



Manufactured by SpaceGuard Products

SECTION 05 52 13

PIPE AND TUBE RAILINGS

**** NOTE TO SPECIFIER ** SpaceGuard Products; BeastWire Mesh Guarding; mezzanine RailGuard tube railing system; wire mesh partitions.**

This section is based on BeastWire Mesh Guarding products manufactured by SpaceGuard Products, which is located at:

711 S. Commerce Dr.

Seymour, IN 47274

Tel: (812) 523-3044

Fax: (812) 523-3362

Email: sales@spaceguardproducts.com

Web: www.BeastWireMesh.com

BeastWire Mesh was introduced to the market in 2016, as a prefabricated safety barrier and secure guarding solution that uses interchangeable components to construct wire mesh partitions, security cages, DEA cages, storage lockers, pallet rack safety containment systems, rack and shelving security enclosures, mezzanine guardrail, and many other applications. The use of universal components provides cost-effective and readily available materials that are easier to stage and install than other designs on the market. BeastWire Mesh makes this all possible while still offering the highest quality, most secure/safe system on the market backed by our unrivaled 10-year manufacturer's warranty.

SpaceGuard Products is a leading manufacturer of wire partitions and area guarding products including BeastWire Mesh Guarding and FordLogan woven wire partitions. SpaceGuard Products was formed in 1990 through the consolidation of Logan Wire Company and Ford Wire Company. SpaceGuard Products combines over 100 years collective experience in advanced manufacturing with unrivaled customer service and field support.

Our RailGuard product is available in both standard and custom sizes, in welded, woven and expanded steel mesh, and are perfect whether your facility is using a modular, structural, or concrete elevated work platform system. All our products are finished with a factory-applied powder coat.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

- A. Pipe and tube railings
- B. Mezzanine hand rail
- C. Wire mesh barrier guarding

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

- A. Section 03 30 00 - Cast-In-Place Concrete: Restriction on location and penetration depth of fasteners.
- B. Section 13 44 00 – Modular Mezzanines: Restriction on location, type, and penetration depth of fasteners; location and type of gates.
- C. Section 41 53 26 –Mezzanine Storage Systems: Restriction on location, type, and penetration depth of fasteners; location and type of gates.

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 – Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Detailed specification of construction and fabrication.
 - 2. Manufacturer's installation instructions.
 - 3. Preparation instructions and recommendations.
 - 4. Storage and handling requirements and recommendations.
- C. Shop Drawings: Indicate dimensions, description of materials and finishes, general construction, specific modifications, component connections, anchorage methods, hardware, and installation procedures, plus the following specific requirements.
 - 1. Provide location template drawings for items supported or anchored to permanent construction.

**** NOTE TO SPECIFIER ** Delete selection samples if colors have already been selected.**

- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Keys: Submit keys for door locks to Owner at Substantial Completion of the project. Special lock requests (e.g., master lock or dual cylinder systems must be specified at time of quotation).

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 10-years' experience manufacturing products similar to those specified and who offer a minimum 10-year limited manufacturer's warranty on standard components.
- B. Installer Qualifications: Minimum 2-years' experience installing products similar to those specified, or having completed manufacturer's certified product training.
- C. Design Requirements:
 - 1. Design partition system to provide for movement of components without

- damage, undue stress on fasteners or other detrimental effects, when subject to design loads.
2. Design system to accommodate construction tolerances, deflection of building structural members, and clearances of intended openings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Deliver, store and handle products in a dry, weather protected location. Do not store outside or allow getting wet.

1.6 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: SpaceGuard Products, which is located at: 711 S. Commerce Dr.; Seymour, IN 47274; Toll Free Tel: 800-841-0680; Tel: 812-523-3044; Email: sales@spaceguardproducts.com Web: www.BeastWireMesh.com
- B. Substitutions: Not permitted unless request for substitution made in accordance with provisions of Section 01 60 00 – Product Requirements.

2.2 PRODUCT

**** NOTE TO SPECIFIER ** BeastWire Mesh RailGuard is a modular hand rail system making it easier for shipping, handling, storage, and installation, with no welding required. The standard 42-inch section consists of a 2-inch handrail, 36-inch wire mesh infill panel, and (2) 2-inch channels that serve as the kickplate. All use through bolt connections that avoid leaving catch points.**

- A. Product: BeastWire Mesh RailGuard mezzanine and catwalk guardrail solutions as manufactured by SpaceGuard Products.
- B. Fabrication:
 1. Railing Sections: Standard sections range in 1-foot increments from 1-foot to 8-feet. Each section consists of top tube rail, wire mesh infill panel, and optional kickplate.
 2. Top Tube Rails: 2-inch by 2-inch by 14-gauge (.0747-inch) roll formed square tube with a series of 7/16-inch diameter holes drilled through top and bottom of rail to accept hardware to connect to wire mesh infill panel below.
 3. Wire Mesh Infill Panels: Consisting of the horizontal and vertical members welded at all corners, with mesh securely welded to frame. Stiffener bars, when required, shall be added at the required engineered locations.

