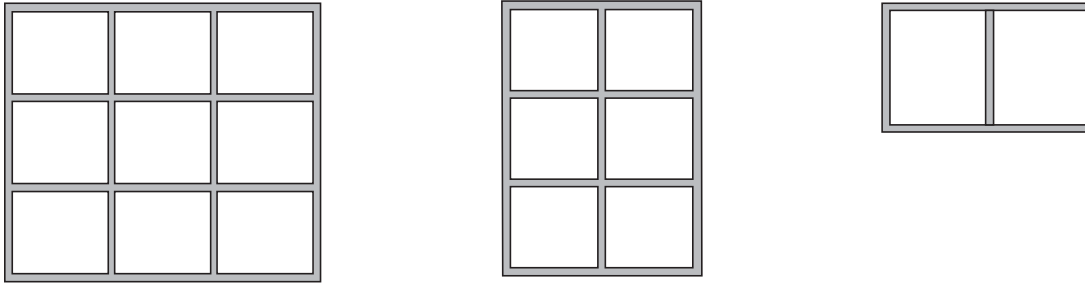


WINDOW FRAMES

Typical Elevations



FIRE RATED WINDOW FRAMES:

The fire window (borrowed light) frames covered in this section, have been tested in accordance with NFPA 257, and UL9 and listed by either Underwriters Laboratories (UL), Warnock Hersey (IT/WHI) and FM Global (FM). The ratings and sizes available are shown on the following pages.

Fire window frames are commonly referred to as Labeled Borrowed Light Frames, and can be installed in labeled masonry, wood and steel stud wall constructions. They are available in both single and multiple lights and in the following applications:

- Sitting on the floor – Frame is located on the floor and anchored to both the floor and adjacent wall structures
- Above the floor – Frame is located above the floor line and is anchored into the surrounding wall structure.

The overall size of the fire window will vary with the type of wall construction it is installed in, and the location of the window in the wall. Generally, fire windows that sit on the floor can be of a larger size than those located above the floor and in the wall.

APPROVED FRAME SERIES:

Frames covered in this section are F, DW and MU-Series. Regardless of the frame series being used, all frames must be installed into fire rated walls.

SIZE LIMITATIONS:

F and MU-Series Fire Window frames with multiple lights must be shipped as welded units. Single glass pane F, MU and DW-Series lights can be supplied KD (knock-down). Some frames may be field spliced. For splicing details, refer to the Elevation Section of this manual. Maximum width, height and ratings shown on the following pages

Width and height dimensions as shown in this manual can not be reversed.

LISTING INFORMATION COVERED:

All listings covered in this section are for reference and assistance in developing overall parameters of approvals. Several variables such as wall construction and application will affect the fire ratings. Individual manufacturer's listings will take precedence.

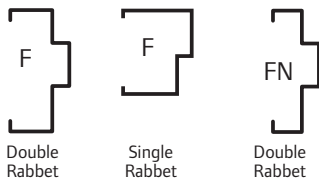
INSTALLATION:

Installation of all Steelcraft framing systems shall conform to the published Steelcraft installation instructions, ANSI/SDI A250.11 and HMMA 840.

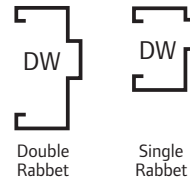
All fire rated doors and frames must be installed in accordance with NFPA Pamphlet 80, and/or the local AHJ.

All listings shown in this section conform to the requirements of NFPA 257, and UL9.

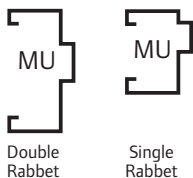
F-Series Frame Construction



DW Series Frame Construction



MU-Series Frame Construction



MASONRY WALLS - FIRE WINDOW LOCATED ON OR ABOVE THE FLOOR

Maximum Rating	Wall Application	Frame Information			Listings		
		Series	Jamb Depth		Maximum Overall Frame Width & Height		
			Min.	Max.	UL	ITS/WHI	FM
1-1/2 Hr (90 min) Max	Masonry Wall	F16, F14	3"	14"	13'6" x 12'0"	13'6" x 12'0"	N/A
	Masonry Wall	MU16, MU14	3-1/4"	14"	13'6" x 12'0"	13'6" x 12'0"	N/A

NOTES:

