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SPECIFICATION
SECTION 08 8810: FIRE RATED GLASS & FRAMING
SuperLite™ II-XL 90 minute and
SuperLite™ II-XL 90 minute with Starphire® Ultra-Clear Glass by PPG

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Fire rated glazing
1. SuperLite™ II-XL 90 fire resistive, safety rated glazing material for interior and exterior applications.
 2. Applications of fire rated glazing includes:
 - a. Fire rated glazing in full-vision temperature rise doors and exterior windows in fire rated frames.
- B. Related sections:
1. Section 01 3323: Shop Drawings, Product Data and Samples.
 2. Section 08 8000: Glazing.
 3. Section 08 5130: Steel Window.
 4. Section 08 1110: Steel Doors and Frames.
 5. Section 08 1400: Wood Doors and Frames.
 6. Section 08 1120: Aluminum Doors and Frames.
 7. Section 08 5110: Aluminum Windows.
 8. Section 08 1113: Hollow Metal Doors and Frames.
 9. Section 08 7000: Finish Hardware.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
1. ASTM C1629: Standard Classification for Abuse-Resistant Nondecorated Interior Gypsum Panel Products and Fiber-Reinforced Cement Panels.
 2. ASTM D4977: Standard Test Method for Granule Adhesion to Mineral Surfaced Roofing by Abrasion.
 3. ASTM E119: Methods for Fire Tests of Building Construction and Materials.
 4. ASTM E152: Methods for Fire Tests of Door Assemblies.
 5. ASTM E163: Methods for Fire Tests of Window Assemblies.
 6. ASTM E695: Standard Test Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading.
 7. ASTM E2074: Standard Test Method for Fire Tests of Door Assemblies, including Positive Pressure Testing of Side-hinged and Pivoted Swinging Door Assemblies.
 8. ASTM E2010-1: Standard Test for Positive Pressure of Fire Tests of Window Assemblies.
- B. National fire Protection Association (NFPA):

1. NFPA 80: Fire Doors and Windows.
2. NFPA 251: Fire Tests of Building Construction and Materials.
3. NFPA 252: Fire Tests of Door Assemblies.
4. NFPA 257: Fire Tests of Window Assemblies.

C. Underwrites Laboratories, Inc. (UL):

1. UL 9: Standard for Safety of Fire Tests of Window Assemblies.
2. UL 10 B: Standard for Safety of Fire Tests of Door Assemblies.
3. UL 10 C: Standard of Safety of Positive Pressure Tests of Door Assemblies.
4. UL 263: Fire Tests of Building Construction and Materials.

D. Standard Council of Canada:

1. ULC Standard CAN4-S101: Fire Tests of Building Construction and Materials.
2. ULC Standard CAN4-S104: Fire Tests of Door Assemblies.
3. ULC Standard CAN4-S106: Fire Tests of Window Assemblies.

E. Consumer Product Safety Commission (CPSC):

1. CPSC 16 CFR 1201: Safety Standard for Architectural Glazing Materials.

F. American National Standards Institute (ANSI):

1. ANSI Z97.1: Safety Glazing Materials Used in Buildings - Safety Performance Specifications and Methods of Test.

G. Glass Association of North America (GANA)

1. GANA – Glazing Manual.
2. FGMA – Sealant Manual.

H. [American Recovery and Reinvestment Act

1. Section 1605, Title XVI Buy American Provision]

I. [Insert building code used by Authority Having Jurisdiction]

1.03 SYSTEM DESCRIPTION

A. Performance Requirements: Provide a fire rated glazing manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage, or failure.

1. Fire Rating: 90 minutes with hose stream.
2. Fire resistive, safety rated glazing tested in accordance with ASTM E119, NFPA 80, NFPA 251, NFPA 252, NFPA 257, UL 9, UL 10B, UL 10C and UL 263.
3. Meets Level 3 classification for surface abrasion resistance, hard body impact resistance and soft body impact resistance per the test procedure outlined in test method ASTM C1629/C1629M.
4. Testing Laboratory: Fire tests shall be conducted by a nationally recognized independent testing laboratory.

B. Listings and Labels:

1. Fire rated glazing shall be under current follow-up services 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.

1.04 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 layouts, profiles and product components.
 2. Samples: Submit 12x12 glass samples.
 3. Technical Information: Submit latest edition of manufacturer's product data.

1.05 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 or distributor's packaging.
- D. Storage and Protection: Store off ground, under cover, protected from weather and construction activities and at temperature conditions recommended by manufacturer.

1.06 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.

1.07 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.
 1. Warranty Period: 5 years from date of shipping.

