

SECTION 05511

ALUMINUM LADDERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Vertical Ladders.
- B. Ship's Ladders.
- C. Utility Line Bridges, pipe step-overs

1.2 SUBMITTALS

- A. Submit under provisions of Section 01300
- B. Product Data: Manufacturer's data sheets indicating materials of construction.
- C. Shop Drawings: Drawings prepared for this specific project, showing ladder configuration, dimensions, location and method of anchorage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Royalite Manufacturing Inc; 1055 Terminal Way, San Carlos, CA. 94070. Tel: (800) 875-9548. Fax (650) 637-9770. www.royalite-mfg.com.

2.2 COMPONENTS

- A. Ladders: Provide ladders that comply with OSHA and local building codes, with all edges rounded, clean and smooth burr free, dimensions as indicated in drawings.
- B. Ladder Treads: Extruded aluminum, 6063-T5 alloy, with self cleaning serrated top surface with rounded front and back edges. They are fastened to handrails with concealed stainless steel screws capable of withstanding and exceeding all OSHA load requirements per tread without damage. Rung cross section for vertical ladders is minimum 2 inches (50.8mm) horizontal and 1 nominal inch (25mm) vertical. For ship's ladders minimum 4 inches (101mm) horizontal and nominal 1 inch (25mm) vertical.

C. Vertical Ladder Rails (supporting treads): Custom extruded aluminum, 6063-T5 alloy, with rounded corners, approximately 4 inches (101mm) deep; mounted so that the center line of the tread is minimum 7 inches (178mm) from face of wall. Wall brackets are bent aluminum strap 2 inches (50.8mm) wide by 3/16 inch (4.7mm) thick. Base brackets are 2"x2"x2" x 1/8" (50.8mm x 50.8mm x 50.8mm x 3mm) aluminum angles. Bottom Wall Mount brackets include an additional diagonal angle brace of the same material.

D. Ship's Ladder Rails (supporting treads): Extruded aluminum channel stringers, 6 inch (152mm) with 2 inch (50.8mm) legs 1/8" (3mm) thick.

E. Ship's Ladder Handrails: Extruded aluminum pipe 1.9 inches (48.2mm) outside diameter with 1/4 inch (48.2mm) wall thickness are formed with radius elbow and bolted to stringers.

F. Extended Rails: Aluminum tubing 0.875 inches (22mm) diameter is formed with two parallel tubes for each length of rail with radius corners assembled with stainless steel fasteners.

1, Lift-up Rail Extensions: For Hatch Ladders are 6063-T5 aluminum extrusions 77 inch long (1955.8mm) and 3.646 inch (92.6mm) wide that slide inside of standard ladder side rail extrusion. Extensions are manually raised or lowered and are secured by means of a gravity latch. When extended rails are 42 inches (1066.8mm) above the top ladder tread.

2, Walk Through Hand Rails: At top of ladders leading to roofs or landings hand rails extend a minimum 42 inches (1066.8mm) vertically above the top of the parapet or landing and project a minimum of 10 inches (254mm) past the edge of the roof or landing.

G. Cages: Hoops and verticals are constructed of 2" (50.8mm) wide by 0.187 (4.75mm) thick aluminum straps assembled and fastened with 1/4x20x3/4 stainless steel pan head machine bolts with lock nuts. Bottom hoop is 18 inch (457mm) radius with overall extension from wall of 40 3/4 inches (1035mm). Intermediate and top hoops are 14 inches (355mm) radius.

H. Landing or Rest Platforms: Typically constructed of 2 inch (50.8mm) by 1 inch (25mm) ladder treads placed flush adjacent to each other to form desired typical platform size. Custom sizes or other decking materials are available when required.

I. Utility Line Bridge Base: Ship's ladder type components are mounted to 1/8 inch (3mm) checker plate base with all joints mitered and welded for placement or mounting on roof surface.

ROYALITE MANUFACTURING LADDER SPECIFICATIONS

J. Security Door: For Cage Ladder cage only is aluminum grid constructed of the same material as the cage and is mounted to the bottom of the cage, hinge down with adjustable staple plate and hasp for padlock. For vertical ladder with or without cage the sheet aluminum enclosure is from 6 inches (150mm) to 102 inches (2590.8mm) above the floor or grade. Hinged for access to ladder with full height aluminum piano hinge secured with adjustable staple and hasp for padlock.

K. Anchor Bolts: Hot-dipped galvanized or stainless steel bolts. Diameter as specified by the ladder manufacturer. Fastener length as required to provide adequate anchorage to substrate provided by project contractor as determined by the project engineer.

PART 3 EXECUTION

3.1 INSTALLATION

A. Installation to be in accordance with the manufacturer's recommendations.

B. Anchor securely using fasteners recommended by the manufacturer or other of equivalent or greater strength at locations specified and into substrate designated by the project engineer.

END OF SECTION