

SECTION 10 12 00

**HORIZONTAL SLIDING WRITING BOARDS
VERTICAL SLIDING WRITING BOARDS**

**HIGHLIGHTED SECTIONS REQUIRE SELECTION BY ARCHITECT OR OWNER BEFORE BID SUBMITTAL.
REMOVE HIGHLIGHTED TEXT UPON COMPLETION.**

PART 1 – GENERAL

* Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.1 DESCRIPTION OF WORK

CHOOSE STYLE

- A. Horizontal Sliding Top Supported Writing Boards
- B. Horizontal Sliding Bottom Supported Writing Boards
- C. Vertical Sliding Writing Boards

1.2 REFERENCES

ARCHITECT TO DELETE REFERENCES NOT APPLICABLE TO PART 2

- A. (ANSI) American National Standards Institute
 - 1. ANSI H35.1 - Alloy and Temper Designation for Aluminum.
 - 1. ANSI A208.1 - American National Standard for Particleboard.
 - 2. ANSI A135.4 - American National Standard for Basic Hardboard.
- B. (ASTM) American Society for Testing and Materials
 - a. ASTM A424 - Specification for Steel, Sheet, for Porcelain Enameling.
 - b. ASTM B 221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
 - c. ASTM C 614 - Test Method for Alkali Resistance of Porcelain Enamel.
 - d. ASTM C 282-99 - Standard Test Method for Acid Resistance of Porcelain Enamels.
 - e. ASTM C 448-88 - Standard Test Methods for Abrasion Resistance of Porcelain Enamels
 - f. ASTM C 208 - Specification for Cellulosic Fiber Insulating Board.
 - g. ASTM E-84 – Standard Testing Method for Surface Burning Characteristics of Building Materials.

1.3 SUBMITTALS

- A. PRODUCT DATA: Provide technical data & materials test reports where applicable.
- B. SHOP DRAWINGS: For each type of visual display board required.
 - 1. Include dimensional elevations.
 - 2. Show location of joints between individual panels where unit dimensions exceed maximum panel size.
 - 3. Show anchors, grounds, reinforcement, and installation details.
 - 4. Show locations and quantities of accessories.
 - 5. Show special purpose graphics required in rooms as indicated on drawings as listed below:
 - REMOVE UNUSED**
 - a. Porcelain-fused graphics on certain marker or chalk surfaces:
 - i. Music staff lines: 1/16-inch (1.6-mm) thick lines at 1-inch (25-mm) apart with 5-inches (127-mm) between sections.

- ii. Polar coordinates: 1/16-inch (1.6-mm) thick lines except 3/32-inch (2.4-mm) thick at x & y axis. Concentric circles on 1.75-inch (45-mm) centers with lines at 15-degrees apart.
 - 1. Penmanship Lines: Alternating 1/16-inch (1.6-mm) and 0.030-inch (0.8-mm) thick lines at 2-inch (50.8-mm) apart and a 4-inch (100-mm) border at the top and bottom.
 - 2. Graphs: 1-inch (25-mm) and 2-inch (50-mm) squares available with or without axes.
 - b. Custom epoxy painted lines on any marker or chalk surface.
 - c. Color graphics on tackable surfaces: Cork or Vinyl surfaces up to 4-feet high. Full vector art files used.
- C. **SAMPLES & COLOR CHARTS:**
Manufacturer's color charts showing the full range of colors and textures available for the following and dispersed at architect request:
ARCHITECT TO DELETE REFERENCES NOT APPLICABLE TO PART 2
- 1. **PANELS:**
 - a. Chalkboards and Markerboards: Actual sections of porcelain enamel finish for each type of chalk and marker surfaces required at not less than 4-inch (100-mm) squares of sheet or plate.
 - b. Tackboards: Furnish swatches for color sections as described in Part 2.2 - Materials:
 - i. Vinyl: Manufacturer standard 22 OZ. Vinyl - Burlap Weave color range Class A (Type 1). (or as chosen by architect)
 - ii. Fabric: Guilford of Maine panel 2100- FR701 standard panel fabric color range Class A (Type 1). (or as chosen by architect)
 - iii. Colored Cork: Forbo Linoleum Inc. 1/4-inch (6-mm) cork bulletin board color range.
 - iv. Natural Cork: Face sanded natural cork.
 - 2. **TRIM:**
 - a. Anodized aluminum trim and accessories: Samples of each type and finish on 6-inch (150-mm) long sections of extrusions. Include sample sets showing the full range of color variations expected.
 - b. Paint: Sherwin Williams polyurethane enamel standard Polane color selector chart or color selected to match architect specification.

