

# Series A Factory Framed Trim

## SECTION 101000

### VISUAL DISPLAY BOARDS

*THIS SECTION IS WRITTEN IN CSI 3-PART FORMAT AND IN CSI PAGE FORMAT; NOTES TO THE SPECIFIER (IN BLUE), SHOULD BE DELETED PRIOR TO PUBLICATION.*

#### **PART 1 GENERAL**

##### 1.01 SUMMARY

*REVISE BELOW TO CONFORM TO PROJECT REQUIREMENTS.*

- A. Section Includes: Chalk boards, marker boards, tack boards, and display rails.

##### 1.02 RELATED SECTIONS

- A. *Include other sections as required.*

##### 1.03 REFERENCES

- A. McDonough Braungart Design Chemistry (MBDC)
- B. BYK-Gardner Wavescan 5+
- C. Porcelain Enamel Institute (PEI):
  - 1. PEI-1002, Manual and Performance Specifications for Porcelain Enamel Writing Surfaces (Whiteboards and Chalkboards).

##### 1.04 SYSTEM DESCRIPTION

*DELETE REQUIREMENTS THAT DO NOT*

*APPLY*

- A. Performance Requirements:
  - 1. Reflectivity: Not to exceed specified range when tested at 60 degrees with a gloss meter in accordance with ASTM C 523.
  - 2. Contrast for marker boards (Light and Dark Effects): not more than 11.7 when tested with a BYK-Gardner Wave Scan 5+ Measurement Device showing visual acuity to the human eye at distances greater than 3 meters (10 feet).
  - 3. Contrast for chalkboards (Light and Dark Effects): no less than 30 when tested with the contrast measurement test with 773 gram load on chalk.
  - 4. Wet Ghost measurements on chalkboard surfaces before and after wet cleaning shall not exceed a factor of .35 (using a 60 degree gloss meter).

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### 1.05 SUBMITTALS

- A. Product Data:
  - 1. Technical data for the components of each board specified.
  - 2. Technical data for hardware, accessories, anchorage devices, and fasteners.
- B. Shop Drawings:
  - 1. Include types of units provided, location within each room, and length and height of each unit.
  - 2. Include elevation drawings of each type board assembly indicating joint locations and type of joint.
  - 3. Include cross-section details showing each type of product and components.
  - 4. Show quantities of accessories.
- C. Quality Control Submittals:
  - 1. Test Reports: Copies of test reports, from certified testing agency, verifying that products have been tested and meet the specified performance requirements.
  - 2. Certificates: Manufacturer's certification that the installer is acceptable.
  - 3. Manufacturer's Instructions: Installation instructions for all products specified.
- D. Contract Closeout Submittals:
  - 1. Maintenance Data: Manufacturer's cleaning and maintenance instructions.
  - 2. Warranty: Executed copy of manufacturer's warranty.

### 1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer shall be a firm engaged in the manufacture of visual display boards in the United States, making the types and sizes required, and whose products have been in satisfactory use in similar service for a minimum of 20-years.
- B. Single Source Responsibility: Obtain visual display boards of each type from a single source with resources to produce products of consistent quality in appearance and physical properties without delaying the work.

### 1.07 DELIVERY, STORAGE, AND HANDLING

- A. Storage and Protection:
  - 1. Store factory-framed units in the original packaging whenever possible,

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otherwise store vertically with packing materials between each unit to prevent damage.

2. Store materials in dry areas at temperatures above 55 degrees F.

### 1.08 PROJECT CONDITIONS

- A. Environmental Requirements: Install units only when the building is enclosed and interior air and substrate temperatures are stable and approximate design conditions.

