**American Metal Specialties, Inc.**
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SECTION 05 73 00

STAINLESS STEEL 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), .12 inch (11 gauge) 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 1/2 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 Attachment Method: Swageless locking fitting.
c. Cable Terminals: 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