1.4 **QUALITY ASSURANCE**

- A. **Installer Qualifications:** Engage an experienced installer who is an authorized representative of visual display board manufacturer for both installation and maintenance of the type of display products required for this project.
- B. **Source Limitations:** Obtain visual display boards through one source from a single manufacturer.
- C. **Product Options:** Drawings indicate size, profiles, and dimensional requirements of visual display boards and are based on the products indicated. Other manufacturers' products with equal performance characteristics may be considered. Refer to Division 1 Section "Substitutions."
 - 1. Do not modify intended aesthetic effects, as judged solely by the Architect, except with the Architect's approval and only to the extent needed to comply with performance requirements. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.
- D. **Fire-Test-Response Characteristics:** For vinyl/fabric-faced tack surfaces, provide Class A (or Class 1) performance characteristics identical to those required in this Section per ASTM E 84.

- E Operation and Maintenance: Include data on regular cleaning, stain removal and general precautions.
- F Delivery, Storage and Protection: Deliver factory built units crated for protection and secured to the trailer whenever possible. Once delivered, inspect the unit for damage and return to crating for storage. Store crated units protected from temperature and humidity variations or possible jobsite traffic damage until the system is ready to be installed.

1.5 PROJECT CONDITIONS

- A. Verify field measurements before fabrication to ensure proper fitting. Coordinate fabrication lead time with construction progress to avoid delaying the work. Notify Architect of any conflicts with other construction such as casework, electrical switches, outlets, clocks, fire detector devices, etc.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with the fabricating without field measurements allowing time for trimming and fitting. Coordinate wall construction to ensure actual dimensions correspond to established dimensions.
 - 2. Coordinate delivery with field conditions to provide proper temperature (above 55 degrees Fahrenheit) and humidity variations and protect from possible jobsite traffic damage until the system is ready to be installed.

1.6 WARRANTY

- A. Sliding Writing Surface Warranty: Submit a written warranty executed by manufacturer agreeing to supply replacement porcelain enamel materials that do not retain their original writing and erasing qualities, become slick and shiny, or exhibit crazing, cracking, or flaking within the specified warranty period, provided the manufacturer's written instructions for handling, installation, protection, and maintenance have been followed.
 - 1. Porcelain Writing Surface Warranty Period: Life of the building or 50 years.
 - 2. Mechanical Moving Parts Warranty Period: Five (5) years from completion date.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the work.
 - 1. ProSteel or ProTak as distributed by K-Pro Specialty Products, P.O. Box 731, Bath, Ohio, 44210-0731, telephone 330-668-1515, fax 330-668-1515, www.k-prosteel.com.
 - 2. Acceptable Manufacturers:
 - a. Educational Equipment
 - b. Schalow Manufacturing
 - c. Marsh
 - d. Substitutions: See Section 01 – Product Requirements

2.2 MATERIALS

A. HORIZONTAL SLIDING TOP SUPPORTED WRITING BOARDS:

1. GENERAL:

Unit consists of housing, back-panel, and top-supported sliding panels. Unit available without the housing and/or back-panel. Top support includes straphanger and four nylon ball-bearing rollers at a maximum four feet apart. Bottom guide includes nylon rollers at a maximum three feet apart. Provide rubber bumpers at the end of each track.

2. HOUSING:

Housing constructed with style and finish as chosen below and connected with double-keyed corners for strength and rigidity. Housing height limited to 54-inches. Housing width limited by delivery restrictions or site constraints up to 24-feet.

a. Finish:

Trim of not less than 1/8-inch (3-mm) thick, extruded-aluminum alloy 6063T5.

