

# **SPECIFICATION FOR HEAVY-DUTY PLANK ALUMINUM FLAT PANEL COVER**

## GENERAL

**Purpose:** This specification establishes the minimum criteria for the design, fabrication, and erection of Heavy-Duty Plank Aluminum Flat Panel Covers comprised of hinged and fixed panels and the associated support beams and shelf angles as manufactured by Pleasant Mount Welding, Inc. (Carbondale, Pennsylvania).

**Scope of Work:** Provide all labor, materials, and equipment required to supply a complete system of removable Heavy-Duty Plank aluminum flat panel covers. The Heavy-Duty Plank Aluminum Flat Panel Cover includes cover panels, structural supports (Structural Beams and Shelf Angles), and attaching hardware.

## ENGINEERING & ACTION SUBMITTALS

**Shop Drawings:** The contractor shall submit the shop drawings to the Engineer of Record (EOR) for approval for the fabrication of the Heavy-Duty Plank Aluminum Flat Panel Cover system based on construction drawings of current issue. The drawings shall be approved and released to the shop before fabrication of the panels. Include plans, sections, shop details, and connections as required by the contract documents.

## QUALIFICATIONS

**Manufacturer:**

Pleasant Mount Welding, Inc.

45 Dundaff Street, Carbondale, Pennsylvania 18407

Phone: (570) 282-6164

Fax: (570) 282-7917

Email: [sales@pmwi.net](mailto:sales@pmwi.net)

Website: <https://www.pmwi.net>

The Heavy-Duty Plank Aluminum Flat Panel Covers, as specified, shall be the product of a single manufacturer regularly engaged in the design, manufacture, and installation of engineered aluminum covers.

**Welders:** Welders performing work on the Heavy-Duty Plank Aluminum Flat Panel Covers shall be qualified within the past two years in accordance with AWS.

## PERFORMANCE & DESIGN

**Span:** The clear span length of the cover shall be as noted in the contract documents.

**Width:** The width of the cover shall be as noted in the contract documents.

**Distributed Design Live Load & Deflection:** All structural components shall be designed to support the dead weight of the structure, plus a live load of 100 PSF of surface. The maximum deflection of any component shall not exceed L/240 of the span of that component.

**Concentrated Load:** All structural components shall be designed to support a 300 LB concentrated load anywhere on the surface of cover without permanently deforming the test area.

**Design Stresses:** All aluminum structural members and connections shall be designed in accordance with the Aluminum Association's "Specification for Aluminum Structures" for building-type structures.

**Slip Resistance:** The Heavy-Duty Plank Aluminum Flat Panel Cover shall have a non-skid surface and no exposed area of the cover system wider than one inch shall be without striations/non-skid surface. The Pleasant Mount Welding, Inc. aluminum cover's Heavy-Duty Plank Cover decking is ribbed with concave and convex striations to prevent slipping and to assist in the removal of water off the covers' surface. This surface shall not be achieved by the use of paint, adhesive tapes, sand blasting, or any other means other than the extruded process.

**Chemical Resistance:** The Heavy-Duty Plank Aluminum Flat Panels shall be composed entirely of 6061-T6 corrosion resistant aluminum extrusions. A replaceable Neoprene seal shall isolate the cover perimeter from the concrete and/or between every panel to ensure a significantly air-tight enclosure.

**Configuration:** The Heavy-Duty Plank aluminum flat panel cover system shall be composed of beams and panels. Uplift of each panel shall be resisted with the use of quarter turn slam latch(s). Latch keys shall be provided by the panel Manufacturer. The weight of an individual panel shall not exceed 150 pounds. Each hinged panel can be easily removed or replaced via removing the bolt anchors of the “T-extrusion” to the beam underneath without disruption of adjacent panels.

## MATERIALS

**Aluminum:** All extrusions comprising the Pleasant Mount Welding, Inc.’s Heavy-Duty Plank Aluminum Flat Panel Cover shall be alloy 6061-T6, of sufficient section modulus and moment of inertia to withstand the design loads. Material shall be of top quality.

**Welding Electrodes:** Welding shall be done with electrodes of an alloy which shall produce welds with strength and corrosion resistance characteristics compatible to the base material.

**Fasteners:** All fasteners between aluminum components shall be stainless steel. Beams and shelf angles shall be fastened to concrete using stainless steel drill in place anchor bolts.

**Steel Accessories:** No carbon steel components shall be used.

**Gaskets:** Replaceable Neoprene gaskets shall be used to isolate the aluminum cover perimeter from the concrete and at all panel-to-panel interfaces.

## WORKMANSHIP

The quality of the workmanship, fabrication, and shop connections shall be in accordance with the latest edition of ANSI/AWS D1.2 Structural Welding Code – Aluminum.

## ENVIRONMENTAL CONSIDERATIONS

All aluminum used in the Heavy-Duty Flat Panel Cover system is presumed to be recyclable upon demolition.

## OPERATION & MAINTENANCE MANUAL

The cover manufacturer shall provide an O&M Manual that includes maintenance instructions, removal and replacement instructions, and drawings for the install cover.