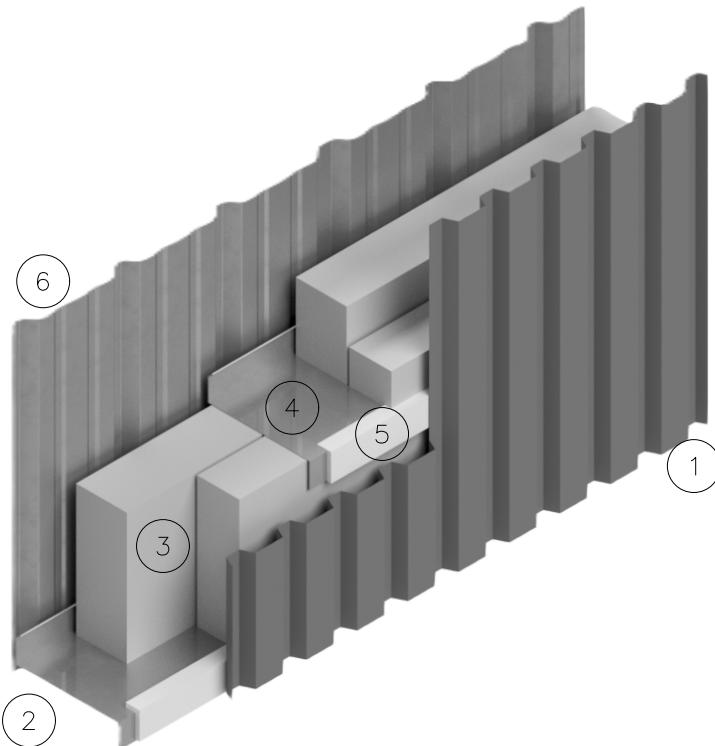


## FIREGUARD WALL SYSTEM



### 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)

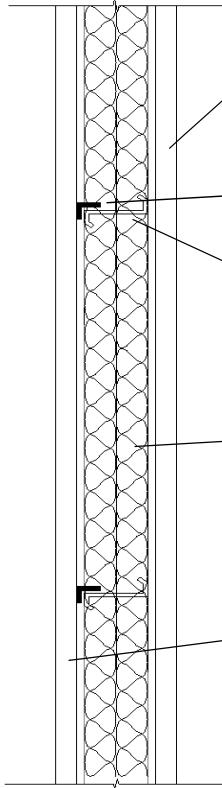
- \* 24 GAUGE (0.61mm) MINIMUM EXTERIOR WALL PANEL C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.
- \* GIRT STRUCTURAL SUPPORT MINIMUM 18ga (1.22mm) NOMINAL THICKNESS.
- \* GIRT SPACING OF 48" (1220mm) TO MATCH MINERAL WOOL BATT SIZE OR TO A MAXIMUM OF 60" (1524mm) O.C.
- \* 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/m<sup>3</sup> 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.

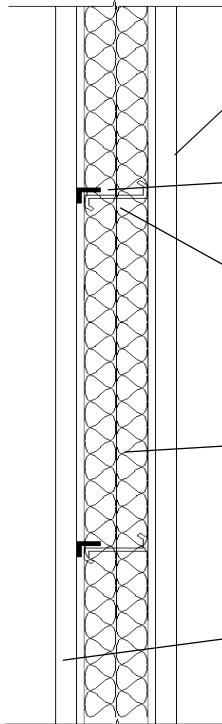
**GIRT:** MINIMUM 18ga (1.22mm) NOMINAL THICKNESS. MINIMUM 6" (152mm) DEEP STEEL GIRT WITH 1 1/2" (38mm) MINIMUM FLANGES, 48" (1220mm) O.C TO MATCH INSULATION BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C. (GIRT MAY BE 8" (203mm), 10" (254mm) OR 12" (305mm) DEEP DEPENDING ON BAY SPACING)\*.

**MINERAL WOOL BATT:** TWO LAYERS OF 96kg/m<sup>3</sup> NORMAL DENSITY MINERAL WOOL BATT 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/m<sup>3</sup> 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.

