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 EFFECTIVE 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
FOR PLASTIC FOAM INSULATION AT HEADERS AND THERMAL BARRIER REFER TO THE APPLICABLE BUILDING CODE.

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

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>R VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTSIDE AIR FILM</td>
<td>R 0.17</td>
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<tr>
<td>EXTERIOR CLADDING</td>
<td>+/- R 0.62</td>
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<tr>
<td>AIR SPACE 3/4&quot;</td>
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<tr>
<td>NEOPOR® SHEATHING 1&quot;</td>
<td>R 4.70</td>
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<tr>
<td>WALLTITE® CM01, 2 1/2&quot;</td>
<td>R 13.5</td>
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<tr>
<td>AIR SPACE 3&quot;</td>
<td>R 1.02</td>
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<tr>
<td>GYPSUM BOARD 1/2&quot;</td>
<td>R 0.44</td>
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<td>INSIDE AIR FILM</td>
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<td><strong>TOTAL R</strong></td>
<td>R 22.15</td>
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</table>

* 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**

**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**

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>R VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTSIDE AIR FILM</td>
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<tr>
<td>EXTERIOR CLADDING</td>
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<tr>
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<tr>
<td>NEOPOR® SHEATHING 1 1/2&quot;</td>
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<tr>
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<td>R 1.02</td>
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<tr>
<td>GYPSUM BOARD 1/2&quot;</td>
<td>R 0.44</td>
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**NOMINAL R VALUES DETERMINED ACCORDING TO COMMON INDUSTRY PRACTICE**

**FOR PLASTIC FOAM INSULATION AT HEADERS AND THERMAL BARRIER REFER TO THE APPLICABLE BUILDING CODE.**

* * * FOR PLASTIC FOAM INSULATION AT HEADERS AND THERMAL BARRIER REFER TO THE APPLICABLE BUILDING CODE.* * *
**HIGH PERFORMANCE WALL: XR SERIES - CANADA**

**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

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**TYPICAL WALL NOMINAL R VALUE**

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>R VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside Air Film</td>
<td>R 0.17</td>
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<tr>
<td>Exterior Cladding</td>
<td>+/- R 0.62</td>
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<tr>
<td>Air Space 3/4”</td>
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<td>Neopor® Sheathing 2”</td>
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<tr>
<td>Walltite® CM01, 2 1/2”</td>
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<tr>
<td>Air Space 3”</td>
<td>R 1.02</td>
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<tr>
<td>Gypsum Board 1/2”</td>
<td>R 0.44</td>
</tr>
<tr>
<td>Inside Air Film</td>
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<tr>
<td><strong>TOTAL R</strong></td>
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</tbody>
</table>

* Nominal R Values Determined According to Common Industry Practice

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**FOR PLASTIC FOAM INSULATION AT HEADERS AND THERMAL BARRIER REFER TO THE APPLICABLE BUILDING CODE.**

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**STEP 1 - FLOOR ASSEMBLY**

ENSURE SEAL OF ALL FLOOR FRAMING COMPONENTS ANCHORED TO FOUNDATION WALL

- Sealing gasket under the sill plate (use 2 plies if top of concrete foundation wall is very rough)
- MasterSeal® NP1™ sealant or 1/2" or 1" foam sealant tape
**STEP 2A - WALL FRAMING**

FIRST WALL FRAMING AND ASSEMBLY

**CROSS SECTION VIEW**

- **2" x 6" TOP PLATE**
- **2" x 4" STUD**
- **2" x 6" STUD (FOR CORNER)**
- **1/2" PLYWOOD STRIPS**
- **HORIZONTAL WOOD GIRTS: 2" x 4" STUDS WITH 1/2" PLYWOOD STRIPS**
- **24" C/C**
- **16" OR 24" C/C**
- **MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE**

**Notes:**
- **HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE**
- **(2019-10-16)**
**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 D/J ENGINEERING TECHNICAL EVALUATION REPORT.

INSULATION TO COVER HEADER AT THIS STAGE OR LATER
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

SEALANT TAPE APPROVED BY BASF CANADA

WEATHER RESISTIVE BARRIER (WRB)
NOTE:
FOR SHEATHING AND STRAPPING FASTENERS AND SPACING, REFER TO THE BASF \textsuperscript{TM} HP+ TECHNICAL INSTALLATION MANUAL AND THE DJ ENGINEERING TECHNICAL EVALUATION REPORT.
STEP 6 - RAISE WALL ASSEMBLY IN PLACE
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

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**SECTION**

- 2" x 6" BOTTOM PLATE
- 2" x 4" EDGE PROFILE
- MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE (TOP AND BOTTOM)

---

**3D VIEW**

- MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE (TOP AND BOTTOM)
- WINDOW ROUGH FRAME (2"x6")
- 2"x6" BOTTOM PLATE

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**INTERIOR**

**EXTERIOR**

- HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE

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**HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE**
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 D/R ENGINEERING TECHNICAL
EVALUATION REPORT.

