SECTION 10400

SIGNAGE

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\*\* NOTE TO SPECIFIER \*\* Gemini Inc.; signage, dimensional letters, logos and plaques.  
This section is based on the products of Gemini Inc., which is located at:  
103 Mensing Way  
Cannon Falls, MN 55009  
Toll Free Tel: 800-538-8377  
Tel: 507-263-3957  
Fax: 800-421-1256  
Email: [request info (https://geminimade.com/signage/support)](https://admin.arcat.com/users.pl?action=UserEmail&company=Gemini+Inc.&coid=32715&rep=&fax=800-421-1256&message=RE:%20Spec%20Question%20(10400gem):%20%20&mf=)  
Web: <https://geminimade.com/signage/architect>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos32/arc32715.html) ] for additional information.  
Since 1963 the people of Gemini have been working with sign professionals and architects to produce dimensional letters, logos and plaques that carry a Lifetime Guarantee. Our people use the finest technology available to craft products which they hand finish to the most exacting specifications. By maintaining premiere surface quality, color control and uniformity of thickness we are able to offer products, in a timely fashion, that carry the industry's only guarantee of lifetime satisfaction.  
Specializing in foundry cast bronze and aluminum letters in natural, anodized, oxidized or powder coat finishes; aluminum, bronze and brass plaques; and water jet cut metal letters and logos -- Gemini produces the largest line of dimensional letters, logos and plaques in the world. Let us help you bring your ideas and images to life.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Signage of the following types:
       1. Flat cut acrylic letters.
       2. Channel letters.
       3. Formed plastic letters.
       4. Cast metal letters.
       5. Etched plaques.
       6. Fabricated letters.
       7. Flat cut metal letters.
       8. Cast or precision tooled metal plaques.
       9. Panel plaques.
       10. Panel plaques for wayfinding.
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03300 - Concrete: Substrate.
    2. Section 04400 - Masonry: Substrate.
    3. Section 09260 - Gypsum Board: Substrate.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. Underwriter's laboratory (UL) 746c - Standard for Safety of Polymeric Materials -- Use in Electrical Equipment Evaluations.
    2. Underwriter's laboratory (UL) 94 and 94v-0 - Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances.
    3. ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position.
    4. NAVY G 88-0-4 (C90300) - Alloy Specification for Tin Bronze.
  1. SUBMITTALS
     1. Submit under provisions of Section 01300.
     2. Product Data: Manufacturer's illustrated product literature and specifications to be used, including:
        1. Preparation instructions and recommendations.
        2. Storage and handling requirements and recommendations.
        3. Installation methods.
     3. Shop Drawings: Submit detailed drawings of products and assemblies.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

* + 1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
    2. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color, and patterns.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Manufacturer to have a minimum of 20 year experience in manufacturing letters.
     2. Installer Qualifications: Minimum 2 year experience installing similar products.
     3. Sourcing: All signage shall be manufactured by one manufacturer.

\*\* NOTE TO SPECIFIER \*\* Include a mock-up if the project size and/or quality warrant taking such a precaution. The following is one example of how a mock-up on a large project might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
       1. Finish areas designated by Architect.
       2. Do not proceed with remaining work until workmanship is approved by Architect.
       3. Rework mock-up area as required to produce acceptable work.
  1. PRE-INSTALLATION MEETINGS
     1. Convene minimum two weeks prior to starting work of this section.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
     2. Handle materials to avoid damage.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. SEQUENCING
     1. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
  5. WARRANTY
     1. Manufacturer's Warranty: Provide manufacturer's standard warranty against defects in materials and workmanship. Letters shall be guaranteed for the life of the business against defects.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Gemini Inc., which is located at: 103 Mensing Way; Cannon Falls, MN 55009; Toll Free Tel: 800-538-8377; Tel: 507-263-3957; Fax: 800-421-1256; Email: [request info (https://geminimade.com/signage/support)](https://admin.arcat.com/users.pl?action=UserEmail&company=Gemini+Inc.&coid=32715&rep=&fax=800-421-1256&message=RE:%20Spec%20Question%20(10400gem):%20%20&mf=); Web: <https://geminimade.com/signage/architect>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01600.

