

**ADMINISTRATIVE AMENDMENT**

**FILE # \_\_\_\_\_ PROJECT # \_\_\_\_\_**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**APPROVED BY**

**DATE**

# Non Illuminated Acrylic Letters

Existing Conditions:  
No signs on Building Facade



## ABQ Pediatric Dentistry

Not to Scale

Address: 4620 Jefferson Lane NE  
City/State: Albuquerque NM 87109  
Phone: Dr. Christian Rawson, (808-312-0254)

 **SignPlex**<sup>™</sup>  
Indoor - Outdoor Innovations  
P: 505-341-0213 F: 505-341-3291  
4901 Edith BLVD NE, Albuquerque NM 87107  
License Number: 368298 EE98 & GS23

# Sign 1 - Sign Details

**A** Quantity 1: Non-lit Acrylic Logo and Lettering  
**Sign Size:** 9' 1" L x 2' 1" H **Sign sq/ft:** 18 sq/ft

**B** Quantity 1: Non-lit Acrylic Logo and Lettering *\*(see following page)*  
**Sign Size:** 7' 5" L x 1' 9.5" H **Sign sq/ft:** 14.06 sq/ft

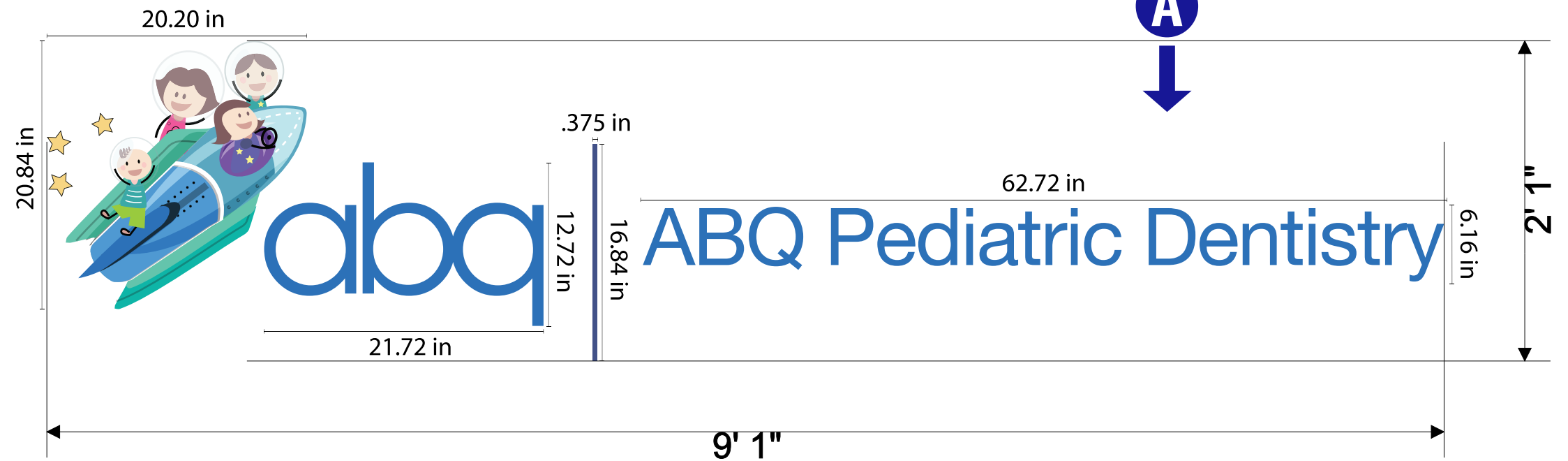
**Total Sign Sq/FT:** 32.06 sq/ft

**Building Facade sq/ft:** 22' 2" L x 14' 9"H = 329.11 sq/ft

**Signs are:** 10 % of the Facade



**A** Custom painted, 3/8" thick, acrylic NON-illuminated, logo and letters. Flush mounted with studs.



## ABQ Pediatric Dentistry

Not to Scale

**Address:** 4620 Jefferson Lane NE  
**City/State:** Albuquerque NM 87109  
**Phone:** Dr. Christian Rawson, (808-312-0254)

**SignPlex**<sup>™</sup>  
 Indoor - Outdoor Innovations  
 P: 505-341-0213 F: 505-341-3291  
 4901 Edith BLVD NE, Albuquerque NM 87107  
 License Number: 368298 EE98 & GS23

