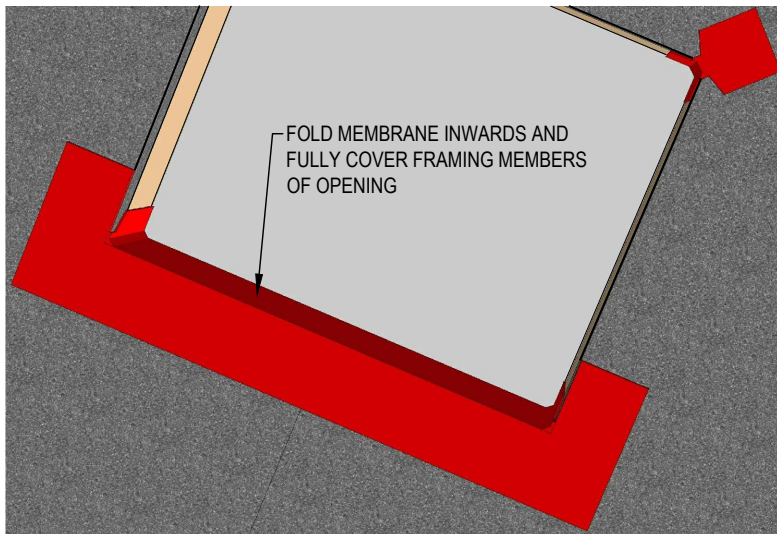


B - INSTALL AIR BARRIER AND WATERPROOFING MEMBRANE AT EACH CORNER, COVERING SEALANT INSTALLED IN STEP 7A

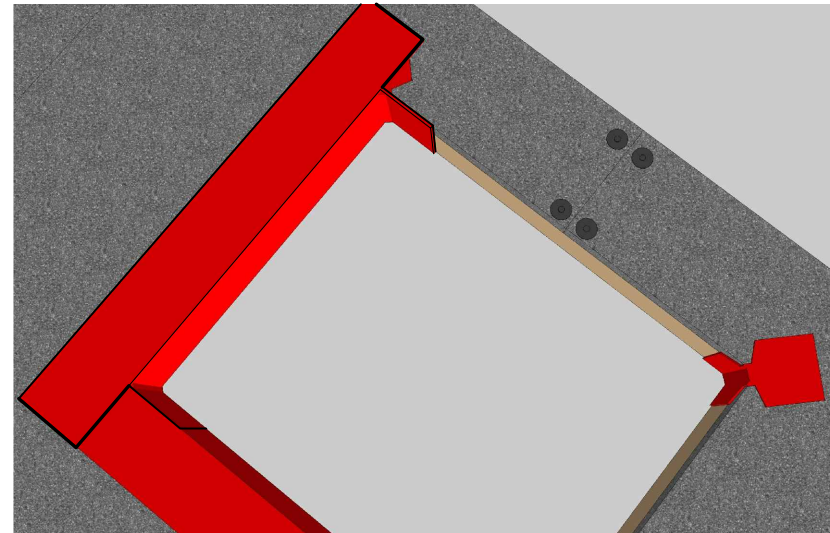


C - STARTING ALONG BOTTOM EDGE, INSTALL MEMBRANE AROUND ENTIRE PERIMETER OF OPENINGS

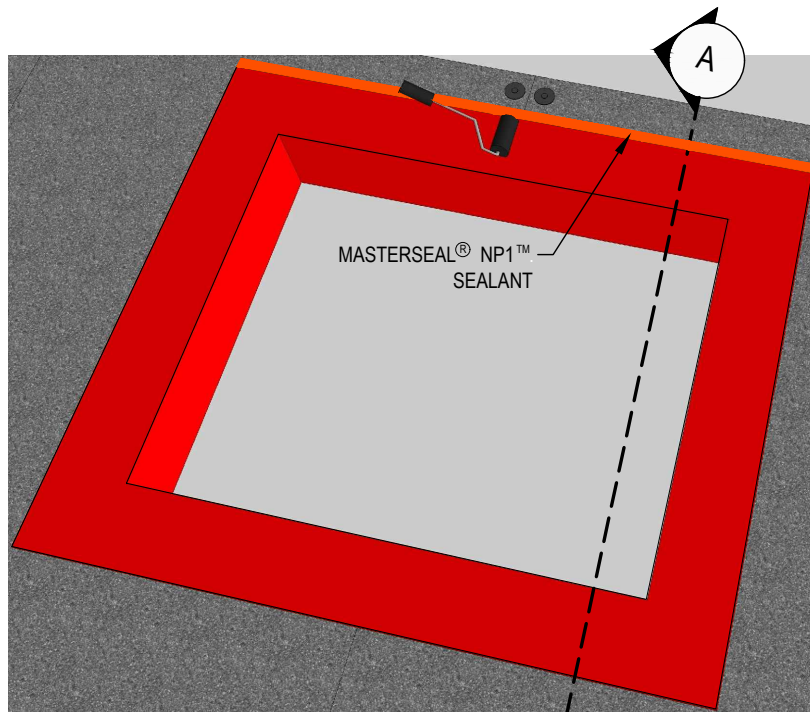
STEP 9A - AIR / WATER TIGHTNESS OF OPENINGS



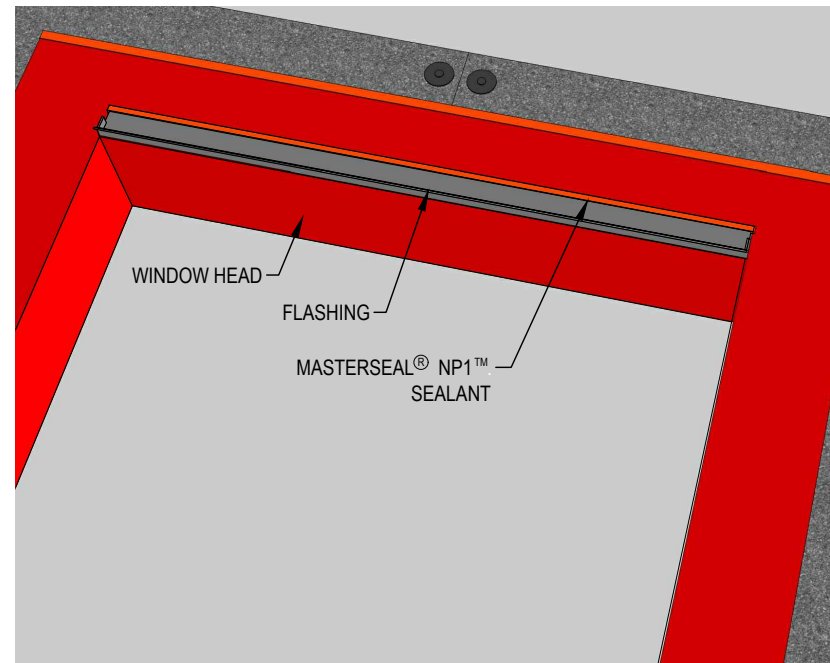
D - FOLD MEMBRANE INTO OPENING



E - INSTALL MEMBRANE ALONG VERTICAL EDGES OF OPENINGS



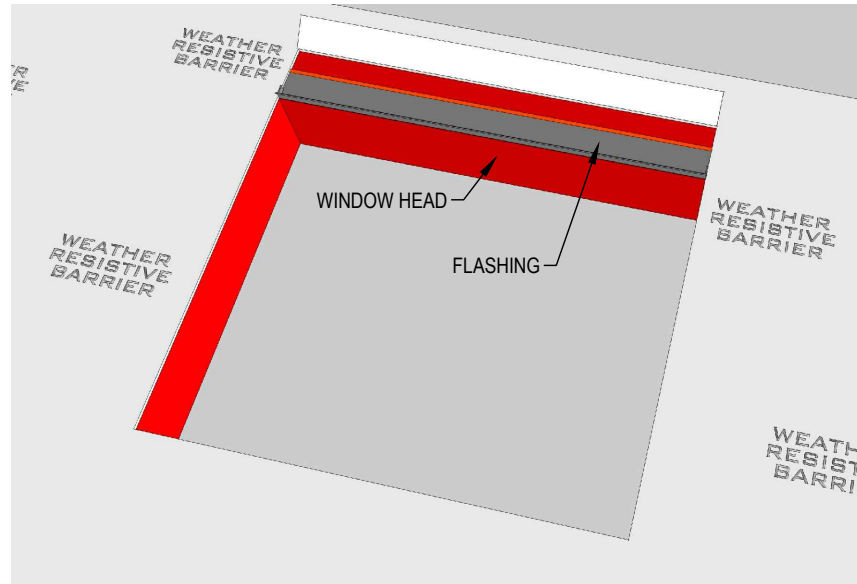
F - WHEN REQUIRED BY MANUFACTURER USE ROLLER TO APPLY PRESSURE AND SEAL MEMBRANE TO SUBSTRATE



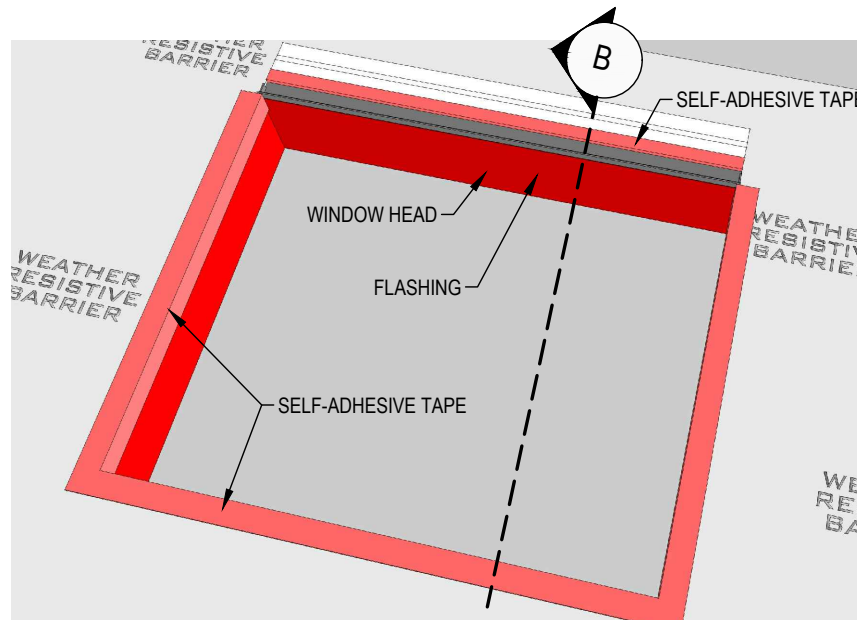
G - INSTALL THE WINDOW HEAD FLASHING

STEP 9B - AIR / WATER TIGHTNESS OF OPENINGS - WEATHER-RESISTIVE BARRIER OPTION

EXECUTE STEPS "A TO G" AND CONTINUE WITH THE FOLLOWING STEPS WHEN USING A WEATHER-RESISTIVE BARRIER

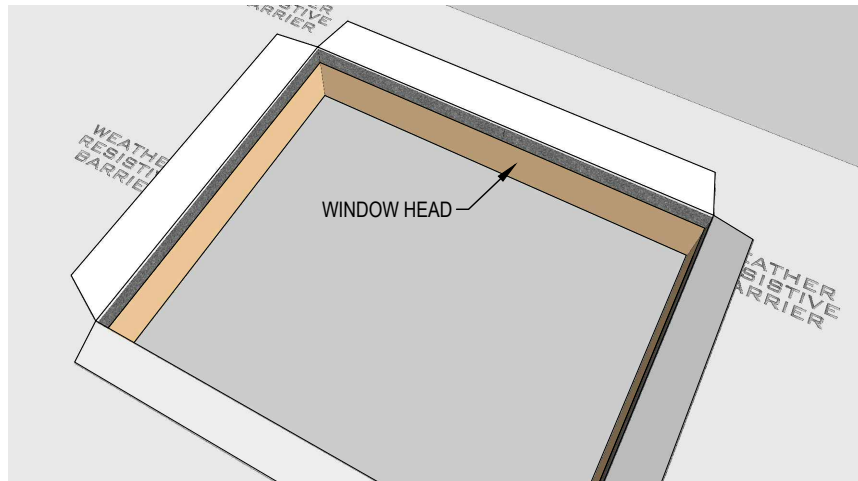


H - INSTALL THE WEATHER-RESISTIVE BARRIER

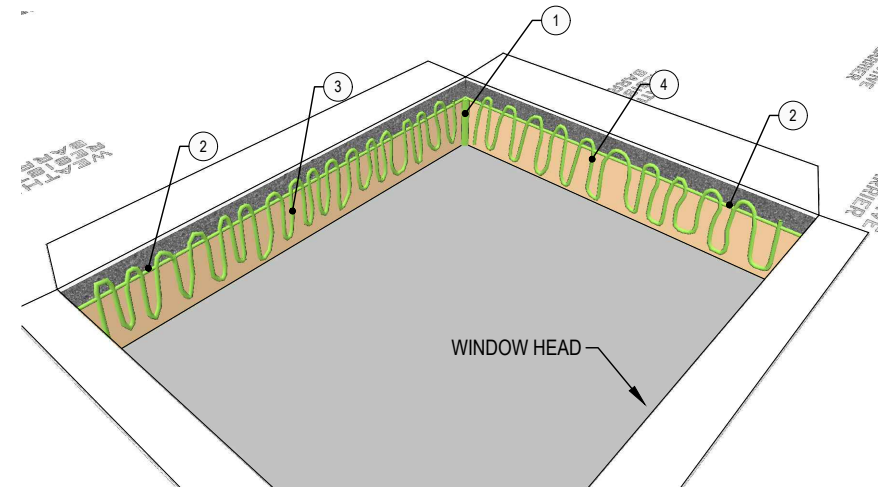


I - INSTALL A SELF-ADHESIVE TAPE ALONG THE EDGES OF THE WEATHER-RESISTIVE BARRIER

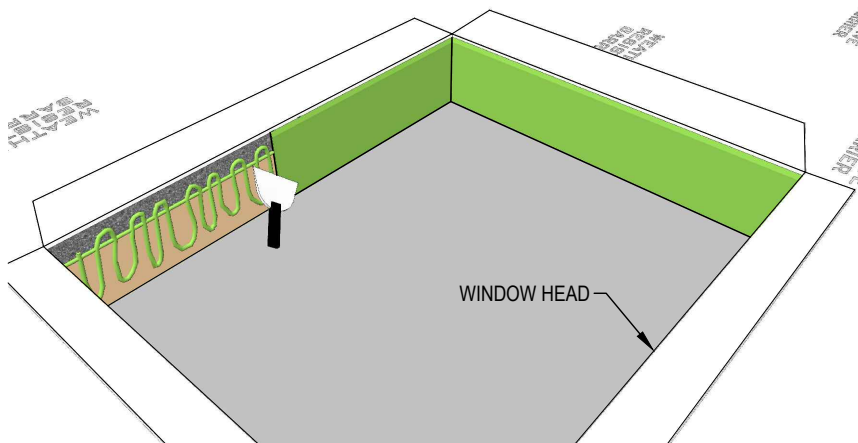
STEP 9C - AIR / WATER TIGHTNESS OF OPENINGS - WEATHER-RESISTIVE BARRIER + LIQUID MEMBRANE OPTION



