

**SECTION 13 17 23.11  
THERAPEUTIC POOL ACCESSORIES**

SPEC WRITER NOTES: Delete between // // if not applicable to project. Also, delete any other item or paragraph not applicable in the section and renumber the paragraphs.

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

A. This section specifies therapeutic pool accessories as follows:

1. Railings.
2. Ladders.
3. Gratings and Frames.
4. Life Line Anchors.

**1.2 RELATED WORK**

- A. Section 05 50 00, METAL FABRICATIONS: Other Railings.
- B. Section 09 06 00, SCHEDULE FOR FINISHES Finishes.

**1.3 QUALITY ASSURANCE**

- A. Products of manufacturers regularly engaged in manufacturing items of type specified.
- B. Installation by experienced mechanics capable of installing each item in accordance with shop and erection drawings.

**1.4 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings:
  1. Showing details of construction and installation of materials.
  2. Finish of each item.
- C. Manufacturers Literature and Data:
  1. Brochures or catalog cuts.
  2. Manufacturer's installation procedures and instructions.
- D. Calculations: Grating and supports.

**1.5 APPLICABLE PUBLICATIONS**

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- B. ASTM International (ASTM):

- A240/A240M-20.....Chromium and Chromium-Nickel Stainless Steel  
Plate, Sheet, and Strip for Pressure Vessels  
and For General Applications
- A269/A269M-15a(2019)....Seamless and Welded Austenitic Stainless Steel  
Tubing for General Service
- B209-14.....Aluminum and Aluminum - Alloy Sheet and Plate
- B209M-14.....Aluminum and Aluminum - Alloy Sheet and Plate  
(Metric)
- B221-14.....Aluminum and Aluminum-Alloy Extruded Bars,  
Rods, Wire, Shapes, and Tubes
- B221M-13.....Aluminum and Aluminum-Alloy Extruded Bars,  
Rods, Wire, Shapes, and Tubes (Metric)\_
- C827/C827M-16.....Test Method for Change in Height at Early Ages  
of Cylindrical Specimens of Cementitious  
Mixtures
- C1107/C1107M-20.....Packaged Dry, Hydraulic-Cement Grout  
(Nonshrink)
- D1187/D1187M-97(2018)...Asphalt-Base Emulsions for use as Protective  
Coatings for Metal
- F593-17.....Stainless Steel Bolts, Hex Screws, and Studs
- C. American Welding Society (AWS)
- D1.1/D1.1M-10.....Structural Welding Code Steel
- D1.2/D1.2M-14.....Structural Welding Code Aluminum
- D. National Association of Architectural Metal Manufacturers (NAAMM)
- AMP 500-06.....Metal Finishes Manual
- AMP 521-01(R2012).....Pipe Railing Manual
- MBG 531-09.....Metal Bar Grating Manual

## **PART 2 - PRODUCTS**

SPEC WRITER NOTE: Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Update and specify only that which applies to the project.

### **2.1 MATERIALS**

- A. Stainless steel: ASTM A240/A240M, Type 302B.
- B. Stainless steel Tubing: ASTM A269/A269M, Type 304.
- C. Fasteners: ASTM F593, non-corroding.

- D. Aluminum: ASTM B209M (B209) and B221M (B221), Alloy suitable for intended use.
- E. Bronze: Manufacturers standard copper - zinc - lead alloy.
- F. Non-Shrink grout: Grout, free of ferrous metal or oxide.  
ASTM C1107/C1107M with no ASTM C827/C827M shrinkage.
- G. Bituminous Coating: ASTM D1187/D1187M; provide cold-applied inert-type noncorrosive compound bituminous coating, nominally free of sulfur components and other deleterious impurities.

## 2.2 FABRICATION

### A. General:

1. Grind welds smooth and finish to match adjacent surface.
2. Ease sharp edges or round them smooth. Finish rough surfaces smooth and remove projections unless specified otherwise.
3. Weld in accordance with AWS.
4. Provide non-slip surface on walk surfaces.
5. Threaded connections: Do not expose threads.

### B. Finishes on Metal:

1. NAAMM AMP 500-505.
2. Unless specified otherwise, see Section 09 06 00, SCHEDULE FOR FINISHES.
  - a. // Stainless Steel: No. 4.//
  - b. // Aluminum: Clear anodic coating, AA-C22A41.//
  - c. // Bronze: Chromium plated.//

## 2.3 RAILING

- A. In addition to the dead load design, railing assembly to support 74.6 kg (200 pound) in any direction at any point.
- B. Fabrication General:
  1. Comply with NAAMM AMP 521.
  2. Fabricate with an outside diameter of 32 mm (1-1/4 inch) minimum and 51 mm (2 inch) maximum outside diameter tube (ASTM A269/A269M), having a minimum wall thickness of 1.6 mm (0.065 inch).
  3. Standard flush fittings, designed to be welded.
  4. Join sections by an internal connector to form hairline joints where removable.
  5. Fabricate with continuous welded connections.
  6. Space posts for railings not over 1828 mm (6 feet) on centers between end posts.

