



## **LIBART ENCLOSURE SYSTEMS PRODUCT SPECIFICATIONS**

### **SECTION 13 34 13.19 RETRACTABLE POOL ENCLOSURE**

#### **PART 1 GENERAL**

##### **1.1 DESCRIPTION**

- 1.1.1 Provide the Libart Retractable Structure and included equipment listed herein, of the size and dimensions indicated on the drawings. Finished size of the enclosure may vary slightly, as approved by Architect, to accommodate manufacturer's standard dimensions, but shall not be less than the area indicated.
- 1.1.2 Manufacturer to furnish materials and equipment necessary for the enclosure system described in this section and contract drawings.
- 1.1.3 No fabrication of the structure shall be done until drawings have been approved. Foundation dimensions shall conform to approved enclosure drawings.

##### **1.2 QUALITY ASSURANCE**

- 1.2.1 Standards:  
Comply with International Building Code Standards 2003.

##### **1.3 SUBMITTALS**

- 1.3.1 Product data:  
Within 3 business days of acceptance of presentation drawings submit a complete set of engineering drawings for structural review and verification, and upon verification submit without alteration to manufacturing. Drawings will include the following:
  - Elevations, sections and plan views with structure in closed and open position
  - Detail section of typical framing members with member to member attachment details
  - Hardware mounting heights
  - Track layout with anchoring pattern
  - Anchorage and reinforcements
  - Glazing plan
  - Approved extrusion schedule

## 1.4 DESIGN CRITERIA

- 1.4.1 Submit engineering drawing set and structural calculations for enclosure signed and stamped by a Professional Engineer licensed to practice in the location where the enclosure is to be erected for review by the Architect.
- 1.4.2 Structural Performance:  
Except as noted, and as minimum, enclosures shall be designed in accordance with current AISI and AISC specifications and specifically The Aluminum Design Manual: Specifications for Aluminum Structures, Allowable Stress Design for design of structural members.
- 1.4.3 Design Loads:
- A. Design structure to carry the following loads as specified by appropriate jurisdictional building code standard:
    - a. Dead Load: Structure and Equipment
    - b. Snow Load: \_\_\_\_\_ (lbs./sq. ft.)
    - c. Wind Load: \_\_\_\_\_ (mph) & Exposure ( B – C – D )
    - d. Special Loads: (If Applicable)
    - e. Applicable Building Code is International Building Code 2003 (or appropriate jurisdictional code standard)
  - B. Load Combinations:
    - a. D.L. + S. L.
    - b. D.L. + W. L.
    - c. D.L. +  $\frac{1}{2}$  S.L. + W. L. or (  $\frac{1}{2}$  W.L. + S.L.)
- 1.4.4 Engineering Certification:  
Provide written structural analysis prepared and certified by a Registered Professional Engineer in the state of \_\_\_\_\_, that the enclosure meets all of the above loads.

## 1.5 DELIVERY, STORAGE AND HANDLING

- 1.5.1 Protect materials during delivery, storage and handling to comply with manufacturers directions and as required to prevent damage or deterioration.

## PART 2 PRODUCTS

### 2.1 ENCLOSURE

- 2.1.1 The Enclosure shall be pre-fabricated of extruded aluminum construction free of interior columns. Ferrous metals shall not be allowed.
- 2.1.2 Quality standard shall be Libart series AS as manufactured by Libart Enclosure Systems Ltd. #108B - 8988 Fraserton Ct, Burnaby, BC, V5J 5H8, Canada.

## MATERIALS

### 2.2. ALUMINUM:

- 2.2.1 Extrusions:
- A. Primary Framing: Alloy 6061-T6.
  - B. Secondary Framing: Alloy 6061-T6.
  - C. Gusset Plates: Alloy 6061-T6.
  - D. Finish: All exposed aluminum shall be finished with electrostatically applied thermosetting powder coat corrosion resistant finish equal to ANSI/AAMA 2604 to a thickness of 50 – 65 microns.

## 2.3 ALUMINUM STRUCTURE:

2.3.1 Enclosure is of manufacturer's extruded aluminum structural members (refer to extrusion profile schedule in drawings) framing, girts and purlins. All frame members will be visible. Design shall provide for uniform and set pattern, conforming to spacings indicated. Where design requirements can be met through use of manufacturer's standard components, such components shall be utilized. Structural members and connecting gusset plates shall be sized to meet required design criteria.

