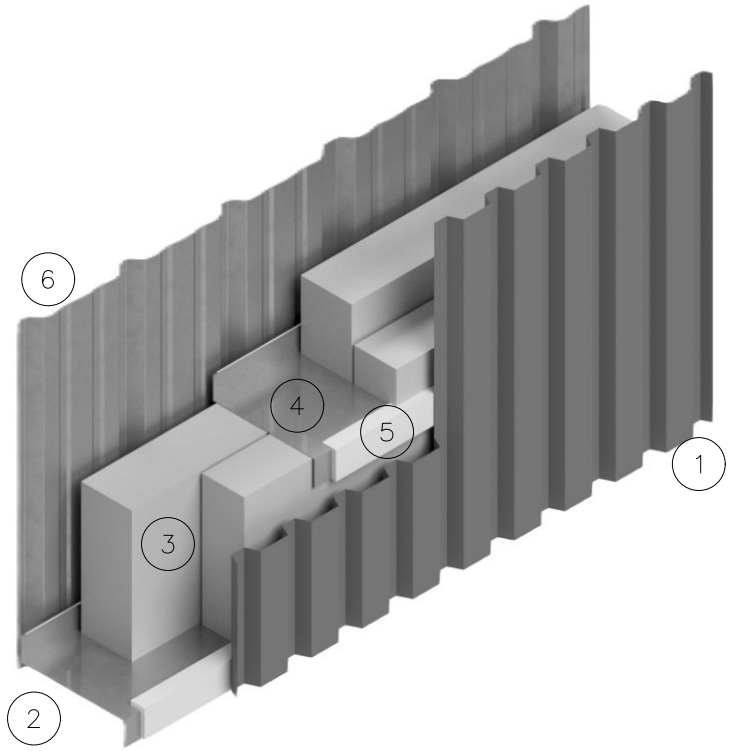
FIREGUARD WALL SYSTEM



LEGEND - Nonbearing Wall

1-HOUR FIRE-RESISTANCE RATING - ULC W605

Equivalent Opening Factor at 2 h (F_{EO}) = 0.02

1) 26ga (0.46mm) EXTERIOR CLADDING
2) U CHANNEL OR GIRT SUPPORT
3) MINERAL WOOL INSULATION
4) GIRT STRUCTURAL SUPPORT
5) CERAMIC FIBRE STRIP
6) 24ga (0.61mm) LINER PANEL

2-HOUR FIRE-RESISTANCE RATING - ULC W606

1) 24ga (0.61mm) EXTERIOR CLADDING
2) U CHANNEL OR GIRT SUPPORT
3) MINERAL WOOL INSULATION
4) GIRT STRUCTURAL SUPPORT
5) CERAMIC FIBRE STRIP
6) 24ga (0.61mm) LINER PANEL

THE FIREGUARD WALL SYSTEM IS BASED ON A ULC DESIGNATED NON-LOAD BEARING FIRE RATED WALL SYSTEM DESIGNED WITH THE STEEL CLADDING AND ENCLOSED MINERAL WOOL INSULATION TO PROVIDE 1- OR 2-HOUR FIRE RATED WALL. Testing based on CAN/ULC-S101-14-REV3 Standard Fire Endurance Tests of Building Construction Material.

ONE-HOUR FIRE RATED WALL ASSEMBLY (MEETS ULC DESIGN NO. W605)

* 26 GAUGE (0.46mm) MINIMUM EXTERIOR WALL PANEL C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.
* GIRT STRUCTURAL SUPPORT MINIMUM 18ga (1.22mm) NOMINAL THICKNESS.
* GIRT SPACING OF 48" (1220mm) TO MATCH MINERAL WOOL BATT SIZE OR TO A MAXIMUM OF 60" (1524mm) O.C.
* 1/2" (13mm) THICK CERAMIC FIBRE STRIP LOCATED ON OUTSIDE FACE (FLANGE) FOR ALL EXTERIOR CLADDING SUPPORT FRAMING.
* 24 GAUGE (0.61mm) MINIMUM FULL HEIGHT LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.

