



## 1112 Aluminum Ladder System

### Part 1- General

#### 1.1 Standards

- .1 Conform to CAN3-S157 -M83 Strength Design in Aluminum.
- .2 Conform to CSA W59.2 -M191 Welded Aluminum Construction and CSA W47.2 Certification of Companies for Fusion Welding of Aluminum.
- .3 Ladders Systems shall be MSU Mississauga Type 1112 as manufactured by MSU Mississauga Ltd. 2222 S. Sheridan Way, Mississauga, Ontario L5J 2M4, 1-800-268-5336, [www.msumississauga.com](http://www.msumississauga.com), [sales@msumississauga.com](mailto:sales@msumississauga.com)

#### 1.2 Quality Assurance

- .1 Welding shall only be undertaken by a company Certified by the Canadian Welding Bureau to the requirements of CSA Standard W47.2-M1987, Certification of Companies for the Fusion Welding of Aluminum.

#### 1.3 Shop Drawings

- .1 Submit shop drawings in accordance with Section 01300 - Submittals.
- .2 Indicate materials, thicknesses, weld symbols, reinforcement, details and accessories.
- .3 Manufacturer shall supply installation drawings and instructions.

### Part 2- Products

#### 2.1 Materials

- .1 Aluminum Extruded Shapes: to CSA HA.5-M1980, Alloy 6351-T6.
- .2 Cast Aluminum to CSA HA.5-M1980 Alloy 6290
- .3 Polyethylene - Sclair 2107
- .4 Fasteners & Rivets in 304 stainless steel.
- .5 Glass Filled Nylon

#### 2.2 Fabrication

- .1 Fabricate square, true, and accurate to required size, with joints closely fitted. Remove all burrs and sharp edges.
- .2 Rungs of ladder shall be joined to the ladder side rail using the patented MSU conical bracing system.



## **2.2 Fabrication (continued)**

- .3 Rung spacing shall be 300mm centre to centre.
- .4 Attachment brackets shall be spaced at 1500mm maximum centre to centre.
- .5 Aluminum shall be isolated from contact with the concrete with polyethylene anchors or isolation pads.
- .6 Ladders longer than 6.4M shall be joined with the MSU internal splice system.
- .7 Ladders longer than 5M shall be equipped with an MSU #3108 Safety Cage system.
- .8 Ladders accessing roofs shall be equipped with an MSU #1114 Self Supporting Entry and Exit Extension System.

## **2.3 Aluminum Ladders**

- .1 Provide the appropriate ladders complete with all necessary attachment brackets and accessories to the dimensions on the Contract Drawings. Ensure all ladders are:
  - .a assembled using the conical bracing method,
  - .b provided with polyethylene end caps on the top and bottom,
  - .c equipped with MSU type 8120 vertically and horizontally adjustable flanged brackets equipped complete with, 1/2 x 3 3/4" Hilti wedge anchors sockethead capscrews and allen keys,
  - .d supplied with 30mm diameter internally reinforced side rails,
  - .e supplied with 20mm diameter ribbed - slip resistant rungs,
  - .f where required equip ladders with MSU #3108 safety cage system. Cage shall clamp around ladder side rails with horizontal hoop sections spaced at 1.5M maximum. Vertical cage shall consist of 5 hollow oval bars evenly spaced around the circumference of the cage and attached to the support hoops with stainless steel rivets, and
  - .g ladders accessing roofs shall be equipped with MSU #1112 entry and exit extensions. Extensions shall be welded to #1105 ladder.

## **Part 3- Execution**

### **3.1 Installation**

- .1 Install access ladders where indicated on the drawings.