CHOOSE FINISH

- Clear Satin Anodized Aluminum [standard]
- Bronze Anodized Aluminum
- Aluminum with polyurethane enamel coating with a minimum film thickness of 1.5 mils when dry. All exposed surfaces to be free of scratches, blemishes or any other imperfections. Extra touch-up paint available upon request.

b. Style:

Housing frame depth from 3-inches deep to 6-inches deep chosen by manufacturer according to number of sliding panels and backpanel.

c. Bottom Tray Style:

CHOOSE ONE

- Box Tray - Hollow type extrusion with end closures [standard]
- Blade Tray - Single solid tray style
- None

d. Top Tack Strip Style:

CHOOSE ONE

- 2-inch high Maprail with tan or gray cork insert & end caps [standard]
- None

3. SLIDING PANELS:

Top-supported sliding panels available up to 4-feet high and 6-feet wide. Panels consist of 3-ply construction with facing material laminated to core material, then laminated to backing material to form a 1/2-inch (12.7-mm) thick nominal panel. Backing material 0.005-inch (0.15-mm) thick aluminum-sheet [Other aluminum backer thicknesses include 0.015-inch (0.45-mm) and 0.030-inch (0.80-mm)]. Laminating adhesive consists of manufacturer's standard, moisture-resistant, thermoplastic-type adhesive.

a. Facing:

Porcelain enamel ProSteel chalk and marker surfaces shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel shall be machine sprayed or rolled to enameling grade steel with a ground coat both sides and colored cover coat on the face. Backing coat to be a minimum 15-microns and facing cover coat to be a minimum 60-microns.

CHOOSE ONE

- 28 Gauge Marker Skin [standard] – Low gloss finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Marker Skin – Low gloss finish at 0.021-inch (0.55-mm) thick minimum
- 28 Gauge Chalk Skin – Matt Finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Chalk Skin – Matt Finish at 0.021-inch (0.55-mm) thick minimum
- Tackable Fabric: Mildew-resistant, Washable fabric weighing not less than 16 oz./lin. yd. Provide Class 1 (A) fabric with a flame-spread rating of 25 or less when tested according to ASTM E-84. Provide color and texture as scheduled or as selected from manufacturer's standard Guilford of Maine Panel Fabric style 2100 – FR701 or as chosen by architect.
- Tackable Vinyl: 22 OZ. PLY specifically produced for tackable surfaces. Mildew-resistant, washable vinyl complying with FS CCC-W-408, Type 1 Class A vinyl.
- Colored Cork: Forbo Linoleum resilient tackable surface, 1/4-inch (6-mm) all natural materials with burlap binders, Uni-color shall extend throughout thickness of material, contains no harmful byproducts or carcinogens, Class B rated in accordance to ASTM E-84, Class II rated in accordance to NFPA 255, Zero-effect chemical resistance to diluted acids and solvents with no resistance to high alkalis, Washable finish to retain original appearance and resists cracking, drying and peeling, Self-healing from thumbtacks and pin punctures, Self-sanitizing quality in the form of a bactericidal effect. Provide color as selected from manufacturer's standard Forbo Bulletin Board color chart.

b. Core:

CHOOSE ONE

- Fiberboard [standard]
- MDF, (Medium Density Fiberboard)
- Fire Rated Fiberboard
- Hardboard (Cork only)
- Other (specify)

4. BACK PANEL:

Consist of 3-ply construction with facing material laminated to core material, then laminated to backing material to form a 1/2-inch (12.7-mm) thick nominal panel. Backing material 0.005-inch (0.15-mm) thick aluminum-sheet for added rigidity and moisture barrier [Other aluminum backer thicknesses include 0.015-inch (0.45-mm) and 0.030-inch (0.80-mm)]. Laminating adhesive consists of manufacturer's standard, moisture-resistant, thermoplastic-type adhesive. When back panel exceeds 16-feet by 5-feet, mullion (h-bar) connection trim used (mullion painted white to match facing if white chosen or satin anodized if other facing color chosen).

a. Facing:

Porcelain enamel ProSteel chalk and marker surfaces shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel shall be machine sprayed or rolled to enameling grade steel with a ground coat both sides and colored cover coat on the face. Backing coat to be a minimum 15-microns and facing cover coat to be a minimum 60-microns.