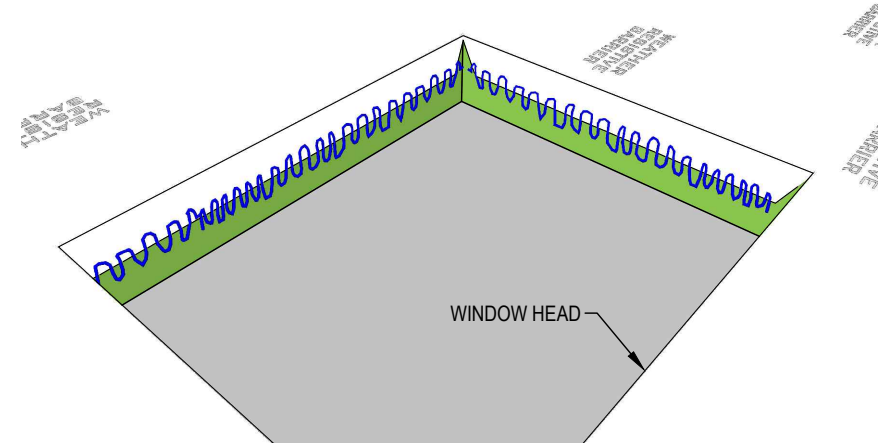
A - INSTALL THE WEATHER-RESISTIVE BARRIER AND FOLD THE EDGES AT THE FOUR SIDES OF THE OPENING



B - APPLY THE HP+™ FLASH LIQUID FLASHING MEMBRANE: IN THE CORNERS ①, AT THE NEOPOR® WOOD JOINT ②, ON THE SILL OF THE OPENING ③, ON EACH SIDE OF THE OPENING ④ AND ON THE HEAD OF THE OPENING.

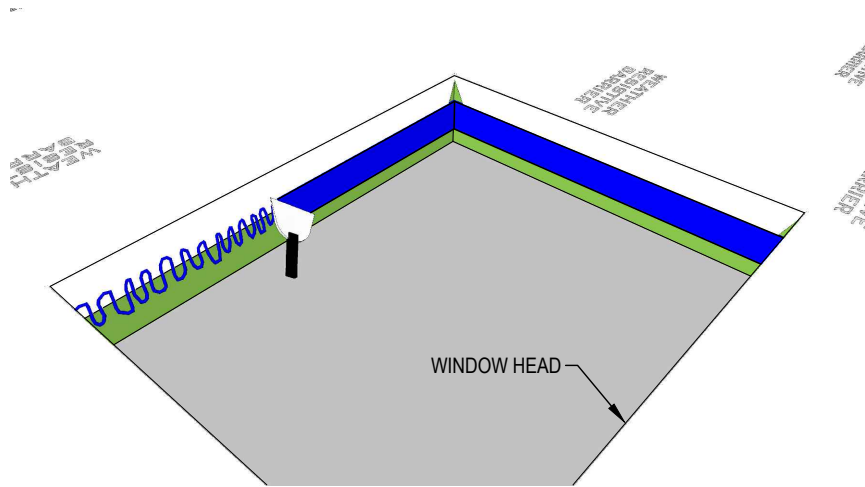


C - EXTEND THE HP+™ FLASH LIQUID FLASHING MEMBRANE USING A TROWEL

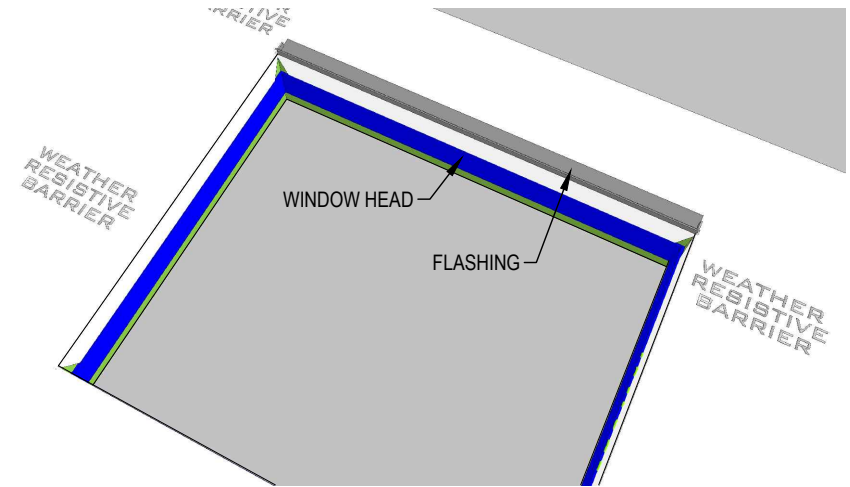


D - FOLD AND FIX THE WEATHER-RESISTIVE BARRIER TOWARDS THE INTERIOR OF THE OPENING, AND APPLY A SECOND LAYER OF HP+™ FLASH

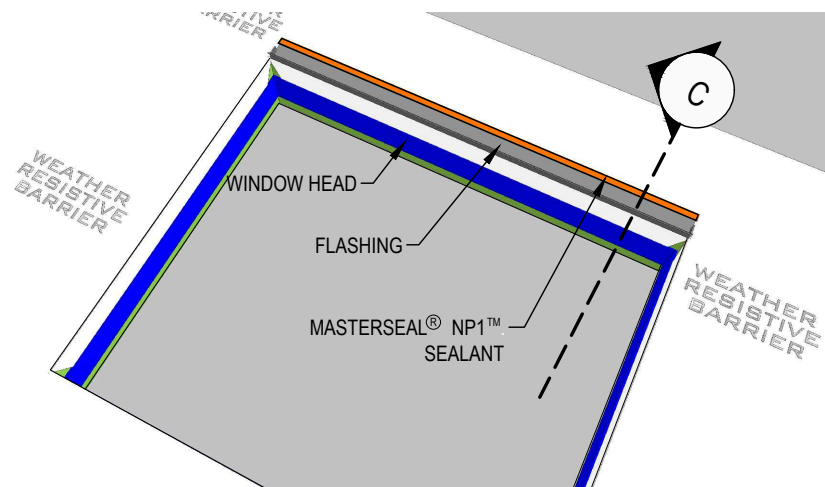
STEP 9C - AIR / WATER TIGHTNESS OF OPENINGS - WEATHER-RESISTIVE BARRIER + LIQUID MEMBRANE OPTION