# Sign 2 - Sign Details

**B** Quantity 1: Non-lit Acrylic Logo and Lettering.  
**Sign Size:** 7' 5" L x 1' 9.5" H **Sign sq/ft:** 14.06 sq/ft

**A** Quantity 1: Non-lit Acrylic Logo and Lettering *\*(see previous page)*  
**Sign Size:** 9' 1" L x 2' 1" H **Sign sq/ft:** 18 sq/ft

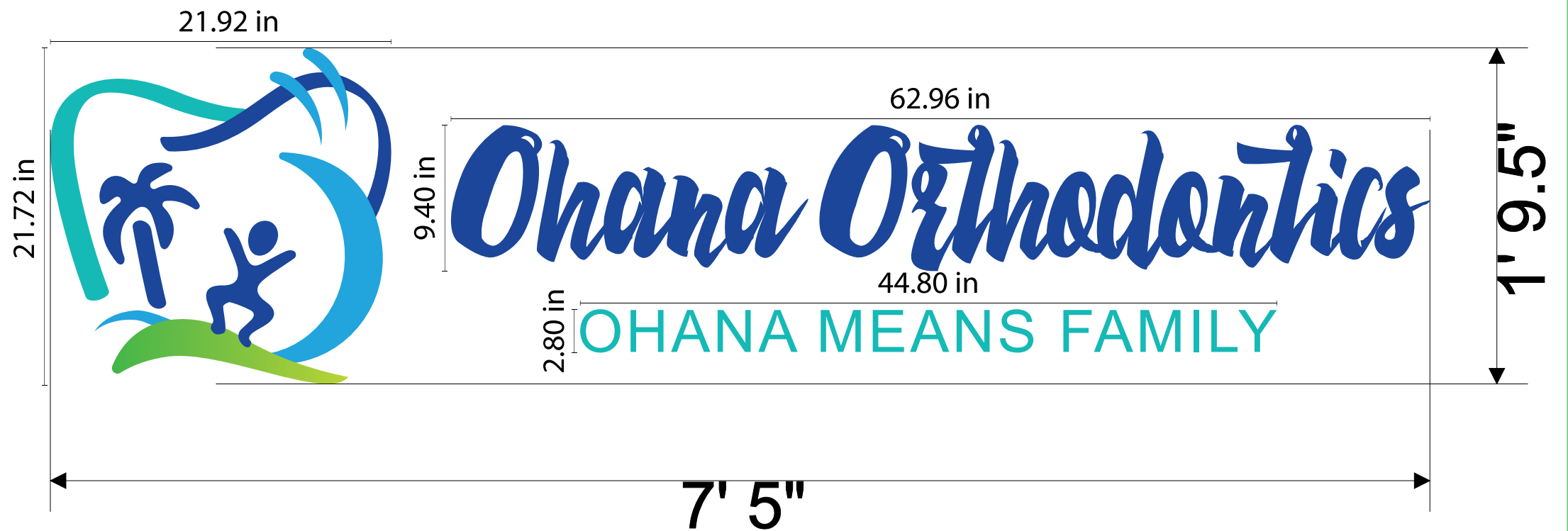