TWO-HOUR FIRE RATED WALL ASSEMBLY (MEETS ULC DESIGN NO. W606)

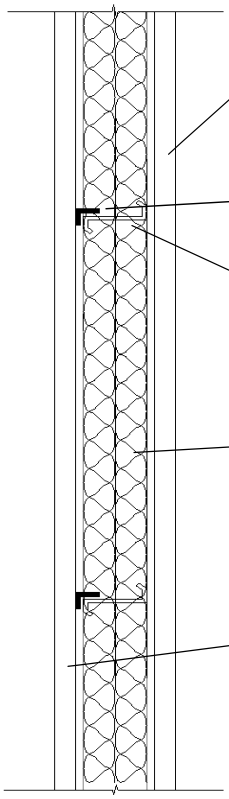
* 24 GAUGE (0.61mm) MINIMUM EXTERIOR WALL PANEL C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.
* GIRT STRUCTURAL SUPPORT MINIMUM 18ga (1.22mm) NOMINAL THICKNESS.
* GIRT SPACING OF 48" (1220mm) TO MATCH MINERAL WOOL BATT SIZE OR TO A MAXIMUM OF 60" (1524mm) O.C.
* 1/2 " (13mm) THICK CERAMIC FIBRE STRIP LOCATED ON OUTSIDE FACE (FLANGE) FOR ALL EXTERIOR CLADDING SUPPORT FRAMING.
* 24 GAUGE (0.61mm) MINIMUM FULL HEIGHT LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.

NOTES:

- Design No. W605 1-h can be used with an Equivalent Opening Factor at 2-h (F_{EO}) = 0.02
- See CSSBI FPB-20: Fire Protection Bulletin #20: Fire-Rated Exterior Sheet Steel Walls & FPB-24: Fire Protection Bulletin #24: New (and Better) Limiting Distance Requirements in 1995 NBCC, for additional information on Limiting Distance Requirements for NBCC
- Thermal modeling of fire rated assemblies completed - See BEHLEN Energy Guide for Rigid Frame Steel Buildings. Thermal Effective U-Values performance based on published data by mineral wool suppliers.
- See UL Product IQ BXUVC for other assemblies, including bearing exterior walls; Design No. U418 & U425 and interior partitions; Design No. W610 1-h & W611 2-h

FIREGUARD WALL SYSTEM

ONE-HOUR FIRE RATED WALL ASSEMBLY (MEETS ULC DESIGN NO. W605)



STEEL LINER: PANELS FABRICATED FROM MINIMUM 24ga (0.61mm) THICK SHEETS, FASTENED TO GIRTS BY 1" (25mm) LONG (USE 1 1/2" (38mm) LONG @ CLOSURE LOCATIONS) SELF-DRILL TEK SCREWS SPACED MAXIMUM 12" (305mm) O.C. SIDE LAP JOINTS SEALED WITH 1/8" x 1/2" (3 x 13mm) FIELD APPLIED TAPE SEALER AND SECURED WITH 3/4" (19mm) LONG STITCH SCREWS 12" (305mm) O.C. ALL PERIMETERS, ENDS & SPLICES TO BE SEALED WITH 1/8" x 1/2" (3 x 13mm) FIELD APPLIED TAPE SEALER & PROFILED FOAM CLOSURES TO FORM AIR BARRIER.

CERAMIC FIBRE STRIP: 128kg/m³ DENSITY, MINIMUM 4" (100mm) WIDE x 1/2" (13mm) THICK STRIPS, ATTACHED TO GIRT WITH #10 FASTENERS WITH 1 1/2" (38mm) DIAMETER WASHERS OR STICK PINS, SPACED 9 3/4" (250mm) O.C (BY OTHERS). REQUIRED ON OUTSIDE FACE (FLANGE) OF ALL EXTERIOR CLADDING SUPPORT FRAMING.