CHOOSE ONE

- 28 Gauge Marker Skin [standard] – Low gloss finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Marker Skin – Low gloss finish at 0.021-inch (0.55-mm) thick minimum

- 28 Gauge Chalk Skin – Matt Finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Chalk Skin – Matt Finish at 0.021-inch (0.55-mm) thick minimum
- Tackable Fabric: Mildew-resistant, Washable fabric weighing not less than 16 oz./lin. yd. Provide Class 1 (A) fabric with a flame-spread rating of 25 or less when tested according to ASTM E-84. Provide color and texture as scheduled or as selected from manufacturer's standard Guilford of Maine Panel Fabric style 2100 – FR701 or as chosen by architect.
- Tackable Vinyl: 22 OZ. PLY specifically produced for tackable surfaces. Mildew-resistant, washable vinyl complying with FS CCC-W-408, Type 1 Class A vinyl.
- Colored Cork: Forbo Linoleum resilient tackable surface, 1/4-inch (6-mm) all natural materials with burlap binders, Uni-color shall extend throughout thickness of material, contains no harmful byproducts or carcinogens, Class B rated in accordance to ASTM E-84, Class II rated in accordance to NFPA 255, Zero-effect chemical resistance to diluted acids and solvents with no resistance to high alkalis, Washable finish to retain original appearance and resists cracking, drying and peeling, Self-healing from thumbtacks and pin punctures, Self-sanitizing quality in the form of a bactericidal effect. Provide color as selected from manufacturer's standard Forbo Bulletin Board color chart.

b. Core:

CHOOSE ONE

- Fiberboard [standard]
- MDF (Medium Density Fiberboard)
- Particleboard (boards over 4-feet high)
- Fire Rated Fiberboard
- Hardboard (Cork only)
- Other (specify)

5. ACCESSORIES:

CHOOSE AND REMOVE AS REQUIRED

- a. Map Hooks: Adjustable width hook and clips to hang small items like paper sheets & large items like ring boards and maps [2 per unit minimum]
- b. Roller Brackets: Map Winders [1 pair per unit as required]
- c. Flag Holders: [1 holder per unit]
- d. EcoClean Markerboard Kit: [1 kit per unit]
 - 1) Four (4) colors of marker pens including black, blue, red & green
 - 2) One (1) Felt Eraser #1 stitched
 - 3) One (1) 12 OZ. (355 ml) spray bottle of EcoClean markerboard cleaner

B. HORIZONTAL SLIDING BOTTOM SUPPORTED WRITING BOARDS:

1. GENERAL:

Unit consists of housing, back-panel, and bottom-supported sliding panels. Unit available without the housing and/or back-panel as track and sliding panels only. Bottom support system includes industrial nylon rollers or steel sheave bearing rollers recess-mounted into sliding panel trim and top guide system includes metal bearing rollers with rubber o-rings at a maximum three feet apart. Provide rubber bumpers at the end of each track.

2. HOUSING:

Housing constructed with style and finish as chosen below and connected with double-keyed corners for strength and rigidity. Housing size limited by delivery restrictions or site constraints up to 24-feet.

- a. Finish:
Trim of not less than 1/8-inch (3-mm) thick, extruded-aluminum alloy 6063T5.
- CHOOSE FINISH**
- Clear Satin Anodized Aluminum [standard]
 - Aluminum with polyurethane enamel coating with a minimum film thickness of 1.5 mils when dry. All exposed surfaces to be free of scratches, blemishes or any other imperfections. Extra touch-up paint available upon request.
- b. Style:
Housing frame depth from 3-inches deep to 6-inches deep chosen by manufacturer according to number of sliding panels and optional backpanel.

3. SLIDING PANELS:

Bottom-supported sliding panels available up to 5-feet by 12-feet. Panels consist of balanced 3-ply construction with facing material laminated to core material, then laminated to backing material. Backing material thicknesses 0.030-inch (0.80-mm) aluminum sheet. Laminating adhesive consists of manufacturer's standard, moisture-resistant, thermoplastic-type adhesive.

- a. Facing:
Porcelain enamel ProSteel chalk and marker surfaces shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel shall be machine sprayed or rolled to enameling grade steel with a ground coat both sides and colored cover coat on the face. Backing coat to be a minimum 15-microns and facing cover coat to be a minimum 60-microns.

CHOOSE ONE

- 28 Gauge Marker Skin [standard] – Low gloss finish at 0.016-inch (0.42-mm) thick minimum
 - 24 Gauge Marker Skin – Low gloss finish at 0.021-inch (0.55-mm) thick minimum
 - 28 Gauge Chalk Skin – Matt Finish at 0.016-inch (0.42-mm) thick minimum
 - 24 Gauge Chalk Skin – Matt Finish at 0.021-inch (0.55-mm) thick minimum
 - Tackable Fabric: Mildew-resistant, Washable fabric weighing not less than 16 oz./lin. Yd. Provide Class 1 (A) fabric with a flame-spread rating of 25 or less when tested according to ASTM E-84. Provide color and texture as scheduled or as selected from manufacturer's standard Guilford of Maine Panel Fabric style 2100 – FR701 or as chosen by architect.
 - Tackable Vinyl: 22 OZ. PLY specifically produced for tackable surfaces. Mildew-resistant, washable vinyl complying with FS CCC-W-408, Type 1 Class A vinyl.
 - Colored Cork: Forbo Linoleum resilient tackable surface, 1/4-inch (6-mm) all natural materials with burlap binders, Uni-color shall extend throughout thickness of material, contains no harmful byproducts or carcinogens, Class B rated in accordance to ASTM E-84, Class II rated in accordance to NFPA 255, Zero-effect chemical resistance to diluted acids and solvents with no resistance to high alkalis, Washable finish to retain original appearance and resists cracking, drying and peeling, Self-healing from thumbtacks and pin punctures, Self-sanitizing quality in the form of a bactericidal effect. Provide color as selected from manufacturer's standard Forbo Bulletin Board color chart.
- b. Core:
- CHOOSE ONE**
- Fiberboard [standard]

- MDF (Medium Density Fiberboard)
- Fire Rated Fiberboard
- Hardboard (Cork only)
- Other (specify)

4. BACK PANEL:

Consist of 3-ply construction with facing material laminated to core material, then laminated to backing material to form a 1/2-inch (12.7-mm) thick nominal panel. Backing material 0.005-inch (0.15-mm) thick aluminum-sheet [Other aluminum backer thicknesses include 0.015-inch (0.45-mm) and 0.030-inch (0.80-mm)]. Laminating adhesive consists of manufacturer's standard, moisture-resistant, thermoplastic-type adhesive. When back panel exceeds 16-feet by 5-feet, mullion (h-bar) connection trim used (mullion painted white[standard] to match facing if white chosen or satin anodized if other facing color chosen).

a. Facing:

Porcelain enamel ProSteel chalk and marker surfaces shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel shall be machine sprayed or rolled to enameling grade steel with a ground coat both sides and colored cover coat on the face. Backing coat to be a minimum 15-microns and facing cover coat to be a minimum 60-microns.

CHOOSE ONE

- 28 Gauge Marker Skin [standard] – Low gloss finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Marker Skin – Low gloss finish at 0.021-inch (0.55-mm) thick minimum
- 28 Gauge Chalk Skin – Matt Finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Chalk Skin – Matt Finish at 0.021-inch (0.55-mm) thick minimum
- Tackable Fabric: Mildew-resistant, Washable fabric weighing not less than 16 oz./lin. Yd. Provide Class 1 (A) fabric with a flame-spread rating of 25 or less when tested according to ASTM E-84. Provide color and texture as scheduled or as selected from manufacturer's standard Guilford of Maine Panel Fabric style 2100 – FR701 or as chosen by architect.
- Tackable Vinyl: 22 OZ. PLY specifically produced for tackable surfaces. Mildew-resistant, washable vinyl complying with FS CCC-W-408, Type 1 Class A vinyl.
- Colored Cork: Forbo Linoleum resilient tackable surface, 1/4-inch (6-mm) all natural materials with burlap binders, Uni-color shall extend throughout thickness of material, contains no harmful byproducts or carcinogens, Class B rated in accordance to ASTM E-84, Class II rated in accordance to NFPA 255, Zero-effect chemical resistance to diluted acids and solvents with no resistance to high alkalis, Washable finish to retain original appearance and resists cracking, drying and peeling, Self-healing from thumbtacks and pin punctures, Self-sanitizing quality in the form of a bactericidal effect. Provide color as selected from manufacturer's standard Forbo Bulletin Board color chart.

