

**PART 1 GENERAL****1.1 SUMMARY**

- A. Provide graphics complete as shown and specified on Contract Documents; including (but not necessarily limited to):
  - 1. Exterior signage
  - 2. Interior signage

**1.2 SYSTEM DESCRIPTION**

- A. The Contractor is responsible for the fabrication of all components and materials, and the installation of all signage.
- B. Fabricate and install signage to comply with ADA Standards, to comply with code requirements including Title 24, to span between structural supports as indicated, to withstand normal loads from gravity, impact and use, without failure, including breakage or deterioration of materials.
- C. Structural Properties:
  - 1. Deflection:
    - a. General: Under maximum wind load pressure; do not exceed following overall span deflections.
    - b. Normal to Sign Plane:  $L/175$  or  $3/4"$ , whichever is less.
    - c. Parallel to Sign Plane:  $L/360$  or  $1/8"$ , whichever is less.

**1.3 SUBMITTALS**

- A. General:
  - 1. Schedule: Submit shop drawings, product data and samples as noted. Schedule for Submission of Shop Drawings, Product Data and Samples with such promptness to cause no delay in Signage Work or Work of other contractors. Sign Fabricators shall make submittals through Owner's representative. NO extension time will be granted because of failure to make submittals in ample time to allow for processing.
  - 2. Identification: Properly identify each submittal with name of Project, Contractor, Subcontractor and date. Accompany each submittal by an acceptable transmittal form referring to Project name, Specifications section number and paragraph number when applicable, for identification of each item. Consecutively number shop drawings for each section of Work; retain numbering system throughout all revisions. Allow clear space on each drawing and sample for Contractor's and Graphic Designer's stamp. Where clear space is not available on samples, submit with tags or stickers attached.
  - 3. Contractor's Responsibility:
    - a. Stamp shop drawings, product data and samples with Contractor's stamp certifying it has been coordinated and checked by Contractor for completeness and compliance with Contract Documents. Clearly note proposed deviations from Contract Documents on submittals. Contractor responsible for quantities and dimension shown on submittals.
    - b. Exterior general contractor should recommend any deflection criteria regarding spanning elements and anchorage for exterior signage.
- B. Owner and Owner's Representatives Review:
  - 1. General: Except for finish, color and other aesthetic matters left to the Owner and Owner's Representatives decision by Contract Documents, review of shop drawings, product data and samples is only for Owner's convenience in following work and does not relieve Contractor from responsibility for any deviations from requirements of Contract Documents. Do not construe the review as a complete check nor relief from responsibility for errors of any sort in shop drawings or schedules, or from necessity of furnishing Work required by Contract Documents which may not have been shown on shop drawings. The review of a separate item does not indicate review of complete assembly in which it functions.
  - 2. Submittals: Not stamped by Contractor, and submittals which in the reviewers opinion are incomplete, contain numerous errors or have not been checked or have only been checked superficially, will be returned for re-submittal.
    - a. Processing: Architect, Owner and Owner's Representatives will review shop drawings, product data and samples with reasonable promptness and will return them to Contractor with Owner and Owner's Representatives stamp applied thereto. Notations by reviewer which change contract or time of

completion shall be brought to Owners attention before proceeding with Work. Each submittal will be stamped indicating appropriate action as required.

- C. Product Data: Submit manufacturer's, fabricator's and finisher's specifications, installation and maintenance instructions.
- D. Shop Drawings: Show in detail, materials, dimensions, thickness', methods of assembly, attachments, relation to adjoining Work, and other pertinent data and information.
  - 1. General: Show fabrication and attachment details.
  - 2. Typography: Complete alphabet; each typeface specified.
  - 3. Patterns: Full size; each sign type.
  - 4. Logos: Full size; each design.
  - 5. Custom perforated pattern: Full sized paper print.
- D. Samples: Submit four (4) of the following listed samples; additional if specifically requested.
  - 1. Materials:
    - a. Acrylic: 6" x 6" piece in thickness and color specified.
    - b. Adhesives and Tapes: Each type used.
    - c. Fasteners: Each type used.
    - d. Glass: 12" x 12" piece in thicknesses specified.
    - e. Metals: 6" x 6" piece in thickness and color specified.
    - f. Paint: 6" x 6" brush-out of each color specified, including clear coat.
    - g. Polymer: 6" x 6" piece in color specified.
    - h. Vinyl Letters: Logo and typeface as specified.
  - 2. Fabricated Items:
    - a. One each sign types PA, PD, PI, PJ, all code signs type "C". May be used for production if acceptable.
  - 3. Mock-ups:
    - a. Illuminated portion of type EX.TM. Components may be used for production if acceptable

#### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Coordinate delivery with Owner's Representative. Deliver fabricated units and component pieces to Project completely identified per installation drawings. Inspect Work for damage upon delivery to site.
- B. Storage: Coordinate storage with Owner's Representative. Store components and materials in clean, dry location. Protect from damage until installation.
- C. Handling: Handle signage on site at a minimum; exercise care to avoid damaging surfaces.