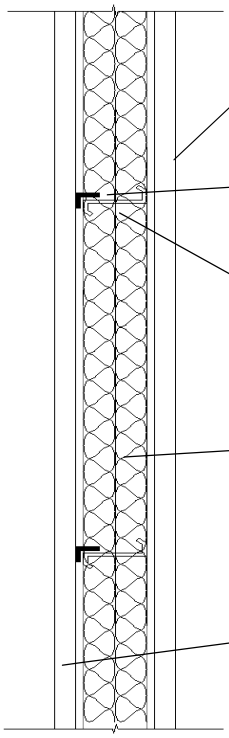
GIRT: MINIMUM 18ga (1.22mm) NOMINAL THICKNESS. MINIMUM 6" (152mm) DEEP STEEL GIRT WITH 1 1/2" (38mm) MINIMUM FLANGES, 48" (1220mm) O.C TO MATCH INSULATION BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C. (GIRT MAY BE 8" (203mm), 10" (254mm) OR 12" (305mm) DEEP DEPENDING ON BAY SPACING)*.

MINERAL WOOL BATTS: TWO LAYERS OF 96kg/m³ NORMAL DENSITY MINERAL WOOL BATTS PROCESSED FROM ROCK AND SLAG, AVAILABLE IN 3" (76mm) THICK SHEETS; 24" x 48" (610mm x 1220mm) OR 32" x 48" (813mm x 1220mm) (BY OTHERS). INSTALL LAYERS WITH VERTICAL AND HORIZONTAL JOINTS STAGGERED AND OVERLAPPED MINIMUM 12" (305mm). INSULATION TO COMPLETELY FILL CAVITY.

*OVERALL WALL THICKNESS AND SUPPORT FRAMING MAY BE INCREASED PROVIDED THE MINERAL WOOL INSULATION COMPLETELY FILLS THE WALL CAVITY AND MATCHES THE SUPPORT SIZE.

EXTERIOR CLADDING: PREPAINTED SHEET STEEL PANELS TO VARIOUS PROFILES AND WIDTHS. PANELS MINIMUM 26ga (0.46mm) THICK, FASTENED TO GIRTS BY 1 1/2" (38mm) LONG SELF-DRILL TEK SCREWS MAXIMUM 12" (305mm) O.C. LAP JOINTS OF ADJACENT PANELS FASTENED BY 3/4" (19mm) LONG STITCH SCREWS 12" (305mm) O.C.

TWO-HOUR FIRE RATED WALL ASSEMBLY (MEETS ULC DESIGN NO. W606)



STEEL LINER: PANELS FABRICATED FROM MINIMUM 24ga (0.61mm) THICK SHEETS, FASTENED TO GIRTS BY 1" (25mm) LONG (USE 1 1/2" (38mm) LONG @ CLOSURE LOCATIONS) SELF-DRILL TEK SCREWS SPACED MAXIMUM 12" (305mm) O.C. SIDE LAP JOINTS SEALED WITH 1/8" x 1/2" (3 x 13mm) FIELD APPLIED TAPE SEALER AND SECURED WITH 3/4" (19mm) LONG STITCH SCREWS 12" (305mm) O.C. ALL PERIMETER ENDS & SPLICES TO BE SEALED WITH 1/8" x 1/2" (3 x 13mm) FIELD APPLIED TAPE SEALER & PROFILED FOAM CLOSURES TO FORM AIR BARRIER.

CERAMIC FIBRE STRIP: 128kg/m³ DENSITY, MINIMUM 4" (100mm) WIDE x 1/2" (13mm) THICK STRIPS, ATTACHED TO GIRT WITH #10 FASTENERS WITH 1 1/2" (38mm) DIAMETER WASHER OR STICK PINS, SPACED 9 3/4" (250mm) O.C (BY OTHERS). REQUIRED ON OUTSIDE FACE (FLANGE) OF ALL EXTERIOR CLADDING SUPPORT FRAMING.