E - EXTEND THE HP+™ FLASH LIQUID FLASHING MEMBRANE USING A TROWEL

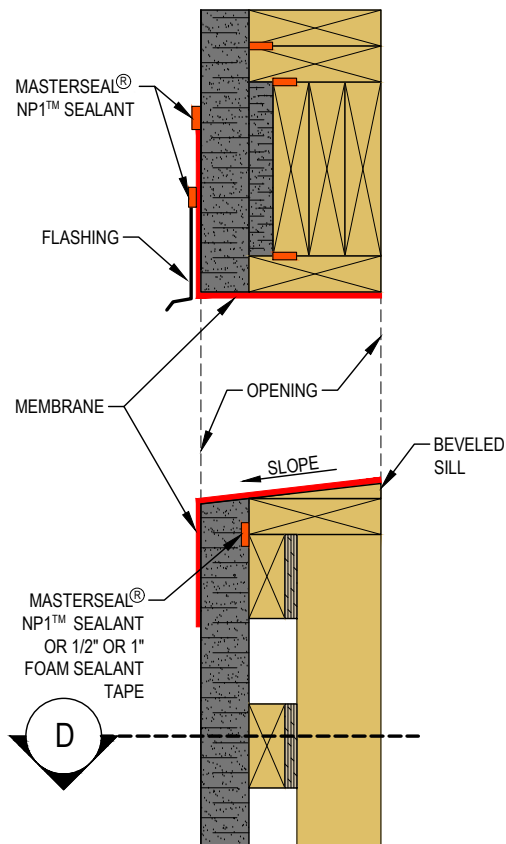


F - INSTALL THE WINDOW HEAD FLASHING

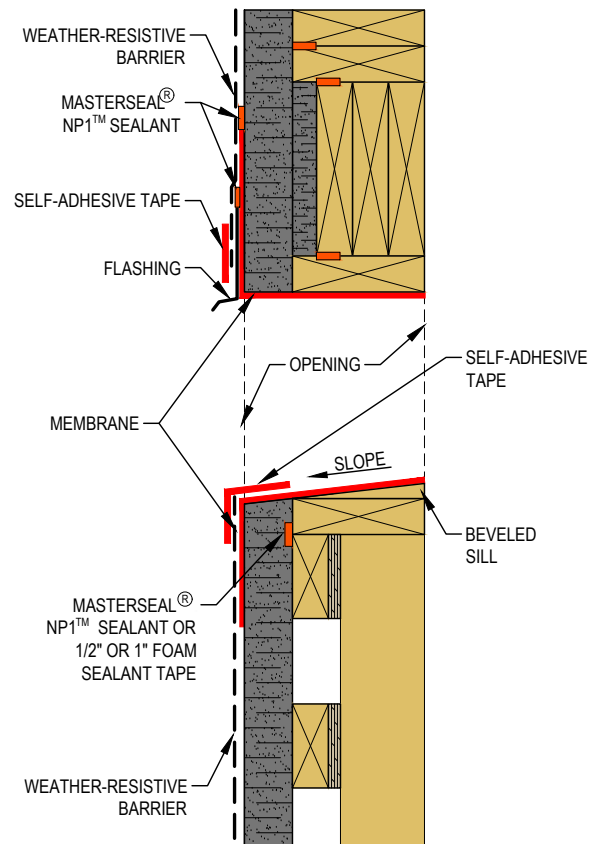


G - APPLY MASTERSEAL® NP1™ SEALANT ON TOP OF THE WINDOW HEAD FLASHING

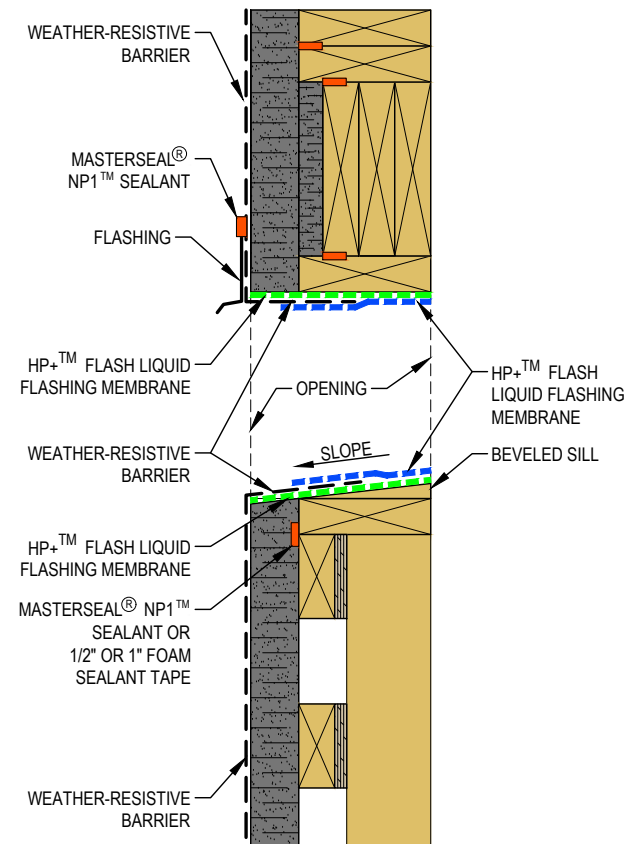
STEP 10 - WALL AND OPENING DETAILS



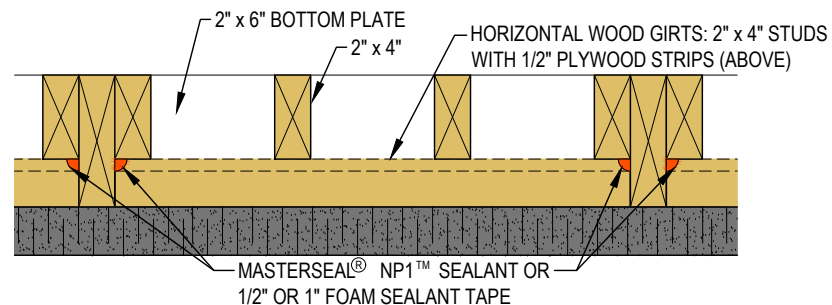
A SECTION



B SECTION -
WEATHER-RESISTIVE BARRIER OPTION



C SECTION -
WEATHER-RESISTIVE BARRIER
+ LIQUID MEMBRANE OPTION



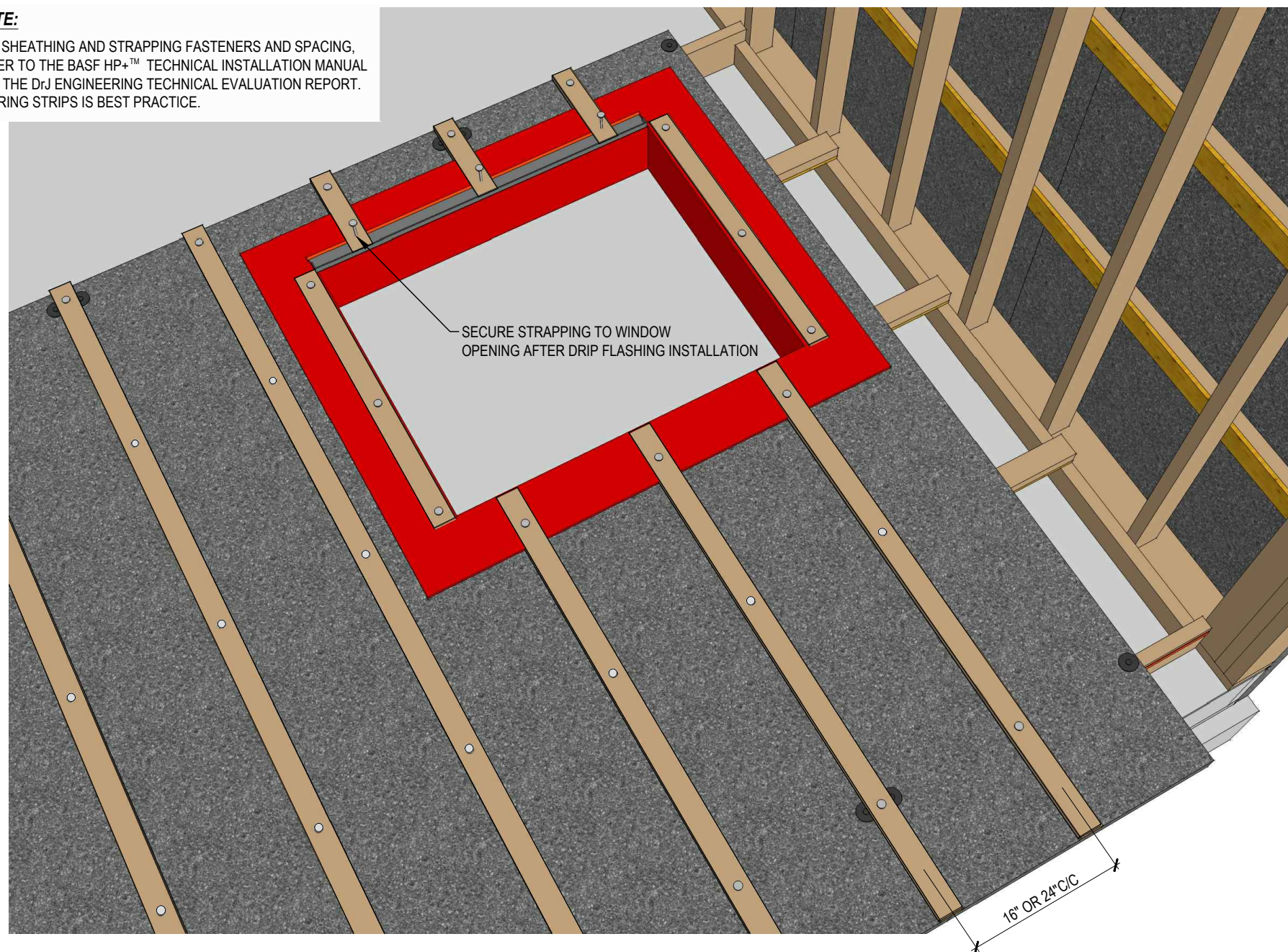
D PLAN SECTION

STEP 11 - STRAPPING INSTALLATION AROUND WINDOWS

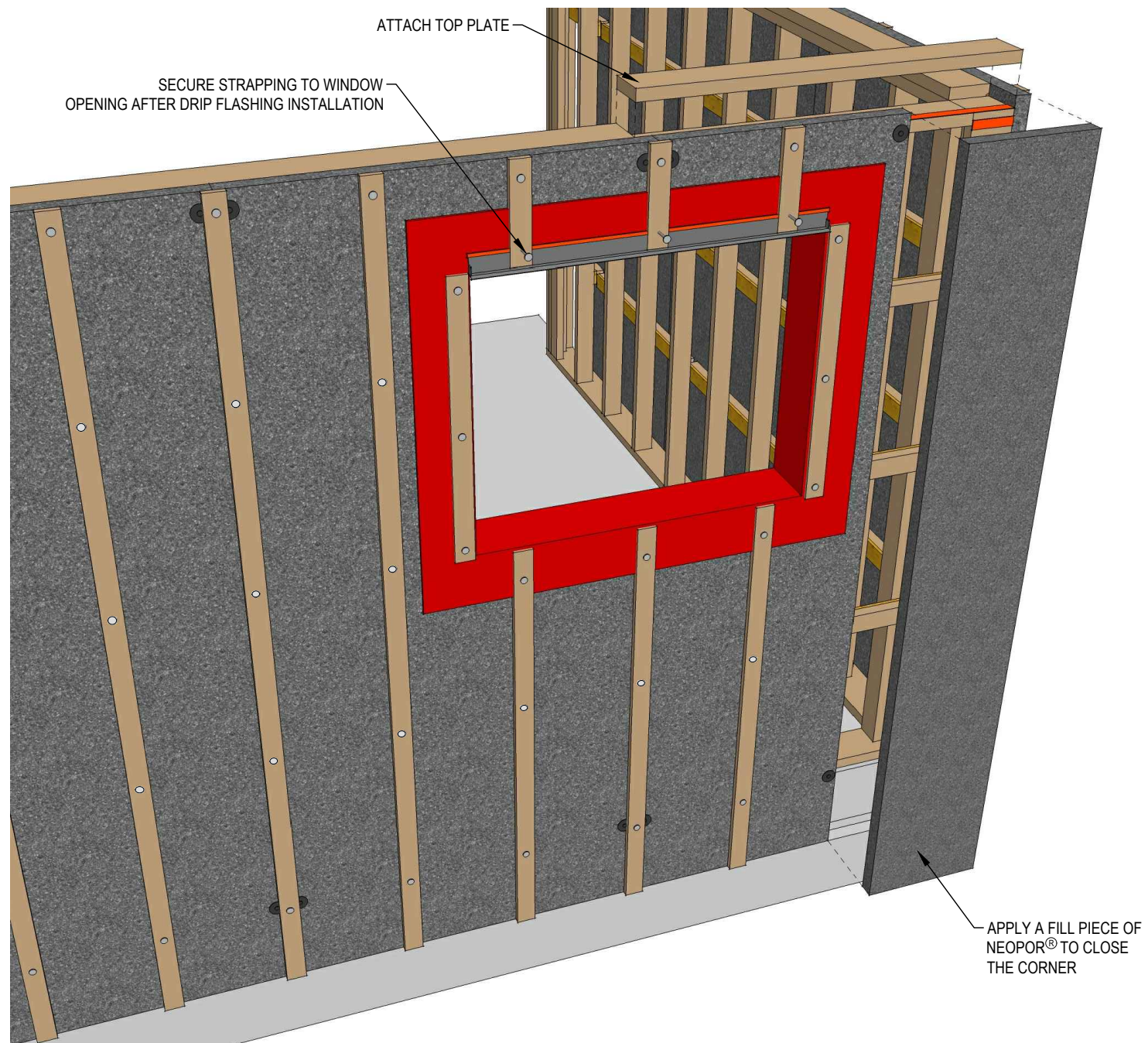
(SEE STEP #5)

NOTE:

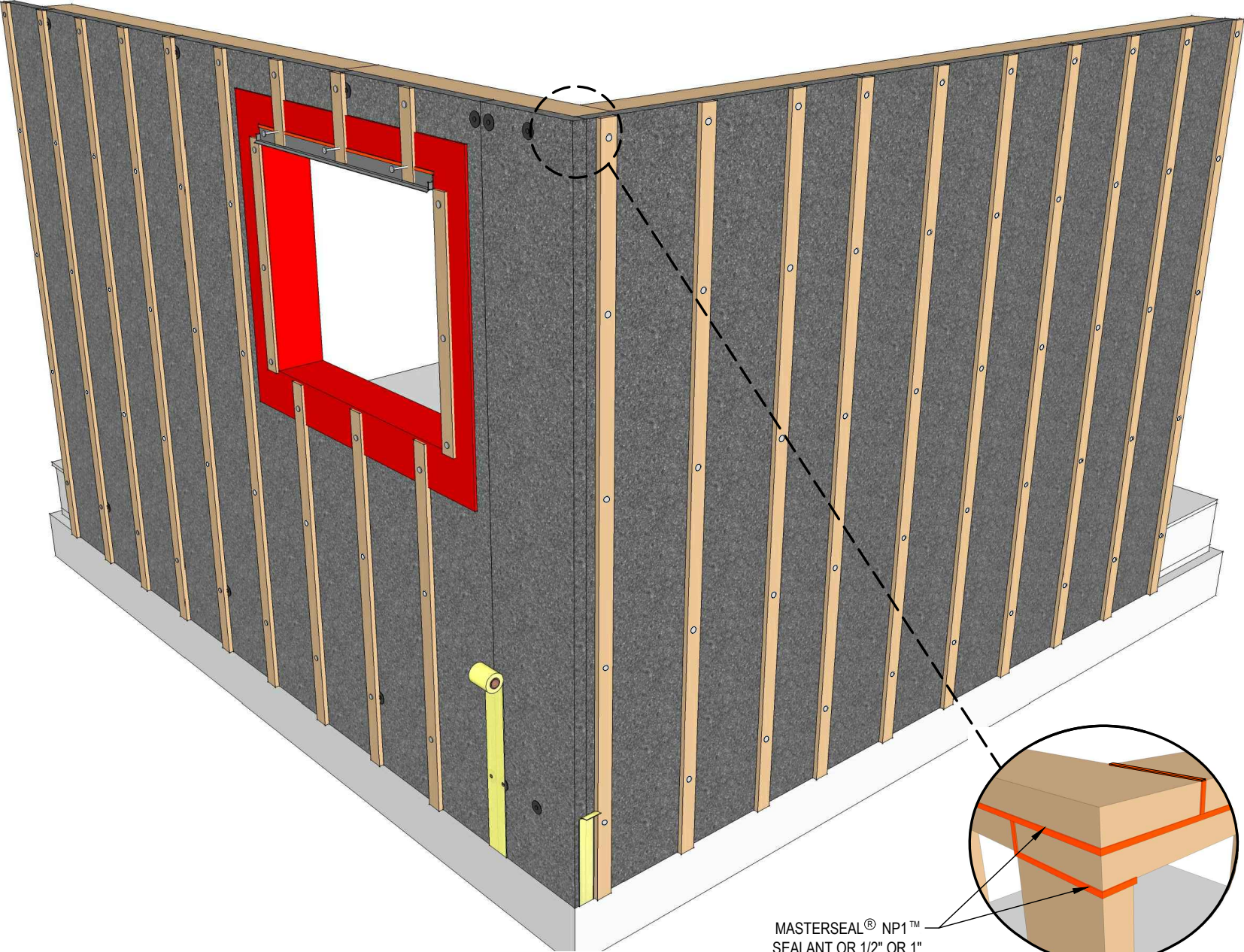
FOR SHEATHING AND STRAPPING FASTENERS AND SPACING, REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE DrJ ENGINEERING TECHNICAL EVALUATION REPORT. FURRING STRIPS IS BEST PRACTICE.