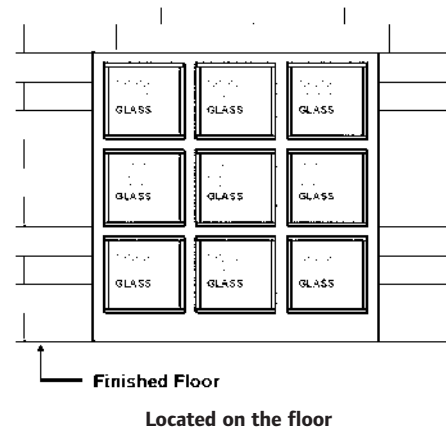
1. All frames must be shipped as welded units, except single four sided frames with one light opening the maximum size depends on the glazing being used.
2. Glazing requirements:
 - All glass must be listed glazing material.
 - Glazing stop/bead requirements:
 - a. Stop width minimum 7/16" or as required by glazing manufacturer.
 - b. Stop height minimum 5/8" or as required by glazing manufacturer.
 - c. Glazing bead minimum 18 gage, or as required by glazing manufacturer.
3. Special profile may be necessary due to special thickness of glazing.
4. Frame profile variations:
 - Perimeter (Head and Jamb) frame.
 - a. Minimum face 1".
 - b. Maximum face 4".
 - Interior dividing members .
 - a. Minimum face 1".
 - b. Maximum face 4-1/2".
 - c. Horizontal maximum 8".
 - Sill section.
 - a. Minimum face 2".
 - b. Maximum face 16-1/8".

NOTE: The use and installation of fire window frames with 1-1/2 hour (90 minute) ratings are subject to the approval of the local AHJ. These assemblies are tested and listed in accordance with UL9 and NFPA 257. Fire-protection-rated glazing materials must be installed in these assemblies.

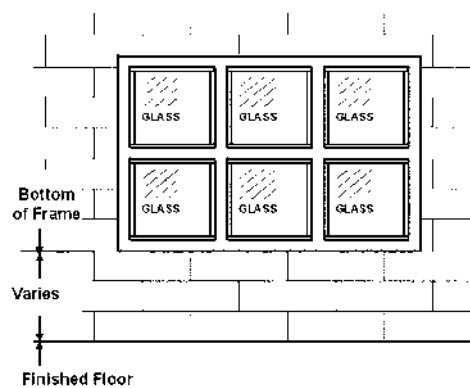
These assemblies are not tested in accordance with ASTM E119 or UL 263 (Fire Tests of Building Construction and Materials) and use of Fire-resistance-rated glazing materials will not make the frame compliant with ASTM E119 or UL 263.

Fire Window assemblies are tested and listed for fire protection in accordance with UL9, and NFPA 257. Where fire protection ratings are required, fire protection rated glazing shall be installed. The installation of fire resistance rated glazing does not qualify these assemblies for compliance with ASTM E119 or UL 263. The use and installation of transom sidelite frames are subject to approval of the AHJ.

Typical Elevation



Located on the floor



Located above finished floor

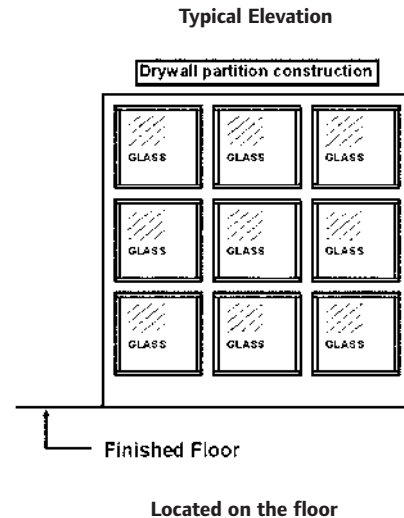
Details are subject to change without prior notice.

STUD WALLS – FIRE WINDOW LOCATED ON THE FLOOR

Maximum Rating	Wall Application	Frame Information			Listings		
		Series	Jamb Depth		Maximum Overall Frame Width & Height		
			Min.	Max.	UL	ITS/WHI	FM
1-1/2 Hr (90 min) Max	Stud	F16, F14	3-3/4"	14"	13'2" x 11'7"	13'2" x 11'7"	N/A
	Stud	MU16, MU14	3-3/4"	14"	13'2" x 11'7"	13'2" x 11'7"	N/A

NOTES:

1. All frames must be shipped as welded units, except single four sided frames with one light opening the maximum size depends on the glazing being used.
2. Glazing requirements:
 - All glass must be listed glazing material.
 - Glazing stop/bead requirements:
 - a. Stop width minimum 7/16" or as required by glazing manufacturer.
 - b. Stop height minimum 5/8" or as required by glazing manufacturer.
 - c. Glazing bead minimum 18 gage, or as required by glazing manufacturer..
3. Special profile may be necessary due to special thickness of glazing.
4. Frame profile variations:
 - Perimeter (Head and Jambs) frame
 - a. Minimum face 1-1/4".
 - b. Maximum face 4".
 - Interior dividing members
 - a. Minimum face 1"
 - b. Maximum face 4-1/2"
 - c. Horizontal maximum 8"
 - Sill section
 - a. Minimum face 2".
 - b. Maximum face 18".



