

## SECTION 10 11 00 - VISUAL DISPLAY SURFACES

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. This Section includes the following:

1. Chalkboards.
2. Markerboards.
3. Tackboards.

#### 1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Show location of panel joints.
2. Include sections of typical trim members.
3. Include wiring diagrams for motor-operated, sliding visual display units.

C. Samples: For each type of visual display surface indicated.

D. LEED Submittals:

1. Credit EQ 4.4: Composite wood manufacturer's product data for each composite wood product used indicating that the bonding agent contains no urea formaldehyde.

E. Maintenance data.

#### 1.3 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative of motor-operated, sliding visual display unit manufacturer for installation and maintenance of units required for this Project.

B. Fire-Test-Response Characteristics: Provide fabrics with the surface-burning characteristics indicated, as determined by testing identical products per ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

D. Preinstallation Conference: Conduct conference at Project site.



#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver factory-built visual display boards, including factory-applied trim where indicated, completely assembled in one piece without joints, where possible. If dimensions exceed maximum manufactured panel size, provide two or more pieces of equal length as acceptable to Owner. When overall dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site.

#### 1.5 WARRANTY

- A. Special Warranty for Porcelain-Enamel Face Sheets: Manufacturer's standard form in which manufacturer agrees to repair or replace porcelain-enamel face sheets that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Surfaces lose original writing and erasing qualities.
    - b. Surfaces become slick or shiny.
    - c. Surfaces exhibit crazing, cracking, or flaking.
  - 2. Warranty Period: 50 years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  - 1. Product: Subject to compliance with requirements, provide product specified.
  - 2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
  - 3. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
  - 4. Basis-of-Design Product: The design for each visual display surface is based on the product specified. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

#### 2.2 MATERIALS, GENERAL

- A. Porcelain-Enamel Face Sheet: ASTM A 424, enameling-grade steel, uncoated thickness indicated; with exposed face and edges coated with primer, 1.7-to-2.5-mil- thick ground coat, and color cover coat; and concealed face coated with primer and 1.7-to-2.5-mil- thick ground coat.



1. Matte-Finish Cover Coat: Low reflective; chalk wipes clean with dry cloth or standard eraser. Minimum 2.0-to-2.5-mil- thick cover coat. Cover and ground coats shall be fused to steel at manufacturer's standard firing temperatures but not less than 1250 deg F.
  - a. Product: PolyVision Corporation; P<sup>3</sup> ceramicsteel Chalkboard.
2. Gloss-Finish Cover Coat: Gloss as indicated; dry-erase markers wipe clean with dry cloth or standard eraser. Minimum 3.0-to-4.0-mil- thick cover coat. Cover and ground coats shall be fused to steel at manufacturer's standard firing temperatures but not less than 1475 deg F.
  - a. Product: PolyVision Corporation; P<sup>3</sup> ceramicsteel Markerboard.
- B. Porcelain-Enamel Face Sheet: Porcelain-enamel-clad, ASTM A 463/A 463M, Type 1, stretcher-leveled aluminized steel, with 0.0236-inch uncoated thickness; with porcelain-enamel coating fused to steel at approximately 1000 deg F.
  1. Matte Finish: Low reflective; chalk wipes clean with dry cloth or standard eraser.
    - a. Product: Claridge Products & Equipment, Inc.; Vitracite Chalkboard.
  2. Gloss Finish: Low gloss; dry-erase markers wipe clean with dry cloth or standard eraser. Suitable for use as projection screen.
    - a. Product: Claridge Products & Equipment, Inc.; LCS Markerboard.
- C. Porcelain-Enamel Face Sheet: Manufacturer's standard steel sheet with porcelain-enamel coating fused to steel; uncoated thickness indicated.
  1. Matte Finish: Low reflective; chalk wipes clean with dry cloth or standard eraser.
  2. Gloss Finish: Gloss as indicated; dry-erase markers wipe clean with dry cloth or standard eraser.
- D. Melamine: Thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
- E. Hardboard: AHA A135.4, tempered.
- F. Particleboard: ANSI A208.1, Grade 1-M-1, made with binder containing no urea formaldehyde.
- G. Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
- H. Cork Sheet: MS MIL-C-15116-C, Type II.
- I. Natural Cork Sheet: Seamless, single layer, compressed fine-grain cork sheet, bulletin board quality; face sanded for natural finish.
- J. Plastic-Impregnated Cork Sheet: MS MIL-C-15116-C, Type I, seamless, homogeneous, self-sealing sheet consisting of granulated cork, linseed oil, resin binders, and dry pigments that are



mixed and calendared onto burlap backing; with washable vinyl finish and integral color throughout.

- K. Vinyl Fabric: FS CCC-W-408, Type II, burlap weave; weighing not less than 13 oz./sq. yd.; with flame-spread index of 25 or less when tested according to ASTM E 84.
- L. Polyester Fabric: Nondirectional weave, 100 percent polyester; weighing not less than 15 oz./sq. yd.; with flame-spread index of 25 or less when tested according to ASTM E 84.
- M. Extruded Aluminum: ASTM B 221, Alloy 6063.
- N. High-Pressure Plastic Laminate: NEMA LD 3.
- O. Laminating Adhesive: Manufacturer's standard moisture-resistant thermoplastic type.

## 2.3 CHALKBOARD ASSEMBLIES

- A. Porcelain-Enamel Chalkboard Assembly: Balanced, high-pressure, factory-laminated chalkboard assembly of 3-ply construction consisting of backing sheet, core material, and 0.021-inch- thick, porcelain-enamel face sheet with matte finish.
  - 1. Manufacturers:
    - a. Best-Rite Manufacturing.
    - b. Claridge Products & Equipment, Inc.
    - c. Marsh Industries, Inc.
    - d. Platinum Visual Systems; a division of ABC School Equipment, Inc.
    - e. PolyVision Corporation.
  - 2. Hardboard Core: 1/4 inch thick; with 0.005-inch- thick, aluminum foil backing.
  - 3. Manufacturer's Standard Core: Minimum 1/4 inch thick, with manufacturer's standard moisture-barrier backing.

## 2.4 MARKERBOARD ASSEMBLIES

- A. Porcelain-Enamel Markerboard Assembly: Balanced, high-pressure, factory-laminated markerboard assembly of 3-ply construction consisting of backing sheet, core material, and 0.021-inch- thick, porcelain-enamel face sheet with low-gloss finish.
  - 1. Manufacturers:
    - a. Best-Rite Manufacturing.
    - b. Claridge Products & Equipment, Inc.
    - c. Egan Visual Inc.
    - d. Marsh Industries, Inc.
    - e. Platinum Visual Systems; a division of ABC School Equipment, Inc.
    - f. PolyVision Corporation.
  - 2. Hardboard Core: 1/4 inch thick; with 0.005-inch- thick, aluminum foil backing.
  - 3. Manufacturer's Standard Core: Minimum 1/4 inch thick, with manufacturer's standard moisture-barrier backing.



## 2.5 TACK ASSEMBLIES

- A. Manufacturers:
  - 1. Best-Rite Manufacturing.
  - 2. Claridge Products & Equipment, Inc.
  - 3. Egan Visual Inc.
  - 4. Marsh Industries, Inc.
  - 5. Platinum Visual Systems; a division of ABC School Equipment, Inc.
  - 6. PolyVision Corporation.
- B. Natural-Cork Tack Assembly: 1/8-inch- thick, natural cork sheet factory laminated to 3/8-inch-thick fiberboard backing.

## 2.6 MARKERBOARD AND TACKBOARD ACCESSORIES

- A. Aluminum Frames and Trim: Fabricated from not less than 0.062-inch- thick, extruded aluminum; of size and shape indicated.
  - 1. Field-Applied Trim: Manufacturer's standard screw-on trim with Phillips flat-head screws.
- B. Factory-Applied Wood Trim: Red oak, not less than 1/2 inch thick; of size and shape indicated.
- C. Chalktray: Manufacturer's standard, continuous, extruded aluminum, solid type with ribbed section and smoothly curved exposed ends.

## 2.7 FABRICATION

- A. Fabricate visual display surfaces to sizes indicated on Drawings.
- B. Porcelain-Enamel Visual Display Assemblies: Laminate porcelain-enamel face sheet and backing sheet to core material under heat and pressure with manufacturer's standard flexible, waterproof adhesive.
- C. Visual Display Boards: Field assemble visual display boards, unless otherwise indicated.
  - 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display boards at manufacturer's factory before shipment.
- D. Factory-Assembled Visual Display Units: Coordinate factory-assembled units with trim and accessories indicated. Join parts with a neat, precision fit.
  - 1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Owner and as indicated on approved Shop Drawings.
  - 2. Provide manufacturer's standard vertical-joint spline system between abutting sections of markerboards.



- E. Aluminum Frames and Trim: Fabricate units straight and of single lengths, keeping joints to a minimum. Miter corners to neat, hairline closure.
  - 1. Where factory-applied trim is indicated, trim shall be assembled and attached to visual display units at manufacturer's factory before shipment.
- F. Aluminum Anodic Finish: Class II, clear anodic coating complying with AAMA 611.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Prepare surfaces to achieve a smooth, dry, clean surface free of flaking, unsound coatings, cracks, defects, and substances that will impair bond between visual display boards and surfaces.
- B. Install visual display surfaces in locations and at mounting heights indicated on Drawings. Keep perimeter lines straight, level, and plumb. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim, and accessories necessary for complete installation.
- C. Field-Assembled Visual Display Units: Coordinate field-assembled units with grounds, trim, and accessories indicated. Join parts with a neat, precision fit.
  - 1. Make joints only where total length exceeds maximum manufactured length. Fabricate with minimum number of joints, balanced around center of board, as acceptable to Owner and as indicated on approved Shop Drawings.
  - 2. Provide manufacturer's standard vertical-joint spline system between abutting sections of markerboards.
- D. Visual Display Boards: Attach concealed clips, hangers, and grounds to wall surfaces and to visual display boards with fasteners at not more than 16 inches o.c. Secure both top and bottom of boards to walls.
  - 1. Field-Applied Aluminum Trim: Attach trim over edges of visual display boards and conceal grounds and clips. Attach trim to boards with fasteners at not more than 24 inches o.c.
    - a. Attach chalktrays to boards with fasteners at not more than 12 inches o.c.

**END OF SECTION 10 11 00**