

SECTION 32 3113.54
REMOVABLE SAFETY FENCES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Fence framework, fabric and accessories.
- B. Excavation for post bases; concrete foundation for posts.

1.02 RELATED REQUIREMENTS

- A. Section 03 3000 – Cast-in-Place Concrete: Concrete anchorage for posts.

1.03 REFERENCE STANDARDS

- A. ASTM A53/A53M – Standard Specification for Pipe, Steel, Black and Hot Dipped, Zinc-Coated, Welded and Seamless.
- B. ASTM A500/A500M – Standard Specifications for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
- C. ASTM A123/A123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- D. ASTM A153/A153M – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- E. ASTM A513/A13M – Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.
- F. ASTM A519 – Standard Specification for Seamless Carbon and Alloy Steel Mechanical Tubing.
- G. ASTM C94/C94M – Standard Specification for Ready-Mixed Concrete.
- H. ASTM D3776 – Standard Test Method for Mass per Unit Area of Fabric.
- I. ASTM D5034 - Standard Test Method for Breaking Strength and Elongation of Textile Fabrics.
- J. ASTM D5035 – Standard Test Method for Breaking Force and Elongation of Textile Fabrics.
- K. ASTM F1083 – Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
- L. ASTM G21 – Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- M. AAMA 2603 – Organic Coatings on Aluminum Extrusions and Panels.

1.04 SUBMITTALS

- A. See Section 01 3000 – Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on fabric, posts, accessories, fittings and hardware.
- C. Shop Drawings: Indicate plan layout, spacing for components, hardware anchorage, and schedule of components.
- D. Samples: Submit two samples of fence fabric, illustrating colored finish.
- E. Manufacturer's Installation Instructions: Indicate installation requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Removable Safety Fence:
 - 1. Removable Safety Fence by Grand Slam Safety, LLC. For information and inquiries, contact Grand Slam Safety at (315) 301-4039.

2.02 MATERIALS

- A. Line posts: ASTM A53, steel pipe, welded construction, minimum yield strength of 25 ksi.
- B. Concrete: Type specified in Section 03 3000.
- C. Foul Pole: ASTM A53, steel pipe, welded construction, minimum yield strength of 25 ksi.
- D. Foul Pole Top: ASTM A513 or ASTM A519 steel structural tubing, minimum yield strength of 32 ksi.
- E. Transporter: ASTM A500, square structural steel tubing, welded construction, minimum yield strength 33 ksi.
- F. Cable: 304 Stainless Steel

2.03 COMPONENTS

- A. Fences
 - 1. Line Posts: outside diameter 2.38 inch, wall thickness 0.154 inch, weight/foot 3.65 lbs. or outside diameter 2.88 inch, wall thickness .203 inch, weight/foot 5.79 lbs.
 - 2. Foul Poles: outside diameter 4.50 inch, wall thickness 0.237 inch, weight/foot 10.79 lbs.
 - 3. Foul Pole Tops: flag height 10 feet (Overall height = fence height + 10 feet 7 inches), flag width 13.75 inches, main pole outside diameter 4 inch, main pole wall thickness 0.065 inch, flag boarder outside diameter 1.375 inch, flag boarder wall thickness 0.065 inch.
- B. Cable:
 - (a) Main fence support: diameter 3/16 inch, construction 7x7.
 - (b) Other: diameter 1/8 inch, construction 7x7.
- C. Fabric
 - 1. Fence Panels: woven fabric diameter 0.025 inch, material vinyl-coated 1000 denier polyester core yarn in the warp and fill, weight 7.3-9oz./square yard or 9.3 oz./square yard.
 - 2. Trimmer Barrier: vinyl coated woven polyester, weight 18 oz./square yard.
 - 3. Foul Pole Padding Jackets: woven fabric diameter 0.025 inch, material vinyl-coated 1000 denier polyester core yarn in the warp and fill, weight 7.3-9oz./square yard or 9.3 oz./square. Foam interior: 2# closed cell cross-linked polyethylene foam 3 inch thick.
- D. Transporter(s)
 - 1. Main Structure: square tubing 2 inch, wall thickness .120 inch, weight per foot 3.06 lbs.
 - 2. Tires:
 - (a) Pole Transporter: 20.5 x 8.3 x 10, 4 hole rim, 1250 pound capacity hub or 205/75/D14, 5 hole rim, 1750 pound capacity hub.
 - (b) Fence Transporter: 10 inch swivel castor – 500 pound capacity or 10 inch swivel castor – 625 pound capacity.
 - 3. Foot Print:
 - (a) Pole Transporter: 14'-3"Lx4.5'Wx4.5'H (16'-6"L loaded) or 14'-10"Lx6'-8"Wx5'H (17'L loaded).
 - (b) Fence Transporter: 8'-8"Lx3'-2"Wx5'6"H or 9'-8"Lx3'-6"Wx6'-6"H
 - 4. Coupler: CLASS II, 2" Ball standard at 17" height, other as specified.

2.04 ACCESSORIES

- A. Winch: capacity 1 ton, ratio 41:1, single well, drive type worm, overload protection slip clutch.
- B. Cable Tension Indicators: draw spring, indication method: color.

C. Turf Inserts: Steel construction – powder coat black, $\frac{3}{4}$ " grass fibers on $\frac{3}{4}$ " rubber mat.

2.05 FINISHES

A. Components (Other Than Fabric): Powder coated, color as selected, polyester

B. Fabric – vinyl coated.

C. Vinyl Components: color as selected.

D. Hardware: Hot-dip galvanized or Zinc coated

PART 3 EXECUTION

3.01 INSTALLATION

A. Set post plumb in concrete footings.

B. Install posts, fabric and accessories in accordance with manufacturer's instructions.

C. Do not stretch fabric until concrete foundation has cured minimum 2 weeks.

D. Install bottom and top cable, stretched taut between four posts.

3.02 TOLERANCES

A. Maximum variation from plumb: $\frac{1}{4}$ inch over 4'.

B. Maximum offset from true position: 2 inch.