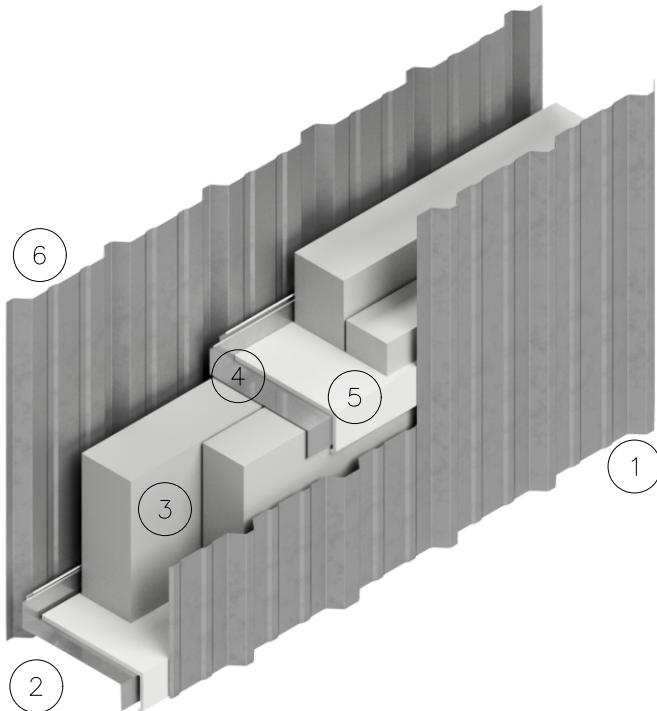
**GIRT:** MINIMUM 18ga (1.22mm) NOMINAL THICKNESS. MINIMUM 8" (203mm) DEEP STEEL GIRT WITH 1 3/4" (45mm) MINIMUM FLANGES, 48" (1220mm) ON CENTER TO MATCH INSULATION BATT SIZE OR TO A MAXIMUM OF 60" (1525mm) O.C. (GIRT MAY BE 10" (254mm) OR 12" (305mm) DEEP DEPENDING ON BAY SPACING)\*.

**MINERAL WOOL BATT:** TWO LAYERS OF 72kg/m<sup>3</sup> 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)

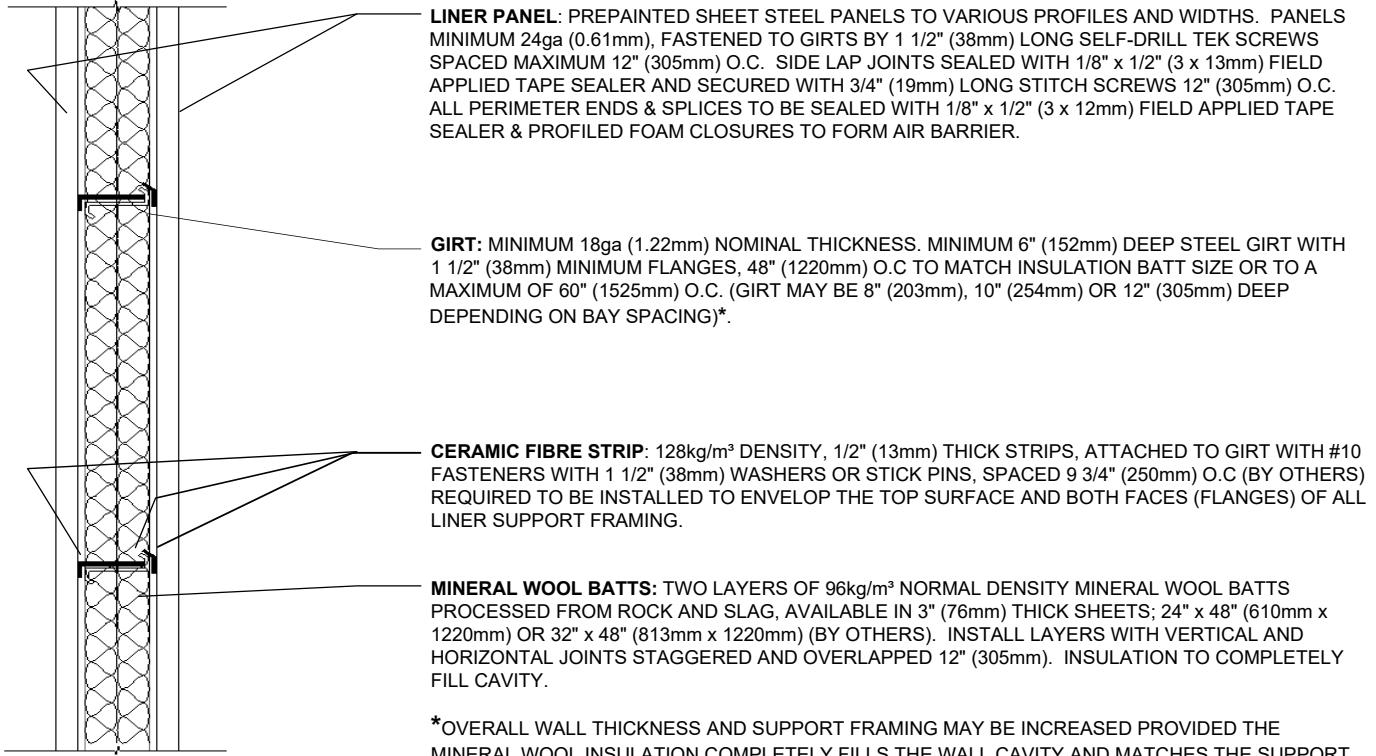
- \* 22 GAUGE (0.76mm) MINIMUM LINER PANEL WITH MASTIC SEALER TAPE ON SEAM LINES AND ENDS, C/W TEK SCREWS AT 12" (305mm) O.C. AND STITCH SCREWS AT 12" (305mm) O.C.
- \* GIRT STRUCTURAL SUPPORT MINIMUM 18ga (1.22mm) NOMINAL THICKNESS.
- \* GIRT SPACING OF 48" (1220mm) TO MATCH MINERAL WOOL BATT SIZE OR 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)



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