\*\* NOTE TO SPECIFIER \*\* Gemini plastic letters offer the greatest variety of dimensional plastic letters available today- from traditional to ornamental and script. Gemini's high standards will mean you get the highest quality letters, with the fastest delivery, at the lowest possible price, all with a Lifetime Guarantee. Gemini manufacturers 3 different lines of plastic letters. Available in over 30 standard colors and virtually any style under the sun. Your search for your plastic letters is about to come to an end. Delete if not required.

* 1. FLAT CUT ACRYLIC LETTERS
     1. Flat Cut Acrylic Letters: Signage shall be manufactured by Gemini Inc.
        1. Material Impact Strength: 0.2, with a HN Flammability Rating. Vicat Softening Temperature of 227 degree F (108 degree C).

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Materials: Good rigidity and tensile strength. Resistant to chemicals and corrosion and incorporates UV inhibitors to reduce fading of colors.

\*\* NOTE TO SPECIFIER \*\* Smaller letters under 24 inches (610 mm) can be cut out of 1/8 inch (3 mm) and 3/16 inch (4.8 mm) thick material. Larger letters require a thicker gauge. Delete thickness not required.

* + - * 1. Thickness: 1/8 inch (3 mm).
        2. Thickness: 3/16 (4.8 mm).
        3. Thickness: 3/8 (9.5 mm).
        4. Thickness: 1/4 (6 mm).
        5. Thickness: 1/2 inch (13 mm).
      1. Materials (cast acrylic): Painted.

\*\* NOTE TO SPECIFIER \*\* Smaller letters under 24 inches (610 mm) can be cut out of 1/8 inch (3 mm) and 3/16 inch (4.8 mm) thick material. Larger letters require a thicker gauge. Delete thickness not required.

* + - * 1. Thickness: 3/4 inch (19 mm).
        2. Thickness: 1 inch (25 mm).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Metal Overlay Materials (Metal Laminate Letters): .030 inch (0.76 mm) thick bonded to acrylic letter base.
         1. Router cutting shall produce a radius of .125 inch (3 mm) diameter.
         2. Letter heights range from 3 inches (152 mm) to 24 inches (610 mm). Letters between 18 inches (457 mm) and 24 inches (610 mm) are recommended for indoor use only.
    1. Design: As indicated on the drawings.

\*\* NOTE TO SPECIFIER \*\* Insert style and size or "As scheduled and indicated on the drawings".

* + - 1. Letter Style: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      2. Size: \_\_\_\_\_\_\_,
      3. Mounting: A mounting template designating stud locations shall be provided. Stud size and type shall be as required by manufacturer for application and design intent.

\*\* NOTE TO SPECIFIER \*\* Router cutting produces a larger radius with a.125 inch (3 mm) diameter bi than laser cutting. Computerized vector files are imported and then cleaned to properly cut a good letter. The degree of cleaning is more critical with a laser. 1000-watt lasers polish the edge return of all letters and logos as they cut through the material, providing a superior finish.

* + 1. Fabrication: Laser cutting.
       1. Laser cutting produces an inside diameter of .030 inch (0.76 mm). The laser beam used to cut the acrylic letters and logos is .010 inch (0.25 mm) with slight radius given to the inside corners of letters to prevent cracking.
       2. The largest single piece that can be cut is 47-1/2 inches x 95-1/2 inches (1207 mm by 2426 mm). Larger shapes shall be cut in pieces.

\*\* NOTE TO SPECIFIER \*\* Acrylic letters and logos are cut in gauges up to 1 inch (25 mm) thick in over 32 different colors.

* + - 1. Color: As scheduled or indicated on drawings.
    1. Mounting Hardware:
       1. Acrylic letters shall be manufactured with studs, pads, or a combination of the two.
       2. Standard acrylic letters shall be mounted with 3/16 inch (4.8 mm), 10-24 aluminum studs. Thin stroked letters shall be mounted with a 6/32 stud.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. CHANNEL LETTERS
     1. Channel Letters: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* ArtekAE a recyclable, patent-pending polymer.

* + - 1. Product: Artek polymer.
      2. Material: An engineering grade performance polymer.
         1. Impact tests from -31 degree F (-0.6 degree C) to 187 degree F (86 degree C).
         2. Arcing/Corrosion Resistant:

Non-conductive; eliminates arcing in neon installations.

Neon tubes may be placed 1/8 inch (3 mm) from side return without arcing to can.

Resistant to salts, acids and oils.

UL and CSA recognized components.

