

## 840/850 Specifications

### A. UNIT FEATURES

1. Fully adjustable, sealed, heavy duty ball bearing rollers. Up and down adjustment of panels is plus or minus .156".
2. Safety tee-lock wall jamb to header connection.
3. Control panel tub track panel guide with panel mounted silencers.
4. Peel and stick molded jamb bumpers.
5. Pocketed wall jamb inserts with full length vertical seal.
6. (Optional) anti-jump header insert.
7. Interior and exterior towel bars with molded clear polypropionate towel bar brackets. **Towel bars are not to be used as grab bars.**
8. Vinyl seals between panels and at panel top rails and header.
9. Available in tub (840) and shower height (850).
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](http://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 height of unit = 72"

Maximum allowable width of unit = 72"

Deflection of header on maximum sized unit with 5/32" glass = .085".

Deflection of header on maximum sized unit with 3/16" glass = .100".

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.

<b>MECHANICAL PROPERTIES OF 6463-T6 (b)</b>					
<b>Thickness in inches (b)</b>	<b>Tensile Strength - ksi</b>				<b>Elongation percent min. in 2 in. or 4D</b>
	<b>Ultimate</b>		<b>Yield</b>		
	<b>min.</b>	<b>max.</b>	<b>min.</b>	<b>max.</b>	
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.

<b>Component</b>	<b>Description</b>	<b>Nominal Wall Thickness</b>
SC-896	Wall Jamb	.050"
SC-850	Wall Jamb Fill	.050"
SC-527	Wall Jamb Fill	.045"
SC-868, SC-540	Panel Side Rails	.078"
SC-539	Panel Top Rail	.062" - .078"
SC-866	Panel Bottom Rail	.062" - .078"
SC-917	Header	.078"
SC-869	Tub Track	.062"
SC-805	Towel Bar	.062"
SC-814	Tub Track Fill	.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](http://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. Roller Bearings: Maximum load (2 bearings) – 60 lb., Estimated life of bearing 75,000 cycles minimum.

<b>c. TOWEL BAR BRACKET Mechanical Properties of Base Material</b>			
Property	ASTM Method	Units	
Specific Gravity	D792	---	1.20
Rockwell Hardness	D785	R scale	75
Tensile Strength at yield	D638	psi	3,000
Flexural Strength at yield	D790	psi	4,400
Izod Impact at 73° F, Notched	D256	ft lb/in	8.3
Deformation under load at 1000 psi	D621	%	2
Water absorption 24 hr immersion	D570	%	1.9

<b>d. MECHANICAL PROPERTIES OF 840 VERTICAL &amp; HORIZONTAL SEAL Plasticized, filled with Shore A Durometer Hardness of 65</b>	
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

<b>e. CLEAR ADHESIVE BACK BUMPER Mechanical Properties</b>		
<b>Property</b>	<b>ASTM Method</b>	
Hardness Shore "A"	D2240	70 – 80
Resilience	D2632	3 – 6%
Abrasion	C-501-66	0,13g/1,000 cycles
Tensile	D412 Die A	740
Elongation	D412 Die A	65%
Solvent Resistance	5% Detergent in water	No Apparent Effect
	25% Ammonia in water	No Apparent Effect
<b>BUMPER ADHESIVE</b>		
Static Shear (3M Test Method) 70° F 120° F 158° F		Excellent Excellent Excellent
Impact Resistance (3M Test Method) Low Surface Energy High Surface Energy		Poor Good
Dynamic Shear (3M Test Method) Low Surface Energy High Surface Energy		Excellent Excellent

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.

<b>a. MECHANICAL PROPERTIES OF 840/850 GLAZING VINYL Plasticized, filled with Shore A Durometer Hardness of 60</b>	
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 .156"/.188" on obscure or clear framed panels 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](http://www.alumag.com):

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

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

Material used is polyurethane powder coating.

<b>TYPICAL PROPERTIES OF 640/650 POWDER COATING</b>		
<b>Property</b>	<b>ASTM Method</b>	
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