NOTE: The use and installation of fire window frames with 1-1/2 hour (90 minute) ratings are subject to the approval of the local AHJ. These assemblies are tested and listed in accordance with UL9, and NFPA 257. Fire-protection-rated glazing materials must be installed in these assemblies.

These assemblies are not tested in accordance with ASTM E119 or UL 263 (Fire Tests of Building Construction and Materials) and use of Fire-resistance-rated glazing materials will not make the frame compliant with ASTM E119 or UL 263.

Fire Window assemblies are tested and listed for fire protection in accordance with UL9, and NFPA 257. Where fire protection ratings are required, fire protection rated glazing shall be installed. The installation of fire resistance rated glazing does not qualify these assemblies for compliance with ASTM E119 or UL 263. The use and installation of transom sidelite frames are subject to approval of the AHJ.

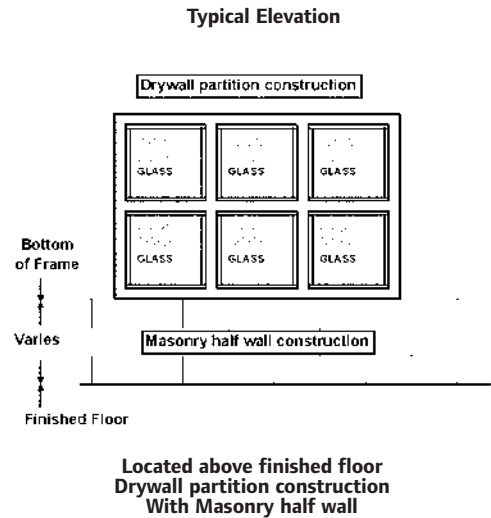
Details are subject to change without prior notice.

MASONRY SILL WITH STUD WALLS – FIRE WINDOW LOCATED OFF THE FLOOR

Maximum Rating	Wall Application	Frame Information			Listings		
		Series	Jamb Depth		Maximum Overall Frame Width & Height		
			Min.	Max.	UL	ITS/WHI	FM
1-1/2 Hr (90 min) Max	Stud	F16, F14	4-1/2"	14"	13'2" x 11'7"	13'2" x 11'7"	N/A
	Stud	MU16, MU14	4-1/2"	14"	13'2" x 11'7"	13'2" x 11'7"	N/A

NOTES:

- All frames must be shipped as welded units, except for single four sided frames with one light opening the maximum size depends on the glazing being used.
 - All glass must be listed glazing material.
 - Glazing stop/bead requirements:
 - Stop width minimum 7/16" or as required by glazing manufacturer.
 - Stop height minimum 5/8" or as required by glazing manufacturer.
 - Glazing bead minimum 18 gage, or as required by glazing manufacturer.
- Special profile may be necessary due to special thickness of glazing.
- Frame profile variations:
 - Perimeter (Head and Jambs) frame
 - Minimum face 1 1/4".
 - Maximum face 4".
 - Interior dividing members
 - Minimum face 1"
 - Maximum face 4-1/2"
 - Horizontal maximum 8"
 - Sill section
 - Minimum face 2".
 - Maximum face 16-1/8".



NOTE: The use and installation of fire window frames with 1-1/2 hour (90 minute) ratings are subject to the approval of the local AHJ. These assemblies are tested and listed in accordance with UL9, and NFPA 257. Fire-protection-rated glazing materials must be installed in these assemblies.

These assemblies are not tested in accordance with ASTM E119 or UL 263 (Fire Tests of Building Construction and Materials) and use of Fire-resistance-rated glazing materials will not make the frame compliant with ASTM E119 or UL 263.

