

110 SERIES MARKERBOARDS

PART 1 GENERAL (SCOPE)

1.01 DESCRIPTION OF WORK

FURNISHING AND INSTALLING THE FOLLOWING ITEMS: Fixed markerboards, Aluminum maprails or tackstrips

1.02 RELATED WORK

- A. Division 04000 masonry block wall.
- B. Division 06100 blocking for all units at locations shown on shop drawings for attachment devices.
- C. Division 09000 gypsum wall board.

1.03 REFERENCES

- A. ASTM C540 Gloss for ceramic materials.
- B. ASTM C614 for alkali resistance.
- C. ASTM D2244 evaluation of color differences.
- D. ASTM B221-83 for aluminum extrusions.
- E. ASTM C208-72 for cellulosic fiberboard.
- F. ANSI A208.1-79 for particleboard.
- G. ANSI H35.1-82 for aluminum temper and alloy.
- H. ANSI A424-80 for steel for porcelain enameling.
- I. FS LLL-B-810 for tempered hardboard.
- J. ANSI IES-RP-3 for school lighting (by others).
- K. PEI -104 minimums for porcelain enameling.
- L. BYK-Gardner Surface Coating.

1.04 SUBMITTALS

- A. Samples and colors for each:
 - 1. Face sheet materials
 - 2. Aluminum trim types and profiles.
- B. Anchoring devices
- C. Accessories
- D. Warranty and certificate of authenticity from manufacturer.
- E. Product use and maintenance instructions.
- F. Drawings shall indicate location and actual material lengths of each unit. Room elevations shall indicate joint locations and include dimension from floor and adjacent sidewalls, cross-sections for trim, backing, face and core materials, fastener spacing and types of units provided.

1.05 QUALITY

- A. Uniformity of color, corrosion, temperature, alkali, water, range of gloss test, uniform texture, light reflectance and cleanability are requirements for all groups and have specific ranges for each.
- B. Reflectivity of markerboard writing surfaces shall not exceed the following: Gloss range / 60% Gloss meter
 - 1. P-3 Ceramicsteel Whiteboard 85-95% (high gloss surface)
- C. Surface Distortion @ 3 Meters in distance
 - 1. Contrast for marker boards (light and dark effects) Shall be no greater than 11.7 when tested with BYK - Gardner Wave Scan 5+ Measurement device showing visual acuity to the human eye @ distances greater than 3 meters in distance (10'-0")
 - 2. Resolution (visual acuity) shall be based on 3 lines per degree and be visibly maintained beyond the current standard of 3 meters.
 - 3. Waviness (orange peel) based on a 44% reduction of traditional surfaces

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1.06 DELIVERY AND STORAGE

- A. All pre-framed units shall be stored vertically and with packing materials between each to prevent damage.
- B. Cover all units to prevent damage and dirt accumulation.

1.07 PROJECT CONDITIONS

- A. Store materials in dry areas and above temperatures above 55 degrees F.
- B. General contractor to maintain proper environment prior to, during, and after installation.
- C. Adhesives are to be used with adequate ventilation.

1.08 WARRANTY

Manufacturer shall be one who offers a national advertised written guarantee specifically covering the porcelain finish- that the original writing and erasing surface will retain its writing and erasing qualities and maintain its gloss variance, gloss reflectance, and color consistency for the life of the building.

1.09 MAINTENANCE

Submit manufacturers' standard instructions for cleaning and stain removal.

PART 2 GENERAL (MATERIALS)

2.01 MANUFACTURERS

- A. Acceptable manufacturers:
 - 1. Polyvision (110 Series) as provided by WIUSA.com, P.O. Box 567949, Dallas, TX 75356, 800-527-9014, FAX 214-631-4654, web: <http://www.wiusa.com>, email: sales@wiusa.com.
 - 2. Products as manufactured by other manufacturers must comply with all requirements of the specifications.
- B. Substitutions shall be made 21 days in advance of the bid date. Manufacturers' must submit all data required in its entirety for review by the architect. Samples of the 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. Prior to consideration, lamination and fabrication sections must be submitted to the architect for testing and also inspection of methods and quality (samples will be retained).

