

## **Part 1 - General**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 08 80 00 - Glazing: Sheet mirrors.

### **1.2 REFERENCE STANDARDS**

- .1 ASTM International (ASTM).
  - .1 ASTM A123/A123M-15, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - .2 ASTM A240/A240M-16, Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.

### **1.3 SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Manufacturer's literature indicating size and description of components, base material, surface finish inside and out, hardware and locks, attachment devices, description of rough-in-frame, building-in details of anchors for grab bars.
  - .2 Provide supplementary information, as necessary, to cover items not indicated on manufacturer's literature.
- .3 Shop drawing:
  - .1 Submit detail for anchoring grab bars.
  - .2 Indicate grab bar fastener sizes and materials.
  - .3 Show section through wall, indicating:
    - .1 Wall components,
    - .2 Special/extra fastening, and reinforcing requirements for wall components as necessary for wall assembly to withstand specified forces.
  - .4 Shop drawing shall be stamped by professional structural engineer registered or licensed to practice in the Province of New Brunswick, verifying anchor system will withstand specified forces.

### **1.4 MOCK-UP**

- .1 Construct mock-up on site, for each different grab bar and substrate condition, to verify that grab bar installation resists specified design loads.
- .2 Test each mock-up by applying design load for a minimum one-minute duration. Have Departmental Representative present during test.
- .3 Make changes to mock-up if failure occurs and retest until mock-up passes.

### **1.5 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials off ground in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect accessories from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

## Part 2 - Products

### 2.1 MATERIALS

- .1 Stainless steel sheet metal: to ASTM A240/A240M, Type 304, with No.4 finish.
- .2 Stainless steel tubing: Type 304, commercial grade, seamless welded, 1.2 mm wall thickness.
- .3 Fasteners:
  - .1 Concealed: screws and bolts hot dip galvanized. Expansion shields to be fibre, lead or rubber as recommended by accessory manufacturer for component and its intended use.
  - .2 Exposed:
    - .1 Tamper-proof screws: security pin-type; hex-pin, Torx-pin or similar as approved by Departmental Representative. One-way screws or spanner head screws are not acceptable.
    - .2 Finish: to match face of item being secured.
    - .3 Provide two (2) tamper-resistant screw drivers, or screw gun bits, for each type of tamper-resistant screw used on this project.

### 2.2 COMPONENTS

- .1 Clothing hook:
  - .1 single hook, maximum 40 mm projection, fabricated from 2.8 mm thick stainless steel.
- .2 Grab bars:
  - .1 Design/installation requirements:
    - .1 Grab bar and anchorage shall withstand a force of 1.3 kN applied in any direction.
  - .2 Grab bar: 32 mm o.d. x 1.2 mm wall tubing of stainless steel, length indicated, 80 mm diameter wall flanges welded to tubular bar, concealed screw attachment using snap flange cover, provided with steel back plates and all accessories. Peened finish.
  - .3 Grab bar anchoring devices:
    - .1 Use stainless steel fasteners for fastening grab bars.
    - .2 No exposed anchoring plates permitted.
    - .3 Final grab bar anchoring as determined by grab bar anchoring system engineer and contractor, and acceptable to Departmental Representative.
    - .4 Potential anchoring systems acceptable to Departmental Representative.
      - .1 Stud partition: concealed steel plate of thickness determined by grab bar anchoring system engineer; of size as follows:
        - .1 Horizontal/vertical bars: minimum 100 mm high; length to suit grab bar and attach to a minimum of three (3) studs.
      - .2 Any substrates: Manufacturer's proprietary anchoring devices designed specifically for grab bar installation on applicable substrate.

### 2.3 FABRICATION

- .1 Weld and grind joints of fabricated components flush and smooth. Use mechanical fasteners only where approved.
- .2 Wherever possible form exposed surfaces from single sheet of stock, free of joints.
- .3 Form surfaces flat without distortion. Maintain flat surfaces without scratches or dents.
- .4 Hot dip galvanize concealed ferrous metal anchors and fastening devices to ASTM A123/A123M.

- .5 Shop assemble components and package complete with anchors and fittings.
- .6 Deliver inserts and rough-in frames to job site at appropriate time for building-in. Provide templates, details and instructions for building in anchors and inserts.
- .7 Provide steel anchor plates and components for installation on studding and building framing.
- .8 Manufacturer's or brand names on face of units not acceptable.

### **Part 3 - Execution**

#### **3.1 INSTALLATION**

- .1 Install and secure accessories rigidly in place as follows:
  - .1 Stud walls: install steel anchor plate to stud prior to installation of gypsum board. Provide plate with threaded studs or plugs.
- .2 Install grab bars using same materials and methods as those used for mock-ups.
- .3 Use tamper-proof screws at exposed fastener locations.

#### **3.2 FIELD TESTING OF GRAB BARS**

- .1 Include site testing 25% of grab bars to verify compliance with mock-up. Departmental Representative will identify grab bars to be tested.
- .2 Test grab bars using same method as that used for mock-up.
- .3 Work which does not comply with the mock-up will be rejected, taken down and installed to compliance with mock-up, at no increase in contract price.
- .4 Departmental Representative's decision as to compliance with the mock-up will be final.

#### **3.3 SCHEDULE**

- .1 Refer to drawings for quantities and locations.

**END OF SECTION**

## **Part 1 - General**

### **1.1 REFERENCE STANDARDS**

- .1 National Fire Protection Association (NFPA).
  - .1 NFPA 10, Standard for Portable Fire Extinguishers, 2013 Edition.

### **1.2 ACTION AND INFORMATIONAL SUBMITTALS**

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Submit manufacturer's printed product literature and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

### **1.3 DELIVERY, STORAGE AND HANDLING**

- .1 Packing, shipping, handling and unloading:
  - .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements.

## **Part 2 - Products**

### **2.1 MULTI-PURPOSE DRY CHEMICAL EXTINGUISHERS**

- .1 Stored pressure rechargeable type with hose and shut-off nozzle, ULC labelled for A, B and C Class protection.
  - .1 Size: 4.5 kg.
  - .2 Quantity: two (2); location as determined by Departmental Representative.

### **2.2 CARBON DIOXIDE**

- .1 Extinguishers Insulated handle, hose and horn discharge assembly, self-closing lever or squeeze-grip operation, fully charged, ULC labelled for B and C class protection.
  - .1 Sizes 4.5 kg.
  - .2 Quantity: one (1); location as determined by Departmental Representative.

### **2.3 EXTINGUISHER BRACKETS**

- .1 Type recommended by extinguisher manufacturer.

### **2.4 IDENTIFICATION**

- .1 Identify extinguishers in accordance with recommendations of ANSI/NFPA 10.
- .2 Attach tag or label to extinguishers, indicating month and year of installation. Provide space for service dates.

## **Part 3 - Execution**

### **3.1 MANUFACTURER'S INSTRUCTIONS**

- .1 Compliance: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and datasheets.

### **3.2 INSTALLATION**

- .1 Mount extinguishers on brackets in accordance with NFPA 10 as indicated.
- .2 Install fire safety blankets as indicated.

**END OF SECTION**