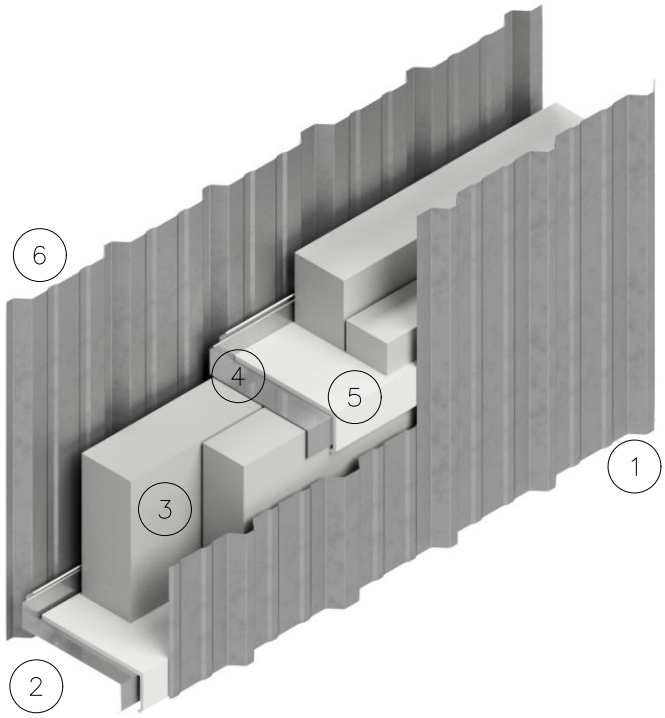
GIRT: MINIMUM 18ga (1.22mm) NOMINAL THICKNESS. MINIMUM 8" (203mm) DEEP STEEL GIRT WITH 1 3/4" (45mm) MINIMUM FLANGES, 48" (1220mm) ON CENTER TO MATCH INSULATION BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C. (GIRT MAY BE 10" (254mm) OR 12" (305mm) DEEP DEPENDING ON BAY SPACING)*.

MINERAL WOOL BATTS: TWO LAYERS OF 72kg/m³ NORMAL DENSITY, PROCESSED FROM ROCK AND SLAG, AVAILABLE IN 4" (102mm) THICK SHEETS; 24" x 48" (610mm x 1220mm) OR 32" x 48" (813mm x 1220mm) (BY OTHERS). INSTALL LAYERS INSTALLED WITH VERTICAL AND HORIZONTAL JOINTS STAGGERED AND OVERLAPPED MINIMUM 12" (305mm). INSULATION TO COMPLETELY FILL CAVITY.

*OVERALL WALL THICKNESS AND SUPPORT FRAMING MAY BE INCREASED PROVIDED THE MINERAL WOOL INSULATION COMPLETELY FILLS THE WALL CAVITY AND MATCHES THE SUPPORT SIZE.

EXTERIOR CLADDING: PREPAINTED SHEET STEEL PANELS TO VARIOUS PROFILES AND WIDTHS. PANELS MINIMUM 24ga (0.61mm) THICK, FASTENED TO GIRTS BY 1 1/2" (38mm) LONG SELF-DRILL TEK SCREWS MAXIMUM 12" (305mm) O.C. LAP JOINTS OF ADJACENT PANELS FASTENED BY 3/4" (19mm) LONG STITCH SCREWS 12" (305mm) O.C.

FIREGUARD INTERNAL PARTITION WALL SYSTEM



LEGEND - Nonbearing Interior Partition Wall

1-HOUR FIRE-RESISTANCE RATING - ULC W610

Fire side at either side of partition

1) 24ga (0.61mm) LINER PANEL
2) U CHANNEL OR GIRT SUPPORT
3) MINERAL WOOL INSULATION
4) GIRT STRUCTURAL SUPPORT
5) CERAMIC FIBRE STRIP
6) 24ga (0.61mm) LINER PANEL

2-HOUR FIRE-RESISTANCE RATING - ULC W611

Fire side at either side of partition

1) 22ga (0.76mm) LINER PANEL
2) U CHANNEL OR GIRT SUPPORT
3) MINERAL WOOL INSULATION
4) GIRT STRUCTURAL SUPPORT
5) CERAMIC FIBRE STRIP
6) 22ga (0.76mm) LINER PANEL

INTERIOR PARTITION WALL

THE FIREGUARD WALL SYSTEM IS BASED ON A ULC DESIGNATED NON-LOAD BEARING FIRE RATED WALL SYSTEM DESIGNED WITH THE STEEL CLADDING AND ENCLOSED MINERAL WOOL INSULATION TO PROVIDE 1- OR 2- HOUR FIRE RATED INTERIOR PARTITION WALL. Test based on CAN/ULC-S101-14-REV3 Standard Fire Endurance Tests for Building Construction Material.