2.02 MATERIALS FOR WRITING SURFACES

- A. Facing sheet
 - 1. Shall be enameling grade cold rolled steel .0150" thickness for all pre-framed boards without joints. Any boards that include spline joints shall be .0240" thick. Manufacturer shall offer all of the following items as standard and at No Extra Charge to the owner.
 - a) P-3 Markerboard with improved writing and erasing surface (3 colors high gloss)
 - 2. Facing sheet construction
 - a) 1.7-2.5 mils enameled ground coat on face minimum thickness.
 - b) 3.0 - 4.0 mils enameled cover (color) coat for markerboard.
 - c) 1.7-2.5 mils enameled minimum ground coat on back of facing.
 - d) Firing temperatures shall be 1250 -1300 degrees minimum for chalkboard; 1475 - 1500 degrees minimum for markerboard.
 - 3. Map roller brackets (one pair per marker/chalkboard).
 - 4. Maprail end stops (one pair per display rail).
- C. Core
 - 1. ½" thick particleboard shall be provided. (Units 16'0" width and greater will require routed steel splined joint).

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2. ¼" thick hardboard shall be provided only in areas where replacement panels are furnished and the thickness of existing grounds or conditions will not permit ½" thick particleboard.
- D. Moisture backer shall be factory laminated to core material. Aluminum .015 backer shall be provided standard on all units with routed steel spline joints.
- E. Perimeter trim shall be minimum .062" thick securely fastened with resin coated staples at the rear of the unit and with no exposed fasteners. Trim shall be C-4 (110 series) and include wrap around safety corners mitered to a hairline joint.
- F. Markerboard tray: CRC-2B 2-3/4" solid aluminum with 3/4" radius corners
- G. Maprail
 1. 1" wide 2. 2" wide
- H. Insert (choose from):
 1. Linoleum grade cork - shall be ¼" in thickness and a minimum 43 pounds per cubic foot density with burlap backing.
 2. Natural cork - shall be ¼" in thickness and a minimum 15 pounds per cubic foot density with no burlap backing.
 3. Natural cork with vinyl covering - shall be ¼" in thickness and a minimum 15 pound per cubic foot density laminated to 15 oz. per L.Y. vinyl to match tackboards installed; inclusive with board.
- I. Accessories (1" or 2")
 1. Maphooks (minimum two per marker/chalkboard).
 2. Flag holders (one per classroom).
 3. Map roller brackets (one pair per marker/chalkboard).
 4. Maprail end stops (one pair per display rail).
- J. Attachment devices
 1. Adjustable slotted wall brackets (zinc plated).
 2. Attachment screws (at wall brackets).
- K. Lamination
 1. Factory machine type only.
 2. Specially formulated adhesives.

PART 3 GENERAL

3.01 INSTALLATION

- A. Provide factory trained installers.
- B. Apply manufacturer's adhesive behind each board using egg sized gobs 16" on center.
- C. Mounting heights from the floor for each room shall be:
 1. Kindergarten 24"
 2. First - third grades 26"
 3. Fourth - sixth grades 30"
 4. Seventh - ninth grades 34"
 5. Tenth and up grades 37"
- D. Provide covering for H-moldings to match vinyl covered boards.
- E. Clean boards using manufacturers' recommended procedures and install cleaning labels for each room.
- F. Locate accessories on each board as specified.
- G. Provide mitered and wrapped hairline joints for all trims.
- H. Provide fasteners at perimeter trims 16" - 24" and 12" - 16" on trays.

3.02 PROTECTION

General Contractor shall cover and protect all boards after installation and cleaning.

3.03 CLOSEOUT DOCUMENTS

Provide all maintenance and warranty, cleaning and use documents to General Contractor.