NOTE:
FOR SHEATHING FASTENERS AND SPACING
REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL
AND THE D/R 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

A

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


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

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

WEATHER-RESISTIVE BARRIER
MASTERSEAL® NP1™ SEALANT
FLASHING
MEMBRANE
BEVELED SILL
SLOPE

WEATHER-RESISTIVE BARRIER
MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE
FLASHING
MEMBRANE
BEVELED SILL
SLOPE

WEATHER-RESISTIVE BARRIER
HP+™ FLASH LIQUID FLASHING MEMBRANE
MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE
FLASHING
MEMBRANE
BEVELED SILL
SLOPE

HP+™ FLASH LIQUID FLASHING MEMBRANE
MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE
HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE

2" x 4" STUDS
2" x 6" BOTTOM PLATE
HORIZONTAL WOOD GIRTS: 2" x 4" STUDS WITH 1/2" PLYWOOD STRIPS (ABOVE)

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

BASF
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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

ATTACH TOP PLATE

SECURE STRAPPING TO WINDOW OPENING AFTER Drip Flashing Installation

APPLY A FILL PIECE OF NEOPOR® TO CLOSE THE CORNER
STEP 13 - CORNER VIEW OF INSTALLED WALLS

HP+ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE

MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE
STEP 14 - CORNER STRAPPING INSTALLATION

SECTION

HORIZONTAL WOOD GIRTS:
- 2" x 4" STUDS
- 1/2" PLYWOOD STRIPS

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

1" x 6" BOARD
1" x 6" BOTTOM PLATE
2" x 6"
2" x 4" 1" x 3" STRAPPING
1" x 3" STRAPPING
1" x 4" STRAPPING
NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE

SEALANT TAPE APPROVED BY BASF CANADA

2" x 6" STUD FOR CORNER

1" x 6" BOARD
1" x 4" STRAPPING
SEALANT TAPE APPROVED BY BASF CANADA

1/2" PLYWOOD STRIPS

A
STEP 15 - SECOND FLOOR ASSEMBLY

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

SEALANT TAPE APPROVED BY BASF CANADA
STEP 16A - BUILD AND POSITION SECOND FLOOR WALLS

(SEE STEPS 2 TO 14)
**STEP 17 - ROOF FRAMING**

**A** 3D VIEW

**B** SECTION

- VAPOUR BARRIER *
- MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE

*AS REQUIRED BY CODE*
STEP 18A - WINDOWS AND DOORS INSTALLATION

WINDOW INSTALLATION ACCORDING TO CSA A440.4

LOW EXPANSION FOAM SEALANT

MASTERSEAL® NP1™

BACKER ROD

SELF-ADHERING MEMBRANE

LOW EXPANSION FOAM SEALANT

SELF-ADHERING MEMBRANE

BEVELED SILL

A 3D VIEW

B SECTION
STEP 18B - WINDOWS AND DOORS INSTALLATION - ALTERNATIVE DETAIL

WINDOW INSTALLATION ACCORDING TO CSA A440.4

LOW EXPANSION FOAM SEALANT

MASTERSEAL® NP1™

BACKER ROD

HP+™ FLASH LIQUID FLASHING MEMBRANE

WEATHER RESISTIVE BARRIER

A 3D VIEW

B SECTION

MASTERSEAL® NP1™

LOW EXPANSION FOAM SEALANT

MASTERSEAL® NP1™

BEVELED SILL

WEATHER RESISTIVE BARRIER

HP+™ FLASH LIQUID FLASHING MEMBRANE

BACKER ROD

MASTERSEAL® NP1™

FLASH LIQUID FLASHING MEMBRANE

WEATHER RESISTIVE BARRIER

HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE

(2019-10-16)
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

B CORNER SECTION

- MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE
- 2" x 6" STUDS FOR CORNER
- 1" x 6" BOARD
- 1" x 4" STRAPPING
- SEALANT TAPE APPROVED BY BASF CANADA
- WALLTITE® IN THE CORNER
- 2 1/2" THICK WALLTITE®
- 2" x 6" BOTTOM PLATE
- 2" x 4" STRAPPING
- NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE
- HORIZONTAL WOOD GIRTS: 2" x 4" STUDS WITH 1/2" PLYWOOD STRIPS

A 3D VIEW
STEP 19B - INTERIOR INSULATION: FIRST FLOOR WALLS AND HEADERS

A 3D VIEW

B SECTION

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

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HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE
STEP 19C - INTERIOR INSULATION: SECOND FLOOR WALLS AND HEADERS

A 3D VIEW

B SECTION

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

HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE
VARIOUS DETAILS: 1- KNEE WALL

[Diagram showing 3D view and section of a knee wall with annotations for sealant tape and foam sealant tape.]
VARIOUS DETAILS:
2- CANTILEVERED FLOOR

- MASTERSEAL® NP1™ SEALANT OR 1/2” OR 1” FOAM SEALANT TAPE

3D VIEW

SECTION
VARIOUS DETAILS:
3- CANTILEVERED FLOOR ON BEAM

INTERIOR

EXTERIOR

3D VIEW

SECTION

A

B

SELF-ADHERING MEMBRANE

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

SELF-ADHERING MEMBRANE

HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE

(2019-10-16)
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

3D VIEW

SECTION

A

NEOPOR®
UP TO THE SOFFIT

VAPOUR BARRIER*

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

* AS REQUIRED BY CODE

B

SECTION

2020-09-15

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HP+™ WALL SYSTEM XR SERIES FIELD ASSEMBLY GUIDE
ADVANCE PLANNING IS SUGGESTED TO FACILITATE THE CONSTRUCTION OF WALL CORNERS AND JUNCTIONS, AS WELL AS THE SEQUENCE OF WALL ASSEMBLY AND ERECTION.