* + - * 1. Gemini Channel Letters shall meet or exceed the following specifications: UL 48 for electric signs, UL 746c for weatherability and UL94v-0 certification.
    1. Design: As indicated on the drawings.

\*\* NOTE TO SPECIFIER \*\* Delete font not required.

* + - 1. Font: Letters shall be Helvetica.
      2. Font: Letters shall be Times Bold.
      3. Height: As indicated or scheduled from 9 inches (229 mm) to 24 inches (610 mm).
      4. Letters shall be 5 inches (127 mm) deep.
      5. Letters shall have injection-molded Edge Glow faces.
    1. Fabrication:
       1. Injection-molded channel letters shall have a wall thickness of 0.150 inch (3.8 mm).

\*\* NOTE TO SPECIFIER \*\* Delete letter paint finish not required.

* + - 1. Letters shall have standard pre-primed white cans.
      2. Letters shall have manufacturer's standard color as indicated.
      3. Letters shall have custom-matched color.

\*\* NOTE TO SPECIFIER \*\* A qualified installer shall install channel letters. Experienced installers shall complete all neon and electrical work. (Gemini Channel Letters are shipped without any source of illumination or electrical components).

* + 1. Mounting:

\*\* NOTE TO SPECIFIER \*\* Delete channel letter mounting not required.

* + - 1. Channel letters shall be mounted with a raceway as scheduled or indicated.
      2. Channel letters shall be mounted with a bottom rail mounting system as scheduled or indicated.
      3. Channel letters shall be mounted directly to a wall.
      4. Channel faces shall be secured with sheet metal screws.
      5. Mounting patterns are not available. Full-size plot drawings shall be available for spacing purposes. Tracings of the individual cans shall be available to aid in neon placement.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. FORMED PLASTIC LETTERS
     1. Formed Plastic Letters: Signage shall be manufactured by Gemini Inc.
        1. Materials (Wood and cotton-based plastic): Cellulose Acetate Butyrate (C.A.B.).
        2. CAB shall have the following physical properties:
           1. Thickness; Sheet used for formed letters is approximately 0.143 inch (3.6 mm).
           2. Specific Heat: Approximately 0.35.
           3. Heat of Combustion: Approximately 10,400 BTU per pound (2.42 x 107 J/Kg).
           4. Auto-ignition Temperature: Approximately 880 degree F (470 degree C).
           5. Flame Class (UL94): 94HB.
           6. Burn Rates (D 635):

Approximately 1.0 in/min (2.6 cm/min) for .125 inch (3.18 mm) thick material.

Approximately 0.8 in/min (2.1 cm/min) for .150 inch (3.81 mm) thick material.

* + 1. Design:

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* + - 1. Letter shall be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ letter style and shall be \_\_\_\_\_\_ inches high, as indicated on the drawings.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Minnesota Injection Molded Plastic Letters as manufactured by Gemini Inc.
    1. Fabrication: Manufacturer's standard.
    2. Mounting:
       1. Mounting shall be templated designating stud locations required for mounting on substrate surface as indicated.
       2. Formed plastic letters shall have plain, flange, stud, pad, outside bracket, wire, foam-filled (maximum 9 inches (229 mm)) or free-standing for mounting as indicated or required by manufacturer.
       3. Standard formed plastic letters shall use 3/16 inch (4.8 mm) aluminum studs.

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* 1. CAST METAL LETTERS
     1. Cast Metal Letters: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Material: Aluminum.
      2. Material: Bronze - no lead base metal.
    1. Design: As indicated on the drawings.

\*\* NOTE TO SPECIFIER \*\* Insert style and size or "As scheduled and indicated on the drawings".

* + - 1. Letter Style: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
      2. Size: \_\_\_\_\_\_\_,
      3. Mounting: A mounting template designating stud locations shall be provided. Stud size and type shall be as required by manufacturer for application and design intent.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Aluminum Finish:

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - 1. Natural Satin faces, bead-blasted returns, clear acrylic polyurethane powder-coated, baked.
      2. Baked Enamel, bead-blasted returns, baked.
      3. Clear Anodized, bead-blasted returns, #514 Alloy.
      4. Gold anodized, bead-blasted returns, #514 Alloy.
      5. Medium bronze anodized, sanded return, #514 Alloy.
      6. Dark bronze anodized, sanded return, #514 Alloy.
      7. Black anodized, sanded return, #514 Alloy.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + 1. Bronze Finish:

