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This Manu-Spec utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A Manu-Spec is a manufacturer specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets [ ]; delete optional text in final copy of specification. Specifier notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in specifier notes and in the text Article or Paragraph titled "Acceptable Material". Metric conversion, where used, is soft metric conversion.

This Manu-Spec is based upon Marlite's Surface Systems® Mechanically Applied Panel (MAP) decorative wall panel system, including custom imaging, wood, metal and HPL veneer finishes. Contact Marlite, Inc. directly for specification sections related to other Marlite panels, Marlite decorative FRP panels and Marlite acoustical panels.

This MANU-SPEC specifies custom and decorative wall panels and accessories for walls in primary space type applications.

## SECTION 09 77 16 FRAMED DECORATIVE PANEL SYSTEM

### PART 1 GENERAL

#### 1.1 SUMMARY

- A. Section Includes: This Section specifies decorative prefinished panel with pre-engineered attachment clip, along with hardware and trim systems for installation directly to studs or solid substrate and may include:
1. BlueSky™ Advanced Finishing System.
  2. Metal panels.
  3. Wood veneer on fiber board substrate panels.
  4. High pressure laminate of fiber board substrate panels.
  5. Hardware.

**Specifier Note:** Revise paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat and specifier's practice.

- B. Related Requirements:

**Specifier Note:** Include in this paragraph only those sections and documents that directly affect the work of this section. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section number(s) should be listed in the subparagraph below. Do not include Division 00 documents or Division 01 sections, as it is assumed all technical sections are related to all project Division 00 documents and Division 01 sections to some degree. Refer to other documents with caution, as referencing them may cause them to be considered part of the contract.

1. Section [06 41 00 - Architectural Wood Casework].
2. Section [ ].

## 1.2 REFERENCES

**Specifier Note:** Paragraph below may be omitted when specifying manufacturer's proprietary products and recommended installation. List retained standard(s) referenced in this section alphabetically. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced and update as applicable. Contract Conditions Section 01 42 00 - References may be used to establish the edition date of standards. This Paragraph does not require compliance with standard(s). It is a listing of all references used in this section. Only include here standards that are referenced in the body of the specification in PARTS 1, 2 and/or 3. Do not include references to building codes at any level.

### A. Reference Standards:

1. American National Standards Institute (ANSI)
  - a. ANSI A208.2 Medium Density Fiberboard (MDF) for Interior Applications.
2. Architectural Woodwork Institute (AWI)
  - a. Architectural Woodwork Standards, 2nd Edition.
3. Architectural Woodwork Manufacturer's Association of Canada (AWMAC)
  - a. Architectural Woodwork Standards, 2nd Edition.
4. US Green Building Council (USGBC)
  - a. LEED NC Version 2.2 LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.

**Specifier Note:** Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Contract Conditions and Section 01 33 00 - Submittal Procedures.

## 1.3 ADMINISTRATIVE REQUIREMENTS

### A. Coordination:

1. Locate trim members to ensure panel lines coordinate with doors, headers, jambs and other discontinuities in walls.
2. Coordinate with vapor barrier installer to ensure vapor barrier is used on exterior walls behind backing for framed decorative panel system.

**Specifier Note:** Include the following Paragraph only if the framed decorative panel systems materials are to be used on casework.

3. Coordinate delivery of framed decorative panel system materials to casework fabricator for incorporation into casework.
  - a. Ensure materials are clearly marked related to project and casework location.

## 1.4 SUBMITTALS

- A. Make submittals in accordance with Section [01 33 00 - Submittal Procedures].
- B. Product Data: Manufacturer's standard specifications and descriptive literature, including:
  1. Product characteristics.

**Specifier Note:** Safety Data Sheets are available as downloads for Marlite products at <http://www.marlite.com/tech-details.aspx> or by contacting Marlite, Inc. directly.

2. Safety Data Sheets (SDS) for adhesives, sealants and other pertinent materials prior to delivery to site.
- C. Shop Drawings: Submit elevations of each wall showing location of paneling and trim members with respect to discontinuities in wall elevation.
- D. Samples:

1. Samples for Selection: Submit manufacturer's standard color and pattern selection samples representing manufacturer's full range of available colors and patterns.

**Specifier Note: Specify submittals intended to document manufacturer storage, installation and other instructions.**

2. Samples for Verification: Submit sample for each component and for each exposed finish required, prepared on samples of size indicated below complete with exposed molding and trim samples.
  - a. Ensure samples indicate type, finish and color specified.
    - 1) BlueSky Finish: Submit 7 1/2 x 11 inch section of panel for each panel selected, indicating applied finish color number and name.
    - 2) Metal Veneer panels: Submit 2 x 3 inch samples of each type and color.

