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 MEASURE 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 :**

**R SERIES - CANADA**

**WALL COMPONENTS**

- EXTERIOR CLADDING
- 2" X 3" VERT. STRAPPING @ 16" C/C OR 24" C/C
- 1" THICK WALLTITE® SPRAYED ONTO SURFACE OF NEOPOR® SHEATHING

**SHEATHING:**
- 1" THICK NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE INSULATION (1.35 LB/FT³ MINIMUM DENSITY)
- 2" X 4" STUDS @ 16" C/C OR 24" C/C
- INSULATION BETWEEN STUDS BASED ON REQUIRED "R" VALUE
- 1/2" GYPSUM BOARD

**TYPICAL WALL NOMINAL R VALUE**

TO VALIDATE ACCORDING TO THE WALL COMPOSITION

* **SHEATHING CAN BE:**
  - MINIMUM 1" OF NEOPOR®;
  - 0.8" EXTRUDED POLYSTYRENE (XPS);
  - 1/2" GYPSUM BOARD;
  - 7/16" ASPHALT FIBERBOARD;
  - 1/4" OSB;
  - 1" EXPANDED POLYSTYRENE (EPS) TYPE II;
  - 7/16" NATURAL FIBERBOARD.

**IMPORTANT:**
RATING AND THICKNESS OF THE SHEATHING TO BE AS PER ARTICLE 9.23.17.2 OF NBC 2015, IF EXTERIOR CLADDING REQUIRES INTERMEDIATE FASTENING BETWEEN SUPPORTS (STUDS).
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)
STEP 2 - WALL FRAMING

FIRST WALL FRAMING ASSEMBLY

2" x 4" TOP PLATE

2" x 4" STUD

2" x 4" BOTTOM PLATE

2" x 4" TOP PLATE

16" OR 24" C/C

BRACING BAR "T" SHAPE OR TEMPORARY BRACING

2" x 4" TOP PLATE
**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

INSULATION TO COVER HEADER AT THIS STAGE OR LATER
STEP 3B - SEALING
INSTALL TRANSITION MEMBRANE APPROVED BY BASF
NOTE:
FOR SHEATHING AND STRAPPING FASTENERS AND SPACING, REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE D&J ENGINEERING TECHNICAL EVALUATION REPORT.

STEP 4A - STRAPPING INSTALLATION

INSULATION TO COVER HEADER AT THIS STAGE OR LATER
STEP 4B - SEALING

FOLD THE MEMBRANE ON THE FURRING STRIPS

FOLD AND TEMPORARILY FIX THE TRANSITION MEMBRANE ONTO THE FURRING STRIPS
STEP 4C - SEALING

INSTALL A MASTERSEAL™ NP1™ SEALANT BEAD ON THE FOUNDATION
B FOLD THE TRANSITION MEMBRANE ON THE FOUNDATION AND TRIM OFF THE EXCESS

STEP 5 - RAISE WALL ASSEMBLY IN PLACE
**A** 3D VIEW

- 2" x 3" STRAPPING
- 1" OF NEOPOR® GRAPHITE - ENHANCED EXPANDED SHEATHING
- 2" x 4"
- BOTTOM PLATE

**B** SECTION

- TRANSITION MEMBRANE APPROVED BY BASF
- MASTERSEAL® NP1™ SEALANT
- SILL PLATE GASKET

**Notes:**
- 2" x 4" BOTTOM PLATE
- 2" x 3" STRAPPING
- 1" OF NEOPOR® GRAPHITE - ENHANCED EXPANDED SHEATHING

**Materials Used:**
- TRANSITION MEMBRANE
- MASTERSEAL® NP1™ SEALANT
- SILL PLATE GASKET
- 2" x 4" BOTTOM PLATE
- 2" x 3" STRAPPING
- 1" OF NEOPOR® GRAPHITE - ENHANCED EXPANDED SHEATHING

**Dimensions:**
- 2" x 4"
- 1"
STEP 6A - 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 6B - 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 7 - EXTERIOR INSULATION AND SEALING

INSTALL NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE SHEATHING AND TRANSITION MEMBRANE APPROVED BY BASF

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

INSTALL NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE SHEATHING AND TRANSITION MEMBRANE APPROVED BY BASF

NOTE:
FOR SHEATHING FASTENERS AND SPACING
REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE DJ ENGINEERING TECHNICAL EVALUATION REPORT.
**STEP 8 - AIR / WATER TIGHTNESS OF OPENINGS**

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

B - INSTALL AIR BARRIER AND WATERPROOFING MEMBRANE AT EACH CORNER, COVERING SEALANT INSTALLED AT STEP 6A

C - STARTING ALONG BOTTOM EDGE, INSTALL MEMBRANE AROUND ENTIRE PERIMETER OF OPENINGS
STEP 8 - 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 9 - WALL AND OPENING DETAILS

MEMBRANE

FLASING

SILL

BEVELED

SLOPE

OPENING

2" x 4" BOTTOM PLATE

A SECTION

B SECTION

MASTERSSEAL®
NP1™ SEALANT

OPENING

FLOOR
STEP 10 - STRAPPING INSTALLATION AROUND WINDOWS

(SEE STEP #4)