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - 1. Natural satin faces, bead-blasted returns, sprayed with 2-part hardened acrylic polyurethane clear coat, NAVY G 88-0-4 lead- and mercury-free bronze alloy, baked.
      2. Polished, US9 Finish, hand-polished face, bead-blasted return, 2-part hardened acrylic polyurethane clear coat, NAVY G 88-0-4 lead- and mercury-free bronze alloy, baked.
      3. Oxidized, NAVY G 88-0-4 lead- and mercury-free bronze alloy, 2-part hardened acrylic polyurethane clear coat, US10B finish, baked.
      4. Green Patina, varies from letter to letter, not uniform.
    1. Mounting:
       1. Cast metal letters shall have threaded stud bosses or drilled and tapped for stud insertion.
       2. Aluminum letters under 18 inches (457 mm) shall use aluminum studs, type based on stroke and thickness.
       3. Other letter material and sizes shall use stainless steel studs.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. ETCHED PLAQUES
     1. Etched Plaques: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Material: Stainless Steel (Alloy C304).
      2. Material: Stainless Steel (Alloy 316).
      3. Material: Bronze (Alloy C22000).
      4. Material: Brass (Naval Brass Alloy C46400, 60% Copper, 39.25% Zinc & .75% Tin.
      5. Material: Muntz.
      6. Material: Copper (Alloy C11000).
    1. Design:

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* + - 1. Plaques shall use \_\_\_\_\_\_\_\_\_\_\_ letter style with letters that are \_\_\_\_ inches high, as indicated on the drawings.

\*\* NOTE TO SPECIFIER \*\* Delete thicknesses not required.

* + - 1. Thicknesses: 1/16 inch (1.6 mm).
      2. Thicknesses: 1/8 inch (3 mm).
      3. Thicknesses: 3/16 inch (4.8 mm).
      4. Thicknesses: 1/4 inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Delete edge treatment not required.

* + - 1. Edges: Square Edge.
      2. Edges: Bevel Edge.

\*\* NOTE TO SPECIFIER \*\* Delete copy treatment not required.

* + - 1. Copy: Recessed copy and graphics.
      2. Copy: Raised copy and graphics.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Polishing: Multi-color paint fill and thicker materials shall be as scheduled or indicated. Not all plaques require polishing.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* + - 1. Photographs and Line Art: Halftone Photographs and Complex Line Art shall be as scheduled or indicated.
      2. Plaques shall be clear-coated and oven-baked with a two-part hardened seal of clear acrylic polyurethane. Stainless steel plaques shall not be coated.
    1. Fabrication:

\*\* NOTE TO SPECIFIER \*\* Delete size restriction not applicable.

* + - 1. The maximum size for an etched plaque shall be 36 inches x 72 inches (914 mm x 1829 mm).
      2. The maximum size for a copper etched plaque shall be 40 inches x 60 inches (1016 mm x 1524 mm).
    1. Mounting:

\*\* NOTE TO SPECIFIER \*\* Delete mounting hardware not required.

* + - 1. Hardware: Blind Mount.
      2. Hardware: Stud Boss Mount.
      3. Hardware: Double Face Tape and Screw Mount.
      4. Hardware: Etched Plaques 1/4 inch (6 mm) or thicker shall be drilled and tapped for a stud mount. Thinner plaques shall have corner holes drilled for mounting.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. FABRICATED LETTERS
     1. Fabricated Letters: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Material: High-Grade Stainless Steel Alloy #304.
      2. Material: Titanium-Coated Stainless Steel Alloy #304.
      3. Material: Stainless Steel Alloy #316 (marine grade).
    1. Design:

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* + - 1. Letter shall be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ letter style and shall be \_\_\_\_\_\_ inches high, as indicated on the drawings.
      2. Fabricated letters shall be buffed.
      3. Fabricated letters shall be stroked.
      4. Fabricated letters shall be painted.
    1. Fabrication:
       1. Fabricated letters shall be between .080 inch to 0.125 inch (2 mm to 3 mm) thick with returns typically .063 (1.5 mm) thick.
       2. Precision-guided lasers, routers or jigsaw for cut letters, logos or shapes are acceptable.
       3. Letter returns shall be cut to size based on the desired letter depth and bent to the contour of the cut faces to produce a hollow-backed letter with 90 degree angle edges and hand-soldered using a lead-free silver solder.
       4. Welds shall be tested to withstand temperatures below -40 degree F (-38 degree C) and exceeding 350 degree F (177 degree C).
       5. The edges of faces on letters and logos with thin lines of exposed stainless steel shall be buffed smooth on polished letters, or stroke sanded on satin letters to maintain consistency in appearance.