**Specifier Note: When matching custom veneer, request a flitch sample from the veneer to be used for the specific project after submission of a sample to be matched.**

- 3) Wood Veneers: Submit sample sets of [each] Marlite Signature Select AA Grade wood veneer with finish choice.
    - a) Ensure 6 x 6 inch sample shows full range of normal color and texture variations anticipated.
    - b) Include sample of [both] [Classic Clear Topcoat] [and] [Custom Stain].
- E. Manufacturer's written instructions, including:
1. Delivery, storage and handling recommendations.
  2. Preparation and installation recommendations.
- F. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- G. Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria, and physical requirements.
- H. Manufacturer's Field Reports: Submit manufacturer's field reports within 3 days of each manufacturer representative's site visit and inspection.

**Specifier Note: Coordinate Article below with Contract Conditions and with Section 01 78 36 - Warranties.**

- I. Installer's Experience: Submit verification of evidence of work similar to the work of this Section.
- J. Warranty: Fully executed, issued in [Owner's] name and registered with manufacturer, including:
  1. Manufacturer's [30-day] warranty covering defects in materials.

**Specifier Note: Specify only the technical submittal requirements necessary to achieve the credits desired for this Project.**

- K. Sustainable Design (LEED) Submittals:
  1. LEED Submittals: In accordance with Section [01 35 21 – LEED Requirements].
  2. Submit verification for items when appropriate as follows:
    - a. MR 4.1 and MR 4.2 for Recycled Content;
    - b. MR 4.4 for Low-Emitting Materials.
    - c. MR 5.1 and MR 5.2 for Regional Materials;
    - d. MR 6 for Rapidly Renewable Materials;
    - e. MR 7 for Certified Wood
    - f. [ ].

## 1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: Supply maintenance data for framed decorative panel system for incorporation into manual specified in Section 01 78 00 Closeout Submittals.

- B. Sustainable Design Closeout Documentation (LEED): Provide calculations on end-of-project recycling rates, salvage rates, and landfill rates for work of this Section demonstrating percentage of construction wastes which were recycled.
  - 1. Submit verification from recycling facility showing receipt of materials.
- C. Record Documentation: In accordance with Section 01 78 00 Closeout Submittals.
  - 1. List materials used in framed decorative panel system work.
  - 2. Warranty: Submit warranty documents specified.

## 1.6 QUALITY ASSURANCE

- A. Installer: Experienced in performing work similar to work of this Section.

## 1.7 DELIVERY, STORAGE & HANDLING

- A. Deliver materials in accordance with manufacturer's written instructions.
  - 1. Deliver materials on strong pallets in manufacturer's original, unopened, undamaged containers with identification labels intact and product name and manufacturer clearly visible and in sizes to suit project.
  - 2. Inspect each package for damage and promptly contact Marlite, Inc. directly to report damaged packages or missing components
- B. Store materials in manufacturer's unopened packaging until ready for installation.
  - 1. Maintain temperature range of 60° to 80°F and humidity range of 35 to 55 % during storage, installation and product life cycle.
  - 2. Maintain plastic or other protective wrap in place during on site handling until ready for installation.
  - 3. Keep panels clean and do not stack panels after removal of protection.
- C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

## 1.8 FIELD CONDITIONS

**Specifier Note: Wood composite panels are subject to effects of humidity and temperature.**

- A. Do not use wood or fiber board products in kitchens, rest rooms, or other high humidity areas.
- B. Maintain environmental conditions (temperature, humidity and ventilation) within limits in accordance with manufacturer's written recommendations for optimum results.
  - 1. Do not install products under environmental conditions outside manufacturer's absolute limits.

## 1.9 WARRANTY

- A. Project Warranty: Refer to Contract Conditions for project warranty provisions.

**Specifier Note: Contact Marlite, Inc. directly for longer than standard warranty periods.**

- B. Manufacturer's warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official.
  - 1. Manufacturer's warranty is in addition to and not intended to limit other rights Owner may have under Contract Conditions.

## PART 2 PRODUCTS

**Specifier Note: Retain Article below for proprietary method specification. Add product attributes performance characteristics, material standards and descriptions in other Articles as applicable. Use of such phrases as "or equal," "approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining or equal products.**

## 2.1 MANUFACTURER

- A. Marlite, Inc.
- B. Contact Information: 1 Marlite Drive, Dover, Ohio 44622; Phone: (330) 343-6621, Phone: (800) 377-1221; FAX: (330) 343-7296; Email: info@marlite.com; Website: www.marlite.com.
- C. Acceptable Material: Marlite Surface Systems MAP.

