

ACL Industries, Inc. Recreational Marine Division

FLOATING DOCK SPECIFICATIONS

PART 1: GENERAL

1.1 SUMMARY OF WORK

- A. The work of this section includes, but is not limited to providing all labor, equipment, materials, incidental work and construction methods necessary to perform the project in a satisfactory manner.
- B. Provide prefabricated floating dock(s) according to project specifications. Prefabricated dock(s) shall be manufactured by ACL Industries, Inc. The following specifications shall be regarded as minimum standards for the design and construction of the floating dock(s) and the related components mentioned herein.

1.2 QUALITY ASSURANCE

- A. Approved Manufacturer: **ACL Industries, Inc.** 179 Elm Street, Manchester, NH 03101. Contact number: 603 668 1276. Web site at <http://www.aclindustries.com> or e-mail: recsales@aclindustries.com.
- B. Approved equal manufacturer should be certified to a Quality management policy (ISO 9001).
- C. Design of the aluminum members for the dock frame shall conform to the current edition of the Aluminum Association Specifications and Guidelines for Aluminum Structures.
- D. Aluminum welding for the dock frame shall be in accordance with AWS D1.2 Structural welding code and shall be performed by experienced operators.
- E. All exposed surfaces and their welded joints shall be smooth and free of sharp or jagged edges. Surfaces to be welded shall be free from scale, paint, grease or other foreign matter. Welds shall be sufficient size and shape to develop the full strength of the parts connected by the welds.

1.3 SUBMITTALS

- A. Shop drawings of the floating docks showing all dimensions, connections and anchorage locations.
- B. Detailed fabrication drawings showing dock frame and decking connections to the frame.
- C. All shop drawings have to be approved by the Engineer prior to shop fabrication

PART 2: PRODUCTS

2.1 DESIGN AND LOAD CONDITIONS

- A. Floating dock(s) shall be engineered to support a uniform live load of 30 lbs per one square feet of area.
- B. Deck material shall be designed for a concentrated vertical load of 300 pounds distributed over a one square foot area.
- C. Maximum deflection of structures shall be calculated using $L/180$ where "L" is the span length in decimal inches. (Example: 120 in. span/180 = .667 inches of deflection)
- D. Flotation devices shall be sized and placed to provide a minimum freeboard of eight (12) inches under dead load plus a 30 lbs per square foot uniformly distributed live load. Flotation shall also provide a minimum of 18 inches freeboard under dead load only. Additional flotation is required to support the additional loading caused by gangways and to alleviate unnecessary distortion of the dock.
- E. Wind: Uniform load from any direction, 15 pounds per square foot on all projected surfaces, assuming 100 percent boat occupancy

- F. Impact: All floating docks and their connections shall be designed to resist the impact of largest boat normally using the dock moving at a velocity of two knots or less at a maximum angle of ten degrees to centerline of pier.

2.2 MATERIALS

- A. Material and components shall be new and shall be free from defects which would adversely affect the performance or maintainability of individual components or other overall assembly or structure. Materials not specified herein shall be of the same or higher quality used for the intended purpose in commercial practice.
- B. Aluminum extrusions for dock structures shall be constructed from 6000 series aluminum alloy with 6061-T6 for primary structural components and shall be extruded in accordance with applicable sections of Federal Specifications QQ-A-200.
- C. All fasteners shall be Stainless Steel type (Grade 316).
- D. Flotation devices shall be rotationally molded, heavy wall polyethylene float drums, with ultraviolet light inhibitor, and shall be filled with modified polystyrene, expanded in place, to a minimum density of 1.0 to 1.2 lbs. /cu. ft.
- E. Decking material shall be either of the following material specified and should meet all loading requirements mentioned above and/or required for safe usage.
 - a. Aluminum decking shall be non-slip surface and extruded if necessary.
 - b. Wood decking: Lumber shall be of the size shown in the drawings and be Iron Woods, Ipe. All lumber shall be supplied surfaced 4 sides (S4S), eased four edges (E4E). Edges shall be eased to a radius of 1/8". A certificate of environmental compliance shall be provided certifying that the production of Iron Woods is from legally harvested logs ad defined under Brazilian Forest Code Law 4771 as regulated by IBAMA and ITTO guidelines.
 - c. Wood polymer composite.
- F. Anchor the dock with Pilings (wood, steel or concrete). Rollers used in pile guides shall be ultra high molecular weight polyethylene (hereafter referred to as UHMW) with black ultraviolet light inhibitor added.
- G. Dock edge protection shall be either of the following.
 - a. Floating dock(s) shall have wood fendering that contains no CCA. Fendering shall be a minimum of 2" X 8" boards and shall be secured to the docksides with a minimum of two (2) No. 14 X 2-1/2" S.S. oval head screws located at 4'-0" maximum on center.
 - b. Dock edging shall be non-marring, non-yellowing, extruded marine grade white vinyl dock bumper. Dock bumper shall be "Single-P" profile and shall be secured to the dock with broad head aluminum pop rivets located along the top and sides at a maximum of 12" on center. Dock bumper(s) shall be installed prior to shipping and shall be placed according to the buyer's specifications.
 - c. Dock(s) shall incorporate both wood fendering that contains no CCA or wood polymer composite fendering and vinyl bumper. Wood fendering or wood polymer composite fendering shall be installed according to Section 6.2 paragraph a. Vinyl dock bumper shall be secured to the fendering using S.S. roofing nails along the top and sides at a maximum of 12" on center.
- H. Cleats shall be ALMAG cast aluminum alloy meeting the requirements of Federal Specification QQ-A-571F and QQ-A-601E. Cleats shall be through bolted to the dock framing and shall withstand a mooring line load of 1500 lbs. in any direction.
- I. Dock connections for floating dock(s) shall have pre-fabricated hinged connections.



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