

SECTION 08 88 13

FIRE-RATED GLAZING AND FRAME

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Fire rated glazing and framing for 45 min rated openings.
 - 1. SuperClear® 45-HS fire protective, safety rated, clear glazing material.
 - a. Fire rated glazing as windows in fire rated frames.
 - 2. GPX Architectural Series fire protective aluminum framing
 - a. Fire rated aluminum frame for windows.

1.2 REFERENCES

- A. National Fire Protection Association (NFPA):
 - 1. NFPA 80: Fire Doors and Windows.
 - 2. NFPA 257: Fire Tests of Window Assemblies.
- B. Underwriters Laboratories, Inc. (UL):
 - 1. UL 9: Standard for Safety of Fire Tests of Window Assemblies
- C. Consumer Product Safety Commission (CPSC):
 - 1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.
- D. American National Standards Institute (ANSI):
 - 1. ANSI Z91.1: Safety Glazing Materials Used in Buildings – Safety Performance Specifications and Methods of Test.
- E. Glass Association of North America (GANA)
 - 1. GANA – Glazing Manual.
 - 2. FGMA – Sealant Manual.
- F. International Building Code 2021 / Arkansas State Fire Prevention Code 2021

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide a fire rating glazing manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.
 - 1. Fire Rating: 45 minutes with hose stream.

2. Fire protective, safety rated clear glazing tested in accordance with NFPA 80, NFPA 257, and UL 9.
3. Safety Rating: CPSC 16 CFR 1201 Category I and II, ANSI Z79.1 Class A and B and CGSB 12.1 Class A and B.
4. Maximum Sizes: Maximum clear view area for 45-minute openings when ASTM E-119/UL 263/ULC-S101 is not required is 3,880 sq. in. (96 in. width or height).
5. Testing Laboratory: Fire test shall be conducted by a nationally recognized independent testing laboratory.

B. Listings and Labels:

1. Fire rated glazing shall be under current follow-up service by a nationally recognized independent testing laboratory approved by OSHA and maintain a current listing or certification. Assemblies shall be labeled in accordance with limits of listings.
2. Provide fire-rated glazing mark of OH-45 or W-60

1.4 SUBMITTALS

A. Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedure Section.

1. Shop Drawings: Submit shop drawings showing layout, profiles and product components.
2. Samples: Submit 12 x 12 glass samples.
3. Technical Information: Submit latest edition of manufacturer's product data.

1.5 DELIVERY, STORAGE AND HANDLING

A. General: Comply with Division 1 Product Requirements Sections.

B. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.

C. Delivery: Deliver materials to specified destinations in manufacturer's or distributor's packaging undamaged, complete with installation instructions.

D. Storage and Protection: Store off ground, under cover, protected from weather and construction activities and at temperature conditions recommended by manufacturer.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual measurements for openings by field measurements before fabrication. Show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.7 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document. Manufacturer's warranty is not intended to limit other rights that the Owner may have under the Contract Documents. Warranty to begin at date of substantial completion.
1. Warranty Period: Lifetime limited warranty for monolithic versions.
 2. Framing Warranty Period: 5-year limited warranty.

PART 2 PRODUCTS

2.1 FIRE RATED GLAZING

- A. Material: SuperClear® 45-HS 45 minute fire and safety rated glazing.
- B. Manufacturer: SuperClear® 45-HS ¾" thick clear specialty fire protective glazing as manufactured and distributed by SAFTI FIRST®.
1. Contact: 100 N Hill Drive, Suite 12, Brisbane, CA 94005; Telephone 888.653.3333; email info@safti.com; Web site www.safti.com.
 2. Must be provided by a US manufacturer. Distributors of fire rated glass are not to be considered as manufacturers.
- C. Design Requirements:
1. Thickness: ¾" (19 mm).
 2. Weight: 9 lbs./sq. ft.
 3. Sound Transmission Rating: Must meet 37 STC/35 OITC in standard hollow metal frames. Glass and frame must be tested as an assembly. Glass only STC/OITC values are not acceptable.
 4. Appearance: clear, wireless and tint-free.
 5. Visual Light Transmission: Must meet 83% VLT for standard clear.
 6. Fire Rating: 45 minutes with hose stream.
 7. Impact Safety Resistance: Must meet CPSC 16 CFR 1201 Category I and II, ANSI Z91.1 Class A and B and CAN/CGSB 12.1 Class A and B.
- D. Manufacturer's Fire Rated Glazing Material:
1. Each piece of fire-rated glazing material shall be labeled with a permanent logo including name of product, manufacturer, testing laboratory, fire rating period and safety glazing standards.

2.2 MANUFACTURERS – FIRE PROTECTIVE ALUMINUM WINDOW FRAMES

- A. Manufacturer of Window Frame: GPX® Architectural Series 45 Minute Aluminum Frame by SAFTI FIRST® Fire Rated Glazing Solutions.
1. Contact: 100 N Hill Drive, Suite 12, Brisbane, CA 94005; Telephone 888.653. 3333; email info@safti.com; Web site www.safti.com
- B. Description: 45-minute full vision aluminum framing.
1. Provide with 45-minute fire rated label, factory glazed with Super Clear 45-HS.

C. Properties:

1. Aluminum: Meeting requirements of ASTM B221, 6063T5 alloy, and as otherwise required to assure compliance with dimensional tolerances and maintain color uniformity.
2. Anchorage Devices, Clips and Fasteners: Manufacturer's standard type, compatible with materials being secured.
3. Accessories: As necessary for complete system.

D. Finishes

1. Clear Anodized: AA-M12C22A21, etched, medium matte, clear anodic coating.

2.3 MATERIALS

A. Glazing Accessories: Manufacturer recommended fire rated glazing accessory as follows:

1. Glazing tape: closed cell PVC foam tape or neoprene tape.
2. Setting blocks: calcium silicate or hardwood.
3. Cleaners, primers, sealers: type recommended by manufacturer of glass and gaskets.

2.4 SOURCE QUALITY

A. Obtain fire rated glazing products from a single manufacturer.

B. Fabrication Dimensions: Fabricate to approved dimensions. The general contractor shall guarantee dimensions where practicable within required tolerances.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data including product technical bulletins and installation instructions.

3.2 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions, have been previously installed under other sections, and are acceptable for product installation in accordance with manufacturer's instructions.

3.3 INSTALLATION

A. Fire window installation shall be by a licensed contractor and in strict accordance with the approved shop drawings.

B. Comply with frame and glazing manufacturer's printed installation instructions and approved shop drawings. Do not attempt installation in areas where wall thickness exceeds tolerances of specified throat size.

- C. Install frames plumb and square, free from warp or twist, securely anchored to substrates with fasteners recommended by frame manufacturer. Maintain dimensional tolerances and alignment with adjacent work. Ensure joints are hairline tight and surfaces flush with adjacent components.

3.4 CLEANING AND PROTECTION

- A. Protect glass from contact with contaminating substances resulting from construction operations. Remove such substances by method approved by manufacturer.
- B. Wash glass on both faces not more than four days prior to date schedule for inspections intended to establish date of Substantial Completion. Wash glass by method recommended by glass manufacturer.
- C. Protect exposed portions of aluminum surfaces from damage by contaminants.
- D. Remove temporary coverings and protection of adjacent work areas.
- E. Remove construction debris from project site and legally dispose of debris.

END OF SECTION