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 11 - RAISE WALL ASSEMBLY

ATTACH TOP PLATE

FOLD THE TRANSITION MEMBRANE ON THE FOUNDATION AND TRIM OFF THE EXCESS

APPLY A FILL PIECE OF NEOPOR® AND THE TRANSITION MEMBRANE TO CLOSE THE CORNER
STEP 12 - CORNER VIEW OF INSTALLED WALLS
STEP 13 - CORNER STRAPPING INSTALLATION

2" x 4" STRAPPING

2" x 6" BOARD

2" x 4" BOTTOM PLATE

1" OF NEOPOR® GRAPHITE - ENHANCED EXPANDED POLYSTYRENE SHEATHING
STEP 14 - SECOND FLOOR ASSEMBLY

ENSURE SEAL OF ALL FLOOR FRAMING COMPONENTS USING MASTERSEAL® NP1™ SEALANT OR 1/2" OR 1" FOAM SEALANT TAPE
STEP 15A - BUILD AND POSITION SECOND FLOOR WALLS AND ROOF

(SEE STEPS 2 TO 14)
STEP 15B - DETAILS

SECTION

3D VIEW
**STEP 16 - ROOF FRAMING**

**A** 3D VIEW

**B** SECTION

VAPOUR BARRIER*  
MASTERSEAL® NP1™ SEALANT  
*AS REQUIRED BY CODE
STEP 17 - WINDOWS AND DOORS INSTALLATION

WINDOW INSTALLATION ACCORDING TO CSA A440.4

LOW EXPANSION FOAM SEALANT

MASTERSEAL® NP1™

BACKER ROD

SELF-ADHERING MEMBRANE

BEVELED SILL

LOW EXPANSION FOAM SEALANT

MASTERSEAL® NP1™

SELF-ADHERING MEMBRANE

A 3D VIEW

B SECTION
STEP 18A - INTERIOR AND EXTERIOR INSULATION:
CORNER DETAILS

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

NOTE: REFER TO THE BASF HP+™ TECHNICAL INSTALLATION MANUAL AND THE DrJ ENGINEERING TECHNICAL EVALUATION REPORT.
STEP 18B - INTERIOR AND EXTERIOR INSULATION: FIRST FLOOR WALLS AND HEADERS

A 3D VIEW

B SECTION

INSULATION BETWEEN STUDS
AS PER EXISTING DESIGN

INSULATION BETWEEN STUDS
AS PER EXISTING DESIGN

TRANSITION MEMBRANE
APPROVED BY BASF

MASTERSEAL® NP1™
SEALANT

MASTERSEAL® NP1™
SEALANT

TRANSITION MEMBRANE
APPROVED BY BASF
STEP 18C - INTERIOR AND EXTERIOR INSULATION: SECOND FLOOR WALLS AND HEADERS
VARIOUS DETAILS:
2- CANTILEVERED FLOOR

INSULATION BETWEEN STUDS AS PER EXISTING DESIGN

INSULATION BETWEEN FLOOR JOISTS AS PER EXISTING DESIGN

INSULATION BETWEEN STUDS AS PER EXISTING DESIGN

SECTION

3D VIEW
VARIOUS DETAILS:
3- CANTILEVERED FLOOR ON BEAM

- INSULATION BETWEEN STUDS AS PER EXISTING DESIGN
- SELF-ADHERING MEMBRANE

SECTION

B 3D VIEW

EXTERIOR

INTERIOR

SELF-ADHERING MEMBRANE

INSULATION BETWEEN FLOOR JOISTS AS PER EXISTING DESIGN
VARIOUS DETAILS:
4- UNHEATED GARAGE
ELECTRICAL OUTLET

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

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

MASTERSEAL® NP1™ SEALANT

NEOPOR®

UP TO THE SOFFIT

VAPOUR BARRIER *

*AS REQUIRED BY CODE
VARIOUS DETAILS: 6- SEALING AROUND WALL PENETRATIONS

A - INSTALL A TRANSITION MEMBRANE AROUND THE PIPE.
CUT THE EDGE OF THE MEMBRANE TO ENSURE THE MEMBRANE IS WELL ADHERED TO THE WALL AND ALONG THE PERIMETER OF THE PIPE.
NOTE: INSTALL THE MEMBRANE STARTING FROM THE BOTTOM OF THE PIPE.

B - ENSURE THE MEMBRANE IS WELL ADHERED TO THE WALL AND ALONG THE ENTIRE PERIMETER OF THE PIPE.
VARIOUS DETAILS: 6- SEALING AROUND WALL PENETRATIONS

C - INSTALL A MEMBRANE ON THE WALL TO COVER THE LOWER HALF OF THE PIPE.

D - INSTALL A SECOND MEMBRANE ON THE WALL TO COVER THE UPPER PART OF THE PIPE AND OVERLAP WITH THE LOWER MEMBRANE. SEAL THE PERIMETER AND ALL THE MEMBRANE JOINTS.

E - FASTEN THE FURRING STRIPS, SPRAY WALLTITE®, THEN INSTALL THE VINYL SIDING.