### A. Connections:

- i) Stainless steel bolts (Type 304 hexagon cap SS M10x20 DIN 933) with size appropriate stainless steel lock type washers and tapped aluminum gusset plates with all field connections of module sub components to be bolted.
- ii) Stainless steel socket head cap screws 18-8 3/8" x 3 1/2" for field installed hold down brackets.
- iii) Stainless steel 18-8 14, 18-8 12, length appropriate pan screws for factory installed Purlins, girts, bracing members and safety glazing retainers.

### B. Structural: Members:

2 3/8" x 4 15/16" 6061-T6 extrusion for series 125 structures and 2 3/8" x 5 7/8" 6061-T6 extrusion for series 150 structures will be used as specified in engineering drawings and shall extend in each case from secure track attachment point to apex of module with attachment of sub module components as per A.i). Structural members shall be precision punched or drilled to receive fittings for attaching aluminum sills, purlins, gutters, rafters, etc., as applicable.

### C. Gusset Plates:

6061-T6 structural aluminum 15mm x 140mm x 250mm per wing (500mm combined) for AS150 profile and 15 mm x 115mm x 250mm per wing (500 mm combined) for AS 125 profile. Gusset plates shall reinforce all structural member joins as per A i).

### D. Purlins:

Provide factory installed purlins for roof, gables and partitions, attached by means of stainless steel 18x8 14 x 3/4" and 18x8 14x2" pan head screws.

### E. End Module cross brace:

Each gable end module shall be cross braced across each glazed opening to reinforce the structure against end wind load pressures.

### F. Gaskets:

EPDM gaskets shall be used between structural framing members where sub members butt together at gusset plate connection points.

### G. Condensation System:

Provide an integrated condensate channel collection system of integral gutters in structural extrusion members and purlins designed to collect condensation and weep moisture to the exterior.

### H. Weather seals

- i. Provide resilient ground sweeps, end gable to intermediate module sweeps and intermediate module-to-module sweeps to control air passage between and under structure modules
- ii. Provide polyester fiber seals to inside face of module-to-module joints

## 2.4 FASTENERS:

2.4.1 Non-load bearing screws and bolts shall be 18-8 stainless steel.

2.4.2 All structure fasteners shall be type 304 stainless steel bolts. 3/8" or 1/2" as loads dictate.

2.4.3 Anchor Bolts: Provide stainless steel "Hilti" expandable type anchor bolt anchors 1/3" x 3". Provide complete with stainless steel nuts and washers.

## 2.5 GLAZING MATERIALS:

- 2.5.1 Polycarbonate double walled sheet shall be of 10 mm as manufactured by General Electric – Lexan The rmoclear LT C 2R1 0, Palram Sun lite or equal compliant with BOCA Sec. 2604.1, 2406.1, 2601.3, 803.3.2, 803.4 , IBC Sec c 2606. Compliance with ANSI z97.1-84 *Safety Specification and Method of test for Safety Glazing Materials Used in Buildings* as well as co nformity to CAN/ULC - S102. 2 and ASTM E-84 (class A) ASTM D1929 (self ignition ~1000°F) and ASTM D635 (cc1) Light tr ansmisssion properties of 73% for clear, 55% bronze, 57% opal a nd UV filter ability of 99.9%. All polycarbon ate sheet shall be coated with drip guard anti drip coating on t he interior surfaces to eliminat e condensate dripping. Polycarbonate will be supplied as specified in clear, bronze or opal tint.
- 2.5.2 Flat transparent rigid PMMA sheet shall be 4 mm as manufactured by Plexiglas, Palram or equal, compliant with BOCA Sec. 2604.1, 2406. 1, 2601.3, 803.3.2 , 803.4, IBC Sec 2606. Compliance with ANSI z97.1-84 *Safety Specification and Method of test for Safety Glazing Materials Used in Buildings* as well as conformity to CAN/ ULC - S102.2 and ASTM E-84 (class A) ASTM D19 29 (self ignition ~1000 °F) and ASTM D635 (cc1) Transparent sheet shall transmit 93% of light (clear), and shall not lose more than 6% of its light transmitting capability for a period of 10 years. (ASTM D-1003-77)

## 2.6 ENCLOSURE DOORS AND FRAMES:

- 2.6.1 Provide heavy duty, tubular frame members, fabricated with mechanical joints.
- 2.6.2 Provide 2-1/4" thick, wi de stile (over 5" width) doors. Fabricate doors to facilit ate replacement of glazing panels, without disassembly of stiles and rails.
- 2.6.3 Provide extruded alu minum glazing stops, with exterior stops an chored for non-removal. Glaze door lights with 4 mm glazing panels and captive EPDM rubber gaskets.
- 2.6.4 Hardware preparation shall sp ecifically allow installation of Libart sta ndard stainless steel locksets, in corporating Li bart sta ndard ba cksets and in stallation of lo ck cylinders as specified in the drawings.
- 2.6.5 Locksets shall be manufactured with stainless steel barrel, latch, body and strike plate.
- 2.6.6 Doors to be pre-hu ng in aluminum jambs wi th integral weather-strip a nd stops. Do ors, hinges, locksets, closers and pani c devices to be supplied and installed by Libart or as set forth in the Project drawings.

## 2.7 WINDOWS AND INSECT SCREENS:

(If applicable to project requirements)

- 2.7.1 Provide aluminum frames with 4 mm acry lic glazed sli ding wind ows a nd wove n in sect screen, 18x16 mesh. Screens will allow for re-scr eening of units in t he field. Screens will have brushes at vent rack arm locations. Windows shall be removable for cleaning.

## 2.8 SECURE TRACK AND ROLLER LOCKING SYSTEM:

- 2.8.1 All inst allations of retracta ble enclosures shall be in stalled and o perated on the Libart SecurTrak™ system (or e qual), as detailed in the p rofile drawings – profile A V01. Track shall be secured to concrete pad by me ans of stainless steel “Hilti” type wedge expansion anchors (KBII 304 SSCF 3/8"x3"). Solid core Ulpolen 1000 (PE-UHMY, UHMW-PE as mfg by Ticano in USA) wheels with 1 1/8" radius to match SecurTrak™ radius shall be attached to bottom structural rail of each operable module (minimum of 4 per module) in a 1/8" SS carriage operating on a pair of 6000 2RSR seale d bearings secured in the carriage with a 3/8" stainless steel axel.
- 2.8.2 Enclosure shall be secured from uplift from track by 6061-T6 aluminum safety hooks (Libart SecurLok™ profile or equal), 4 per module.

- 2.8.3 All cut track ends shall be finished with a plastic insert plug track end to cover sharp track ends and minimize tripping hazard.
- 2.8.4 Track ends at end modules shall be fitted with an aluminum stopper with integral rubber bumpers to prevent module travel beyond track end. Stopper shall be anchored to deck with "Hilti" type expansion anchor.
- 2.8.5 End modules shall be fitted with storm latch anchoring system.

## **PART 3 EXECUTION**

### **3.1 PREPARATION:**

- 3.1.1 Examine areas and conditions under which enclosure is to be installed. Notify Contractor in writing of conditions detrimental to proper and timely installation of work.
- 3.1.2 Coordinate and furnish anchorages, setting diagrams, templates and directions for installation of anchorages. Coordinate delivery of such items to project site.

### **3.2 ERECTION:**

- 3.2.1 Erect enclosure and related components in accordance with manufacturer's written instructions and final shop and erection drawings, and as directed by manufacturer and if provided manufactures site installation supervisor.
- 3.2.2 Erector shall be an experienced crew trained by manufacturer's authorized installation specialist.
- 3.2.3 No modification of enclosure or deviation from manufacturer's installation instructions shall be performed without manufacturer's written authorization.

### **3.3 OPERATION:**

- 3.3.1 Module retraction and closure shall be available with modules interlocked or with modules capable of independent travel on track. Modules shall be lockable to track at any position of travel.

### **3.4 WARRANTY:**

- 3.4.1 Structural:  
All products manufactured by Libart Enclosure Systems Ltd. shall be new and guaranteed free from defects in material and workmanship for ten years from customer receipt. (Manufacturer shall submit warranty for approval with bid.)
- 3.4.2 Glazing:  
All glazing material carries their manufacturers' respective warranties of 10 years