b. Core:

CHOOSE ONE

- Fiberboard [standard]
- MDF, (Medium Density Fiberboard)
- Particleboard (boards over 4-feet both height and width)
- Fire Rated Fiberboard
- Hardboard (Cork only)
- Other (specify)

5. ACCESSORIES:

CHOOSE AND REMOVE AS REQUIRED

- a. Map Hooks: Adjustable width hook and clips to hang small items like paper sheets & large items like ring boards and maps [2 per unit minimum]
- b. Roller Brackets: Map Winders [1 pair per unit as required]
- c. Flag Holders: [1 holder per unit]
- d. EcoClean Markerboard Kit: [1 kit per unit]
 - 1) Four (4) colors of marker pens including black, blue, red & green
 - 4) One (1) Felt Eraser #1 stitched
 - 5) One (1) 12 OZ. (355 ml) spray bottle of EcoClean markerboard cleaner

C. PROSTEEL VERTICAL SLIDING WRITING BOARDS:

1. GENERAL:

Unit consists of housing, vertical sliding panels, counterbalancing hardware and back panel. All vertical sliding panels to operate with ease at any position without racking or jamming.

2. HOUSING:

Housing constructed with style and finish as chosen below and connected with inside and outside keyed corners for strength and rigidity. Housing size usually limited by site constraints.

a. Finish:

Trim of not less than 1/8-inch (3-mm) thick, extruded-aluminum alloy 6063T5.

CHOOSE FINISH

- Clear Satin Anodized Aluminum [standard]
- Bronze Anodized Aluminum
- Aluminum with polyurethane enamel coating with a minimum film thickness of 1.5 mils when dry. All exposed surfaces to be free of scratches, blemishes or any other imperfections. Extra touch-up paint available upon request.

CHOOSE STYLE

b. Wall Mounted, Picture Frame Housing:

Unit housing to be framed on four sides and mounted through the back of the housing. Access to mounting and counterbalance system made through full length cover plates.

CHOOSE TRAY

- Full length Blade tray attached to bottom housing sill.
- Full length hollow type Box tray with end closures attached to bottom housing sill.
- none

b. Floor Mounted Housing:

Unit housing mounted from finished floor to the top through the back of the housing. Access to mounting and counterbalance system made through full length cover plates.

1) Kick Panel:

Designed to hide sliding panels in the down position when not in use (37-inches high [standard] to hide a 36-inch high sliding panel). Panel to be completely enclosed by finish trim with no seams. Full length hollow type Box tray with end closures attached to the top of the kick panel. Unit mounted to housing at the top and a full length angle at the floor with concealed fasteners.

CHOOSE ONE

- Fabric laminated to 1/2-inch (12.7-mm) MDF or 1/2-inch Particleboard: Mildew-resistant, Washable fabric weighing not less than 16 oz./lin. Yd.

- Provide Class 1 (A) fabric with a flame-spread rating of 25 or less when tested according to ASTM E-84. Provide color and texture as scheduled or as selected from manufacturer's standard Guilford of Maine Panel Fabric style 2100 – FR701 or as chosen by architect.
- Vinyl laminated to 1/2-inch (12.7-mm) MDF or 1/2-inch Particleboard: 22 OZ. PLY specifically produced for tackable surfaces. Mildew-resistant, washable vinyl complying with FS CCC-W-408, Type 1 Class A vinyl.
- Unfinished 1/2-inch (12.7-mm) MDF or 1/2-inch Particleboard (to be painted to match surrounding by others)
- High-pressure Laminate laminated to 1/2-inch (12.7-mm) MDF or 1/2-inch Particleboard as chosen by architect
- Oak Veneer laminated to 1/2-inch (12.7-mm) MDF or 1/2-inch Particleboard (finished or unfinished)
- Other

CHOOSE OPERATION

- c. Operation: Manual lift
 - c. Operation: Motorized
- Contact the manufacturer for motor specifications and operation options.