\*\* NOTE TO SPECIFIER \*\* In addition to letter fabrication the following additional fabrication for LED back lighting is available. Delete if not required.

* + 1. Fabrication: Backlit Fabricated with LEDs.
       1. Mounting shall be Lexan back with removable can.
          1. Minimum 1-1/2 inches (38 mm) deep cans up to 23 inches (584 mm) high.
          2. Minimum 2-1/2" deep cans 23 inches (584 mm) and higher.
       2. Inside of cans shall be primed and painted gloss white.
       3. Lexan Back Fabrication:
          1. Lexan backs shall be laser cut to fit within back of letter - recessed approx. 1/4 inch (6 mm).

Up to 24 inches (610 mm) high letters shall receive 0.118 inch (3 mm) thick clear Lexan.

24 inches (610 mm) high and higher shall receive 0.236 inch (6 mm) thick clear Lexan.

* + - * 1. Lexan backs shall be secured to cans with custom L-brackets and stainless steel machine screws.
        2. Power supply wire holes shall be drilled through Lexan backs at 1/4 inch (6 mm) diameter.
      1. LED Mounting:
         1. LED shall be positioned on Lexan back for proper halo lighting.
         2. LEDs shall be secured to inside of Lexan backs with LED manufacturer's double face tape.
         3. Every other module shall be additionally secured to Lexan back using custom plastic brackets.
         4. End LED module wires shall be capped with end cap.
      2. Wiring:
         1. Wiring components shall be UL approved components.
         2. Power supply wire shall be run through Lexan back hole and secured to first module with UL approved wire nuts.
         3. Wiring shall be performed by a licensed electrical contractor.
         4. LEDs shall be powered by 12V power supply in accordance with LED manufacturer's requirements.
      3. Hardware:
         1. Letters to stand off from wall to achieve desired halo effect.
         2. Stainless steel studs provided threaded into custom mounting brackets - through Lexan back.

6 inches (152 mm) up to 24 inches (610 mm) high letters - 10/24 Stainless Steel studs.

24 inches (610 mm) high and larger - 1/4-20 Stainless Steel studs.

* + - * 1. Spacer Sleeves: Provided per stand-off requirements.
        2. Can Attachment: Panhead screws provided and painted same color as outside can.
    1. Mounting:
       1. Mounting shall be templated designating stud locations required for mounting on substrate surface as indicated.
       2. Brackets shall be soldered on the inside of the letters to receive threaded studs.
       3. Standard fabricated letters shall use 3/16 inch (4.8 mm) aluminum studs.

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. FLAT CUT METAL LETTERS
     1. Flat Cut Metal Letters: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Material: Aluminum - 5052 Alloy/5083 Alloy.
      2. Material: Bronze - 220 Commercial Alloy.
      3. Material: Brass - No Lead C46400 NAVAL Brass Alloy.
      4. Material: Copper - C1100 Alloy.
      5. Material: Stainless Steel - C304 Alloy/316 Alloy.
      6. Material: Cor-Ten Steel.
    1. Design:

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* + - 1. Letter shall be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ letter style and shall be \_\_\_\_\_\_ inches high, as indicated on the drawings.
    1. Finishes:

\*\* NOTE TO SPECIFIER \*\* Gemini Flat Cut Metal Letters do not have polished returns. Delete finish not required.