7. Fabricate stainless steel post sleeves at least 152 mm (6 inches) deep having internal dimensions at least 13 mm (1/2 inch) greater than external dimensions of post with closed ends or plates.

SPEC WRITER NOTE: Chrome-plated bronze anchor sockets are an alternative to stainless steel. Edit accordingly.

8. // Manufacturer's standard bronze anchor sockets with escutcheon plates, exposed surfaces chrome plated.//
9. Provide sliding flange base plate with setscrews at base of tube posts.

#### **2.4 LADDERS**

- A. Ladders not less than 635 mm (25 inches) between rails and with steps at 254 mm (10 inches) centers.
- B. Steps approximately 101 mm (4 inches) wide.
- C. Fabricate hand gripping rails or frames with an outside diameter of 32 mm (1-1/4 inch) minimum and 51 mm (2 inch) maximum tube (ASTM A269/A269M), having a minimum wall thickness of 2 mm (0.065 inch) in accordance with NAAMM AMP 521.
- D. Fabricate stainless steel rail sleeves at least 152 mm (6 inches) deep having internal dimensions at least 13 mm (1/2 inch) greater than external dimensions of ladder rail for deck or provide manufacturer's standard bronze anchor sockets with escutcheon plates; exposed surfaces chrome plated.
- E. Fabricate wall anchor plates for anchorage to wall with expansion bolts or other fasteners as specified herein.
  1. Weld or screw attaching flange to rails.
  2. Use minimum 9 mm (3/8-inch) flat head stainless screws for securing flange to wall plate.
- F. Fabricate steps of not less than 3 mm (1/8 inch) stainless sheet welded to rails:
  1. Reinforce connection to rail.
  2. Deform tread surface for non-slip surface.

#### **2.5 GRATING AND FRAMES**

- A. Grating and frames for deck level gutter type drains.
- B. Design gratings to support a live load of not less 500 Kg per square meter (100 pounds per square foot) and a concentrated load as specified in NAAMM MBG 531. Submit design calculations and provide fabrication details in accordance with NAAMM MGB 531.

- C. Provide clearance at all sides to permit easy removal of grating.
- D. Fabricate grating in sections not to exceed 3048 mm (10 feet) in length or as otherwise required to support indicated loads.
- E. Fabricate gratings of stainless steel, polyvinyl chloride, or glass fiber.
- F. Fabricate frames of stainless steel angles with strap anchors welded to angle frame.
  - 1. Angles of not less than 3 mm (1/8-inch) thickness, sized for not less than 25 mm (1 inch) grating bearing and depth for grating to finish flush with top of frame.
  - 2. Strap anchors not less than 3 mm by 101 mm (1/8 inch by 4 inches) spaced at 610 mm (24 inches) centers.

## **2.6 LIFE LINE ANCHORS**

- A. Recessed cup type to provide eyebolt flush with wall of pool.
- B. Cup insert approximately 76 mm (3 inches) in diameter and 127 mm (5 inches) over-all with concrete anchor.
- C. Eye-bolt minimum 16 mm (5/8 inch) material, threaded and screwed into cup.
- D. Insert and bolt of bronze with exposed surfaces dressed smooth and with chromium plated finish.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Set work accurately, in alignment and where shown, plumb, level, free of rack and twist, and set parallel or perpendicular as required to line and plane of surface.
- B. Items set into concrete:
  - 1. Provide temporary bracing for such items until concrete is set.
  - 2. Place in accordance with setting drawings and instructions.
- C. Set frames of gratings, life line anchors, sleeves and similar items flush with finish floor or wall surface and, where applicable, flush with side of opening.
- D. Field weld in accordance with AWS.
  - 1. Finish as specified for shop welding.
  - 2. Use continuous weld unless specified otherwise.
- E. Install anchoring devices and fasteners as shown in shop drawings and as necessary for securing pool accessories to building construction as specified.

- F. Isolate aluminum from dissimilar metals and from contact with concrete and masonry materials with bituminous coating to prevent electrolysis and corrosion.
- G. Secure escutcheon plate with set screw(s).
- H. Set posts in pipe sleeves with non-shrink grout.
- I. Secure flange to post at base with set screw(s).
- J. Set wall plate for ladders flush with finish surface. Secure ladder to plate with screws specified.

**3.2 CLEANING AND ADJUSTING**

- A. After installation, clean accessories as recommended by the manufacturer, and protected from damage until completion of the project.

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