3. **SLIDING PANELS:**

Vertical sliding panels available up to 5-feet high by 12-feet wide or 4 feet high by 16 feet wide. Panels consist of balanced 3-ply construction with facing material laminated to 7/8-inch (22-mm) thick Honeycomb core, then laminated to 0.030-inch (0.80-mm) aluminum sheet backer. Laminating adhesive consists of manufacturer's standard, moisture-resistant, thermoplastic-type adhesive. Aluminum sliding panel frame trim finish to match above housing trim finish. All sliding panels to have heavy duty rubber bumpers mounted to the housing at all four corners.

CHOOSE ONE

- a. VP1 – One sliding panel
- a. VP2 – Two sliding panels
- a. VP3 – Three sliding panels

b. **Facing:**

Porcelain enamel ProSteel chalk and marker surfaces shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel shall be machine sprayed or rolled to enameling grade steel with a ground coat both sides and colored cover coat on the face. Backing coat to be a minimum 15-microns and facing cover coat to be a minimum 60-microns.

CHOOSE ONE

- 28 Gauge Marker Skin [standard] – Low gloss finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Marker Skin – Low gloss finish at 0.021-inch (0.55-mm) thick minimum
- 28 Gauge Chalk Skin – Matt Finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Chalk Skin – Matt Finish at 0.021-inch (0.55-mm) thick minimum
- Tackable Fabric: Mildew-resistant, Washable fabric weighing not less than 16 oz./lin. Yd. Provide Class 1 (A) fabric with a flame-spread rating of 25 or less when tested according to ASTM E-84. Provide color and texture as scheduled or as selected from manufacturer's standard Guilford of Maine Panel Fabric style 2100 – FR701 or as chosen by architect.

- Tackable Vinyl: 22 OZ. PLY specifically produced for tackable surfaces. Mildew-resistant, washable vinyl complying with FS CCC-W-408, Type 1 Class A vinyl.
- Colored Cork: Forbo Linoleum resilient tackable surface, 1/4-inch (6-mm) all natural materials with burlap binders, Uni-color shall extend throughout thickness of material, contains no harmful byproducts or carcinogens, Class B rated in accordance to ASTM E-84, Class II rated in accordance to NFPA 255, Zero-effect chemical resistance to diluted acids and solvents with no resistance to high alkalis, Washable finish to retain original appearance and resists cracking, drying and peeling, Self-healing from thumbtacks and pin punctures, Self-sanitizing quality in the form of a bactericidal effect. Provide color as selected from manufacturer's standard Forbo Bulletin Board color chart.

4. SLIDING MECHANISM:

Double counterbalanced system with pulley, cable, panel and counterweights. Panels glide along a vertical track with horizontal and lateral roller bearing guides.

- a. Cable to be stainless steel 7X7 aircraft cable made in accordance with commercial specifications with a minimum tensile strength of 920 pounds.
- b. Pulley to be anti-friction aircraft-grade phelonic bearing pulley manufactured to the requirements of MIL-DTL-7034 with a maximum allowable load of 600 pounds.
- c. Twelve commercial grade ball bearing rollers with nitrile rubber o-rings per panel.

5. BACK PANEL:

Consist of 3-ply construction with facing material laminated to core material, then laminated to backing material to form a 1/2-inch (12.7-mm) thick nominal panel. Backing material 0.005-inch (0.15-mm) thick aluminum-sheet [Other aluminum backer thicknesses include 0.015-inch (0.45-mm) and 0.030-inch (0.80-mm)]. Laminating adhesive consists of manufacturer's standard, moisture-resistant, thermoplastic-type adhesive. When back panel exceeds 16-feet wide or 5-feet high, mullion (h-bar) connection trim used (mullion painted white[standard] to match facing if white chosen or satin anodized if other facing color chosen).

a. Facing:

Porcelain enamel ProSteel chalk and marker surfaces shall be manufactured in accordance with Porcelain Enamel Institute's specification. Porcelain enamel shall be machine sprayed or rolled to enameling grade steel with a ground coat both sides and colored cover coat on the face. Backing coat to be a minimum 15-microns and facing cover coat to be a minimum 60-microns.

