

# DesignLine Heavy Glass Hinge Specifications

## A. HINGE

1. Hinge body shall be cold-rolled brass.
2. Standard finishes to include:
  - Polished Brass
  - Satin Brass
  - Polished Chrome
  - Satin Chrome
  - White
  - Brushed Nickel
  - Polished Nickel
3. Supports 50 lbs per hinge.
4. Rounded corners with bevel edges.
5. Stainless steel pistons and springs.
6. “Mickey Mouse” style glass cut-outs to reduce the chance of slippage.
7. Accommodates both 3/8” and 1/2” glass.
8. Phillips head screws standard.
9. Full or small back plates available. Full back plate is standard.
10. Wall mount screws provided are #10 x 2” stainless steel or brass.
11. Custom angle and pressure angle pins available.
12. Maximum 3/8” door panel width 28”, 100 lbs w/2 hinges, 31”, 150 lbs w/3 hinges.

## **B. HARDWARE AND EXTRUDED ALUMINUM ACCESSORIES**

1. 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 (a)</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".
2. 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-644	Curb & Header	.094"/.344"
SC-646	Header	.94"/.344"

3. Tolerances: Tolerances on all aluminum extruded components shall comply with Aluminum Association requirements unless otherwise specified.
4. Hardware: All hardware accessory parts used in conjunction with hinges 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.
5. Glazing Materials: All glazing materials to be safety tempered glass with a nominal thickness of .375" for door 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):

TECHGLAS.ZIP, GLASPROP.ZIP

6. 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.
  - c. Brushed Nickel: AA-M35-C31-A23 for brushed, colored, bright anodized aluminum.
  - d. Satin: AA-M10-C22-A21 for etched, clear, 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.

7. 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 DesignLine 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