**** NOTE TO SPECIFIER ** Delete wire mesh type not required.**

- a. Wire Mesh: #10 W&M Gauge 0.130-inch, bright basic steel wire resistance welded at every intersection in a 2-inch by 2-inch square pattern.
- b. Heavy-Duty Wire Mesh: #6 W&M Gauge 0.192-inch, bright basic steel wire resistance welded at every intersection in a 2-inch by 2-inch square pattern.
- c. Horizontal Frames: 1-1/4 inch by 1-1/4 inch by 1/8 inch hot rolled angle, with 1-1/4 inches by 7/16-inch slotted holes punched

approximately 6-inches O.C. from one end, then every 12-inches O.C. from the first hole. Horizontal frames can range from 6-inch length up to 96 inches.

- d. Vertical (Notch) Frames: 1-1/4 inch by 1-1/4 inch by 1/8 inch hot rolled angle, notched at both ends, with 1-1/4 inches by 7/16-inch slotted holes punched approximately 6-inches O.C. from one end, then every 12 inches O.C. from the first hole. Vertical frames can range from 6-inch length up to 60 inches.

**** NOTE TO SPECIFIER ** Not applicable for panels constructed of 6 ga welded wire. Delete if not required.**

- e. Stiffener Bar: 1/4-inch by 3/4-inch thick hot rolled flat stock, center located and welded to wire mesh and horizontal frames on panels greater than 60 inches in length.

**** NOTE TO SPECIFIER ** Delete the following paragraph if kick plates are built into mezzanine structure and therefore not required below the railing section.**

- 4. Kick Plates: Consists of two (2) BeastWire growth plates, 1-1/4-inch by 2-inch by 1-1/4-inch by 12-gauge roll formed channel punched with 3/8-inch holes every 12-inches on center to bolt directly to panels.
- 5. Universal connection post: 2-inch by 2-inch by 14 gauge (.0747-inch) roll formed square tube with a series of 7/16-inch diameter holes drilled on all four sides to accept hardware to connect panels and doors.

**** NOTE TO SPECIFIER ** Delete one of the two following paragraphs.**

- a. Height: 42-1/4 inch
- b. Special Height: _____

**** NOTE TO SPECIFIER ** Delete one of the three following paragraphs.**

- c. Base Plates: 4-inch by 4-inch by 1/4-inch thick plate with post welded in one corner leaving three (3) exposed 7/16-inch diameter anchor holes.
- d. Base Plates: 2-inch by 7-inch by 1/4-inch thick plate with post welded in the center leaving two (2) exposed 7/16-inch diameter anchor holes.
- e. Base Plates: 4-inch by 7-inch by 1/4-inch thick plate with post welded centered and offset to one of the 7-inch sides leaving four (4) exposed 7/16-inch diameter anchor holes.

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs title Gates.**

- 6. Gates: Constructed of the same materials as rail sections including top rail, and kick plates, if selected. Single hinged gates are 3-foot or 4-foot wide, and double (bi-parting) gates are a pair of single gate panels.

**** NOTE TO SPECIFIER ** Delete one of the two gate connection options.**

- a. Gate connection: Two 3-inch by 3-inch butt hinges bolted to the post.
 - b. Gate connection: Two 3-inch by 3-inch spring hinges bolted to the post.
 - c. Door Stop: A bolt on slam angle the full height of the door panel is provided for doors with locks. Two bolt-on angle stops are supplied if paired with a padlock arrangement. Both stop types are punched with slotted holes for adjustment to the post and are reversible for in- or out-swinging doors.
 - d. Padlock hasp: bolt on padlock hasps to secure opening when closed.
 - e. Fall protection system required per ANSI MH28.3 to protect personnel when open; provided by others.
- 7. Gates: no integrated gates; use other system to secure openings
 - 8. Hardware: 5/16-inch carriage through bolts and nuts for all panel-to-panel, panel/door to post connections. Field bracing, floor/deck anchors, and wall anchors by erector unless otherwise specified.
 - 9. Finish: Minimum 2-mil factory-applied powder coat finish.

**** NOTE TO SPECIFIER ** Delete color(s) not required. Note that there may be upcharges for colors other than manufacturer's standard Gray or Black.**

- 10. Color: SpaceGuard Gray.
- 11. Color: Beast Black.
- 12. Color: Pure Orange.
- 13. Color: Zinc Yellow
- 14. Color: Signal Blue.
- 15. Color: Carmine Red.
- 16. Color: Signal White
- 17. Color: Leaf Green.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine areas and conditions under which Work is to be performed and identify conditions detrimental to proper or timely completion.
 - 1. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Comply with manufacturer's recommendations.
- B. Install railing and gates plumb and level, accurately fitted, properly aligned, securely fastened, and free from distortion or defects.
- C. Install field bracing or ample connections to attach posts to decking to provide rigid, secure installation in compliance with all codes.

3.3 TOLERANCES

- A. Maximum Variation from Plumb or Level: 1/4-inch in total railing height.
- B. Maximum Misalignment from True Position: 1/4-inch.

3.4 ADJUSTING

- A. Adjust moving components for smooth operation without binding.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION