

338/390 Specifications

A. UNIT FEATURES

1. All pivot plates and handle hardware shall be extruded aluminum, finished to match the unit. Plated hardware is not permitted.
2. Pivot and strike jambs to have continuous vertical vinyl seal.
3. All doors to have continuous drip rail and vinyl wiper blade at bottom of door panel. Drip rail will be sloped to drain water to the interior of the door when opened. Installation of the drip rail is by double-sided foam tape. Mechanical fasteners are permitted.
4. Vinyl drip wiper is fully adjustable for precise fit to curb.
5. Doors to be adjustable for precise fit to wall conditions. Optional strike side fillers are available for extreme out-of-plumb wall conditions.
6. Latch to be permanently mounted magnetic strips. Mechanical closure devices not permitted.
7. Pivot side adjustment is $\pm 3/4"$.
8. Curb design allows attachment to base with double sided foam tape (supplied), sealant, or adhesive.
9. Side panels (391, 395), return panels (392), neo angle units (394), and custom configurations available with Alumax StikStall applications. (See separate StikStall specifications).
10. Detailed instruction sheets and cross sections with custom unit fabrication formulas.
11. Optional installation video.
12. 24 hour product information and support via the **Alumax Bath Enclosures Website** (www.alumag.com).

B. UNIT VALIDITY

1. Wet test: All joints, seams, and seals are tested and evaluated for leaks in a wet test module.
2. Mechanical test: Moving parts or components subject to wear are cycle tested to simulate 20 years of use.

3. Artificial aging: Plastic components are selectively tested by artificial aging. This process subjects the parts to ultraviolet light, heat, and humidity to test the resistance of the material to these conditions.
4. Quality: Alumax Bath Enclosures are produced in accordance with procedures specified by ISO 9000.

C. MATERIALS AND CONSTRUCTION

1. Size Limitations:

Maximum allowable width of unit = 37" (@ 72" tall)

Maximum allowable height of unit = 84" (@ 30" wide)

2. Alloy and Temper: Extruded aluminum shall be 6463-T6 alloy per ASTM B 221. This alloy is designed to accept a bright finish after anodizing. Used for decorative trim applications, machineable, polished, and anodized - also heat treatable.

| MECHANICAL PROPERTIES OF 6463-T6 (b) | | | | | |
|---|-------------------------------|-------------|--------------|-------------|---|
| Thickness in inches (b) | Tensile Strength - ksi | | | | Elongation percent min. in 2 in. or 4D |
| | Ultimate | | Yield | | |
| | min. | max. | min. | max. | |
| Up thru 0.124 | 30 | .. | 25.0 | .. | 8 |
| 0.125 - 1.000 | 30 | .. | 25.0 | .. | 10 |

- a. Hardness of 6463-T6 on Rockwell B scale: 20-50.
 - b. T6 temper designates a material that is thermally treated to produce stable tempers then solution heat treated and artificially aged. For complete temper designation consult technical publications ANSI 35.1 or the Aluminum Association publication, Aluminum Standards and Data.
 - c. The thickness of the cross-section from which the tension test specimen is taken determines the applicable mechanical properties. The data base and criteria upon which these mechanical property limits are established are outlined in the Aluminum Association publication Aluminum Standards and Data (ASD) Section 6, "Mechanical Properties".
3. Metal Gauge: The nominal wall thickness of individual aluminum extruded components for this unit varies with structural needs.

| Component | Description | Nominal Wall Thickness |
|------------------------|--------------------|-------------------------------|
| SC-641 | Strike Jamb | .062" |
| SC-901, SC-902, SC-910 | Strike Jamb Fills | .062" |
| SC-621 | Pivot Jamb | .062"/.075" |
| SC-558 | Panel Rails | .062"/.087" |

| Component | Description | Nominal Wall Thickness |
|-----------|-------------|------------------------|
| 67785 | Handle | .062" |
| SC-607 | Curb | .050" |
| SC-589 | Drip Rail | .062 |

4. Tolerances: Tolerances on all aluminum extruded components shall comply with Aluminum Association requirements unless otherwise specified.
5. Hardware: All hardware parts that are incorporated in the product shall be of aluminum, stainless steel, or other corrosion resistant material(s) compatible with aluminum. Cadmium or zinc-plated parts, where used, shall be in compliance with ASTM A 164-71 or 165-74. Nickel or chrome-plated parts, where used, shall be in compliance with ASTM B 456.71, SC2. Stainless material should have a preference of a 310 alloy with a 410 alternative.

For detailed technical information about stainless steel download the following files from the Alumax Bath Enclosures website at www.alumag.com:

STAINLES.ZIP, S_STEEL.ZIP

- a. Fasteners to follow International Fasteners Institute standard B18.6.3 for Slotted and Recessed Head Machine Screws and Metallic Drive Screws or B18.6.4 for Slotted and Recessed Head Tapping Screws and Metallic Drive Screws.
- b. Pivot Block – Cast Metal Alloy VN5-Z33522 (also Alloy #7) ASTM-A-640A or equivalent.
- c. Pivot Pin – Stainless Steel ASTM A276 TY 302 Passivated.

| d. MECHANICAL PROPERTIES OF 338/390 DUAL DUROMETER VERTICAL SEAL (Flexible Component) & DRIP VINYL Plasticized, filled with Shore A Durometer Hardness of 65 | |
|---|----------|
| Tensile Break Strength | 1100 psi |
| Ultimate Elongation | 360% |
| Specific Gravity 23/23 C | 1.39 |
| Shore "A" Hardness Initial @ 10 sec. | 65 61 |
| Brittleness Point, F 50% Failure @ | -33 |

| e. 338/390 DUAL DUROMETER VINYLs AND SEALS | | | |
|---|--------------------|--------------|--------|
| Mechanical Properties of Rigid Component | | | |
| Property | ASTM Method | Units | |
| Specific Gravity | D792 | --- | 1.34 |
| Hardness Durometer D | D2240 | --- | 85 |
| Rockwell R | D785 | --- | 107 |
| Tensile Strength | D638 | psi | 6,350 |
| Flexural Strength | D790 | psi | 12,400 |
| Izod Impact, 1/8" Notched | D256 | ft lb/in | 15 |
| Optical Clarity – Transmittance | D1003 | % | 74 |
| Haze (.65 mil) | | % | 5 |
| All data obtained at 73 deg. F from injection molded Test specimens prepared per ASTM D647 and D1897 | | | |

| f. DOUBLE STICK DRIP RAIL & CURB ATTACHMENT TAPE | |
|---|--|
| Mechanical Properties | |
| ADHESIVE | |
| Shelf Life | 2 years (stored at 75 deg. F and 50% relative humidity out of direct sunlight in closed package) |
| Application Temp. Range | 65 deg. F – 120 deg. F |
| General Service Temp. range | 0 deg. F – 150 deg. F |
| Static Shear | 15 lbs/in sq. |
| 180 Peel Adhesion | 128 ounces/inch width |
| Tensile | 50 lbs/in sq. |
| Shear Adhesion (1000g/in sq.) | No creep @ 500+ hours |
| FOAM BASE | |
| Foam Density | 6# |
| Water Absorption per ASTM D-1667 | 0.04 (lbs/ft sq.) |
| Elongation per ASTM D-1564 | 323-395 (% to break) |
| Strength per ASTM D-1564 | 180-220 (lbs/in sq.) |

| g. DRIP PLUG | | | |
|---|--------------------|--------------|--------|
| Mechanical Properties of Base Material | | | |
| Property | ASTM Method | Units | |
| Specific Gravity | D792 | --- | 1.36 |
| Hardness | D785 | R scale | 121 |
| Tensile Strength at yield | D638 | psi | 23,000 |
| Flexural Strength at yield | D790 | psi | 34,000 |
| Izod Impact at 73° F, Notched | D256 | ft lb/in | 1.40 |
| Water absorption 24 hr immersion | D570 | % | 1.1 |

6. Glazing Vinyls: Vinyls and other glazing seal materials shall be of material compatible with aluminum, be resistant to water and common household chemicals and shall create a water-tight seal between the glass and its surrounding frame.

| a. MECHANICAL PROPERTIES OF 338/390 GLAZING VINYL Plasticized, filled with Shore A Durometer Hardness of 60 | |
|--|----------|
| Tensile Break Strength | 920 psi |
| Ultimate Elongation | 600% |
| Specific Gravity 23/23 C | 1.28 |
| Shore "A" Hardness Initial @ 10 sec. | 61 58 |
| Brittleness Point, F 50% Failure @ | -6 |

7. Glazing Materials: All glazing materials to be safety tempered glass with a nominal thickness of .188" on obscure or clear panels, .250" optional on clear, or other safety glazing materials to conform to Federal Standard CPSC 16 CFR 1201 Category 1 and 2, Safety Standard for Architectural Glazing Materials. Dimensional tolerances shall conform to ASTM C 1036-85 and ASTM C 1048-85.

For detailed information concerning the mechanical properties of tempered glass download the following files from the Alumax Bath Enclosures website at www.alumag.com:

TECHGLAS.ZIP, GLASPROP.ZIP

8. Finish Specifications (Anodized): The finish on anodized aluminum components shall conform to the following Aluminum Association Specifications:
- Silver: AA-M21-C31-A21 for buffed, clear, bright anodized aluminum.
 - Gold: AA-M21-C31-A23 for buffed, colored, bright anodized aluminum.

Anodized aluminum components are tested or inspected for thickness of anodic coating (.00015" min.\.00030" max.), color range variation, and integrity of the anodic seal.

NOTE: The finished surface of anodized aluminum parts can be damaged by harsh cleansers. In particular, glass cleaners or other cleaning products with a PH of less than 7 or more than 9 can damage the anodized finish with prolonged exposure.

9. Finish Specifications (Painted)

Painted components shall conform to AAMA 603.8, Voluntary Performance Requirements and Test Procedures For Pigmented Organic Coatings On Extruded Aluminum.

- White powder coating shall conform to Aluminum Association standard AA-M10-C40-R1X.

Material used is polyurethane powder coating.

| TYPICAL PROPERTIES OF 338/390 POWDER COATING | | |
|---|--------------------|-----------------|
| Property | ASTM Method | |
| Specific Gravity, PCI #4 | --- | 1.2 – 1.9 |
| Gloss | D523 | 5 – 95+ |
| Pencil Hardness | --- | H – 2H |
| Impact | D2794 | To 160 Inch lbs |
| Mandrel Bend | D522 | 1/8 Inch |
| Cross Hatch Adhesion | D5339 | Excellent |
| MFK resistance, PCI #8 | --- | 50 Double Rubs |
| Abrasion resistance | D1044 | Good |
| Salt Spray | D8117 | 500 Hrs. Min |
| Film Thickness | D1186 | 1.0 – 4.0 Mils |