### 1.09 WARRANTY

- A. Special Warranties:
  1. Writing Surface: Manufacturer's standard, written, material warranty agreeing at manufacturer's option to repair or replace the original boards if they do not retain their original writing and erasing qualities, gloss, or color consistency under normal usage and maintenance, without reducing or otherwise limiting any other rights to correction which the Owner may have under the Contract Documents. Warranty does not include the cost of removal or reinstallation.
    - a. Term of Warranty: For the life of the original installation.
  2. Workmanship and Materials: Manufacturer's standard, written, material replacement warranty agreeing at manufacturer's option to repair or replace any products which, under normal usage and maintenance, show defects in workmanship or materials, excluding damage from vandalism or misuse, without reducing or otherwise limiting any other rights to correction which the Owner may have under the Contract Documents. Warranty does not include the cost of removal or reinstallation.
    - a. Term of Warranty: 5 years from date of Substantial Completion.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. The design is based on products manufactured by Best-Rite, a division of MooreCo Inc., Temple, Texas 76501, Phone: 800-749-2258. (www.mooreco.net).
- B. Products of other manufacturers that demonstrate equal or superior design, quality, and performance characteristics may be considered for substitution.
- C. Substitutions shall be made 5 days or more in advance of the bid date. Manufacturers must submit all data required in its entirety for review by the architect.
  1. Samples;

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- a. Facing sheet showing progressive enamel coatings along with metering devices capable of measuring coating thickness, ground coat thickness, manufacturers' certificate of compliance of all items.
  - b. Lamination and fabrication sections with trim.
2. Certifications;
- a. Failure to provide certifications required by Part 1.06 above will result in rejection.

### 2.02 MATERIALS FOR MARKER BOARD AND CHALK BOARD PANELS

#### A. Writing Surface Facing Sheet

1. Shall be enameling grade cold rolled steel, .016" thick for all pre-framed boards without joints.
2. All enameling grade steel shall be coated with a ground coat on the face and back surface and a smooth finish coat on the face, free from defects or orange peel texture:
  - a. Marker boards shall have a 91 to 97 percent gloss (high gloss surface)
  - b. Marker board 80 to 85 percent gloss (low gloss surface, recommended for projection. Wet cleaning required if used as a marker surface.)
  - c. Chalk board, 4 to 7 percent gloss.
  - d. Facing sheet coatings:
    1. 1.7-2.5 mils enameled ground coat on face minimum thickness.
    2. 3.0 – 4.0 mils enameled cover (color) coat for marker board.
    3. 1.7-2.5 mils enameled minimum ground coat on back of facing.
    4. Firing temperatures shall be 1475-1500 degrees minimum for marker boards, and 1200-1250 degree for chalk boards.
  - e. Color(s): As selected by the Architect from the manufacturer's range of standard colors.

#### *OPTIONAL SCREENPRINTED GRAPHICS AVAILABLE ON PANELS 10' AND UNDER.*

3. Screen-printed Graphics are to be porcelain enameled fired-on lines and graphics for maximum durability.  
*Choose from the list of graphics listed below*
  - a. Graph coordinates.
  - b. Penmanship lines.
  - c. Music staff lines

MAXIMUM GRAPH LENGTH IS 10'

#### B. Writing Surface Core

7/16" thick MDF board.

MAXIMUM PANEL LENGTH IS 16'-0" IN ONE PIECE

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### *SELECT A BACKER*

- C. Moisture backer shall be composed of Mylar foil
- C. Moisture backer shall be .015 Aluminum sheet back
  
- D. Lamination
  - 1. Factory machine type PUR “hot glue” only.
  - 2. Tested per ASTM D 1183 as modified by National Starch & Chemical for glue bonds on Marker boards.

## 2.03 MATERIALS FOR TACKBOARD PANELS

### *SELECT CORE MATERIAL*

- A. Core:
  - 1. Core: 7/16” Industrial fiberboard.
  - 1. Core: 1/8” Natural cork over 3/8-inch Industrial fiberboard.
  - 1. Core: ¼” Natural cork over ¼” MDF with Mylar vapor barrier
  - 1. Core ¼” MDF with a Mylar vapor barrier (*for use with colored cork*)

### *SELECT A FINISH MATERIAL*

- B. Coverings:
  - 1. 1/4-inch thick linoleum grade color cork with burlap backing.
  - 1. Covering: Minimum 15 ounce per linear yard total weight, Vinyl coated fabric wallcovering meeting Federal Specifications CCC-W-408A Quality standard CFFA-W-101A, with durability Characteristics of ASTM-F-793-82 including 24 hour clean ability tests based on ASTM method D1308. Vinyl wallcovering shall be treated with an antimicrobial to resist the growth of mildew and bacteria.
    - a. Color(s): As selected by the Architect from the manufacturer’s range of standard colors and textures.