* + - 1. Aluminum: Natural Satin faces, bead-blasted returns, powder-coated with acrylic polyurethane clear coat, baked.
      2. Aluminum: Baked Enamel, bead-blasted returns, sprayed with acrylic polyurethane, baked.
      3. Aluminum: Clear Anodized, bead-blasted returns, meets A43 Aluminum Architectural grade anodized finish.
      4. Aluminum: Gold anodized, bead-blasted returns, meets A43 Aluminum Architectural grade anodized finish.
      5. Aluminum: Medium bronze anodized, sanded return, meets A43 Aluminum Architectural grade anodized finish.
      6. Aluminum: Dark bronze anodized, sanded return, meets A43 Aluminum Architectural grade anodized finish.
      7. Aluminum: Black anodized, sanded return, meets A43 Aluminum Architectural grade anodized finish.
      8. Aluminum: Polished #8, bead-blasted returns, 2-part hardened acrylic polyurethane clear coat.
      9. Bronze/Brass/Copper: Natural satin stroke sanded face, bead-blasted return, 2-part hardened acrylic polyurethane clear coat, baked.
      10. Bronze/Brass/Copper: Polished, US9 Finish, hand-polished face, bead-blasted return, 2-part hardened acrylic polyurethane clear coat, baked.
      11. Bronze/Brass/Copper: Oxidized, NAVY G 88-0-4 lead and mercury free bronze alloy, 2-part hardened acrylic polyurethane clear coat, US10B finish.
      12. Bronze/Brass/Copper: Green Patina, accelerated oxidation, varies from letter to letter, not uniform.
      13. Stainless Steel: Natural satin, no clear coat.
      14. Stainless Steel: Polished, no clear coat.
      15. Cor-Ten Natural rust.
    1. Mounting:
       1. Metal letters are drilled & tapped for stud insertion. Letters 1/8" thick are plain or have threaded stud bosses

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Aluminum letters shall use aluminum studs, type based on stroke and thickness. 10/24 is standard.
      2. Bronze/Brass/Copper letters shall use stainless steel studs.
      3. Mounting shall be templated designating stud locations required for mounting on substrate surface as indicated.

\*\* NOTE TO SPECIFIER \*\* Gemini manufactures only metal plaques- pure metal through and through- to your specifications. Whether the plaques are Architectural, Etched or those meeting ADA specifications- Gemini can create the marker, seal or plaque you need in just 8 working days. Gemini uses a variety of methods to manufacture our plaques - all using virgin materials of the highest alloys. Whether lead and mercury free bronze, high-grade aluminum, lead-free brass or #304 or even#316 stainless steel - Gemini has the metal plaques you need to make a lasting impression. Delete if not required.

* 1. CAST OR PRECISION TOOLED METAL PLAQUES
     1. Plaques: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Material: Bronze (220 Commercial)
      2. Material: Aluminum (#5052).
      3. Material: Brass (C46400).
    1. Design:

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* + - 1. Plaque shall be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ inches wide by \_\_\_\_\_\_ inches high, as indicated on the drawings.
    1. Fabrication:
       1. Size: The minimum height and width of a Gemini Plaque is 2 inches x 2 inches (51 mm by 51 mm) and the maximum size is 96 inches x 96 inches (1219 mm by 2438 mm) for a single piece.
       2. Material Thickness: 5/16 inch (8 mm) to 1 inch (25 mm).
       3. Edges: No Border
       4. Edges: No Border Bevel
       5. Edges: Single Line
       6. Edges: Single Line Bevel
       7. Edges: Single Line Wide Bevel
       8. Edges: Double Line
       9. Edges: Double Line Bevel
       10. Edges: Double Line Wide Bevel
       11. Edges: Inset Single Line
       12. Edges: Inset Single Line Bevel
       13. Edges: Inset Double Line
       14. Edges: Inset Double Line Bevel
       15. Edges: Projected Bevel
       16. Background Colors:

\*\* NOTE TO SPECIFIER \*\* Delete color not required.

* + - * 1. Color: Standard Black.
        2. Color: Standard Dark Oxide.
        3. Color: Standard Duranodic Bronze.
        4. Color: Standard Brown.

\*\* NOTE TO SPECIFIER \*\* 45 Gemini Baked Enamel colors as well as color-matching. Indicate color.

* + - * 1. Color Custom: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete surface finish not required.

* + - 1. Surface Finish: Stroke sanding (standard).
      2. Surface Finish: Painted.
      3. Surface Finish: Polished.
      4. Surface Finish: Oxidized
      5. Surface Finish: Patina.

\*\* NOTE TO SPECIFIER \*\* Delete coating not required.

* + - 1. Coating: Gloss.
      2. Coating: Semi-Gloss.
      3. Coating: Matte.
      4. Coating: Satin
    1. Mounting:
       1. Hardware and instructions are provided for selected mounting methods.

\*\* NOTE TO SPECIFIER \*\* Delete mounting method not required.