#### 1.5 SCHEDULING

- A. General: Coordinate with Owner's Representative to assure other trades affected by Work are performed in proper sequence. Furnish setting templates, layouts, anchors, fasteners and other built-in items as required to cause no delay.
- B. Contractor shall submit a schedule of submittals, fabrication and installation with bid response and shall maintain/update such schedule throughout the progress of the contract as requested by Owner.

### **PART 2 PRODUCTS**

#### **2.1 FINISHES**

- A. Non-glare with fine sanded edges.

#### **2.2 COPY**

- A. As listed on drawings, in other Sections and as specified below.

- B. Copy application and placement of copy shall follow the dimensions and spacing indicated on the design drawings and/ or approved patterns. Letter spacing shall conform to standards shown and kerned optically to the acceptance of the Owner's Representative. Lines of copy shall be straight and parallel to the sign format unless otherwise specified. Edges of letters, numbers and symbols shall be smooth and continuous with straight and curved portions reproducing the original forms exactly, with corners sharp and true. All copy shall be free of ticks, line waiver, discontinuous curves or other imperfections.

### 2.3 MATERIALS

- A. Acrylic Sheet:
1. "Acrylite" or equal, clear and non-glare.
    - a. Fire Resistant Plastic: Clear acrylic or polycarbonate sheet; 1/4" thick, unless otherwise shown. Flame spread 25 or less when tested per ASTM E84.
    - b. Frosted: P95 acrylic with 3M frosted vinyl film, to match sample.
- B. Adhesives and Tapes:
1. Silicone sealant. For attachment of metal letters and plates make permanent and vandal-proof.
  2. Foam Tape: 3M.
  3. Neoprene Tape: Pressure-sensitive adhesive.
  4. Double-Sided Clear Adhesive Tape: 3M.
  5. Magnetic Tape: Pressure-sensitive adhesive back; 3M.
- C. Fasteners:
1. General: Types as required: Fabricate from 300 series non-magnetic stainless steel of types best-suited for purpose. Fabricate washers from same type stainless steel.
  2. Expansion Bolts: Hilti Kwik Bolt II; stainless steel.
  3. Exposed in Finish Surfaces (where shown on drawings): Philips recess, countersunk type screw head, unless otherwise shown. Heads finished to match adjacent surface.
  4. Fastener Caps: Finishes as selected.
  5. Hollow Wall Fasteners:
    - a. General: Metal toggle bolts; for threaded rods not less than 1/8" in diameter.
- D. Glass:
1. Low-iron clear tempered float glass, ASTM C1048, Type 1, Class 1, Quality q<sup>3</sup>; thickness as engineered by manufacturers but not less than as shown.
  2. Laminated:
    - a. Plastic Interlayer: Polyvinyl butyral, with a proven record of no tendency to bubble, discolor or lose physical or mechanical properties after laminating and install, clear, 0.060" thick.
    - b. Fabrication: Two panes of glass of equal thickness, laminated with plastic interlayer by heat-plus-pressure process to produce glass free from foreign substances and air/glass pockets.
  3. Edges: Exposed bevel seams. Grind and polish edges and seams to brilliant finish; no edge imperfections.
  4. Specialty Glass:
    - a. tbd
    - b. Patterns and colors are as shown on drawings.
- E. Metals:
1. Aluminum:
    - a. General: Use alloy and temper best-suited for purpose.
    - b. Extrusions: AA 6061 or 6063 alloy, T5 or T6 temper.
    - c. Sheet: AA 3033 alloy, H14 or H32 temper.
    - d. Finish:
      - 1) Brushed- No. 4 finish, run grain horizontal, unless otherwise shown.
      - 2) Satin: Non-directional finish.
      - 3) Beadblasted: Match designer's sample.
      - 4) Polished: No. 8 finish.
      - 5) Anodized Finish: General: Finish per aluminum manufacturer's quality control plan and recommended procedures. No rack or gripper marks permitted on exposed surfaces. Assemblies to be anodized shall be free from non-aluminum materials such as gaskets, seals and sealants.
  2. Stainless Steel:

- a. General: ASTM A167/316; 22 gauge sheet unless otherwise shown; sheet stretcher leveled; 2B mill finish.
- b. Tube: Non-magnetic, Type 316.
- c. Finish:
  - 1) Brushed- No. 4 finish, run grain horizontal, unless otherwise shown.
  - 2) Satin: Non-directional finish.
  - 3) Beadblasted: Match designer's sample.
  - 4) Polished: No. 8 finish.
- 3. Steel:
  - a. Exterior:
    - 1) Sheet: Carbon steel galvanized per ASTM A525, coating G-90.
    - 2) Extrusion: Galvanized: ASTM A36.
  - b. Interior:
    - 1) ASTM A36.
- F. Paint:
  - 1. General: Provide colors as required. All paint to be California VOC compliant.
  - 2. Materials:
    - a) Polyurethane Enamel:
      - 1) For Aluminum and Steel Surfaces: Matthew's MAP, or equal; waterbase acrylic polyurethane enamel. Clear finish coat.
    - b) Metallic Color: Matthew's MAP, or equal; waterbase acrylic polyurethane enamel. Clear finish coat.
    - c) Silkscreen Enamel: Type recommended by manufacturer for exterior exposure and applicable substrate. Provide compatible clear topcoat.
    - d) Enamel Fill: Same as polyurethane enamel.
  - 3. Primer- coats and materials as recommended by manufacturer.
- G. Polycarbonate Panel:
  - 1. "LightCast" by Lightblocks, or equal, in thicknesses shown. Class A Fire Rated, colors as noted.
- H. Silicone Sealant: Dow Corning 790/795, GE Silpruf or equal; clear unless otherwise noted.
- I. Vinyl Letters:
  - 1. 3M, or equal; die-cut vinyl letters with pressure-sensitive adhesive backs; styles, size and colors as selected. Premium grade with 5 year exterior and 7 year interior guarantee.
  - 2. Reflective Type: Custom die-cut from 3M's Scotchlite sheet; pressure-sensitive adhesive coated; standard colors as selected.
- J. Light Fixtures.
  - 1. Internal illumination: white LED. Continuous light strip around perimeter of Endlighten panel: Plexineon 2800 K., or equal.
  - 2. Sign Types EX.TOB, EX.TOD, EX.TM, PA, PB, PD, PE, PS.
  - 3. White LED:
    - a) LED Fixtures: white 2800 K maximum color temperature. 3 inches on center maximum spacing, maximum row spacing 4 inches.
- K. Vinyl graphics.
- L. Tactile copy: Romark's "ADA Alternative" solid color.
- M. Braille: California Grade 2, clear bead Braille UON.

**PART 3 EXECUTION****3.1 INSPECTION**

- A. General: Examine surfaces and construction. Give written notice of conditions adversely affecting installation, performance and quality of Work. Do not proceed until conditions are satisfactory.

**3.2 PREPARATION**

- A. Field Measurements: Coordinate onsite visits with Owner's Representative. Obtain dimensions for Work to meet Project conditions.

**3.3 INSTALLATION**

- A. General: Install graphics plumb, level and true. Align with adjacent Work where shown. Follow location drawings when installing signage and graphics.
- B. Provide all necessary anchors and fasteners where necessary for securing graphics in place; including threaded fasteners for concrete and masonry insets, toggle bolts, through bolts and other connectors as required.
- C. Form tight joints with exposed connections accurately fitted with uniform reveals and spaces for sealants and joint fillers. Where cutting, welding and grinding are required for proper shop fitting and jointing of the Work, restore finishes to eliminate evidence of such corrective Work.
- D. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to shop for required alterations, followed by complete refinishing or provide new units at Owner's option.

**3.4 CLEANING**

- A. General: Remove smears, spots, and other markings. Do not use alkaline or abrasive cleaning agent.
- B. Clean all existing architectural finishes, furniture or adjacent areas of any dirt and debris resulting from installation.

**3.5 PROTECTION**

- A. Protect finishes of signage and graphics from damage during construction period by use of temporary protective covering
- B. Restore finishes damaged during installation and construction period so that no evidence remains of correction Work. Return items which cannot be refinished in the field to the shop; make alterations and refinish entire unit, or provide new units as required.
- C. Existing Construction- Protect furniture, architecture and finishes from any damage which could result from installation of signage and graphics.
- D. Should damage occur to the existing construction, Contractor shall be responsible for such damage. Owner shall have the right to elect to have Contractor correct damage or to correct the damage/work and withhold cost from contractor's payment.

**3.6 GUARANTEE**

- A. All products shall be guaranteed for one (1) year against cracking, peeling, blistering, delamination and other defects in material and/or workmanship.

**END OF SECTION**