



COMMERCIAL PRODUCTS

SECTION 05 73 00 DECORATIVE METAL RAILINGS TREX COMMERCIAL PRODUCTS **Smoke Baffle System (Draft Curtain)**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Smoke Baffle System (Draft Curtain).

1.2 RELATED SECTIONS

- A. Section 05 51 00 - Metal Stairs.
- B. Section 05 52 00 - Metal Railings.
- C. Section 05 70 00 - Decorative Metal.
- D. Section 05 71 00 - Decorative Metal Stairs.
- E. Section 05 73 00 - Decorative Metal Railings.
- F. Section 05 73 13 – Glazed Decorative Metal Railings.
- G. Section 08 80 00 - Glazing.

1.3 REFERENCES

- A. American National Standards Institute (ANSI)
 - 1. A17.1 Accessible and Usable Buildings and Facilities.
 - 2. A21.1 Safety Requirements for Floor and Wall Openings, Railings and Toe Boards.
 - 3. A58.1 Minimum Design Loads in Buildings and Other Structures.
 - 4. Z97.1 Safety Performance Specifications and Methods of Test for Safety Glazing Materials Used in Buildings.
- B. American Society for Testing and Materials (ASTM)
 - 1. B209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 - 2. B210 – Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes.
 - 3. B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.

4. B247 - Standard Specification for Aluminum and Aluminum-Alloy Die Forgings, Hand Forgings, and Rolled Ring Forgings.
 5. B429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
 6. E488 - Standard Test Methods for Strength of Anchors in Concrete and Masonry Elements.
 7. C1048 - Standard Specification for Heat-Treated Flat Glass-Kind HS, Kind FT, Coated and Uncoated Glass.
 8. E894 - Standard Test Method for Anchorage of Permanent Metal Railing Systems and Rails for Buildings.
 9. E2358 – Standard Specification for the Performance in Permanent Glass Railings, Guards and Balustrades.
 10. E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings.
- C. Aluminum Association (AA):
1. ASD-1 Aluminum Standards and Data.
 2. DAF-45 Designation System for Aluminum Finishes.
 3. SAA-46 Standards for Anodized Architectural Aluminum.
 4. ADM-2015 Aluminum Design Manual.
- D. American Welding Society (AWS):
1. ANSI/AWS D1.2/D1.2M Structural Welding Code - Aluminum.
- E. Americans with Disabilities Act (ADA).
- F. Americans with Disabilities Act Accessibility Guidelines (ADAAG).
- G. International Code Council (ICC): International Building Code.
- H. National Fire Protection Association (NFPA)

1.4 PERFORMANCE REQUIREMENTS

- A. General: Smoke baffle system shall withstand structural loading as determined by allowable design working stresses of materials.
- B. Structural Performance: Provide smoke baffle system capable of withstanding effects of gravity loads without exceeding allowable design working stress of materials, anchors, and connections:
- C. Height: Provide smoke baffle system at least 18 in (457mm) in height in accordance with NFPA 13-2013 8.15.4.2.
- D. Corrosion Resistance: Separate incompatible materials to prevent galvanic corrosion.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Submit plan and typical section detail to depict the proper configuration, assembly, installation, and termination of each product specified in this section. Including: Section details, Mounting methods, Typical Elevations, and Key plan layout.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of five (5) years' experience.
 - 1. Trex Commercial Products, 7008 Northland Drive North, Suite 150; Minneapolis, MN 55428; Toll Free Tel: 877-215-RAIL(7245); Email: info@trexcommercial.com.
- B. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 2. Refinish mock-up area as required to produce acceptable work.
- C. Smoke Baffle System:
 - 1. System components: Pre-engineered by registered Professional Engineer licensed in the State in which project is located.
 - 2. Attachments to building structure: Pre-engineered by registered Professional Engineer licensed in State in which project is located.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of hazardous materials, and materials contaminated by hazardous materials, in accordance with requirements of local authorities having jurisdiction.
- C. Store products indoors in temperature-controlled facility.

1.8 PROJECT CONDITIONS

- A. Field Measurements: Where products are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication.
- B. Where field measurements cannot be made without delaying the products fabrication and delivery, obtain guaranteed dimensions in writing by the Contractor and proceed with fabrication of products to not delay fabrication, delivery and installation.

