

Welcome to the Titan Metal Products Guide Specification System prepared as an aid to specifiers in preparing written construction documents. For specification assistance with specific product applications, please contact Titan Metal Products. To download an electronic copy, please visit [www.titanmetalproducts.com](http://www.titanmetalproducts.com).

**SPECIFICATION**  
**SECTION 081113: HOLLOW METAL DOORS AND FRAMES**  
**Titan 45 Minute Windows, Sidelites, Transoms**

**PART 1 GENERAL**

**1.01 SUMMARY**

- A. Section Includes: fire protective hollow metal framing system.
1. Titan 45 minute hollow metal framing system for fire protective windows, sidelites and transoms for interior and exterior applications.
  2. Applications of fire protective framing includes:
    - a. 45 minute fire protective windows, sidelites, borrowed lites, and transoms with fire rating requirements as specified.
- B. Related Sections:
1. Section 01 3323: Shop Drawings, Product Data and Samples.
  2. Section 08 1110: Steel Doors and Frames.
  3. Section 08 5130: Steel Windows.
  4. Section 08 8000: Glazing.

**1.02 REFERENCES**

- A. American Society for Testing and Materials (ASTM):
1. ASTM E152: Methods of Fire Tests of Door Assemblies.
  2. ASTM E163: Methods for Fire Tests of Window Assemblies.
  3. ASTM E2074: Standard Test Method for Fire Tests of Door Assemblies, including Positive Pressure Testing of Side-hinged and Pivoted Swinging Door Assemblies.
  4. 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 252: Fire Tests of Door Assemblies.
  3. NFPA 257: Fire Tests of Window Assemblies.
- C. Underwriters 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 for Safety of Positive Pressure Fire Tests of Door Assemblies.
- D. Standard Council of Canada (ULC):
1. ULC Standard CAN4-S104: Fire Tests of Door Assemblies.
  2. ULC Standard CAN4-S106: Fire Tests of Window Assemblies.
- E. Hollow Metal Manufacturers Association (HMMA):

1. HMMA 860: Guide Specifications for Hollow Metal Doors and Frames
2. HMMA 861: Guide Specifications for Commercial Hollow Metal Doors and Frames
3. HMMA 866: Guide Specifications for Stainless Steel Hollow Metal Doors and Frames

F. Consumer Product Safety Commission (CPSC):

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

G. American National Standards Institute (ANSI):

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

H. Glass Association of North America (GANA)

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

I. [American Recovery and Reinvestment Act

1. Section 1605, Title XVI Buy American Provision]

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

### 1.03 SYSTEM DESCRIPTION

A. Performance Requirements:

1. Fire Rating: must meet 45 minutes for fire protective windows, sidelites and transoms as specified.
2. Window Certifications: Windows or shall be tested in accordance with ASTM E2010-01, NFPA 80, NFPA 257, UL 9, CAN4-S106.
3. Sidelites and Transom Certifications: Sidelites and Transoms shall be tested in accordance with ASTM E2074-00, NFPA 80, NFPA 252, UL 10C, 10C, or CAN4-S104.
4. Testing Laboratory: Fire test must be conducted by a nationally recognized independent testing laboratory.
5. Glazing: Must use 45 minute fire protective glazing up to the max. size tested. All glazing used in doors, sidelites and other hazardous locations must meet CPSC Cat. I or II impact safety.
6. Minimum Wall Thickness: Must meet 3-3/4 in.
7. Max. Window Opening Sizes: must meet maximum sizes of 112 in. wide x 106 in. high. Max. size of lite must meet 2,601 sq. in.
8. Max. Sidelite and Transom Sizes: Must meet maximum door opening size of 72 in. wide x 84 in. high. Must meet maximum size of 72 in. wide x 24 in. high for transoms; 2,500 sq. in. with clear width not to exceed 50 in. for raised (hinged side) lite. Maximum over dimensions must meet 150 in. wide x 120 in. high.

B. Listings and Labels:

1. Fire rated framing system 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.

## 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 layout, profiles and product components.
  - 2. Samples: Submit samples for finishes, colors and textures.
  - 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'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.

## 1.06 FABRICATION DIMENSIONS

- 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.