PART 2 PRODUCTS

2.01 FIRE RATED GLAZING

- A. Material: SuperLite™ II-XL 90 minute fire resistive glazing with hose stream.
- B. Manufacturer: SuperLite™ II-XL as manufactured and distributed by SAFTI *FIRST*.

1. Contact: 100 N Hill Drive, Suite 12, Brisbane, CA 94005; Telephone 888.653.3333; Fax 888.653.4444; email info@safti.com; Web site www.safti.com
2. Fire rated glass and framing must be provided by a single-source, US manufacturer. Distributors of fire rated glass and framing are not to be considered as manufacturers.

C. Design Requirements:

1. Make-up: Must be comprised of an inboard and outboard lite of [clear tempered glass] [Starphire® Ultra-Clear Low-Iron Tempered Glass by PPG] protecting a clear, fire resistive, intumescent interlayer.
2. Thickness: 1-1/2" (39 mm) standard profile. 1-1/4" thin profile available.
3. Weight: 12 lbs./sq. ft. in 1-1/2" (39 mm) standard profile.
4. Dimensions: Must meet max. clear view area of 4,876 sq. in., measuring at least 124 in. on the long side.
5. Visible Light Transmission: Must meet [0.81 with clear tempered] [0.89 with Starphire]
6. Solar Heat Gain Coefficient: Must meet 0.27 when used with SuperLite II-XL Starphire insulated with Solarban 70XL.
7. U-Factor: Must meet [0.80 standard] [0.41 when used with SuperLite II-XL clear tempered insulated with Solarban 70XL] [0.25 when used with SuperLite II-XL with Starphire insulated with Solarban 70XL].
8. NFRC Certifications in conjunction with GPX or CW Framing by SAFTI *FIRST*. Must be used as an assembly.
 - 8.1. Must meet NFRC 100 rated U-Factor of 0.34 when insulated with Solarban 60.
 - 8.2. Must meet NFRC 200 rated SHGC of 0.27 when insulated with Solarban 60.
 - 8.3. Must meet NFRC 500 rated Condensation Resistance of 55 when insulated with Solarban 60.
9. Sound Transmission Rating: Must provide a minimum of STC 44 Rating in 1-1/2" (39 mm) standard profile.
10. Appearance: Must be tint-free, optically clear fire rated glazing.
11. Fire Rating: Must be fire rated to 90 minutes with hose stream and meet ASTM E-119.
12. Impact Safety Resistance: Must meet CPSC 16 CFR 1201 Cat. I & II and ANSI Z97.1.
13. Surface Abrasion Resistance: Must meet level 3 classification per ASTM D4977.
14. Hard Body Impact Resistance: Must meet level 3 classification per ASTM C1629.
15. Soft Body Impact Resistance: Must meet level 3 classification per ASTM E695.
16. Customization: Available in insulated, energy performance, bullet-resistant, blast-resistant, hurricane-resistant, laminated, tinted, patterned, frosted, mirrored, reflective, segmented, decorative and more.

D. Manufacturer's Fire Rating 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. Glazing materials installed in Hazardous Locations, subject to human impact, shall be certified and permanently labeled as meeting applicable requirements reference in NFPA 80:
 - a. CPSC 16 CFR 1201 Cat. I & II and ANSI Z97.1.

E. Substitutions: No substitutions allowed.

2.02 MATERIALS

- A. Glazing Accessories: Manufacturer recommended fire rated glazing accessory as follows:
 - 1. Glazing with EPDM tape or other listed flame resistant gasket material and calcium silicate setting blocks.

2.03 RELATED PRODUCTS

Note: Basis of design for fire rated framing system is GPX Framing as manufactured by SAFTI
FIRST™

- A. Glazing shall be installed in an equally rated framing system.

2.04 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

3.01 MANUFACTURER'S INSTRUCTIONS

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

3.02 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.

3.03 INSTALLATION

- A. Installation shall be in strict accordance with the fire glazing material manufacturer's specifications. Field cutting or tampering is strictly prohibited.

3.04 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. Remove temporary coverings and protection of adjacent work areas.
- D. Remove construction debris from project site and legally dispose of debris.

END OF SECTION

In the interest of continuous improvement of its product line, SAFTI*FIRST*[™] reserves the right to modify its products' composition, colors, textures, sizes, and other physical and performance attributes and these guide specifications at any time. SAFTI*FIRST*[™] makes no expressed or implied warranties regarding content, errors, or omissions in the information presented. Specifications modified or rewritten not in conformance with manufacturer's standard processes, products, and procedures may void warranties and related remedies.