CHOOSE ONE

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- 28 Gauge Chalk Skin – Matt Finish at 0.016-inch (0.42-mm) thick minimum
- 24 Gauge Chalk Skin – Matt Finish at 0.021-inch (0.55-mm) thick minimum

b. Core:

CHOOSE ONE

- Fiberboard [standard]
- MDF, (Medium Density Fiberboard)
- Particleboard (boards over 4-feet high)
- Fire Rated Fiberboard
- Other (specify)

6. ACCESSORIES:

CHOOSE AND REMOVE AS REQUIRED

- a. EcoClean Markerboard Kit: [1 kit per unit]
- 1) Four (4) colors of marker pens including black, blue, red & green
 - 6) One (1) Felt Eraser #1 stitched
 - 7) One (1) 12 OZ. (355 ml) spray bottle of EcoClean markerboard cleaner

2.3 FABRICATION

A. General:

1. Comply with indicated requirements for materials, thickness, finishes, colors, and sizes of construction.
2. Units to be factory assembled and tested for accuracy, then disassembled for delivery.
3. For structural integrity, all corners to be notched and bent within an acceptable alloy range or mitered to a neat, hairline closure and braced internally by corner angles. Corners shall be self-supporting and not dependent on core panel for strength and stability.
4. Splices: Make back panel joints only where total length exceeds maximum manufactured length. Fabricate minimum number of joints, balanced around center of board, coordinate with Architect.
5. When supplying vinyl/fabric coated back panel provide vinyl/fabric covered "H" mullion trim between tack panels.

B. Substitutions:

1. No substitutions permitted.

2.4 FINISHES

- A. Aluminum Trim: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes. Finish designations prefixed by AA conform to the system established by The Aluminum Association for designating aluminum finishes. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: Nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating; Architectural Class II, clear coating 0.010 mm or thicker) complying with AAMA 607.1.
- B. Porcelainized steel special writing surface: Engineered from enameling-grade steel. Exposed coat face produced with a 3-coat process and concealed coat face produced with a 2-coat process fused at manufacturer's standard firing temperatures, but not less than 1200 degrees Fahrenheit (649 degrees Celsius). Exposed face color coat 60-micro-mm thick enamel minimum.

PART 3 – EXECUTION

3.1 EXAMINATION

A. General:

1. Examine wall surfaces, with Installer present, for compliance with requirements and other conditions affecting installation.
2. Verify required anchorage have been installed such as blockings. Blocking is required at all vertical sliding housing members at the center of the housing. Blocking is critical on the vertical members.
3. Housing mounting surfaces shall be plumb, true and free projections or depressions that would affect smooth operation.

4. Surfaces to receive back panel shall be dry and free of substances that would impair the bond between board and substrate. Apply manufacturer suggested adhesive behind each back panel using a golf ball sizes gob at 24-inches apart.
5. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General:

1. When overall dimensions require delivery in separate units, prefit components at the factory, disassemble for delivery, and make final joints at the site. Use mullions or splines at panel joints to maintain surface alignment. Do not make any contact with panel edges to be splined.
2. Provide grounds, clips, backing materials, adhesives, brackets, anchors, trim and accessories necessary for complete installation.
3. Install fasteners for housing at 12 to 16 inches apart.
4. Install units in locations and at mounting heights indicated and according to manufacturer's written instructions. Keep perimeter lines straight, plumb, and level.
5. Do not install visual display boards over or block any mechanical or electrical openings or utilities. Should this condition occur, notify the Construction Manager for directions.
6. Apply linoleum type construction adhesive or spacers behind each fixed board as recommended by manufacturer at no less than 2-feet apart.

B. Operation Adjustments:

1. Adjust operable components to ensure proper sliding panel glide with zero racking or jamming and minimal audible resonance.

3.3 CLEANING AND PROTECTION

A. General:

1. Clean face panels and aluminum trim in accordance to manufacturer recommendations, leaving all materials ready for use.
2. Remove construction debris from project site and dispose of in accordance to local laws.

B. Protection:

1. Properly protect finished surfaces from site damage where possible.

End of Section