## **PART 2 PRODUCTS**

### 2.01 MANUFACTURERS – 45 MINUTE FIRE PROTECTIVE (WINDOW/OPENING) (SIDELITE) (TRANSOM)

- A. Manufacturer of Framing System: Titan 45 Minute Windows, Sidelites and Transoms as manufactured and distributed by Titan Metal Products, a division of SAFTI *FIRST* Fire Rated Glazing Solutions.
  - 1. Contact: 1891 Wardrobe Avenue, Merced, CA 95341; Telephone 866.848.2667; email [info@titanmetalproducts.com](mailto:info@titanmetalproducts.com); Web site [www.titanmetalproducts.com](http://www.titanmetalproducts.com).

B. Manufacturer of Glazing Material: (SuperClear™ 45-HS) (SuperClear™ 45-HS-LI) (SuperLite® I-XL) (SuperLite® II-XL 45) (SuperLite II-XLM 45) as manufactured and distributed by SAFTI *FIRST*® Fire Rated Glazing Solutions. Distributed by SAFTI *FIRST*® Fire Rated Glazing Solutions.

1. Contact: 100 N Hill Drive, Suite 12, Brisbane, CA 94005; Telephone 888.653.3333; Fax 888.653.4444; email [info@safti.com](mailto:info@safti.com); Web site [www.safti.com](http://www.safti.com)

C. 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. Materials for the project should be shipped together in the same shipment on the same truck.

D. Substitutions: No substitutions allowed.

## 2.02 MATERIALS – FRAMING

A. Fire protective framing system for 45 minute windows, sidelites and transoms.

B. Properties:

1. Constructed in accordance with the individual manufacturer's listings or in accordance with HMMA 861-06 and HMMA 850.
2. Minimum Wall Thickness: Must meet 3-3/4 in.
3. Max. Window Opening Sizes: must meet maximum sizes of 112 in. wide x 106 in. high. Max. size of lite must meet 2,601 sq. in.
4. Max. Sidelite and Transom Sizes: Must meet maximum door opening size of 72 in. wide x 84 in. high. Must meet maximum size of 72 in. wide x 24 in. high for transoms; 2,500 sq. in. with clear width not to exceed 50 in. for raised (hinged side) lite. Maximum over dimensions must meet 150 in. wide x 120 in. high.

## 2.03 MATERIALS – GLASS

A. Assemblies shall be glazed with SuperLite® glazing products.

B. Properties:

1. 45 minute fire protective glazing up to the max. size tested.
2. Individual Lites shall be permanently identified with a listing mark.
3. Glazing material installed in "Hazardous Locations" (subject to human impact) shall be certified to meet the applicable requirements for fire rated assemblies referenced in ANSI Z97.1 Standard for Safety Glazing Materials Used In Buildings and/or CPSC 16 CFR 1201 Safety Standard for Architectural Glazing Materials.
4. Visible daylight transmission: Varies by glazing type. Refer to SuperLite® product data for more information.
5. STC rating: Varies by glazing type. Refer to SuperLite® product data for more information.

C. Logo: Each piece of fire rated glazing shall be labeled with a permanent logo.

## 2.03 FABRICATION

- A. Assemblies shall be furnished [knocked down for field assembly and will be glazed in the field] [assembled (should configurations and job site conditions allow)] [unitized (should configurations and job site conditions allow)].
- B. Fabrication Dimensions: Fabricate to approved dimensions. The general contractor shall guarantee dimensions within required tolerance. Obtain approved shop drawings prior to fabrication.

## 2.04 FINISHES

- A. Available with high performance fluoropolymer finishes by PPG or other custom finishes including stainless steel clad or aluminum clad.

## **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. Openings shall be plumb, square and within allowable tolerances. The Architect/Engineer shall be notified of any conditions that jeopardize the integrity of the proposed fire wall/door framing system. Do not proceed until such conditions are corrected.

### 3.03 INSTALLATION

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

### 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, Titan Metal Products reserves the right to modify its products' composition, colors, textures, sizes, and other physical and performance attributes and these guide specifications at any time. Titan Metal Products 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. © 2021 Titan Metal Products.