* + - 1. Mounting Method: Blind Mount.
      2. Mounting Method: Double-Face Tape.
      3. Mounting Method: Solid Wall Mount.
      4. Mounting Method: Hollow Wall Mount.
      5. Mounting Method: Wood Wall Mount.
      6. Mounting Method: Garden Stake Mount (1/4 inch (6 mm) only).
      7. Mounting Method: Square Post Mount (1/4 inch (6 mm) only).

\*\* NOTE TO SPECIFIER \*\* Delete if not required.

* 1. PANEL PLAQUES FOR WAYFINDING
     1. Panel Plaques for Wayfinding: Signage shall be manufactured by Gemini Inc.

\*\* NOTE TO SPECIFIER \*\* Delete material not required.

* + - 1. Material: Bronze (220 Commercial)
      2. Material: Aluminum (#5052).
      3. Material: Brass (C46400).
      4. Material: Zinc (Hydro-Coat Zinc = 99% zinc).
    1. Design: Gemini Gicl[UNICODE CHAR NOT COVERED: 233]e Plaque.
       1. ADA with raised copy, emblems and Braille shall be integral to the body of the wayfinding plaque (one-piece construction).

\*\* NOTE TO SPECIFIER \*\* Insert font and size required.

* + - 1. Letter shall be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ letter style and shall be \_\_\_\_\_\_ inches high, as indicated on the drawings.
    1. Fabrication:
       1. The minimum height and width of a Gemini Gicl[UNICODE CHAR NOT COVERED: 233]e Plaque is 2 inches x 2 inches (51 mm by 51 mm) and the maximum size is 36 inches x 72 inches (914 mm by 1829 mm) for a single piece.

\*\* NOTE TO SPECIFIER \*\* Delete material thickness not required.

* + - 1. Material Thickness: 1/8 inch (3 mm).
      2. Material Thickness: 3/16 inch (4.8 mm).
      3. Material Thickness: 1/4 inch (6 mm).

\*\* NOTE TO SPECIFIER \*\* Delete border not required.

* + - 1. Edges: Single Line.
      2. Edges: Double Line.
      3. Edges: Inset Single Line.
      4. Edges: Inset Double Line.
      5. Edges: No Border.
      6. Raised Copy, Emblems and Braille Finish:

\*\* NOTE TO SPECIFIER \*\* Delete finish not required.

* + - * 1. Texture: Sand.
        2. Texture: Leatherette.
        3. Texture: Pebble.
        4. Texture: Stipple.
        5. Patina: Verde.
        6. Patina: Turquoise.
        7. Patina: Parrot Green.
        8. Oxidized: Dark Oxidized.
        9. Oxidized: Light Oxidized.
      1. Background Colors:

\*\* NOTE TO SPECIFIER \*\* Delete color not required.

* + - * 1. Color: Standard Black.
        2. Color: Standard Dark Oxide.
        3. Color: Standard Duranodic Bronze.
        4. Color: Standard Brown.

\*\* NOTE TO SPECIFIER \*\* 45 Gemini Baked Enamel colors as well as color-matching. Indicate color.

* + - * 1. Color Custom: \_\_\_\_\_.

\*\* NOTE TO SPECIFIER \*\* Delete surface finish not required.

* + - 1. Surface Finish: Stroke sanding (standard).
      2. Surface Finish: Painted.
      3. Surface Finish: Printed.

\*\* NOTE TO SPECIFIER \*\* Delete coating not required.

* + - 1. Coating: Gicl[UNICODE CHAR NOT COVERED: 233]e plaques shall be clear-coated and oven-baked with a two-part hardened seal of clear acrylic polyurethane.
      2. Coating: Oxidized patina Gicl[UNICODE CHAR NOT COVERED: 233]ewayfinding plaques shall have lacquer coating only in matte finish.
    1. Mounting:
       1. Hardware and instructions are provided for selected mounting methods.

\*\* NOTE TO SPECIFIER \*\* Delete mounting method not required.

* + - 1. Mounting Method: Blind Mount.
      2. Mounting Method: Double-Face Tape.
      3. Mounting Method: Solid Wall Mount.
      4. Mounting Method: Hollow Wall Mount.
      5. Mounting Method: Wood Wall Mount.
      6. Mounting Method: Garden Stake Mount (1/4 inch (6 mm) only).
      7. Mounting Method: Square Post Mount (1/4 inch (6 mm) only).

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions and in proper relationship to adjacent construction.
   4. PROTECTION
      1. Protect installed products until completion of project.
      2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION