

SECTION 101200

INFORMATION DISPLAY SYSTEM

Part 1 General

01. Related Documents

- A. Drawings and general provisions of the contract, including general and supplementary conditions and Division 1 specification sections apply to this section.

02. Summary

- A. This section includes the following component type information display systems:

1. Freestanding Information Display System.
2. Suspended Information Display System.

03. Performance Requirements

- A. Structural performance: Design, engineer, and fabricate display systems so that when installed, they are capable of withstanding the following structural loads without exceeding the allowable design working stress of the materials, including anchors and connections and without exhibiting permanent deformation in any of the components making up enclosures:
 1. 200 lb. concentrated load at centerline of monitor or sign cabinet.
- B. Corrosion control: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.04 Submittals

A. Product Data:

1. Shop drawing showing fabrication and installation of Information Display Systems, including plans, elevations, sections, details of components, and attachments to other units of work.
2. Manufacturer's recommended maintenance instructions.
3. For illuminated display units, include wiring diagrams and rough-in details.

B. Manufacturer Information:

1. Provide overview of literature describing manufacturer's overall scope of products and manufacturing capabilities.
2. Provide URL for manufacturer's website; website must provide access to technical data, images and general product information.

- C. Samples for verification of each type of exposed finish required, prepared on components indicated below of same thickness and metal indicated for final unit of work. Where finishes involve normal color and texture variations, include sample sets showing the full range of variations expected:

1. 6-inch long sections of extruded aluminum mast.
2. Cast stainless steel support arm.
3. 2-foot long section of support beam assembly.

05. Quality Assurance

- A. Single-Source Responsibility: Obtain display systems of each type and material from a single manufacturer.

B. Fabricator Qualifications:

1. Fabricator shall have minimum of ten years successful in fabrication of work of this section, similar to items required for this project, shall be approved by the architect prior to the start of production.

2. Fabricator must have sufficient production capacity to produce, transport and deliver required units without causing delay in the work.
 3. Fabricator shall have experience of at least five previous successfully completed projects of equal or greater complexity as this project and shall submit photographs for review and acceptances.
- C. Welding Standards:
- Comply with applicable provisions of AWS D1.1 “Structural Welding Code-Steel” and AWS D1.3 “Structural Welding Code-Sheet Steel.”
 - Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.
06. Delivery, Storage and Handling
- A. Handle products in accordance with manufacturer’s instructions.
 - B. Store products in manufacturer’s original packaging until ready for installation.
 - C. Protect products from impacts and abrasion during storage.

Part 2 Products

01. Manufacturers

- A. Available Manufacturers: Subject to compliance with requirements, include but are not limited to the following:
- Forms+Surfaces
30 Pine Street
Pittsburgh, PA 15223
phone: 800-451-0410
fax: 412-781-7840
email: sales@forms-surfaces.com
website: www.forms-surfaces.com
- B. Design of Information Display System units is based on the “InForm Flight Information Displays” by Forms+Surfaces. Other manufacturers offering products of similar configuration, quality and performance shall be approved by the architect.

02. Metals

- A. General: Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.
- B. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of alloy and temper designated below for each aluminum form required:
1. Extruded Bar and Tube: ASTM B 221, alloy 6063-T5/T52.
 2. Drawn Seamless Tube: ASTM B 210, alloy 6063-T832.
 3. Plate and Sheet: ASTM B 209, alloy 6061-T6.
 4. Die and Hand Forgings: ASTM B 247, ally 6061-T6.
 5. Castings: ASTM B 26, alloy A356-T6.
 6. Refer to Drawings for aluminum shapes, types and finish designations.
- C. Stainless Steel: Grade or type designated below for each form required:
1. Tubing: ASTM A 554, Grade MT 304
 2. Pipe: ASTM A 312, Grade TP 304
 3. Castings: ASTM A 743, Grade CF 8 of CF 20

4. Plate: ASTM A 666, Type 304
5. Refer to Drawings for stainless steel shapes, types and finish designations

03. Miscellaneous Materials

- A. Filler metal and electrodes: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded or brazed and as required for color match, strength, corrosion resistance, and compatibility in fabricated items.
- B. Bituminous paint: Cold-applied asphalt mastic complying with SSPC-Paint 12, except containing no asbestos fibers.

04. Fasteners

- A. Fasteners for anchoring Information Display System to other construction: Select fasteners of the type, grade and class required to produce connections that are suitable for anchoring display system to other types of construction indicated and capable of withstanding design loadings.
 1. Provide fasteners fabricated from alloy type 304 for interior and type 316 stainless steel at exterior. Provide #7 polished finish.
- B. Fasteners for Information Display System: Use fasteners of same basic metal as the fastened metal, unless indicated. Do not use metals that are corrosive or incompatible with materials joined.
 1. Provide concealed fasteners for interconnecting display cabinets and for attaching them to other work, except where otherwise indicated.
 2. Provide Phillips flat-head machine screws for exposed fasteners, unless otherwise indicated.

05. Fabrication

- A. General: Fabricate information displays to comply with requirements indicated for design, dimensions, details, finish, and member sizes, including wall thickness of hollow members, post spacings, and anchorage, but not less than that required to support structural loads.
- B. Assemble information displays in shop to the greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Stainless steel/aluminum Information Display Systems using the following parts and components:
 1. Freestanding or suspended units.
 2. InForm cast stainless foot assembly – Part No. P1.B002.
 3. InForm cast stainless 125mm support arm – Part No. P1.W009.
 4. InForm cast stainless mast end cap – Part No. P1.W007.
 5. InForm extruded aluminum mast profile – Part No. P1.E015.
 6. InForm extruded aluminum Conceal extrusion – Part No. P1.FS002 (or) extruded aluminum Arc extrusion – Part No. P1.FS001.
 7. InForm cabinet surface facing– See drawings for material specification.
 8. InForm bumper rail assembly – Part No. P1.BR001.
 9. InForm illuminated header box assembly – Part No. P1.HB001.
10. Adjustable brackets for monitor support.
11. Miscellaneous components necessary for a complete installation.
- D. Form simple and compound curves by bending members in fixtures to produce uniform curvature for each repetitive configuration required; maintain profile of member throughout entire bend

- without buckling, twisting, cracking, or otherwise deforming exposed surfaces of finished material.
- E. Welded connections: Fabricate stainless bumper rails by welding. For connections made during fabrication, weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortions and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
 - F. Nonwelded connections: Fabricate Information Display System by connecting members with manufacturer's standard concealed mechanical fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.
 - G. Brackets, flanges fittings, and anchors: Provide manufacturer's standard brackets, flanges, miscellaneous fittings, and anchors to connect mast profiles to support beam and foot connections.
 - H. Provide inserts and other anchorage devices to connect Information Display System to concrete or masonry work. Coordinate anchorage devices with supporting structure on site.
 - I. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.
 - J. Ease exposed edges to a radius of approximately 1/32 inch (1 mm), unless otherwise indicated. Form bent-metal corners to the smallest radius possible without causing grain separation or otherwise impairing work.
 - K. Cut, reinforce, drill and tap components, as indicated, to receive finish hardware, screws, and similar items.
 - L. Provide power and data management system through mast grommets and components from floor supply points to each electronic component or assembly. Include flexible black rubber connectors as required to conceal all wiring.

06. FINISHES, GENERAL

- A. Comply with NAAMM "Metal Finishes Manual" recommendations relative to applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering prior to shipment.
- C. Appearance of finished work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within the range of approved samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved samples and they are assembled or installed to minimize contrast.
- D. Stainless steel finishes:
 - 1. Remove or blend tool and die marks and stretch lines into finish.
 - 2. Grind and polish surfaces to produce uniform directional, textured or polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
 - 3. Brushed, directional polish: as specified herein above.
 - 4. Seastone stainless steel finish as supplied by Forms+Surfaces.
- E. Aluminum finishes:
 - 1. Remove or blend tool and die marks into finish.

2. Grind and polish surfaces to produce uniform directional, textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.
3. Class I, Clear Anodic Finish: AA-M12C22A41 (Mechanical Finish; non-specular as fabricated; chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, clear coating 0.7 mil (0.018 mm) or thicker) complying with AAMA 607.1.

Part 3 Execution

01. Preparation
 - A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installing anchorages, such as sleeves, concrete inserts, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete as masonry construction. Coordinate delivery of such items to project site.
02. Installation, general
 - A. Fit exposed connections accurately together to form tight, hairline joints.
 - B. Cutting, Fitting and Placement: Perform cutting, drilling, and fitting required for installing Information Display units. Set assemblies accurately in location, alignment, and elevation measured from established lines and levels and free from rack:
 1. Do not weld, cut, or abrade surfaces of Information Display System components that have been coated or finished after fabrication and are intended for field connection by mechanical or other means without further cutting or fitting.
 2. Set posts plumb within a tolerance of ¼-inch in 12 feet; 1/8-inch in 6 feet.
03. Anchoring posts
 - A. Anchor Information Display Systems in concrete with bolts anchored into concrete. Select type of fastener that provides the required performance.
04. Adjusting and cleaning
 - A. Clean stainless steel, glass aluminum in accordance with manufacturers written Instructions.
05. Protection
 - A. Protect finishes of displays from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of substantial completion.
 - B. Restore finishes damaged during installation and construction period so that no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION