



SECTION 05 73 00-1

RETRACTABLE ALUMINUM GLASS RAILING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions, Division 01 - General Requirements, and other applicable specification sections in the Project Manual apply to the work specified in this Section.

1.2 SUMMARY

- A. Scope: Provide materials, related hardware specific to erection, and supervision and instruction for erection and installation for retractable and stationary aluminum glass railing systems as required for the complete performance of the work, and as shown on the Drawings and as herein specified.
- B. Section Includes: The work specified in this Section includes, but shall not be limited to, glass-supported (retractable and stationary) aluminum railings.

1.3 PERFORMANCE REQUIREMENTS

- A. General: Aluminum and Glass Windscreen shall withstand structural loading as determined by allowable design working stresses of materials based on the following standards.
 1. Aluminum: Alloy 6060 – Frame work to be treated to withstand oxidation and salt, polyester – based bake painted with UV resistant, thermoplastic flame proof paint.
 2. All hardware (nuts and bolts) to be stainless steel.
 3. Glass: Fully tempered safety glass, in large thickness and with rounded edges, in accordance with UNI EN 12150-2:2005 applies to standard windscreen.
 4. Safety Laminated glass for application in the building and construction industry, in accordance with EN 144-49-SGG STADIP 33.1. Laminated glass consisting of two glass sheets and a polyvinyl butyral film, for a total thickness of mm 6-7, Class 2 (B) EN 12600 accident prevention. Applies to Up and Down model.
- B. Thermal Movements: Aluminum glass railing systems shall allow for movements resulting from 120 degree F (49 degree C) changes in ambient and 180 degree F (82 degree C) surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

- C. Corrosion Resistance: Separate incompatible materials to prevent galvanic corrosion.

1.4 SUBMITTALS

- A. General: Submit under provisions of Section 01 33 00 - Submittal Procedures.

- B. Product Data:

1. Submit manufacturer's data sheets on each product to be used, including, but not limited to, the following:
 - a. Preparation instructions and recommendations.
 - b. Storage and handling requirements and recommendations.
 - c. Installation methods.
2. Submit product data for manufacturers product lines of retractable and stationary glass balustrade railing systems assembled from standard components.

- C. Shop Drawings: Submit shop drawings showing fabrication and installation of aluminum glass railing systems. Include plans, elevations, sections, details, and attachments to other work.

- D. Samples:

1. Color Selection: Submit manufacturer's color charts showing the full range of colors available for products with factory-applied color finishes.
2. Finish Selection: Provide sections of railing or flat sheet metal which depict available mechanical surface finishes.

1.5 QUALITY ASSURANCE

- A. Qualifications:

1. Manufacturer Qualifications: Manufacturer shall be a firm engaged in the manufacture of retractable and stationary aluminum glass railing systems of types and sizes required, and whose products have been in satisfactory use in similar service for a minimum of 5 years.

- B. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances, and regulations of Federal, State, and local authorities having jurisdiction. Obtain necessary approvals from such authorities.

- C. Welding Standards: Comply with applicable provisions of AWS D1.2.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Take field measurements prior to fabrication of the work and preparation of shop drawings, to ensure proper fitting of the work.

1.8 WARRANTY

1. Manufacture to offer 2 year warranty from date of purchase.

1.9 EXTRA MATERIALS

- A. All supplemental materials not expressly specified in this section or shop drawings shall be provided by the owner or contractor.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Application/Scope of Work: Retractable and Stationary glass-supported metal railings.
- B. Basis of Design: Sunair Awnings / Star Progetti.; 7785 Rte. 75 Jessup, MD 20794; Tel: 410-799-1145; Email: info@sunairawnings.com Web: www.sunairawnings.com.
- C. Metals: Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.
 - 1. Aluminum: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of alloy and temper designated below for each aluminum form required.
 - 2. Brackets, Flanges, and Anchors: Provide cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.2 FABRICATION

- A. Assemble aluminum glass railing systems in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- B. Fabricate glass balustrade railing systems by connecting members with railing manufacturer's standard concealed mechanical fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
- C. Cut, reinforce, drill, and tap components as indicated on the Drawings to receive finish hardware, screws, and similar items.
- D. Close exposed ends of railing members with prefabricated end fittings.

2.3 FINISHES

- A. Aluminum Finish: Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
 - 1. Powder Coat Finish: AA-C12-C42-R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Prepare, pretreat, and apply manufacturer's standard baked powder coat finish. Comply with coating manufacturer's written instructions for cleaning, surface preparation, pretreatment, and application.
 - a. Material: Polyester powder coating, 3.0 mil (0.076 mm). Comply with AAMA 2604, including, but not limited to, average film thickness. Subject to compliance with requirements, provide one of the following products:

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation.

3.2 INSTALLATION

- A. Glass-Supported Metal Railing Installation: Install assembly to comply with railing manufacturer's instructions, to listed tolerances, beginning with attachment of base channel to building structure, followed by insertion and connection of factory-fabricated and assembled glass panels.
 - 1. Erect glass railing systems under direction of manufacturer's authorized installation and technical manuals.

3.3 ADJUSTING AND CLEANING

- A. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and appoint exposed areas with same material.
- B. Cleaning: Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in field to shop; make required alterations and refinish entire unit, or provide new units.

3.4 PROTECTION

- A. Provide final protection and maintain conditions in a manner acceptable to the Installer that shall ensure that the glass balustrade railing systems shall be without damage at time of Substantial Completion.
- B. Protect finishes of aluminum glass railing systems from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of Substantial Completion.

END OF SECTION