**Total Sign Sq/FT:** 32.06 sq/ft

**Building Facade sq/ft:** 22' 2" L x 14' 9"H = 329.11 sq/ft

**Signs are:** 10 % of the Facade



**B** Custom painted, 3/8" thick, acrylic NON-illuminated, logo and letters. Flush mounted with studs.



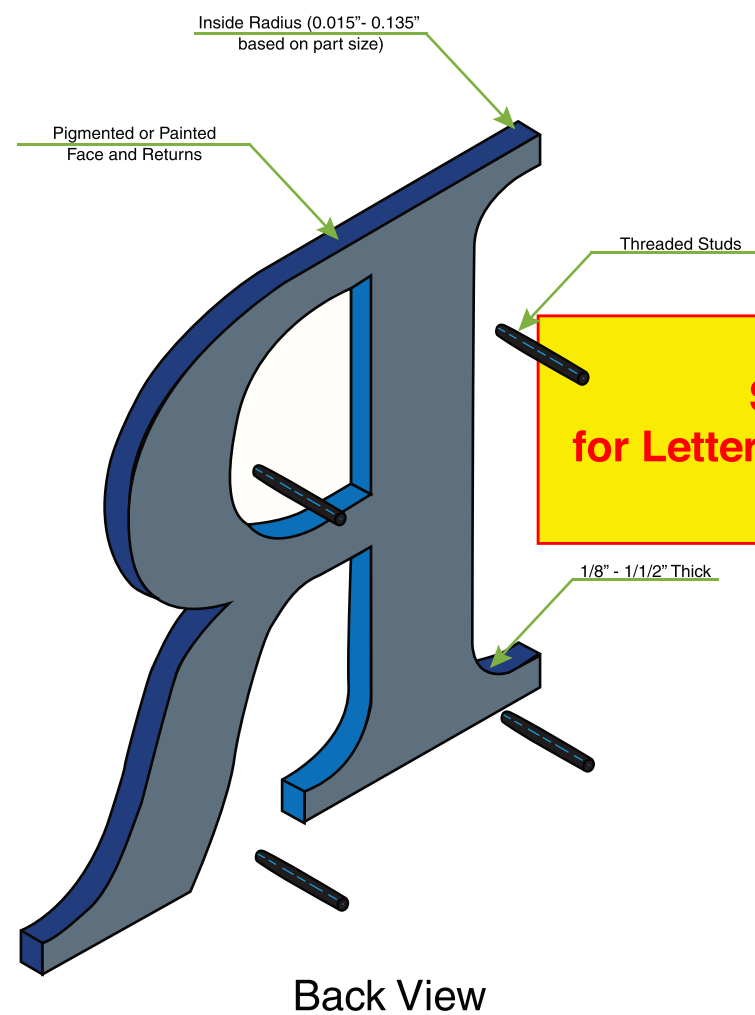
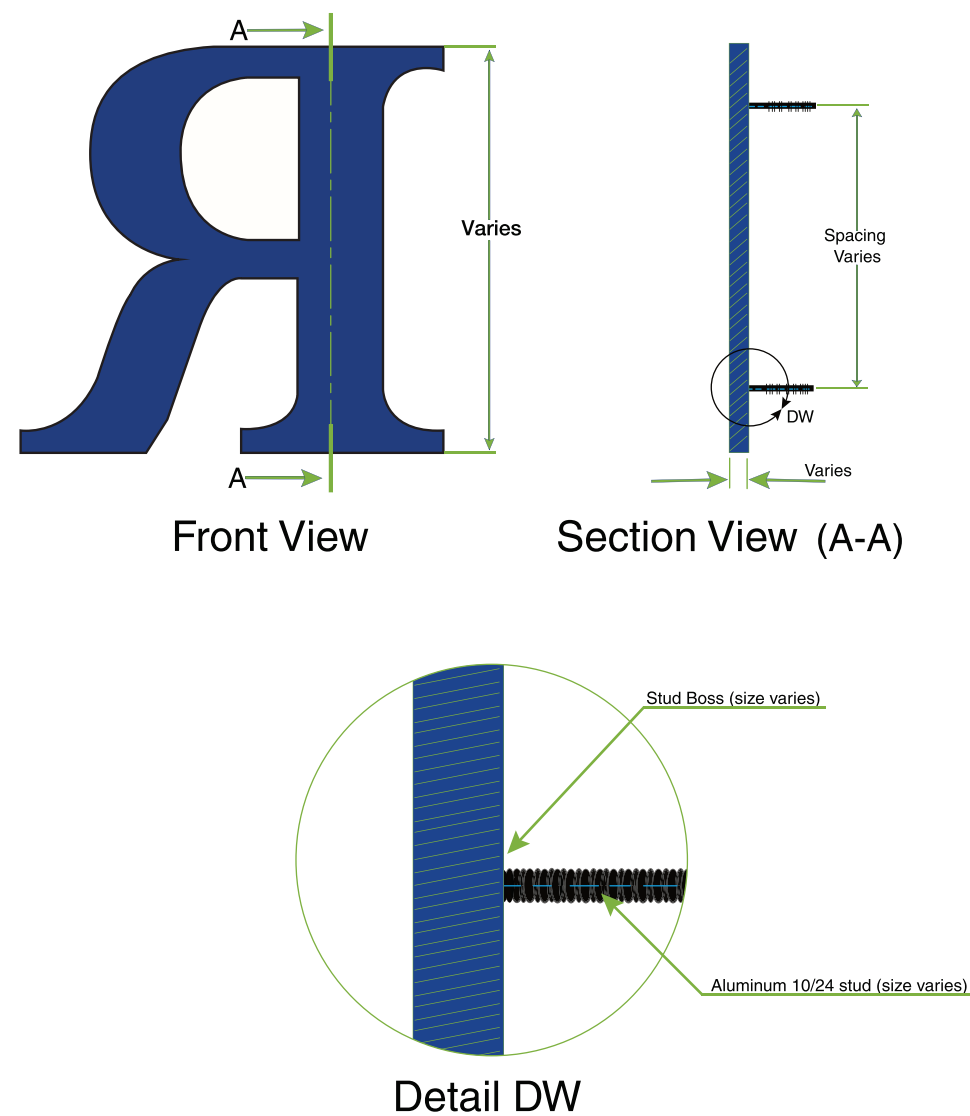
## ABQ Pediatric Dentistry

Not to Scale

**Address:** 4620 Jefferson Lane NE  
**City/State:** Albuquerque NM 87109  
**Phone:** Dr. Christian Rawson, (808-312-0254)

**SignPlex**<sup>™</sup>  
 Indoor - Outdoor Innovations  
 P:505-341-0213 F:505-341-3291  
 4901 Edith BLVD NE, Albuquerque NM 87107  
 License Number: 368298 EE98 & GS23

# Mounting Details

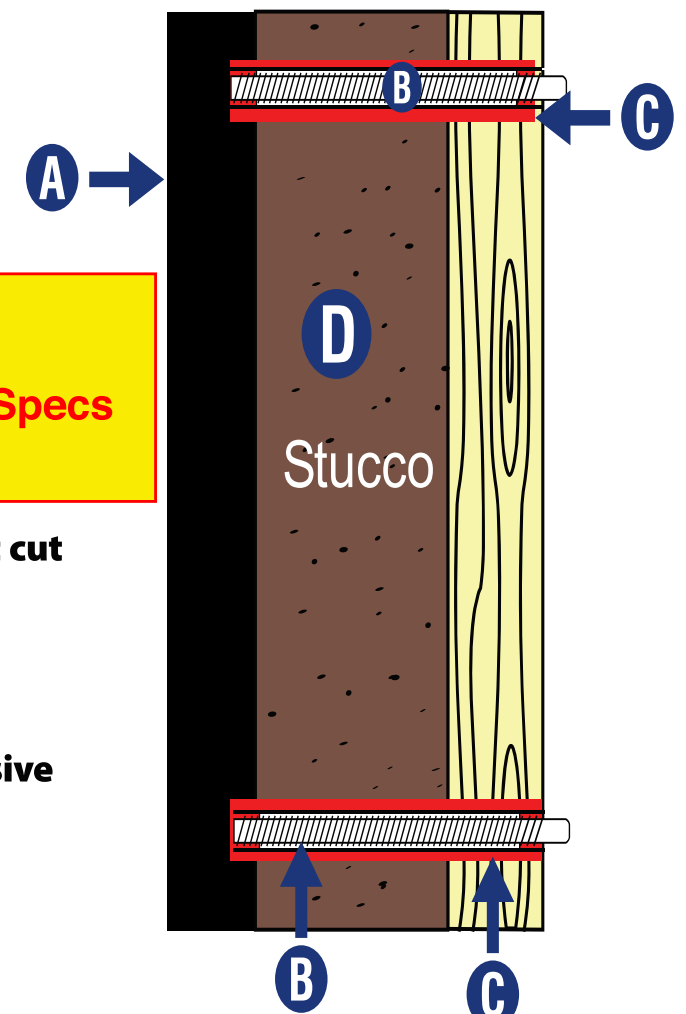


Not to Scale

See Following Page  
for Letter Specs and Mounting Specs

## Profile View

## Flush/Stud Mount Side View



- A** 3/8" Thick flat cut acrylic letters
- B** 3/16" Studs
- C** Red indicates silicone adhesive
- D** Stucco wall with plywood back