STEP 12 - RAISE WALL ASSEMBLY

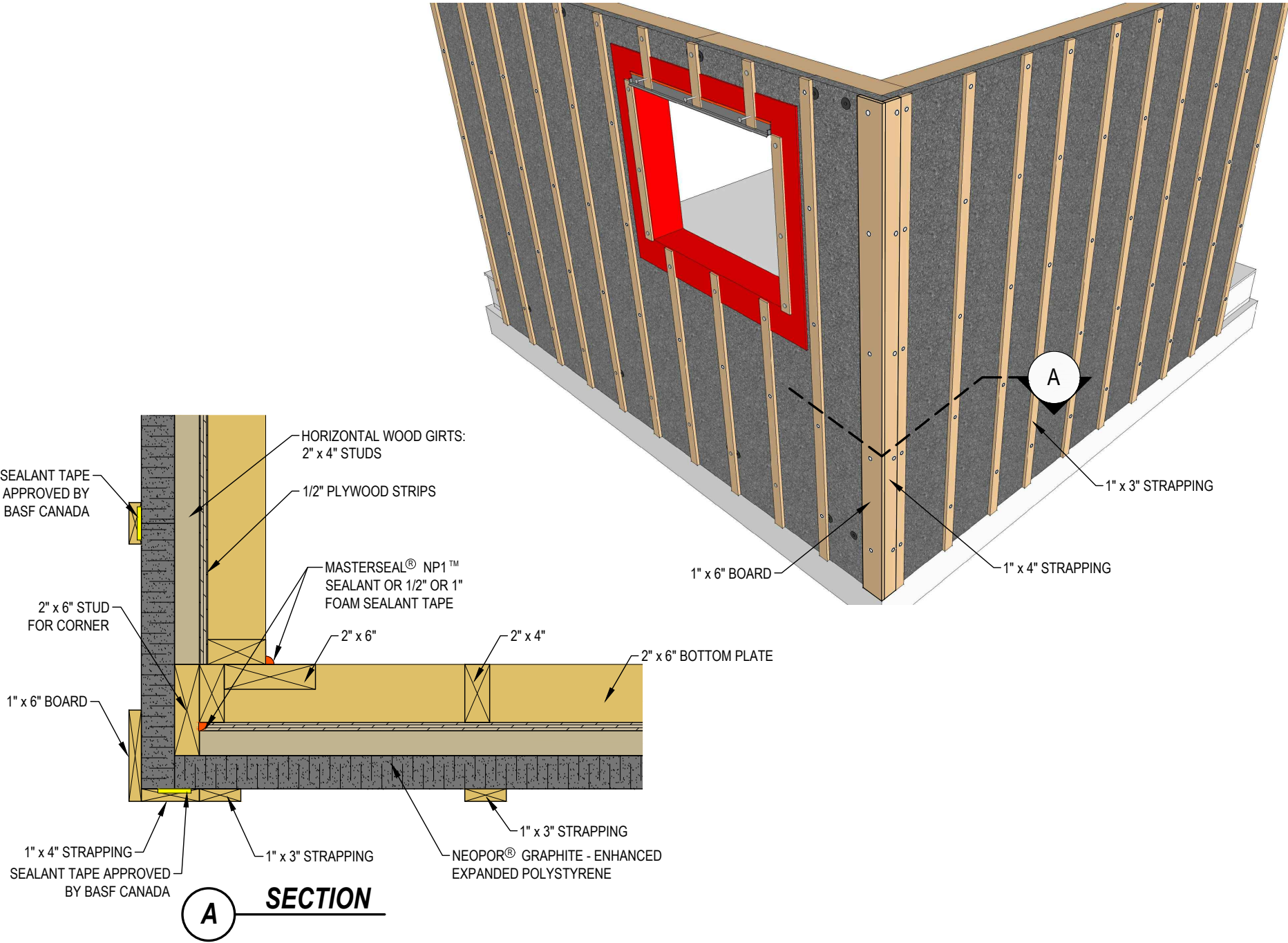


STEP 13 - CORNER VIEW OF INSTALLED WALLS



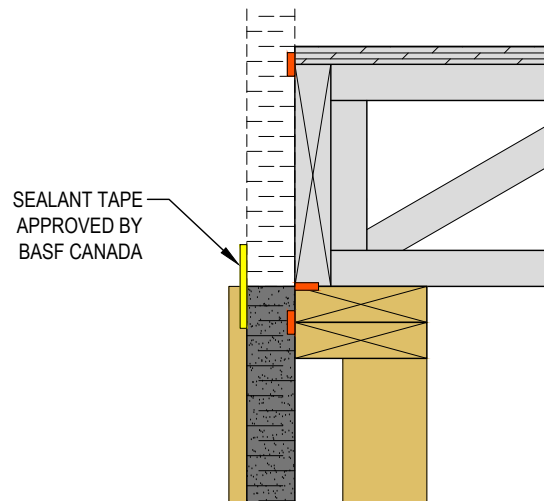
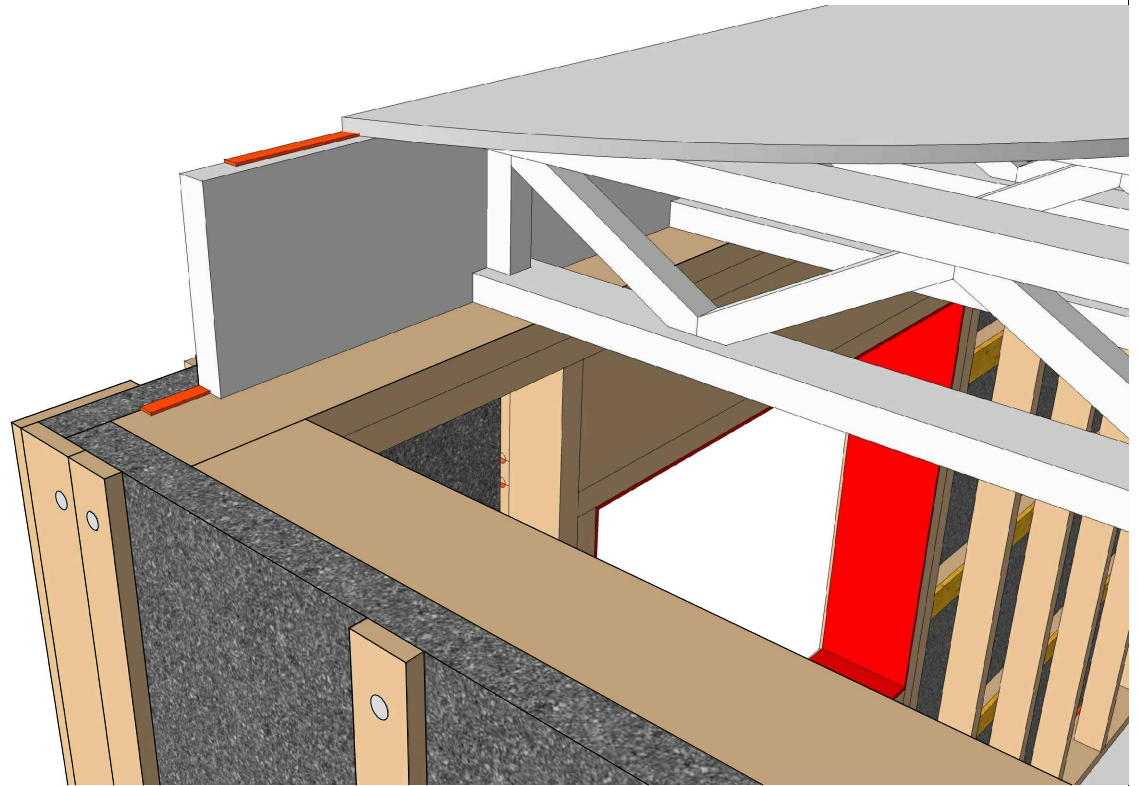
MASTERSEAL® NP1™
SEALANT OR 1/2" OR 1"
FOAM SEALANT TAPE

STEP 14 - CORNER STRAPPING INSTALLATION



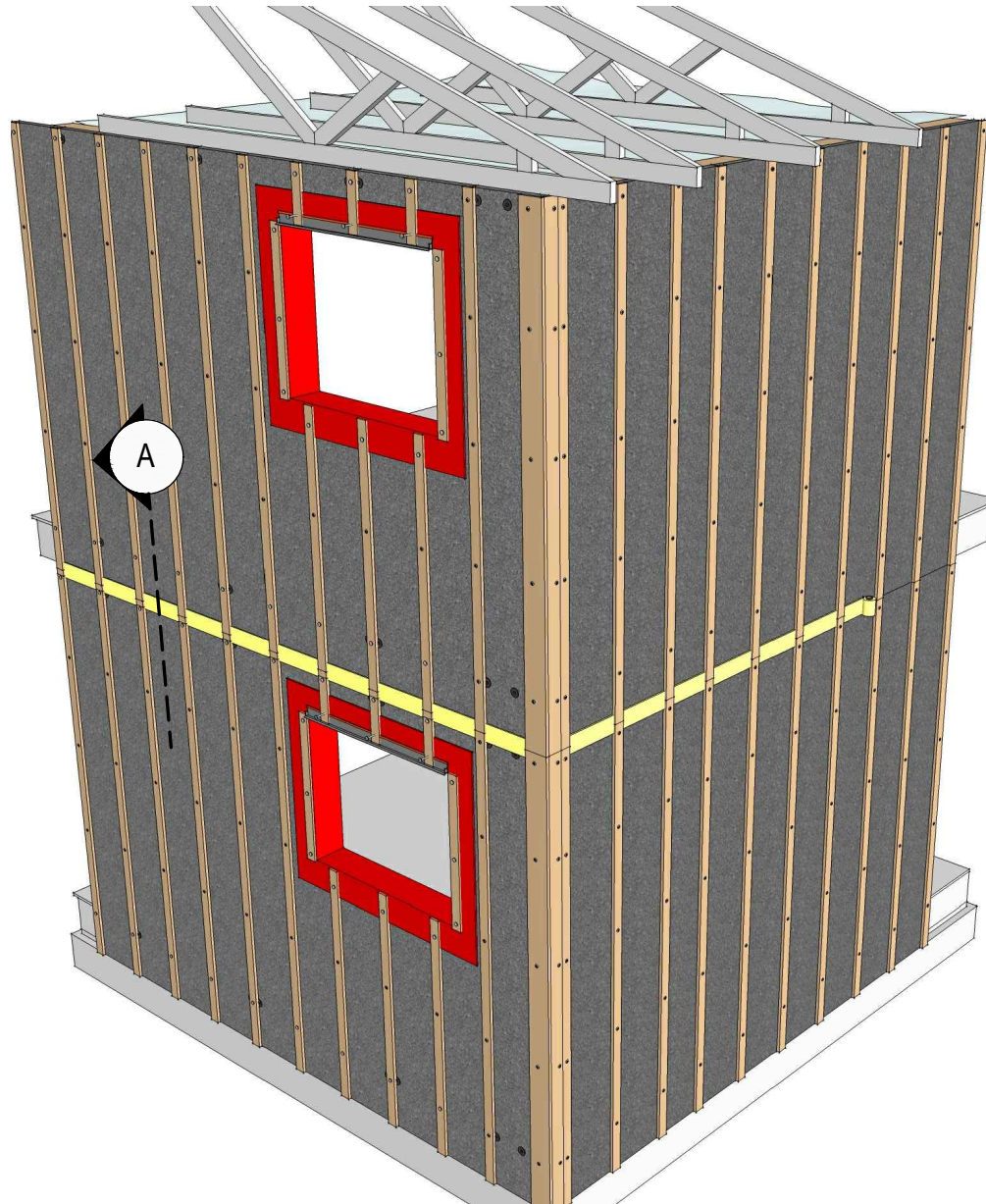
STEP 15 - SECOND FLOOR ASSEMBLY

ENSURE SEAL OF ALL FLOOR FRAMING COMPONENTS USING
MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE

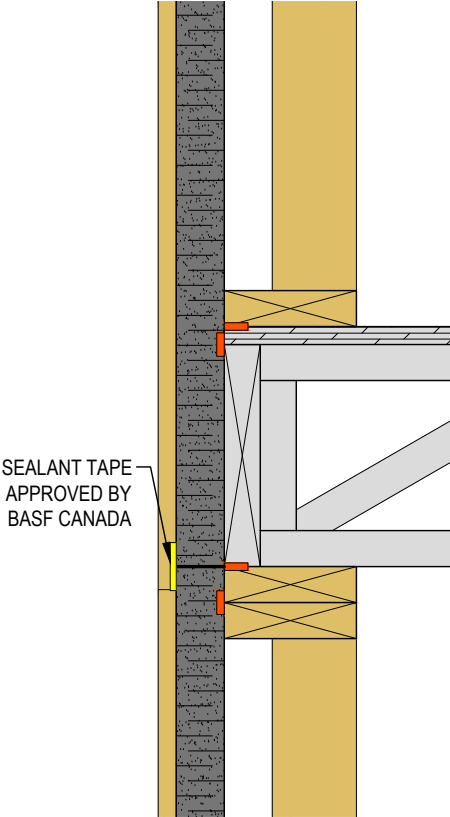


STEP 16A - BUILD AND POSITION SECOND FLOOR WALLS

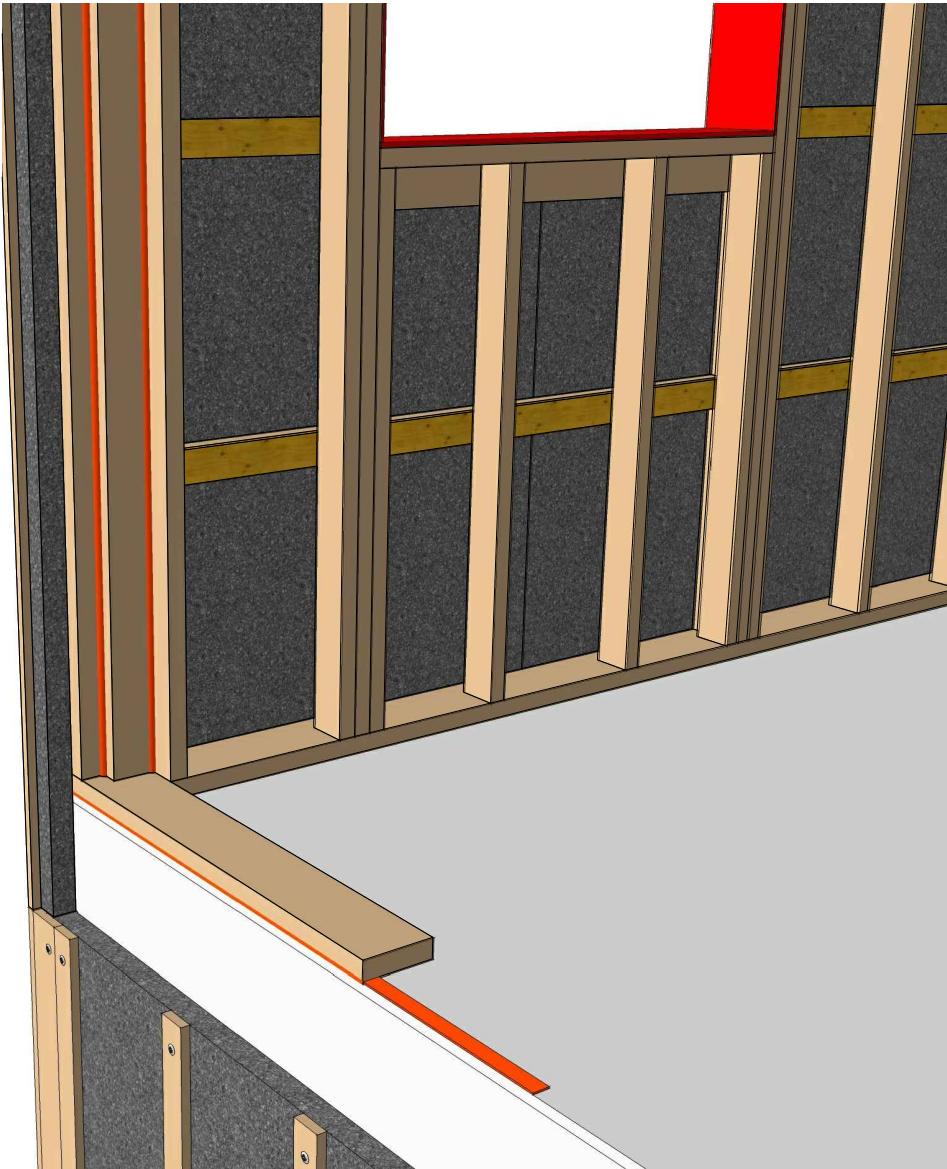
(SEE STEPS 2 TO 14)