## 2.04 TRIM

- A. All trim shall be 6063 alloy grade aluminum with minimum T5 tempering treatment and shall receive type 201-R1 satin anodized finish.

### *SELECT A CHALKTRAY*

- 1. Chalk tray shall be box type hollow extrusion with a rounded front profile, one piece the entire length of the writing surface up to 24’ with dual density rubberized Dura Safe safety end closures.
- 1. Chalk tray shall be solid ribbed extrusion one piece the entire length of the writing surface up to 24’ with dual density rubberized Dura Safe safety end caps.

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### *SELECT A MAP/DISPLAY RAIL*

2. Map/Display rail to be at the top of each unit 1” tall by the width of the writing surface with integral cork tacking surface. Rail shall have end closures and be sized to receive accessories as noted in section 2.05.
2. Map/Display rail to be at the top of each unit 2” tall by the width of the writing surface with integral cork tacking surface. Rail shall have end closures and be sized to receive accessories as noted in section 2.05.
3. Trim at ends of writing units and at perimeter of tackboards to be # 34 “J” type trim with a minimum face width of .625”
4. Where two panels meet in a single unit, provide a continuous “H” bar vertically dividing the panels from the top of the Chalktray to the bottom of the Maprail.

## 2.05 ACCESSORIES

### *SELECT A MAP/DISPLAY RAIL, INSERT AND HARDWARE*

- A. Wall Mount Display Rail:
  1. Height: 1 inch.
  1. Height: 2 inches.
  1. Height: 3 inches. *(DOES NOT ACCEPT ACCESSORIES 2.05 B-D)*
    - a. Insert: Linoleum grade color cork, with burlap backing.
    - a. Insert: Natural cork, with no backing.
- B. Combination Map Hook/Paper Clip:
  1. Aluminum, Plastic is unacceptable
    - a. Height: 1 or 2 inches. As required for Display Rail
    - b. Quantity: One per every 2’ of Display Rail
- C. Roller Brackets: *(optional)*
  1. Aluminum, Plastic is unacceptable
    - a. Height: 1 or 2 inches. As required for Display Rail
    - b. Quantity: 2 per board.
- D. Flag Holders: *(optional)*
  1. Aluminum, Plastic is unacceptable
    - a. Height: 1 or 2 inches. As required for Display Rail
    - b. Quantity: Two per classroom.
- E. Display rail End Stops:
  1. Aluminum, Plastic is unacceptable
    - a. Height: 1,2 or 3 inches. As required for Display Rail
    - b. Quantity: 2 per board/display rail.

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- F. Attachment Devices: As required for the board(s) specified and the wall type.
- 2.06 FABRICATION
- A. General: In accordance with PEI-1002.
  - B. Lamination: Use factory machines only with adhesives designed and tested for the application.
  - C. Trim
    1. Factory notch and bend perimeter trim to form wrapped corners without seams and hairline miters at corners of tackboard units.
    2. Fasten factory applied trim at rear of visual display board to conceal all trim fasteners.
    3. At units longer than 16' provide Chalk tray for direct wall mount in one piece.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verification of Conditions:
  1. Verify surfaces to receive units are true and plumb. Report any unsuitable conditions to the general contractor for correction prior to installation.
  2. Verify moisture and temperature levels of building have stabilized.

### **3.02 INSTALLATION**

- A. General:
  1. Install units as recommended by the manufacturer.
  2. Provide all necessary installation accessories.
  3. Provide fasteners for trim at 16 to 24 inches on center top and bottom.
- B. Mounting Height: As indicated on the drawings.

### **3.04 PROTECTION**

- A. Protect boards from damage until Substantial Completion.

END OF SECTION