



American Metal Specialties, Inc.

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SECTION 05 73 00

ORNAMENTAL HANDRAILS AND RAILINGS

For best results, display hidden notes to specifier.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Stainless steel guardrails and stainless steel cable infill.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-In-Place Concrete: Placement of anchors or sleeves in concrete.
- B. Section 04 20 00 - Masonry Assemblies: Placement of anchors in masonry.
- C. Section 05 51 00 - Metal Stairs: Metal Handrails
- D. Section 05 52 00 - Metal Handrails and Railings: Metal posts and handrails.
- E. Section 05 52 13 – Pipe and Tube Railings.
- F. Section 06 20 00 - Finish Carpentry: Wood handrails.
- G. Section 08 80 00 - Glazing: Glass baluster infill.
- H. Section 09 90 00 - Paints and Coatings: Paint finish.

1.3 REFERENCES

- A. ASTM A 492 - Specification for Stainless Steel Rope Wire.
- B. ASTM A 500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes; 2001a.
- C. ASTM E 985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings; 2000.
- D. Mil-W-83420 - Wire Rope, Flexible for Aircraft Control; latest amendment.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Cable railing infill system, including cable braces, cables, and cable hardware shall be designed to conform to applicable building codes and loading requirements.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 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.
 - a. Deliver materials to site and store in manufacturer's original containers and packaging, with labels clearly identifying product name and manufacturer.
 - b. Store products in clean, dry area indoors until ready for installation. Store materials in accordance with manufacturer's instructions.
 - c. Protect materials and finish from damage during handling and installation.
 - 3. Installation methods.
- C. Shop Drawings: Indicate profiles, materials, sizes, fabrication, anchorage and installation details, and lengths for cable systems.
- D. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic checking and adjustment of cable tension and periodic cleaning and maintenance of all railing and infill components.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum five years experience in producing cable assemblies of the type specified.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: American Metal Specialties (Prism AMS Holdings Inc., cablerailings.com), which is located at: 2511 S. Holgate St.; Tacoma, WA 98402; Tel: 253-272-9344; Fax: 253-627-3843; Email: paul@cablerailings.com; Web: www.cablerailings.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00.

2.2 GUARDRAILS

- A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E 985 and applicable local code.
- B. See drawings for guardrail dimensions and configuration.

2.3 RAILING COMPONENTS

- A. Steel Tubing: ASTM A 500, Grade B cold-formed structural tubing.
 - 1. Round Posts: 1-1/2 inches (38 mm) inside diameter, Schedule 80, minimum.
 - 2. Square Posts: 2 by 2 inches (50 by 50 mm), 1/8 inch (3 mm) wall thickness; 1-1/2

inch by 1-1/2 inch (25 by 25 mm), 1/8 inch (3 mm) wall thickness minimum.

- B. Steel Angle Posts: ASTM A36/A 36M, minimum 2 by 2 by 1/2 inch (50 by 50 by 12 mm).
- C. Bar Posts: ASTM A36/A 36M, minimum 2 by 1 inch (50 by 25 mm).

2.4 COMPONENTS

- A. Cable:
 - 1. 1/8 inch (3.2 mm) diameter, 1x19 construction, Type 316 stainless steel.
 - 2. 3/16 inch (4.8 mm) diameter, 1x19 construction, Type 316 stainless steel.
 - 3. 3/16 inch (4.8 mm) diameter, 7x7 construction, Type 316 stainless steel.
 - 4. 1/4 inch (6.4 mm) diameter, 1x19 construction, Type 316, stainless steel.
- B. Cable Fittings (Attachment and Turnbuckle): Stainless steel, Type 316; sizes to suit cable.
 - a. Cable Attachment Method: Machine swaged by cold-forming press, with smooth surface and achieving full cable strength in fitting connection.
 - b. Cable Attachment Method: Hand crimped.
 - c. Cable Terminals: Swaged style ball, button, or beveled end terminals.
 - d. Cable Terminals: Swivel deck mount flange with two screw holes, attached to end fitting.
 - e. Cable Terminals: Swivel toggle jaw, with clevis pin for 9/32 inch (7 mm) diameter hole, attached to end fitting.
 - f. Turnbuckles: Threaded connection at one end, cable terminal at other; minimum 1-1/2 inch (38 mm) adjustment.
 - g. Turnbuckles: Threaded connection each end, minimum 3 inches (75 mm) adjustment.
 - h. Turnbuckles: Threaded connection at one end, allen head socket at other end, minimum 1-1/2 inches (38 mm) adjustment.
- C. Mounting Fittings: Suitable for application.
- D. Exposed Fasteners: Flush countersunk screws or bolts; consistent with design of railing.

2.5 FABRICATION

- A. Fabricate systems in accord with approved shop drawings and the manufacturer's instructions.
- B. Pre-assemble items in shop to greatest extent practicable to minimize assembly at project site.
- C. Swage hardware onto ends of cables in manufacturer's shop to the maximum extent practical. Field connections may be done using manufacturer's recommended methods.
- D. Use grommets, bushings and washers as necessary for separation of dissimilar metals.
- E. Fabricate components with joints tightly fitted and secured.
- F. Provide anchors and plates required for connecting railings to structure.
- G. Exposed Mechanical Fastenings: Provide screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- H. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically

noted otherwise.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Verify that post size, post spacing, and cable spacing are in accordance with approved shop drawings.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be cast into concrete or embedded in masonry with setting templates, for installation as work of other sections.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install components plumb and level, accurately fitted, free from distortion or defects.
- C. Anchor railings securely to structure.
- D. Separate dissimilar materials with bushings, gaskets, grommets, washers or coatings where required to prevent electrolytic corrosion.
- E. Use manufacturer's supplied cable and hardware.
- F. Terminate and tension cables in accordance with manufacturer's instructions.
- G. Ensure cables are clean, parallel to each other, and without kinks.
- H. Tension cables as recommended by cable fittings manufacturer.

3.4 ADJUSTING

- A. Adjust cable tension with connecting hardware in accordance with manufacturer's instructions.

3.5 CLEANING

- A. Remove temporary coverings and protection of adjacent work areas. Clean installed products in accordance with manufacturer's instructions before owner's acceptance.
- B. Clean cables thoroughly using synthetic scotch type pads and hot soapy water (or denatured alcohol) to remove residual lubricants; rinse thoroughly with clear water and wipe dry.
- C. Do not use abrasive cleaners or metal/steel wool type pads.
- D. Remove from project site and legally dispose of construction debris associated with this work

3.6 PROTECTION

- A. Protect installed products until completion of project.
- B. Repair or replace damaged products before Substantial Completion.

END OF SECTION