STEP 16B - DETAILS

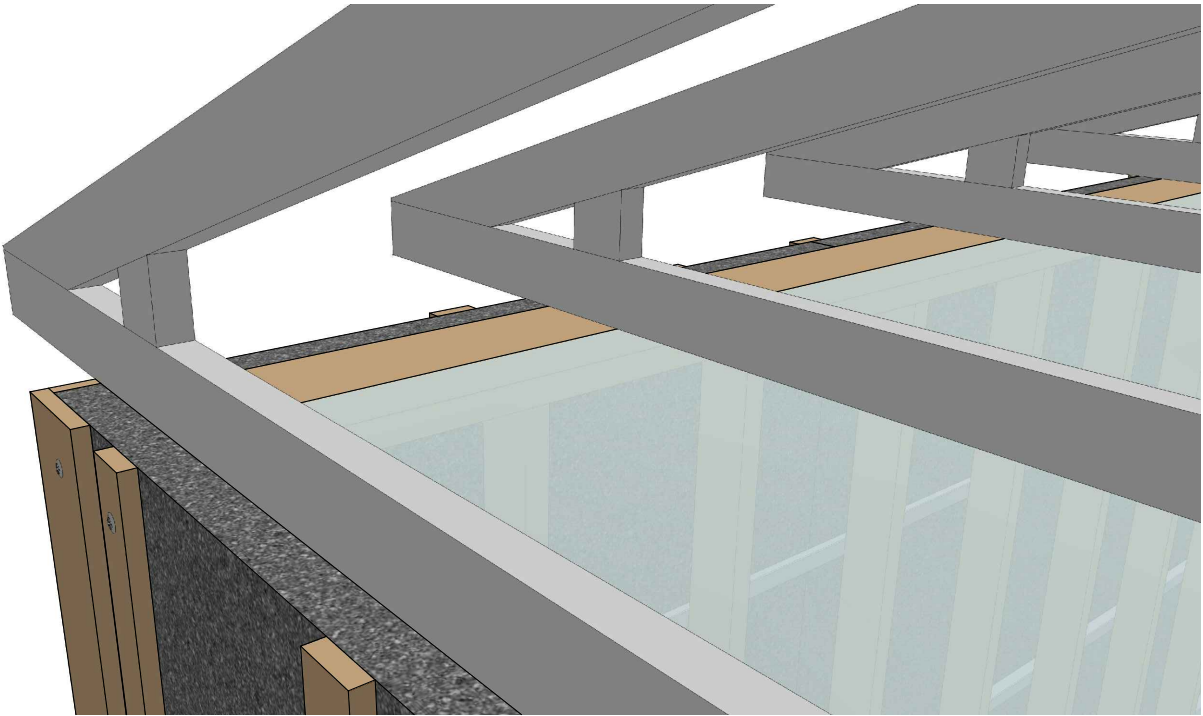


A SECTION

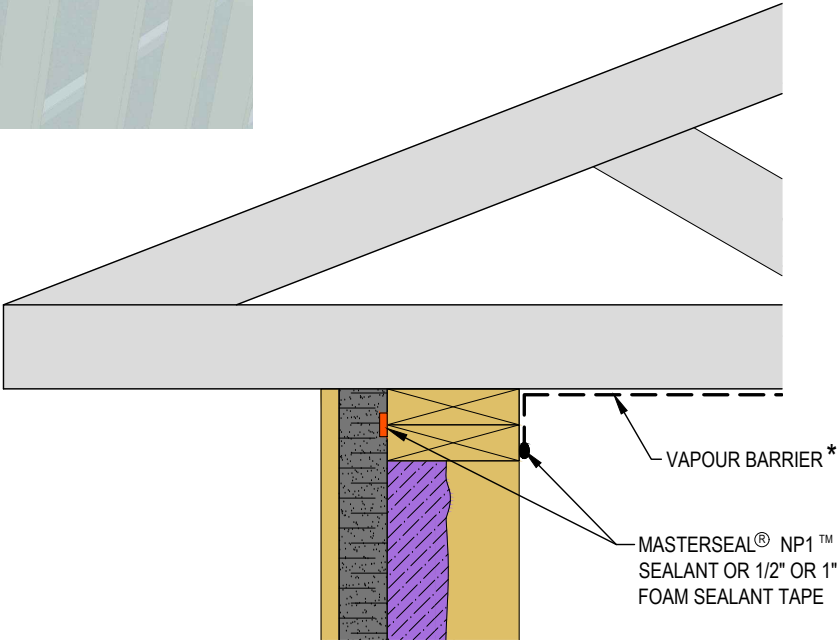


B 3D VIEW

STEP 17 - ROOF FRAMING



A 3D VIEW

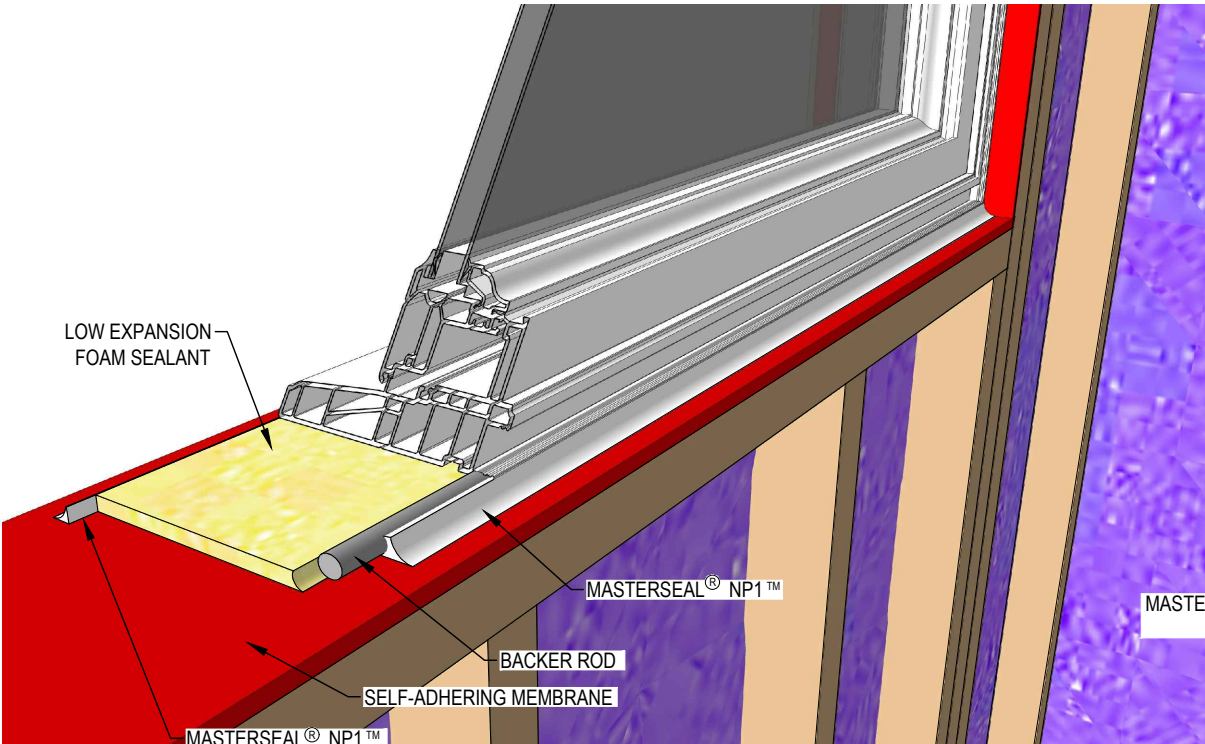


B SECTION

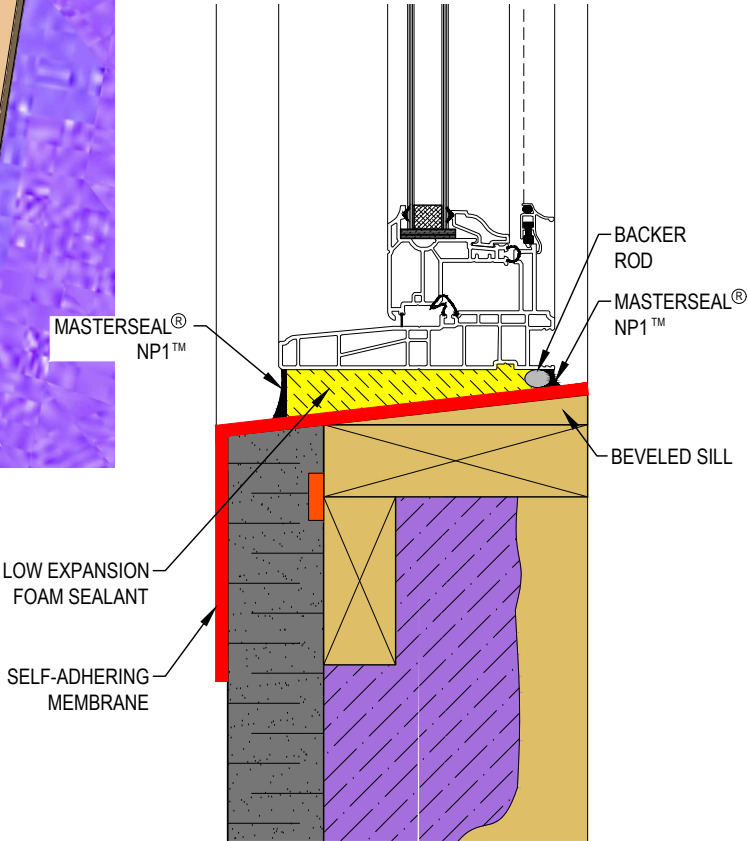
* AS REQUIRED BY CODE

STEP 18A - WINDOWS AND DOORS INSTALLATION

WINDOW INSTALLATION ACCORDING TO CSA A440.4



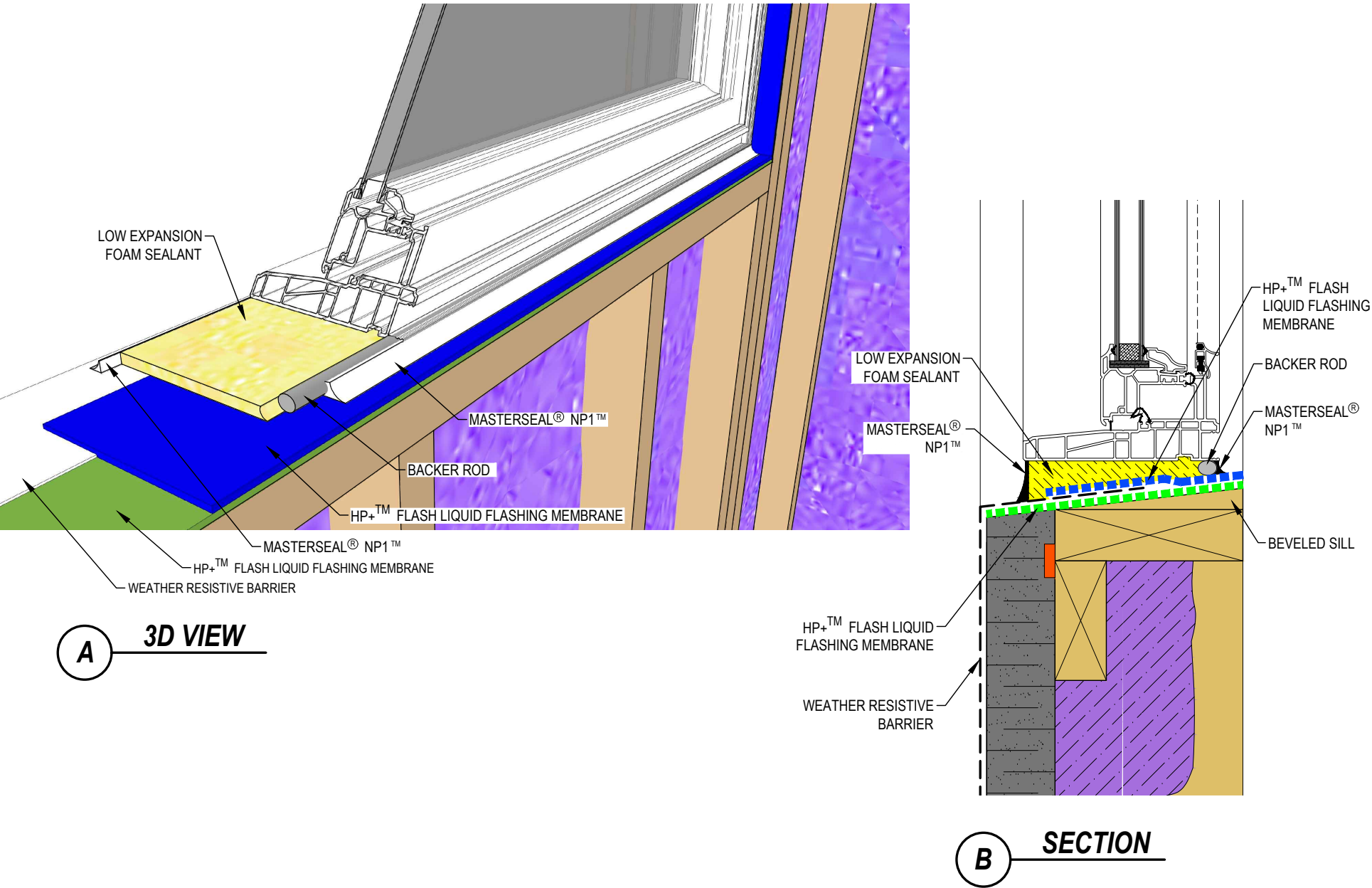
A 3D VIEW



B SECTION

STEP 18B - WINDOWS AND DOORS INSTALLATION - ALTERNATIVE DETAIL

WINDOW INSTALLATION ACCORDING TO CSA A440.4

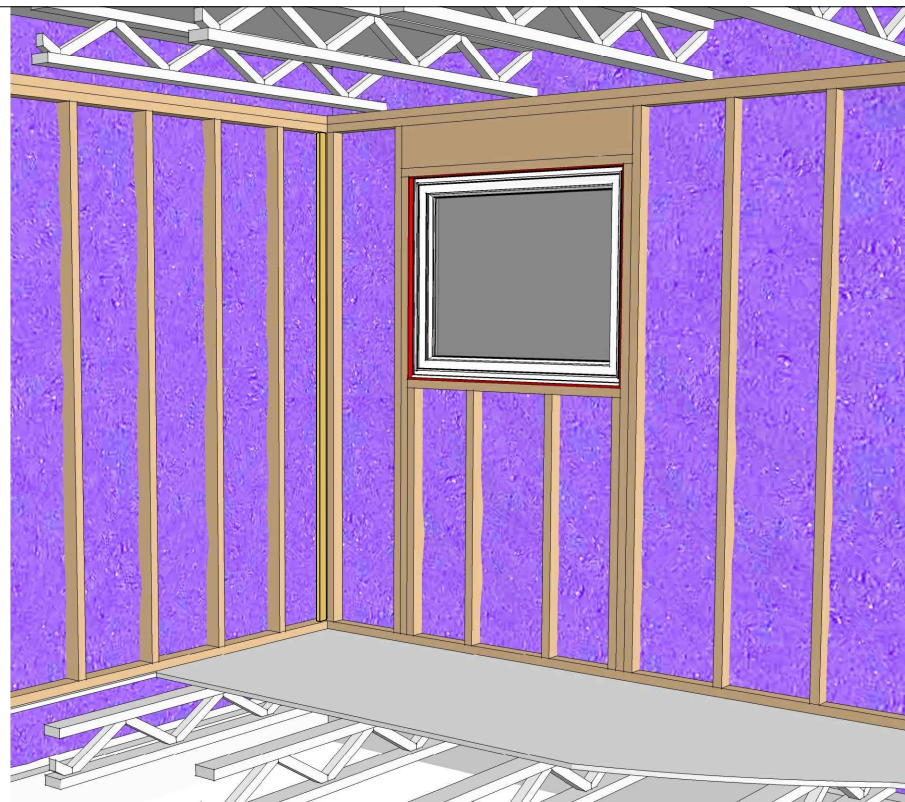


STEP 19A - INTERIOR INSULATION CORNER DETAILS

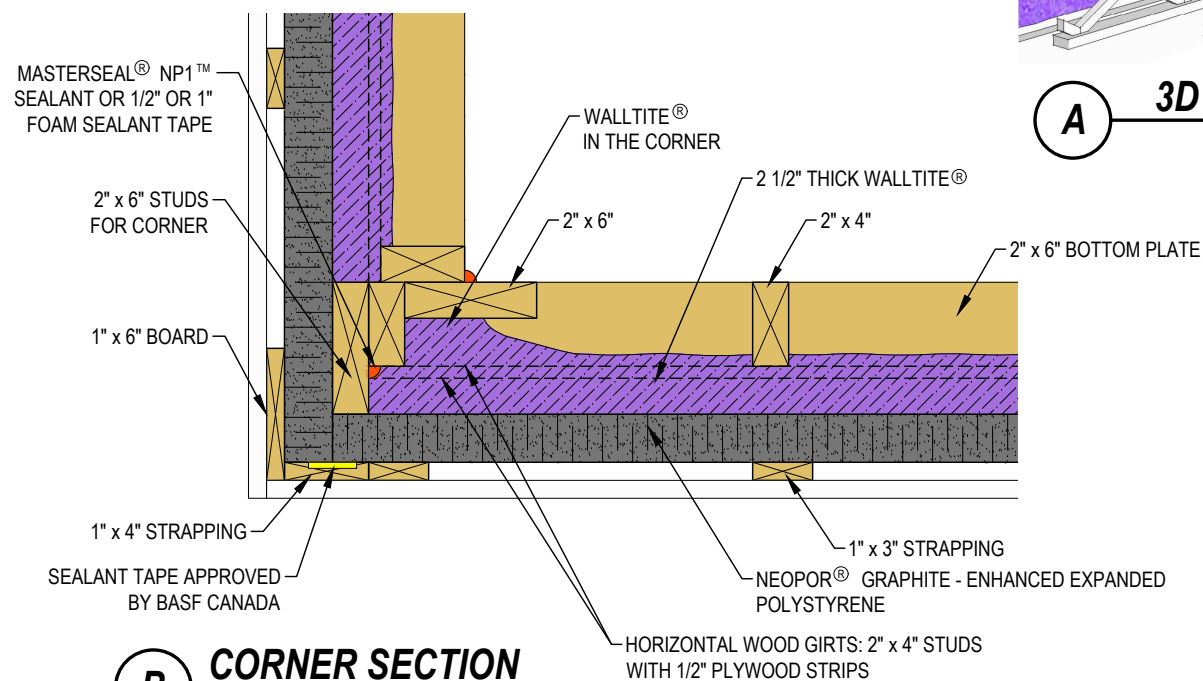
WALLTITE® MUST BE INSTALLED, IN ACCORDANCE WITH BASF'S QUALITY ASSURANCE PROGRAM.

