

.SECTION 08810 - FIRE RATED GLASS AND FRAMING SYSTEMS QUICK-FRAME 60 AND 120 MINUTE
TRANSPARENT NON-LOAD BEARING WALL SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

- A.** Section includes:
 - 1. Fire rated glazing and framing systems for installation as [sidelights] [borrowed lights] [windows] [transoms] [walls]

1.2 REFERENCES

- A.** American Society for Testing and Materials (ASTM):
 - 1. ASTM E119: Methods for Fire Tests of Building Construction and Materials.
- B.** National Fire Protection Association (NFPA):
 - 1. NFPA 251: Fire Tests of Building Construction & Materials
- C.** Underwriters Laboratories, Inc. (UL):
 - 1. UL 263: Fire tests of Building Construction and Materials
- D.** American National Standards Institute (ANSI):
 - 1. ANSI Z97.1: Standard for Safety Glazing Materials Used in Buildings
- E.** Consumer Product Safety Commission (CPSC):
 - 1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials

1.3 SYSTEM DESCRIPTION

- A.** Steel angle and gypsum board (transparent wall) system with option finish options to be used as a non-load bearing wall system.
- B.** Performance Requirements
 - 1. Duration of Fire Rating – Window/Walls: Capable of providing a fire rating for [60 minutes] [120 minutes]
 - 2. Fire Resistive Rating: Glaze applications in occupancy or area separation walls, stairwells and corridors where glazing may exceed 25% of the wall area, or as otherwise specified with a fire resistive assembly meeting the radiant heat requirements of ASTM E119. Per ASTM E119, NFPA-251 and UL 263 requirements temperature on the non-fire side of glazing and framing at conclusion of fire test exposure shall be below 250°F above ambient room temperature.

1.4 SUBMITTALS

- A.** Submittal drawings shall be prepared by the architect to specification and details provided. Obtain Architect's approval before fabrication.
- B.** Samples: For following products:

1. Two 8-inch by 10-inch samples for glass.
- C. Glazing Schedule: Use same designations indicated on Drawings for glazed openings in preparing a schedule listing glass types and thicknesses for each size opening and location.
- D. Technical Information: Submit latest edition of manufacturer's product data providing product descriptions, technical data and installation instructions.
- E. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for this Project; whose work has resulted in glass installations with a record of successful in-service performance; and who employs glass installers for this Project who are certified under the National Glass Association Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).
- B. Installer Qualifications: An experienced installer who has completed glazing similar in material, design, and extent to that indicated for Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Source Limitations for Glazing Accessories: Obtain glazing accessories from one source for each product and installation method indicated.
- D. Certification: Signed by manufacturers of glass and glazing products certifying that products furnished comply with requirements.
 1. [Wall assemblies shall be tested to the acceptance criteria of ASTM E119, NFPA 251, UL 263 Standard Test Methods for Fire Tests of Building Construction and Materials.]
- E. Listings and Labels - Fire Rated Assemblies: Under current follow-up service by an approved independent agency maintaining a current listing or certification. Regulatory Requirements: Comply with provisions of the following:

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store and handle under provisions specified by manufacturer. For details on storage and product handling, please contact AGC InterEdge Technologies and request information on storage and product handling.
- B. Deliver materials to specified destination in manufacturer or distributor's packaging undamaged, complete with installation instructions.
- C. Store off ground, under cover, protected from weather and construction activities.

1.7 WARRANTY

- A. Provide the Pyrobel supplier's limited five year warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS - FIRE [WALL ASSEMBLY

- A.** Manufacturer Glazing Material: “Pyrobel®” fire-rated glazing as manufactured by AGC Flat Glass Europe and distributed by InterEdge Technologies, an AGC company. Tele: 877-376-3343 Fax: 415-289-0326, web site www.firesafe-glass.com
- B.** Quick-Frame is built one site with readily available building materials
- C.** Substitutions: No substitutions allowed.

