

## **FIREGUARD WALL SYSTEM**



### **LEGEND - NON BEARING WALL**

### **1 HOUR FIRE-RESISTANCE RATING - ULC W605**

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

- 1) 26ga (0.46mm) Exterior Cladding
- 2) U Channel
- 3) Mineral Wool Insulation
- 4) 18ga (1.22mm) 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
- 3) Mineral Wool Insulation
- 4) 18ga (1.22mm) 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 enclosing a mineral wool insulation that provides a 1 or 2 hour fire rated wall. Testing is based on CAN/ULC-S101 Standard Fire Endurance Tests of Building Construction Material.

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

- \* 26ga (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 wall batt size or to a maximum of 60" (1524mm) O.C.
- \* 1/2" (13mm) Ceramic fibre strip located on outside girt face (flange).
- \* 24ga (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)

- \* 24ga (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) Ceramic fibre strip located on outside girt face (flange).
- \* 24ga (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 (FEO) = 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 MH Building Envelope Thermal Bridging Guide, for Zones based on NECB & CSSBI-B20-15 Thermal Transmittance of Insulated Sheet Steel Wall and Roof Assemblies
- See UL Product IQ BXUVC for other assemblies, including: bearing exterior walls; Design No. U418 & U425 and interior partitions; Design No. W610 1h & W611 2h







## FIREGUARD WALL SYSTEM

### **ONE-HOUR FIRE RATED WALL ASSEMBLY** (Meets ULC Design No. W605)



**STEEL LINER:** Panels fabricated from minimum 24ga (0.61mm) thick sheet, fastened to girts by 1" (25mm) long (use 1 1/2" (38mm) long at closure locations) self-drill TEK screws spaced maximum 12" (305mm) on centre. 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) on centre. Ends and splices to be sealed with 1/8" x 1/2" (3x13mm) field applied tape sealer 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 stick pins spaced 9 3/4" (250mm) on centre (by others) required on outside face (flange) of all girts and perimeter of framed openings.

**GIRT:** Minimum 18ga (1.22mm) nominal thickness. Minimum 6" (152mm) deep steel girt with 1 1/2" (38mm) minimum flanges, 48" (1220mm) on centre to match insulation batt size or to a maximum of 60" (1525mm) on centre. *Girt may be 8" (203mm), 10" (254mm) or 12" (305mm) deep depending on bay spacing.* 

**MINERAL WOOL BATTS:** 96kg/m<sup>3</sup> normal density, processed from rock and slag, supplied in 3" (76mm) thick sheets 24" x 48" (610mm x 1220mm) (by others). Layers installed with vertical and horizontal joints staggered to fill cavity.

**EXTERIOR CLADDING:** Corrugated pre-painted sheet steel panels to various profiles and widths. Panels minimum 26ga (0.46mm) thick, fastened to girts by 1" (25mm) long (use 1 1/2" (38mm) long at closure locations) self-drilling TEK screws maximum 12" (305mm) on centre. Lap joints of adjacent panels fastened by 3/4" (19mm) long stitch screws 12" (305mm) on centre.

### TWO-HOUR FIRE RATED WALL ASSEMBLY (Meets ULC Design No. W606)



**STEEL LINER:** Panels fabricated from minimum 24ga (0.61mm) thick sheet, fastened to girts by 1" (25mm) long (use 1 1/2" (38mm) long at closure locations) self-drill TEK screws spaced maximum 12" (305mm) on centre. 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) on centre. Ends and splices to be sealed with 1/8" x 1/2" (3x13mm) field applied tape sealer 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 stick pins spaced 9 3/4" (250mm) on centre (by others) required on outside face (flange) of all girts and perimeter of framed openings.

**GIRT:** Minimum 18ga (1.22mm) nominal thickness. Minimum 8" (203mm) deep steel girt with 1 3/4" (45mm) minimum flanges, 48" (1220mm) on centre to match insulation batt size or to a maximum of 60" (1525mm) on centre. *Girt may be 10" (254mm) or 12" (305mm) deep depending on bay spacing.* 

**MINERAL WOOL BATTS:** 72kg/m<sup>3</sup> normal density, processed from rock and slag, supplied in 4" (102mm) thick sheets 24" x 48" (610mm x 1220mm) (by others). Layers installed with vertical and horizontal joints staggered to fill cavity.