## ABQ Pediatric Dentistry

Address: 4620 Jefferson Lane NE  
 City/State: Albuquerque NM 87109  
 Phone: Dr. Christian Rawson, (808-312-0254)

**NOTE: All bolts shall be embedded at least 5" as per H111.2 2015 IBC**

  
 Indoor - Outdoor Innovations  
 P:505-341-0213 F:505-341-3291  
 4901 Edith BLVD NE, Albuquerque NM 87107  
 License Number: 368298 EE98 & GS23

# Letter & Mounting Specs from Vendor

## LASER CUT ACRYLIC Letters & Logos Specifications

Rev. 9/27/19

### Part I – General

#### 1.1 Scope

A. Furnish letters and hardware necessary to install Laser Cut Acrylic, shown on drawings and herein specified.

#### 1.2 Submittals

- A. Manufacturer's illustrated product literature and specifications.
- B. Installation instructions

#### 1.3 Quality Assurance

- A. Manufacturer to have a minimum of 25 years experience in manufacturing letters.
- B. All letters to be manufactured by one manufacturer.

### Part II – Products

#### 2.1 Acceptable Manufacturer or Manufacturer's Representative

- A. Gemini Incorporated  
103 Mensing Way  
Cannon Falls, MN 55009  
Phone: 800-538-8377 or 507-263-3957  
Fax: 800-421-1256 or 507-263-4887  
Email: sales@geminisignproducts.com  
Web: www.geminisignproducts.com

#### 2.2 Materials (Impact-modified acrylic)

- A. Gemini manufactures impact-modified extruded acrylic sheet, in multiple standard pigmented colors 1/8" to 1/2" thick and 3/4" – 1-1/2" thick Cast Acrylic sheet that can be liquid painted. Gemini's acrylic offers good rigidity, tensile strength, and is resistant to chemicals & corrosion - UV inhibitors help prevent colors from fading - Impact modifiers added to help prevent material from breaking.

#### 2.3 General Construction.

- A. Gemini's Laser cut acrylic letters & logos are cut from impact modified extruded acrylic sheet, pigmented or painted. Extruded gauges: 1/8", 3/16", 1/4", 3/8", and 1/2" thickness. Pigmented or painted, standard or custom colors. Cast gauges: 3/4", 1" & 1-1/2" thickness. Painted any standard or custom color.
- B. Laser cut with a slight radius on all inside and outside corners. Filet sizes are based on part sizes and gauge. This radius helps to prevent letters from cracking during shipment and installation. Radius average = .050".
- C. Computerized vector files are imported and cleaned to properly cut a quality product. The degree of cleaning is more critical with a laser to produce a quality finished product.
- D. Largest single piece that can be laser cut and shipped is 46" x 93". Larger shapes can be cut in pieces. Letters can be laser cut as small as 3/4" high (with 1/8" thick material). Larger letters will typically require a thicker gauge material.
- E. Laser cutting will produce a smooth edge (return). Edge finish will vary based on pigmented color or paint.
- F. Laser cut acrylic panels and logos are available painted or custom printed with 1200 dpi resolution – UV resistant ink.
- G. Impact Strength of 1.2, with a HN Flammability Rating. Vicat Softening Temperature of 227°F. Flame Spread Index 115. Smoke Develop Index 550. Self Ignition Temperature 833.

#### 2.4 Mounting Hardware

- A. Mounting options: plain, double face 25mil tape, studs, pads, or a combination of the two for typical mounting options. Letters 3/8" and thicker can be precision drilled & tapped for a Flush Stud mount. Optional spacers available.
- B. Studs: Laser cut acrylic letters and logos are typically stud mounted with 6-32 or 10-24 studs. 5056 Aluminum alloy studs are standard. Stainless Steel 302 alloy studs - optional. 2" long studs are standard – longer studs available upon request.
- C. Decorative Metal Stand-Offs, available for mounting acrylic panels. Clear Anodized Aluminum Stand-Offs are 1/2" or 1" diameter, with 3/4" or 1-1/2" stand-off options.

#### 2.5 Manufacture

- A. Letters/Logos shall be made of Laser Cut Acrylic.
- B. Letter shall be \_\_\_\_\_ letter style and shall be \_\_\_\_\_ inches high, as indicated on drawings.
- C. Mounting shall be \_\_\_\_\_ and a perfect pattern or drill pattern, designating stud locations are / are not required for mounting on a \_\_\_\_\_ surface.