ONE-HOUR FIRE RATED WALL ASSEMBLY (MEETS ULC DESIGN NO. W610)

* 24 GAUGE (0.61mm) MINIMUM LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.
* GIRT STRUCTURAL SUPPORT MINIMUM 18ga (1.22mm) NOMINAL THICKNESS.
* GIRT SPACING OF 48" (1220mm) TO MATCH MINERAL WOOL BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C.
* CERAMIC FIBRE STRIP INSTALLED TO ENVELOP THE TOP SURFACE AND BOTH OUTSIDE FACES (FLANGES) OF ALL LINER SUPPORT FRAMING.
* 24 GAUGE (0.61mm) MINIMUM LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.

TWO-HOUR FIRE RATED WALL ASSEMBLY (MEETS ULC DESIGN NO. W611)

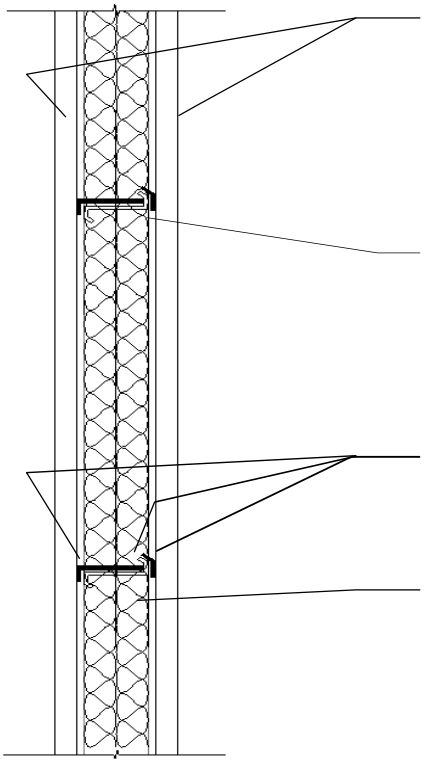
* 22 GAUGE (0.76mm) MINIMUM LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.
* GIRT STRUCTURAL SUPPORT MINIMUM 18ga (1.22mm) NOMINAL THICKNESS.
* GIRT SPACING OF 48" (1220mm) TO MATCH MINERAL WOOL BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C.
* CERAMIC FIBRE STRIP INSTALLED TO ENVELOP THE TOP SURFACE AND BOTH OUTSIDE FACES (FLANGES) OF ALL LINER SUPPORT FRAMING.
* 22 GAUGE (0.76mm) MINIMUM LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.

NOTES:

- See UL Product IQ BXUVC for other assemblies, including Design No. W605 1-h & W606 2-h for exterior walls, Design No. W447 for 1-h & 2-h Interior Drywall Partitions

FIREGUARD INTERNAL PARTITION WALL SYSTEM

ONE-HOUR FIRE RATED PARTITION WALL ASSEMBLY (MEETS ULC DESIGN NO. W610)



LINER PANEL: PREPAINTED SHEET STEEL PANELS TO VARIOUS PROFILES AND WIDTHS. PANELS MINIMUM 24ga (0.61mm), FASTENED TO GIRTS BY 1 1/2" (38mm) LONG SELF-DRILL TEK SCREWS SPACED MAXIMUM 12" (305mm) O.C. SIDE LAP JOINTS SEALED WITH 1/8" x 1/2" (3 x 13mm) FIELD APPLIED TAPE SEALER AND SECURED WITH 3/4" (19mm) LONG STITCH SCREWS 12" (305mm) O.C. ALL PERIMETER ENDS & SPLICES TO BE SEALED WITH 1/8" x 1/2" (3 x 12mm) FIELD APPLIED TAPE SEALER & PROFILED FOAM CLOSURES TO FORM AIR BARRIER.