- C. Coordinate fabrication and delivery schedule of products with construction progress and sequence to avoid delay of product installation.
- D. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Trex Commercial Products, 7008 Northland Drive North, Suite 150; Minneapolis, MN 55428; Toll Free Tel: 877-215-RAIL(7245); Email: info@trexcommercial.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 016000.

2.2 MATERIALS

- A. Aluminum:
 - 1. Extruded Pipe: Alloy 6063-T5 or similar.
 - 2. Extruded Bars, Shapes and Moldings: Alloy 6063-T5 or similar.
- B. Glass Panels:
 - 1. Type: Clear Fully Tempered & Laminated.
 - 2. Interlayer: 0.06 inch (1.52mm) PVB Interlayer
 - 3. Thickness: 0.5 inch (13mm) nominal.
 - 4. Edges: Polished.
 - 5. Corners: Bump ground.

2.3 Smoke Baffle Components:

- A. Base Shoe: 2.75 inch (69.9 mm) x 3.18 inch (80.8 mm) Outside dimension extruded alum.
- B. Glass Channel: 2.4 inch (61 mm) x 2.5 inch (63.5 mm) Outside dimension extruded alum.
- C. Trim: 1.1 inch (27.9 mm) Snap fit extruded alum. No visible fasteners.
- D. Mounting method:
 - 1. Vertical mount to support structure.

2.4 FASTENERS

- A. Anchors: Select fasteners of type, grade and class required to produce connections suitable for anchoring smoke baffle system to other types of construction indicated.
- B. Component Hardware: Type best suited to application, stainless steel. Do not use metals that are corrosive or incompatible with materials joined.
 - 1. Provide concealed fasteners for interconnecting components and for attaching them to other work, unless exposed fasteners are unavoidable or are a standard fastening method for products indicated.

2.5 FABRICATION

- A. Mechanical Connections: Fabricate connecting members with smoke baffle manufacturer's standard method of fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- B. Provide anchorage devices to connect to concrete or other construction. Fabricate anchorage devices capable of withstanding loads imposed. Coordinate anchorage devices with supporting structure.
- C. Fabricate smoke baffle in accordance with approved Shop Drawings.
- D. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.
- E. Cut, reinforce, drill and tap components as indicated on drawings to receive finish hardware, screws and similar items.
- F. Fabricate with joints tightly fitted and secured. Furnish fittings to accommodate site assembly and installation.
- G. Accommodate for expansion and contraction of members and building movement without damage to connections or members.

2.6 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for applying and designating finishes.
 - 1. Aluminum: AA DAF-45.
- B. Appearance of Finished Work:
 - 1. Variations in appearance of abutting or adjacent units are acceptable if they are within one-half of the range of approved samples. Noticeable variations in the same unit are not acceptable.
 - 2. Variations in appearance of other components are acceptable if they are within the range of approved samples and are assembled or installed to minimize contrast.
- C. Finish: Prepare, pre-treat, and apply coating to exposed metal surfaces to comply with manufacturer's written instructions. All unexposed metals to be mill finish.
 - 1. Anodize: Clear Anodize
 - 2. Powder coat:

- a. Material: AAMA 2604 - Polyester powder coating, 3 mil average film thickness
- b. [Color _____]

PART 3 -EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages. These include items such as sleeves, concrete inserts, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete and masonry construction.
 - 1. Coordinate delivery of anchorages to project site.
 - 2. Coordinate that blocking is in place for all mounting fasteners.
- B. Clean debris and dust from surfaces and embed holes thoroughly prior to installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install smoke baffle system in accordance with manufacturer's approved Shop Drawings and instructions.
- B. Install components plumb and level, accurately fitted, free from distortion and defects.
- C. Provide anchors for connecting smoke baffle to supporting construction.
- D. Perform cutting, drilling, and fitting required for installation of products. Accurately set product in location, alignment, and elevation, measured from established lines and levels.
- E. Fit exposed connections accurately together to form tight joints except as necessary for expansion.

3.4 PROTECTION

- A. After installation, General Contractor or Owner shall be responsible for protection of products during the balance of construction.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. When cleaning aluminum surfaces use plain water containing a mild soap or detergent. No abrasive agents or harsh chemicals shall be used.

END OF SECTION