WALLTITE® IS INSTALLED BEFORE OR AFTER ELECTRICAL WIRING AND PLUMBING TASKS

NOTE: REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE DrJ ENGINEERING TECHNICAL EVALUATION REPORT

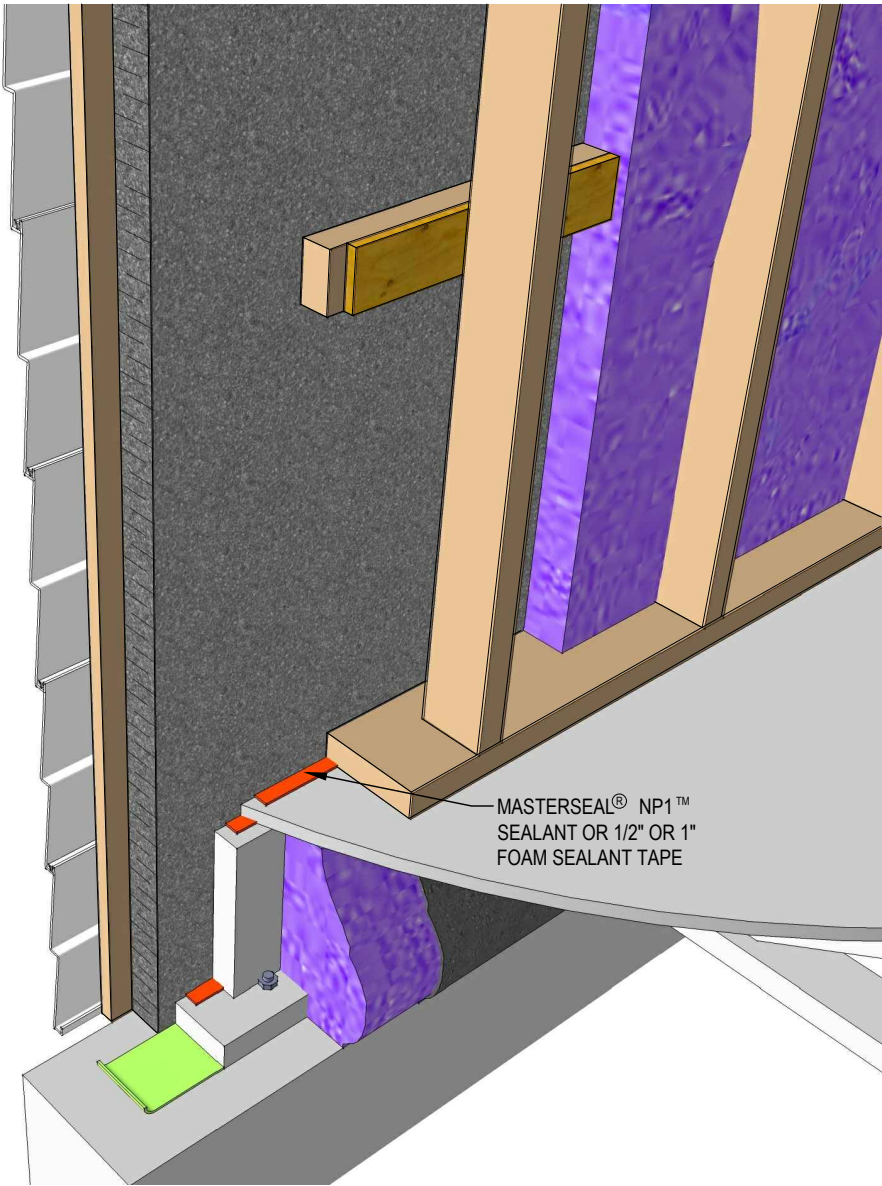


A 3D VIEW

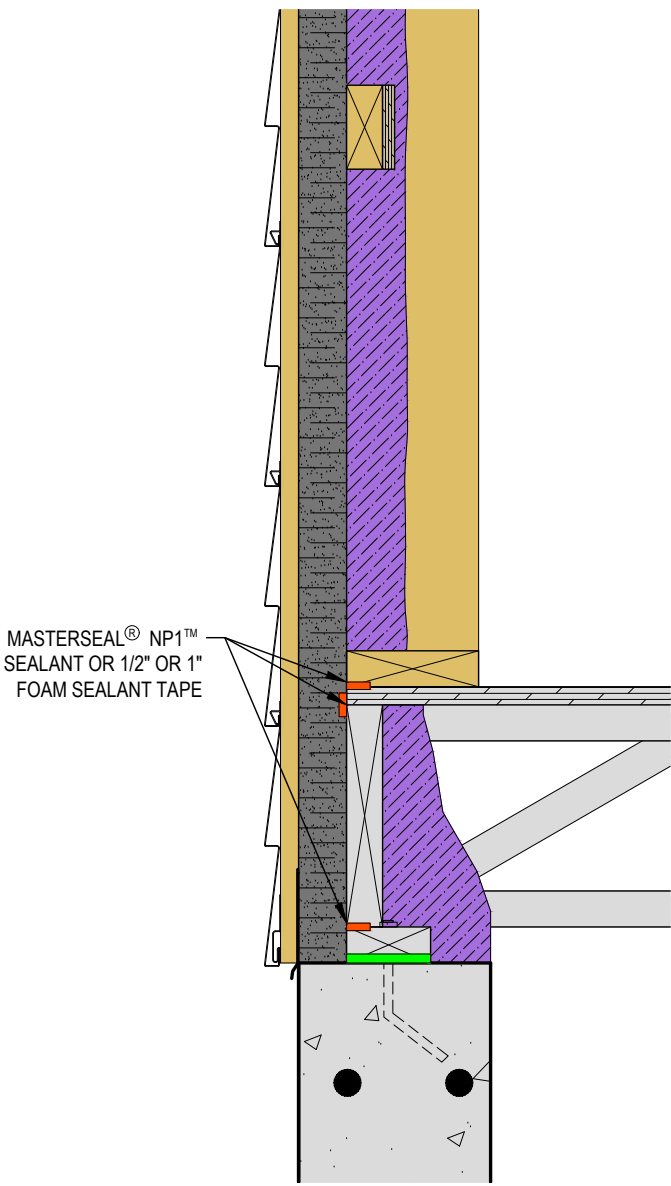


B CORNER SECTION

STEP 19B - INTERIOR INSULATION: FIRST FLOOR WALLS AND HEADERS

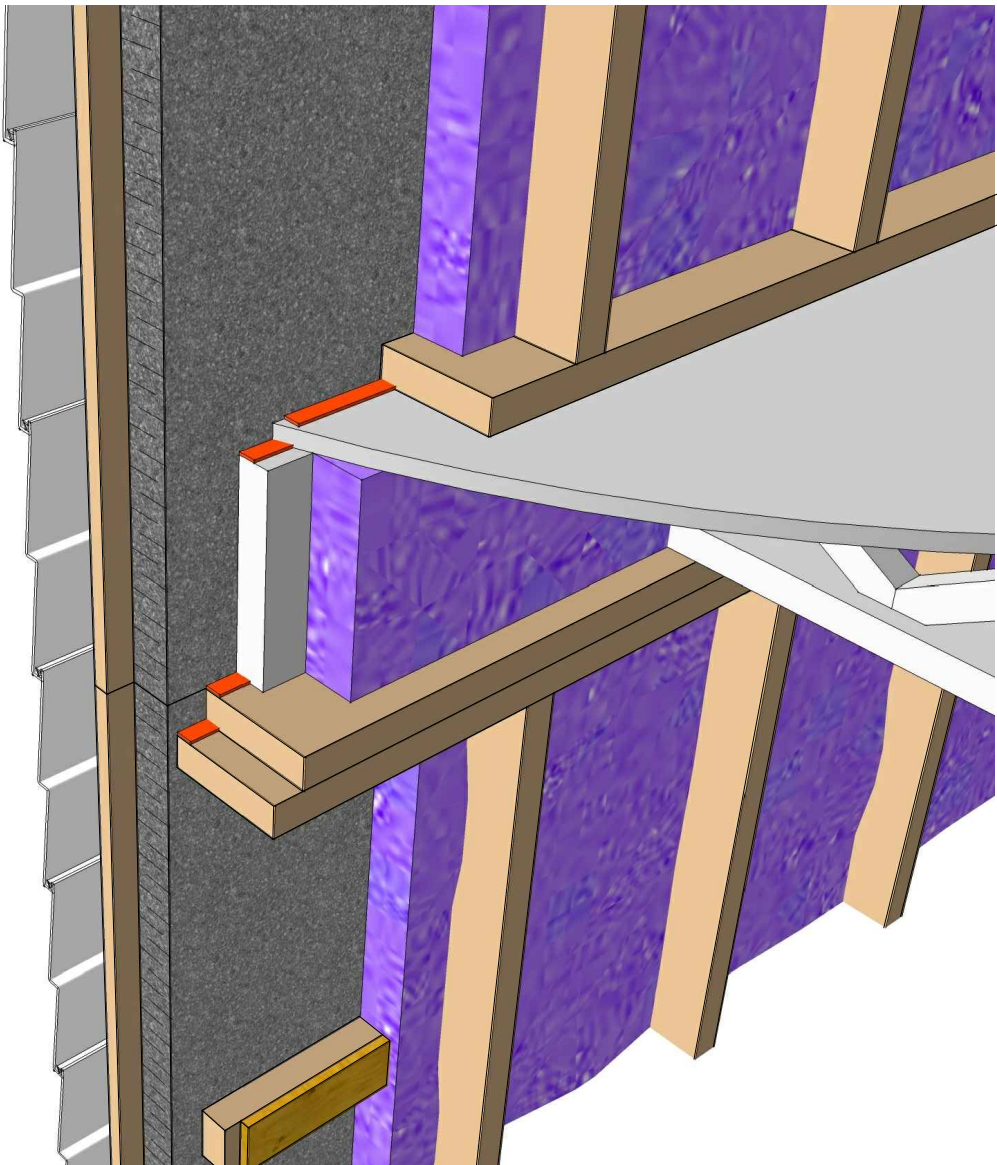


A 3D VIEW

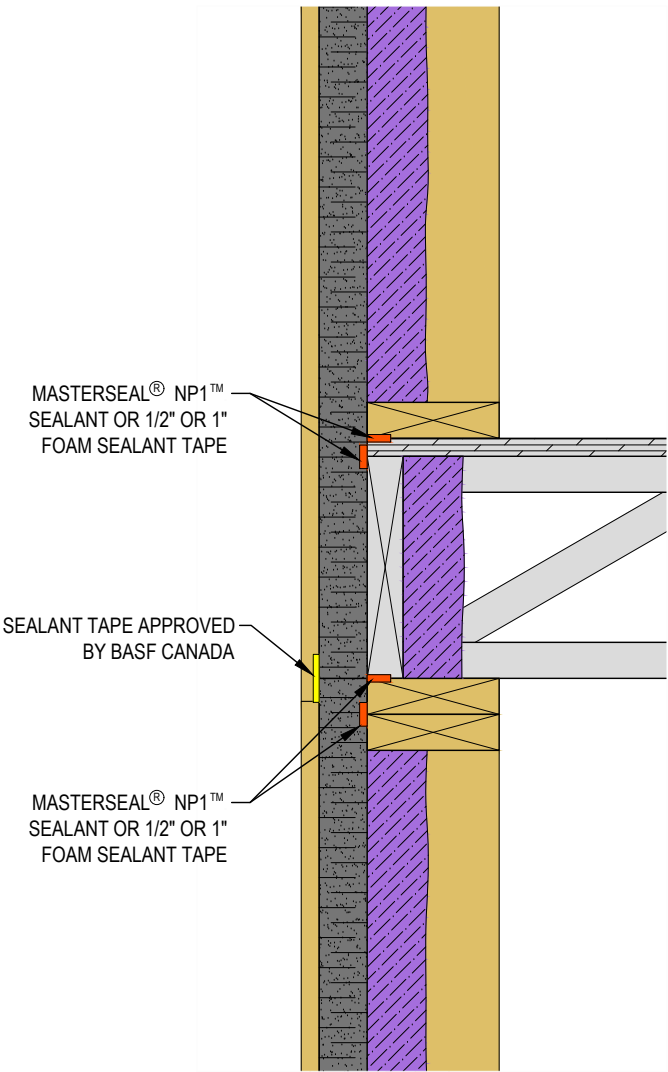


B SECTION

STEP 19C - INTERIOR INSULATION: SECOND FLOOR WALLS AND HEADERS

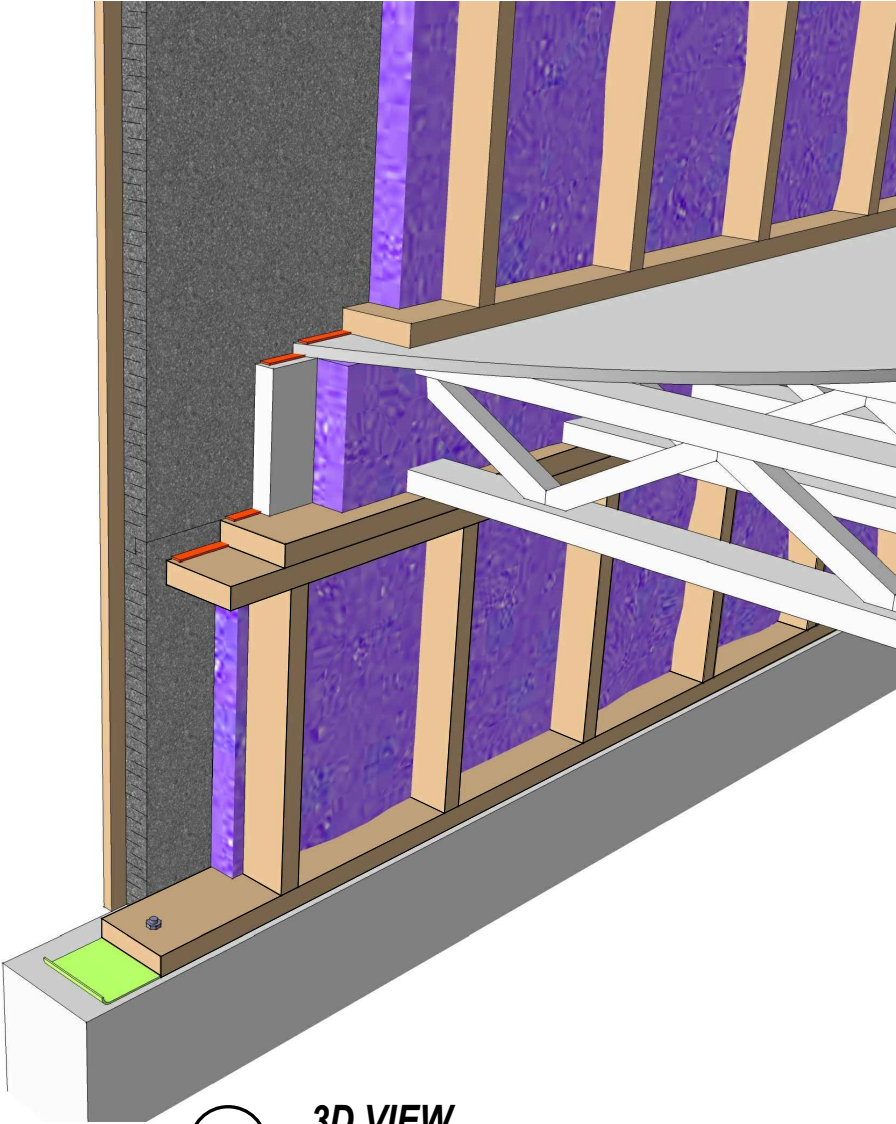


A 3D VIEW