**EXTERIOR CLADDING:** Corrugated pre-painted sheet steel panels to various profiles and widths. Panels minimum 24ga (0.61mm) thick, fastened to girts by 1" (25mm) long (use 1 1/2" (38mm) long at closure locations) self-drilling TEK screws maximum 12" (305mm) on centre. Lap joints of adjacent panels fastened by 3/4" (19mm) long stitch screws 12" (305mm) on centre.







## FIREGUARD INTERNAL PARTITION WALL SYSTEM



### **LEGEND - NON BEARING INTERIOR PARTITION WALL**

#### **1 HOUR FIRE-RESISTANCE RATING - ULC W610**

- Fire side at either side of partition
- 1) 24ga (0.61mm) Exterior Cladding
- 2) U Channel
- 3) Mineral Wool Insulation
- 4) 18ga (1.22mmm) 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) Exterior Cladding

2) U Channel

- 3) Mineral Wool Insulation
- 4) 18ga (1.22mm) Girt Structural Support
- 5) Ceramic Fibre Strip
- 6) 22ga (0.76mm) Liner Panel

The Fireguard Wall System is based on a ULC designated non-load bearing fire rated wall system designed with the steel cladding enclosing a mineral wool insulation that provides a 1 or 2 hour fire rated wall. Testing is based on CAN/ULC-S101 Standard Fire Endurance Tests of Building Construction Material.

### ONE-HOUR FIRE RATED PARTITION WALL ASSEMBLY (Meets ULC Design NO. W610)

\* 24ga (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 wall batt size or to a maximum of 60" (1525mm) O.C.
- \* Ceramic fibre strip installed to envelop the top surface and both girt faces (flanges) of the girt.

\* 24ga (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 PARTITION WALL ASSEMBLY (Meets ULC Design NO. W611)

\* 22ga (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 girt faces (flanges) of the girt.

\* 22ga (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 1h & W606 2h for exterior walls, Design No. W447 for 1h & 2h Interior Drywall Partitions







# FIREGUARD INTERNAL PARTITION WALL SYSTEM

## **ONE-HOUR FIRE RATED PARTITION WALL ASSEMBLY** (Meets ULC Design No. W610)



**LINER PANEL:** Corrugated pre-painted sheet steel panels to various profiles and widths. Panels minimum 24ga (0.61mm), fastened to girts by 1" (25mm) long (use 1 1/2" (38mm) long at closure locations) self-drill TEK screws spaced maximum 12" (305mm) on centre. 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) on centre. Ends and splices to be sealed with 1/8" x 1/2" (3x12mm) field applied tape sealer 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) on centre to match insulation batt size or to a maximum of 60" (1525mm) on centre. *Girt may be 8" (203mm), 10" (254mm) or 12" (305mm) deep depending on bay spacing.* 

**CERAMIC FIBRE STRIP:** 128kg/m<sup>3</sup> density, 1/2" (13mm) thick strips, attached to girt with stick pins spaced 9 3/4" (250mm) on centre (by others) required to be installed to envelop the top surface and on both faces (flanges) of all girts and perimeter of framed openings.

**MINERAL WOOL BATTS:** 96kg/m<sup>3</sup> normal density, processed from rock and slag, supplied in 3" (76mm) thick sheets 24" x 48" (610mm x 1220mm) (by others). Layers installed with vertical and horizontal joints staggered to fill cavity.

### TWO-HOUR FIRE RATED PARTITION WALL ASSEMBLY (Meets ULC Design No. W611)



**LINER PANEL:** Corrugated pre-painted sheet steel panels to various profiles and widths. Panels minimum 22ga (0.76mm), fastened to girts by 1" (25mm) long (use 1 1/2" (38mm) long at closure locations) self-drill TEK screws spaced maximum 12" (305mm) on centre. 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) on centre. Ends and splices to be sealed with 1/8" x 1/2" (3x12mm) field applied tape sealer to form air barrier.

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