### Part III – Execution

#### 3.1 Installation

- A. A qualified installer shall install Laser Cut Acrylic Letters and Logos.

#### 3.2 Warranty

- A. Letters should be guaranteed for the life of the business against defects.

#### 3.3 Maintenance

- A. Cleaning as needed per manufacturer recommendations.



## WIND LOAD CALCULATIONS - PLASTIC LETTERS

F1-TECH-Q16

Rev. 9/11/19

General plastic windload information provided below.

More job specific calculations and certifications available upon request.

### Plastic Letters - Combination ALL Mount

The following data was calculated in May 2004, and reaffirmed 2012, using Gemini's Formed plastic letters, thermoformed out of CAB (Cellulose Acetate Butyrate). Testing and Calculations done and confirmed by David Schmitt, VP Operations, BSME, MMSE.

#### Assumptions and facts:

Numbers are based on a wind force of 144 mph - this equals 82.7 lb/sq. ft. Samples used for testing were Helvetica (a common style) Mounting hardware for the letters was a Combination All mount (stud through pad) with an injection molded plastic block used to receive the threaded stud.

Max. depth of the letters was as follows:

12" UC	1-1/2" deep
18" UC	2" deep
24" UC	2-1/2" deep
36" UC	3" deep

Tensile strength at break for CAB (Cellulose Acetate Butyrate) is 1800 psi  
Tensile strength of Chemcaulk Silicone Adhesive is 350 psi  
Thread area for shear of a 10-24 plastic block is 0.048 sq. in.  
Average face area of a sign letter is .6 x height squared

The following numbers are the result of actual tests, and theoretical information, gathered from the manufacturers of the component parts. This chart is designed to show how much force our mounting hardware will withstand, when used on a standard letter.

Letter Height	144 wind Face Load lbs. Force	144 wind Side Load lbs. Force	Block Shear Strength lbs force	Silicone/Pad Shear Stren. lbs. Force
12"	50 lbs.	11 lbs.	346	3360
18"	112 lbs.	22 lbs.	518	14700
24"	198 lbs.	36 lbs.	518	14700
36"	447 lbs.	65 lbs.	691	19600

Ex: A 24" letter will have 36 lbs. of force pushing on the letter's side, with 144 mph winds. A 24" letter will have 198 lbs. of force pushing on the letter's face, with 144 mph winds. This 24" letter's hardware (threaded block) will not fail until the force equals 518 lbs. of force. This 24" letter's pad with silicone will not fail until the force equals 14,700 lbs. of force

### Gemini Letter Data

Letter Height	Face Area Square in.	Side Area Square in.	Pads/letter	Pad Area Sq. in. ea.	Total Pad Area Sq.in.	Plastic Block Thread Area	Total Block Thread area
12"	86.4	18	4	2.4	9.6	0.048	0.192
18"	194.4	36	6	7	42	0.048	0.288
24"	345.6	60	6	7	42	0.048	0.288
36"	777.6	108	8	7	56	0.048	0.384

### Assumptions and Facts

The point of failure will be the Aluminum screws in shear, at the minor thread diameter. 144 mph wind speed is equal to 82.7 lb./sq.ft. (0.574 lbs./sq.in.) Tensile strength at break for 3003 Aluminum is 16,000 psi. Minor thread area in shear of a 10-24 Aluminum Screw is .015 sq.in. at 2 threads depth. Therefore, each screw has a holding force in shear of 240 pounds. Average face area of a sign letter is .6 x height squared. Maximum depth of letters is 1.0" at 6"high, 1.5" at 12"high, 2.0" at 18"high, 2.5" at 24"high, and 3.0" at 36"high.

## ABQ Pediatric Dentistry

Address: 4620 Jefferson Lan NE

City/State: Albuquerque NM 87109

Phone: Dr. Christian Rawson, (808-312-0254)

Not to Scale



Indoor - Outdoor Innovations

P:505-341-0213 F:505-341-3291

4901 Edith BLVD NE, Albuquerque NM 87107

License Number: 368298 EE98 & GS23

4620 Jefferson Lane NE  
Albuquerque NM 87109

# Site Plan