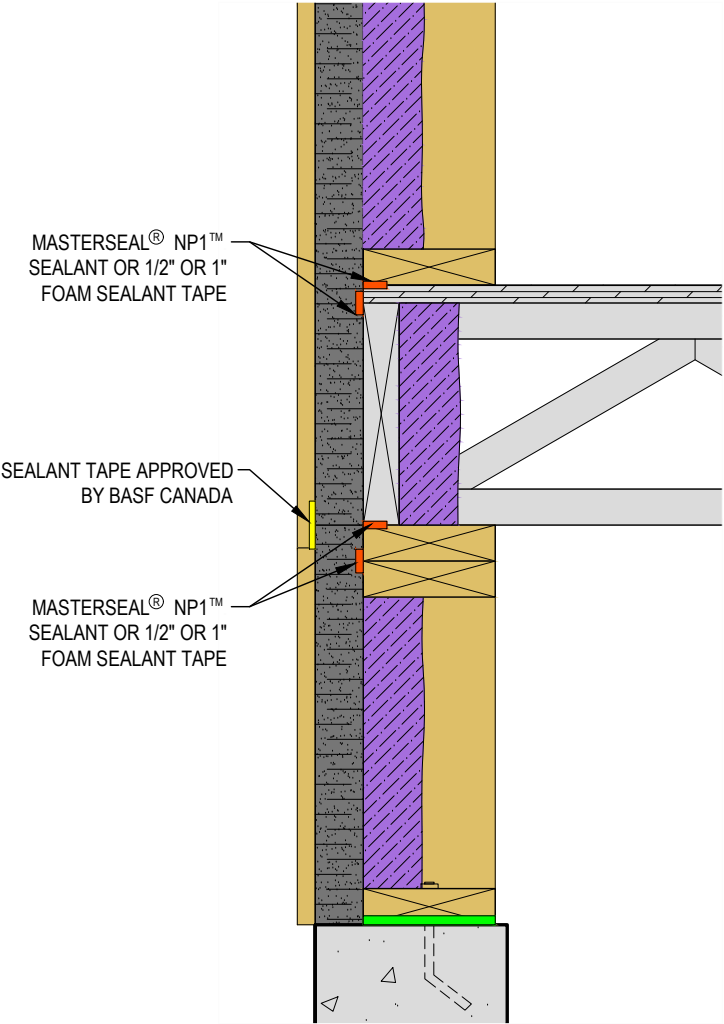


B SECTION

VARIOUS DETAILS: 1- KNEE WALL



A 3D VIEW



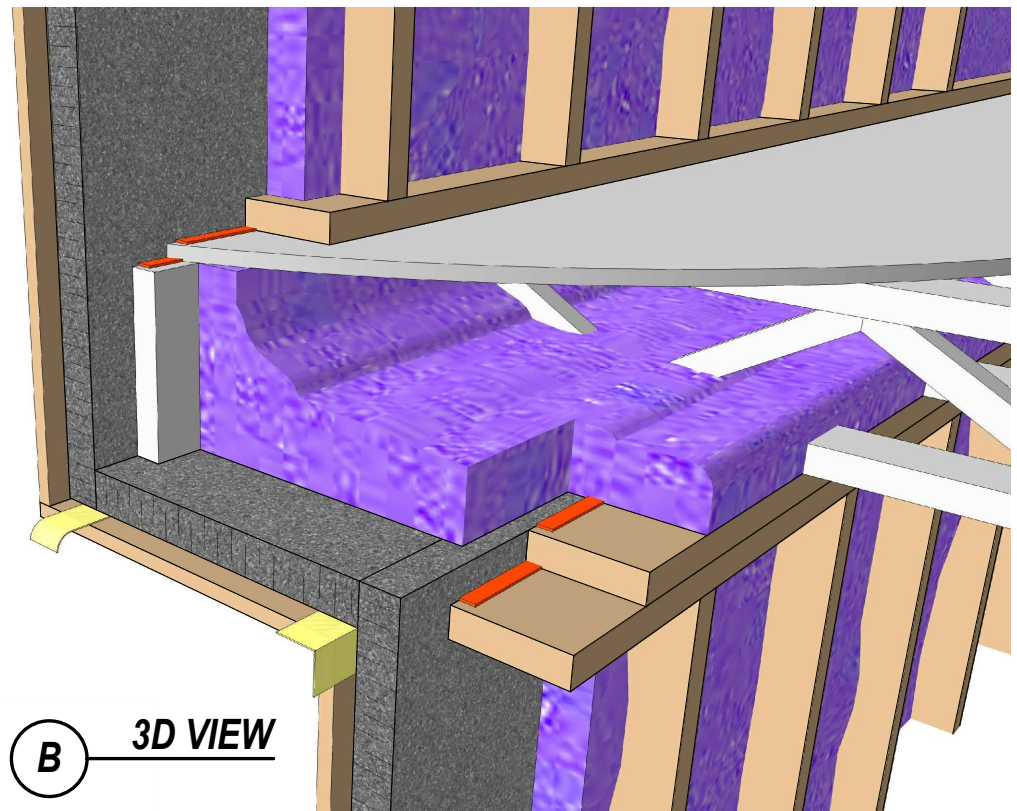
MASTERSEAL® NP1™
SEALANT OR 1/2" OR 1"
FOAM SEALANT TAPE

SEALANT TAPE APPROVED
BY BASF CANADA

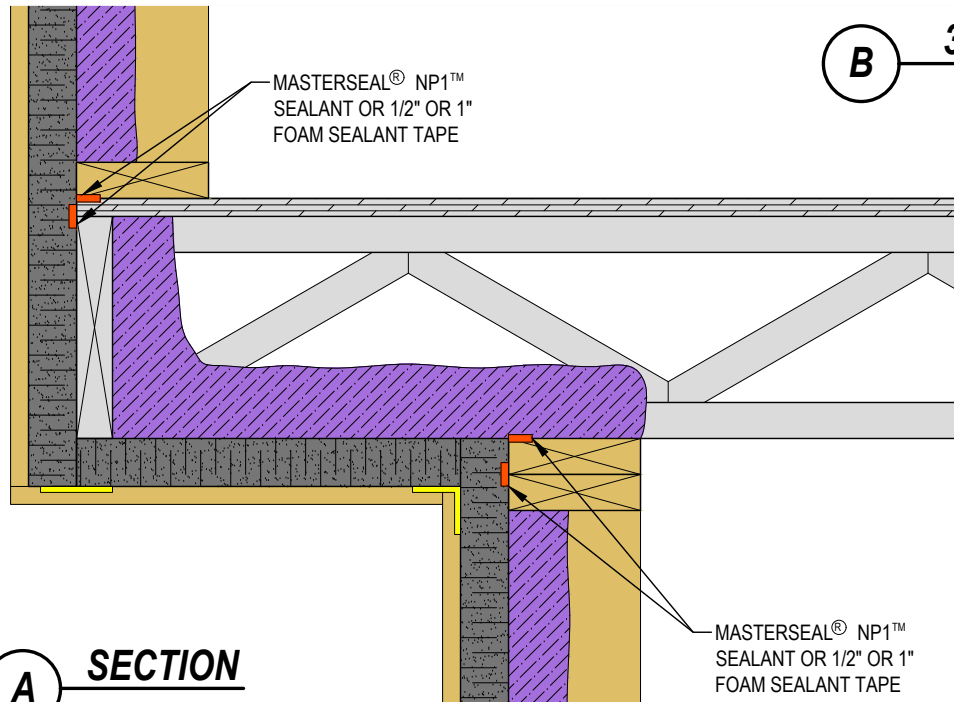
MASTERSEAL® NP1™
SEALANT OR 1/2" OR 1"
FOAM SEALANT TAPE

B SECTION

VARIOUS DETAILS: 2- CANTILEVERED FLOOR

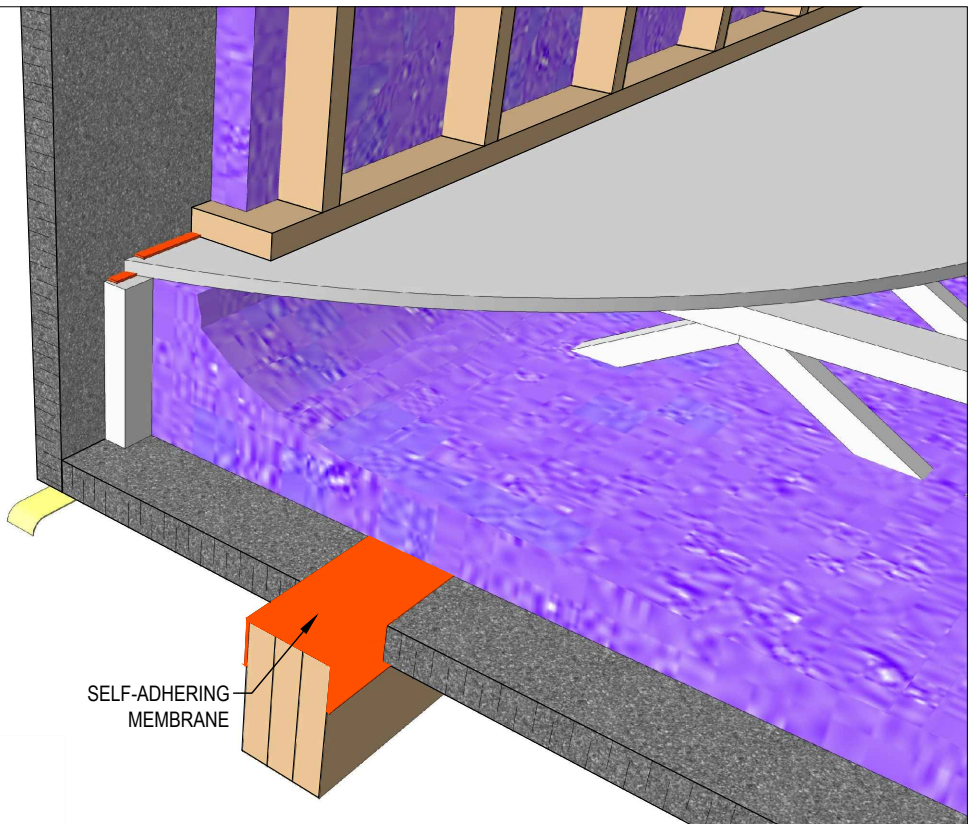


B 3D VIEW



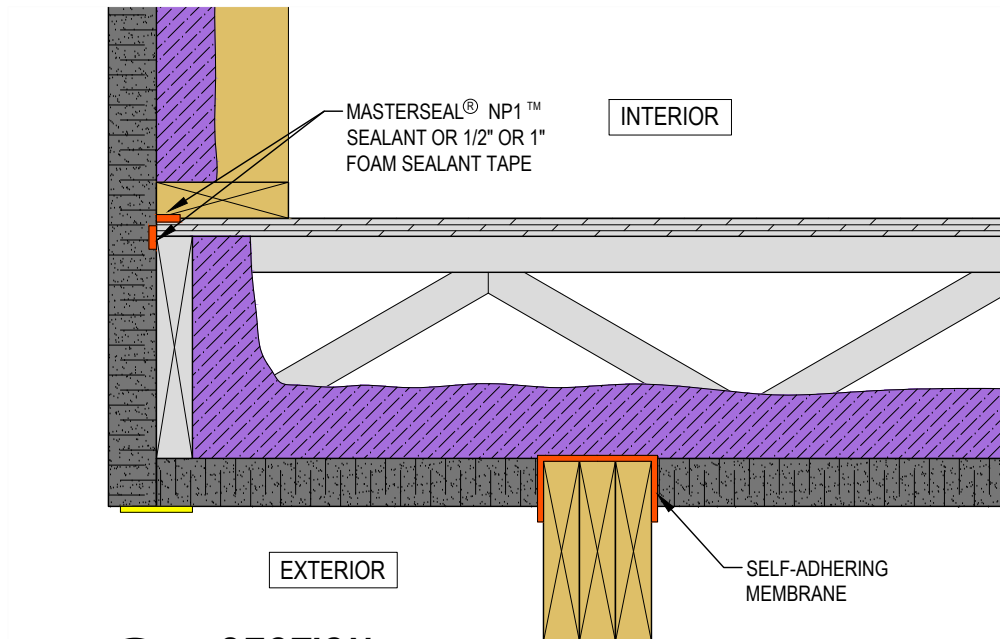
A SECTION

VARIOUS DETAILS:
3- CANTILEVERED FLOOR ON BEAM



SELF-ADHERING
MEMBRANE

B **3D VIEW**



A

SECTION