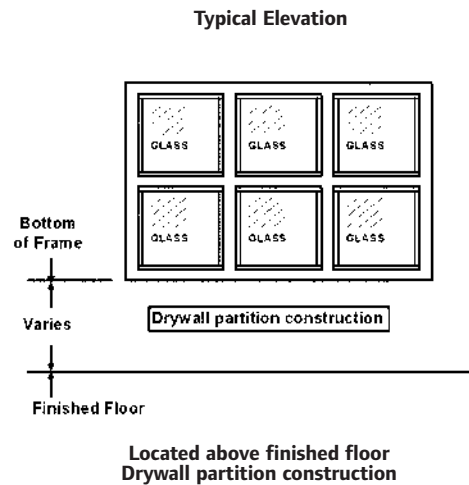
Fire Window assemblies are tested and listed for fire protection in accordance with UL9, and NFPA 257. Where fire protection ratings are required, fire protection rated glazing shall be installed. The installation of fire resistance rated glazing does not qualify these assemblies for compliance with ASTM E119 or UL 263. The use and installation of transom sidelite frames are subject to approval of the AHJ.

STUD WALLS – FIRE WINDOW LOCATED ABOVE THE FLOOR

Maximum Rating	Wall Application	Frame Information			Listings		
		Series	Jamb Depth		Maximum Overall Frame Width & Height		
			Min.	Max.	UL	ITS/WHI	FM
1-1/2 Hr (90 min) Max	Stud	F16, F14	3-3/4"	14"	12'10" x 11'4"	12'10" x 11'4"	N/A
	Stud	MU16, MU14	3-3/4"	14"	12'10" x 11'4"	12'10" x 11'4"	N/A

NOTES:

1. All frames must be shipped as welded units, except for single four sided frames with one light Opening the maximum size depends on the glazing being used.
2. Glazing requirements:
 - All glass must be listed glazing material.
 - Glazing stop/bead requirements:
 - a. Stop width minimum 7/16" or as required by glazing manufacturer.
 - b. Stop height minimum 5/8" or as required by glazing manufacturer.
 - c. Glazing bead minimum 18 gage, or as required by glazing manufacturer.
3. Special profile may be necessary due to special thickness of glazing.
4. Frame profile variations:
 - Perimeter (Head and Jamb) frame
 - a. Minimum face 1-1/4" steel or wood stud walls.
 - b. Maximum face 4" steel or wood stud walls.
 - Interior dividing members
 - a. Minimum face 1"
 - b. Maximum face 4-1/2"
 - c. Horizontal maximum 8"
 - Sill section
 - a. Minimum face 1 1/4".
 - d. Maximum face 4".



NOTE: The use and installation of fire window frames with 1-1/2 hour (90 minute) ratings are subject to the approval of the local AHJ. These assemblies are tested and listed in accordance with UL9, and NFPA 257. Fire-protection-rated glazing materials must be installed in these assemblies.

These assemblies are not tested in accordance with ASTM E119 or UL 263 (Fire Tests of Building Construction and Materials) and use of Fire-resistance-rated glazing materials will not make the frame compliant with ASTM E119 or UL 263.

Fire Window assemblies are tested and listed for fire protection in accordance with UL9, and NFPA 257. Where fire protection ratings are required, fire protection rated glazing shall be installed. The installation of fire resistance rated glazing does not qualify these assemblies for compliance with ASTM E119 or UL 263. The use and installation of transom sidelite frames are subject to approval of the AHJ.

STUD WALLS – FIRE WINDOW LOCATED ABOVE THE FLOOR DW SERIES

Maximum Rating	Wall Application	Frame Information			Listings UL, ITS/WHI and FM			
		Series	Jamb Depth		Maximum Rabbet to Rabbet Dimension			FM
			Min.	Max.	Width	Height	Area	
60 minutes	Stud	DW16, DW14	4-1/2"	14"	78-1/4"	78-1/4"	2721 sq. inches	N/A
45 minutes	Stud	DW16, DW14	3-3/4"	14"	55-1/4"	55-1/4"	1296 sq. inches	N/A
20 minutes without hose	Stud	DW16, DW14	3-3/4"	14"	72"	72"	3307 sq. inches	N/A

NOTES:

1. All frames with one light opening (without mullion dividers) are with KD corner connections.
2. Glazing requirements:
 - 60 Min. requires special listed glazing material. (see glazing charts)
 - Glazing stop/bead requirements:
 - a. Stop width minimum 7/16" or as required by glazing manufacturer.
 - b. Stop height minimum 5/8" or as required by glazing manufacturer.
 - c. Glazing bead minimum 18 gage, or as required by glazing manufacturer.
 - Frame profile variations:
 - Perimeter (Head and Jambs) frame
 - a. Perimeter frame Minimum face 2"
 - b. Perimeter frame Maximum face 2"

Typical Elevation