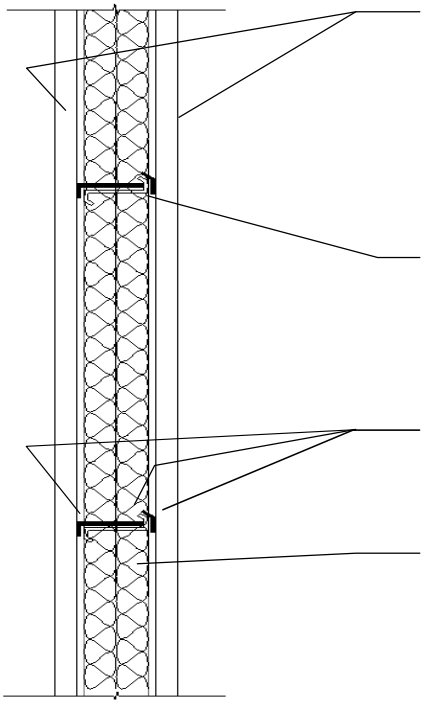
GIRT: MINIMUM 18ga (1.22mm) NOMINAL THICKNESS. MINIMUM 6" (152mm) DEEP STEEL GIRT WITH 1 1/2" (38mm) MINIMUM FLANGES, 48" (1220mm) O.C TO MATCH INSULATION BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C. (GIRT MAY BE 8" (203mm), 10" (254mm) OR 12" (305mm) DEEP DEPENDING ON BAY SPACING)*.

CERAMIC FIBRE STRIP: 128kg/m³ DENSITY, 1/2" (13mm) THICK STRIPS, ATTACHED TO GIRT WITH #10 FASTENERS WITH 1 1/2" (38mm) WASHERS OR STICK PINS, SPACED 9 3/4" (250mm) O.C (BY OTHERS) REQUIRED TO BE INSTALLED TO ENVELOP THE TOP SURFACE AND BOTH FACES (FLANGES) OF ALL LINER SUPPORT FRAMING.

MINERAL WOOL BATTS: TWO LAYERS OF 96kg/m³ NORMAL DENSITY MINERAL WOOL BATTS PROCESSED FROM ROCK AND SLAG, AVAILABLE IN 3" (76mm) THICK SHEETS; 24" x 48" (610mm x 1220mm) OR 32" x 48" (813mm x 1220mm) (BY OTHERS). INSTALL LAYERS WITH VERTICAL AND HORIZONTAL JOINTS STAGGERED AND OVERLAPPED 12" (305mm). INSULATION TO COMPLETELY FILL CAVITY.

*OVERALL WALL THICKNESS AND SUPPORT FRAMING MAY BE INCREASED PROVIDED THE MINERAL WOOL INSULATION COMPLETELY FILLS THE WALL CAVITY AND MATCHES THE SUPPORT SIZE.

TWO-HOUR FIRE RATED PARTITION WALL ASSEMBLY (MEETS ULC DESIGN NO. W611)



LINER PANEL: PREPAINTED SHEET STEEL PANELS TO VARIOUS PROFILES AND WIDTHS. PANELS MINIMUM 22ga (0.76mm), FASTENED TO GIRTS BY 1 1/2" (38mm) LONG SELF-DRILL TEK SCREWS SPACED MAXIMUM 12" (305mm) O.C. SIDE LAP JOINTS SEALED WITH 1/8" x 1/2" (3 x 13mm) FIELD APPLIED TAPE SEALER AND SECURED WITH 3/4" (19mm) LONG STITCH SCREWS 12" (305mm) O.C. ALL PERIMETER ENDS & SPLICES TO BE SEALED WITH 1/8" x 1/2" (3 x 12mm) FIELD APPLIED TAPE SEALER & PROFILED FOAM CLOSURES TO FORM AIR BARRIER.

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MINERAL WOOL BATTS: TWO LAYERS OF 72kg/m³ NORMAL DENSITY MINERAL WOOL BATTS PROCESSED FROM ROCK AND SLAG, AVAILABLE IN 4" (102mm) THICK SHEETS 24" x 48" (610mm x 1220mm) OR 32" x 48" (813mm x 1220mm) (BY OTHERS). INSTALL LAYERS WITH VERTICAL AND HORIZONTAL JOINTS STAGGERED AND OVERLAPPED 12" (305mm). INSULATION TO COMPLETELY FILL CAVITY.

*OVERALL WALL THICKNESS AND SUPPORT FRAMING MAY BE INCREASED PROVIDED THE MINERAL WOOL INSULATION COMPLETELY FILLS THE WALL CAVITY AND MATCHES THE SUPPORT SIZE.