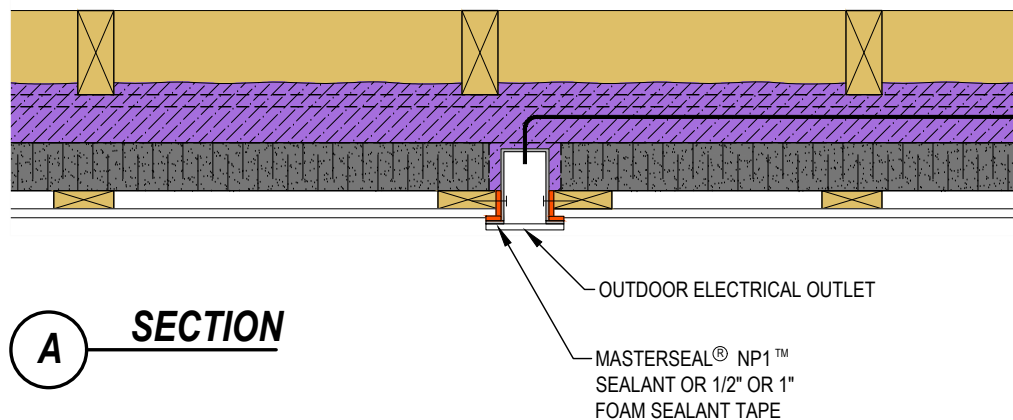
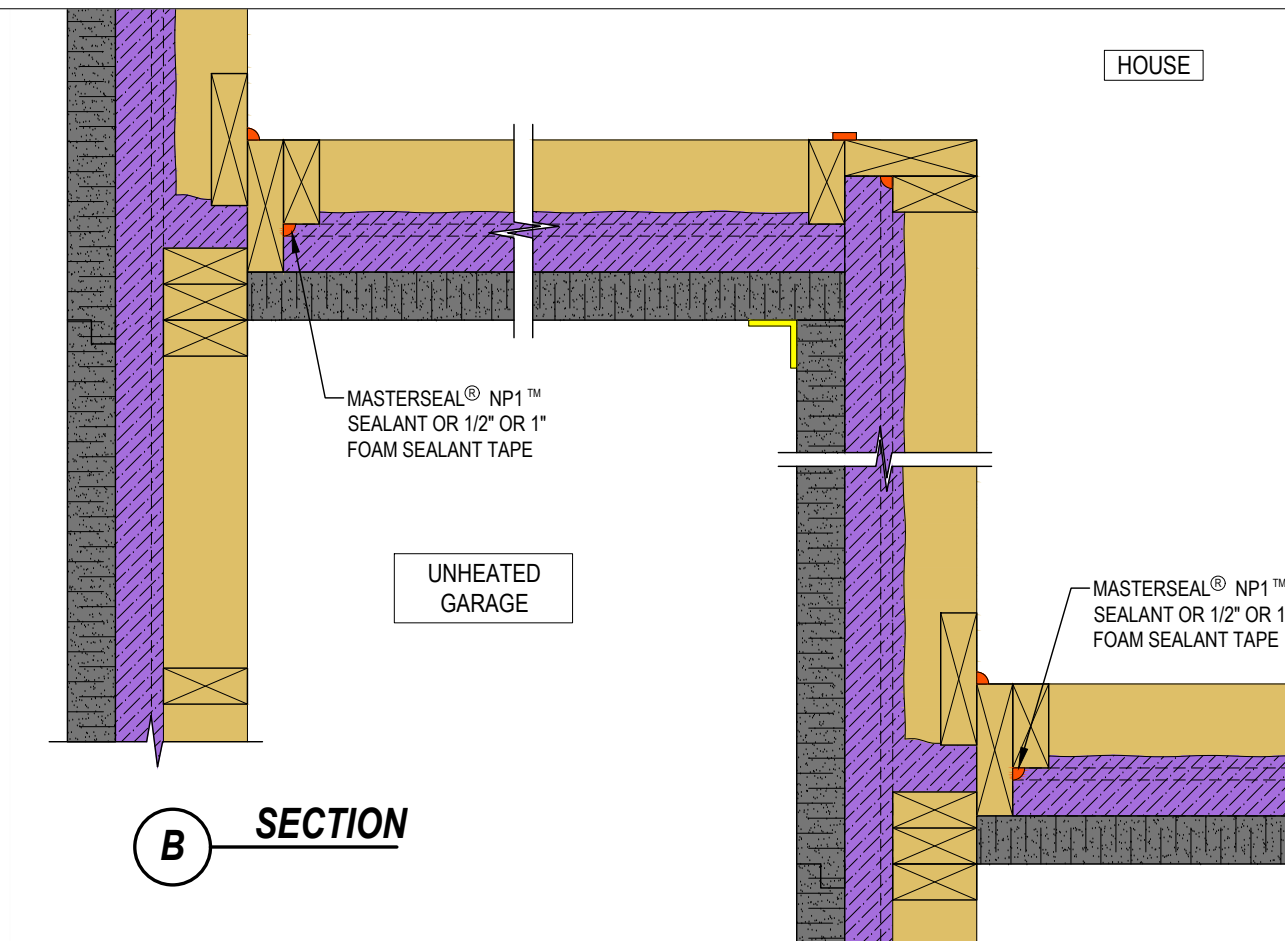
VARIOUS DETAILS:

4- UNHEATED GARAGE

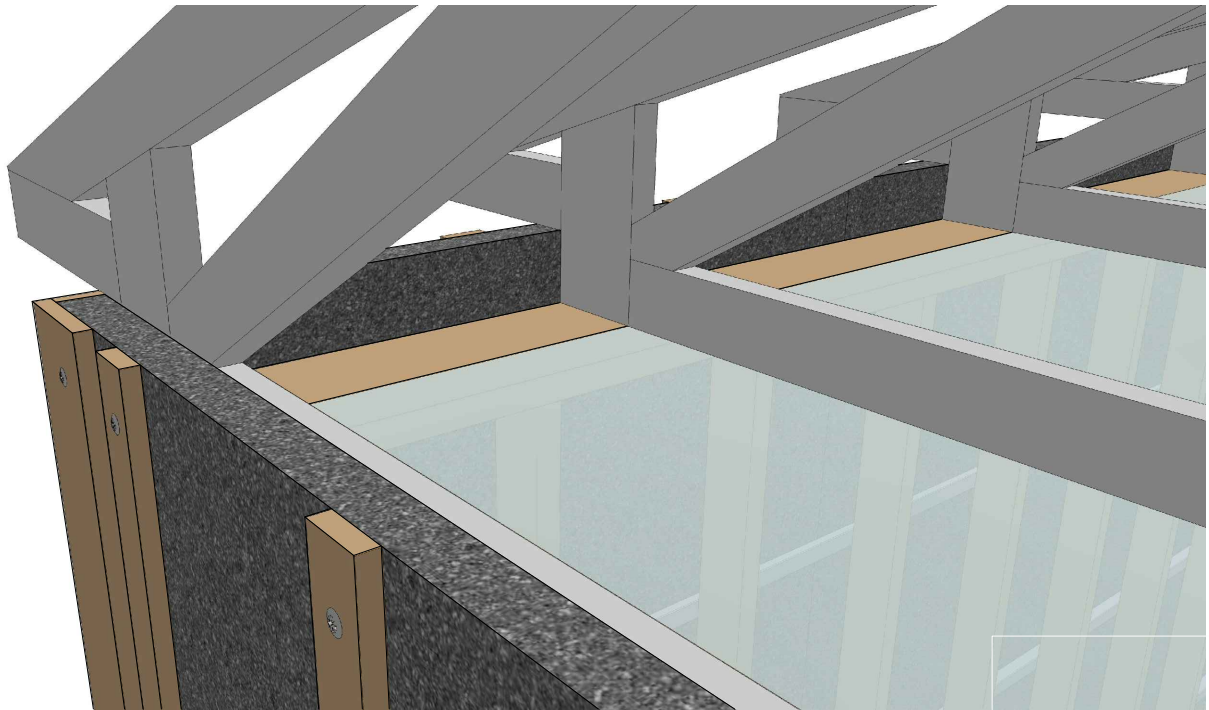
ELECTRICAL OUTLET

NOTE:

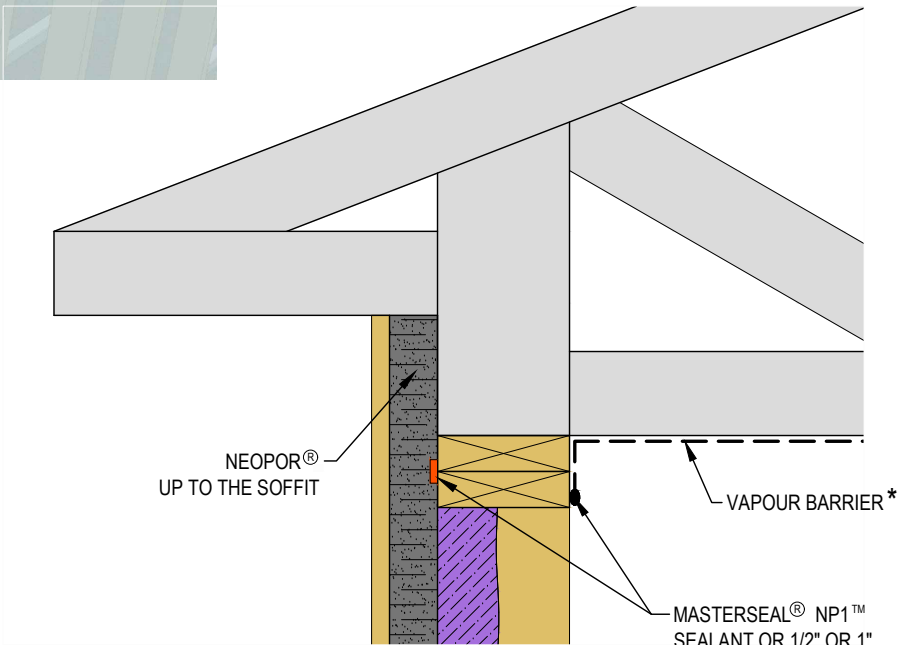
ALL EXPOSED FOAM PLASTIC INSULATION MUST BE COVERED WITH A THERMAL BARRIER APPROVED BY CODE



VARIOUS DETAILS: 5- RAISED HEEL ROOF TRUSS



A 3D VIEW



B SECTION

* AS REQUIRED BY CODE

VARIOUS DETAILS: 6- INSTALLATION SEQUENCE

IMPORTANT:

ADVANCE PLANNING IS SUGGESTED TO FACILITATE THE CONSTRUCTION OF WALL CORNERS AND JUNCTIONS, AS WELL AS THE SEQUENCE OF WALL ASSEMBLY AND ERECTION.