2.2 MATERIALS - GLASS

- A.** Fire Rated Glazing: Pyrobel 60 and Pyrobel 120 60 minute and 120 minute fire and safety rated glazing, respectively.
- B.** Properties:
 - 1. Thickness: For Interior Use: [1”, #60-25] [2-3/16”, 120-53]
 - 2. Weight: Varies with thickness (approx. 12.3 to 25 lbs.)
 - 3. Approximate Visible Transmission: Varies with thickness (approximate range 81 to 71 percent).
 - 4. Fire-rating: [One hour [Two hour]
 - 5. Impact Safety Resistance: ANSI Z97.1 and CPSC 16CFR1201 (Cat. I and II).
 - 6. STC Rating: Up to 46 dB.
- C.** Logo: Each piece of fire-rated glazing shall be labeled with a permanent logo including name of product, manufacture, testing laboratory (Warnock-Hersey), fire rating period, safety glazing standards, and date of manufacture.

2.3 MATERIALS – STEEL ANGLE FRAMING

- A.** Framing System: [60 min.] [120 min.]
 - 1. Frame: Frames shall be constructed of 20 gage steel stud and track surrounded by Type C or Type X gypsum. Min 18 gage 1’ x 1’ steel angles.
- B.** Construction
 - 1. All components of the systems shall be 4 _” minimum jamb depth (including gypsum board) with 1” high minimum stops.
 - 2. Stops: Removable glass angle stops shall be a minimum 18 gage (21 mm), and overlap by 6”
- C.** Module Wall System Grid Assembly:
 - 1. Wall system shall be made up of sills, jambs and head using 20 gauge steel studs. For horizontal mullions use two sets of steel studs and track to carry weight of glazing. For vertical mullions without horizontal mullions a single set of steel stud and track may be employed.
- D.** FABRICATION
 - 1. Obtain wall design and details before construction
 - 2. Form opening(s) with steel studs and track. Nominal 3-5/8” wide, 20 gage.
 - 3. Cover interior perimeter of opening with minimum _” Type C or X gypsum board. Cover exterior wall with gypsum board per code.
 - 4. Install glazing with steel angles using #6, 1” long TEK screws, 2” from each end and 12” OC.

5. If elected, install two layers of “ Type C or X gypsum board and attach with 2-1/2” drywall screws to cover angles. Contact manufacturer for optional wood, steel and aluminum coverings for steel angles.
6. Seal perimeter of glazing with neutral cure silicone.
7. Finish as necessary.

2.4 CLEARANCES AND TOLERANCES

- A. All glazing shall meet specific tolerances of the manufacturer.

PART 3 - EXECUTION

3.1 SITE STORAGE AND PROTECTION OF MATERIALS

- A. The contractor responsible for the installation shall see that materials are properly stored on planks or blocking in a dry location. Materials shall be covered to protect them from damage but in such a manner as to permit air circulation.

3.2 INSTALLATION

- A. The contractor responsible for the installation shall perform the following:
 - B. General:
 1. Verify conditions and measurements affecting the work of the Section at site. Make sure that detrimental conditions have been corrected before proceeding with installation.
 2. Do not install defective components, including warped, bowed dented abraded and broken members and glass with damage edges Return components which require alteration to the shop for refabrication or replacement. Install components level, plumb, true to line and with uniform joints and reveals. Provide all accessories such as fasteners, sealant and concealed anchorage needed for a finished installation.
 - C. Erection Tolerance
 1. Provide benchmarks for installation within specified tolerances. Provide adjustment within the assemblies to accommodate job variations. Install this work within the assemblies to accommodate job variations. Deviation from established vertical, horizontal or designed position shall not exceed 1/8” in 12’ length of any member, or “ in an total run. Maximum offset from the true alignment between two consecutive members placed end-to-end shall not exceed 1/16”. Limit tolerance as measured with 10” straight edge to 1/16” in any direction.

3.3 GLAZING

1. Glaze the wall assemblies in accordance with the manufacturers specifications and the “Glass and Glazing” Section.

3.4 REPAIR REPLACEMENT

- A. Touch-up marred and abraded surfaces to match adjacent undamaged surfaces, as approved by the Architect. Promptly replace components damaged beyond satisfactory field repair before acceptance with approved new components at no cost to the Owner.

3.5 PROTECTION AND CLEANING

- A.** Protect glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Do not apply markers to glass surface. Remove nonpermanent labels, and clean surfaces.
- B.** Protect glass from contact with contaminating substances resulting from construction operations, including weld splatter. If, despite such protection, contaminating substances do come into contact with glass, remove them immediately as recommended by glass manufacturer.
- C.** Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in any way, including natural causes, accidents, and vandalism, during construction period.
- D.** Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended by glass manufacturer.

END OF SECTION