## 2.2 PERFORMANCE REQUIREMENTS

**Specifier Note: ASTM E84 Definition: Strict interpretation of the ASTM E84 fire rating applies only to surface burning characteristics of a panel. Marlite fire rated panels and trim are intended to provide a Class A fire rated application, as defined by ASTM E84, but are not intended to be included in the creation of fire rated demising wall construction. ASTM E84 fire rating for a Class A material requires a flame spread 25 or less, along with a smoke developed maximum of 450. ASTM E84 fire rating for a Class C material requires a flame spread of 26-200, along with a smoke developed maximum of 450.**

**Marlite fire rated wood veneer panels are comprised of Class A components, as requested by a specifier to meet or exceed restrictions where rated fire retardant surfaces are required. As the panel face consists of a material lower than 1/28 inch (.0357 inch) thick and does not contribute to or pose an unusual hazard. This allows an exemption for the face material, but the substrate material must be rated to the local code requirements for a particular installation. As all current U.S. building fire rating codes are pertinent only to surface burning characteristics of applied materials, the balancing backer is not subject to scrutiny within fire ratings. Edit the following two Paragraphs to meet project requirements.**

- A. Burn Characteristics to ASTM E84, Class A.
  - 1. Flame spread: 0-25.
  - 2. Smoke Developed 0-450.
- B. Burn Characteristics to ASTM E84, Class C.
  - 1. Flame spread: 76-200.
  - 2. Smoke Developed 0-450.

## 2.3 DESCRIPTION

- A. Clip-on 3/4 inch thick decorative wall panel system incorporating [custom, high resolution BlueSky Advanced Finishing] [with] [gallery pattern,] [custom computer graphic from [scanned] [uploaded] file,] [solid digital color] imaging.

## 2.4 HARDWARE

**Specifier Note: Edit the following to meet project requirements. Main rails and cross splines can be specified in various widths and combinations. Contact Marlite, Inc. directly for further information or assistance in specifying rail and spline widths.**

- A. Panel Trim:
  - 1. Reveal:

**Specifier Note: Typically the reveal between panels is the same horizontally and vertically. However variations are available. A horizontal 1/2 inch channel reveal with a 1/4 inch narrow vertical reveal is available as a standard option.**

- a. Horizontal: [1/16 inch hidden] [1/2 inch channel] [1/4 inch narrow] [1 inch broad].
- b. Vertical: [1/16 inch hidden] [1/2 inch channel] [1/4 inch narrow] [1 inch broad].
- B. Hardware and Trim Material:
  - 1. Aluminum - Heavy weight extruded aluminum 6063-T5 alloy and factory prefinished.

**Specifier Note: The 1/16 inch hidden main rail is only available in a black satin finish.**

- a. Main rail: [1/16 inch hidden] [1/4 inch narrow] [1/2 inch channel] [1 inch broad].

Specifier Note: The 1/16 inch hidden cross spline is only available in a black satin finish.

- b. Cross spline: [1/16 inch hidden] [1/4 inch narrow] [1/2 inch channel] [1 inch broad].
- c. Concealed aluminum: Mill finished.

Specifier Note: Retain the following Paragraph only when aluminum is exposed.

- d. Exposed aluminum: [Clear satin anodized] [Black satin anodized].

Specifier Note: Retain and edit the following Article to suit the project requirements. Custom sizes are available. Contact Marlite, Inc. directly for further information on custom sizes.

## 2.5 PANELS

Specifier Note: Consult with Marlite, Inc. before editing the following Paragraph.

- A. Panel Configuration: Face dimensions: [Nominal 24 inches wide x 24 inches high] [As indicated].
  - 1. Maximum of 48 inches along unsupported frame.
  - 2. Panel thickness: [ ] [3/4] inches maximum.

**Specifier Note: Marlite standard panels are manufactured using various wood fiber substrates having either 75%, 82% or 100% recycled wood waste. Specify a higher percentage if required for environmental credits. Wood backed panels are subject to the effects of moisture. Do not use in kitchens, rest rooms or other high-humidity areas.**

- B. Wood Fiber Substrate:
  - 1. Medium density wood fiberboard, 3/4 inch, conforming to ANSI A208.2, industrial-grade MDF or other wood fiber substrates [75] [82] [100] % minimum recycled wood waste] [and having no added formaldehyde].
- C. BlueSky Advanced Finishing System: High resolution digital imaging with controlled, low-temperature inline curing, water-based UV-cure coatings, free of VOC UV-cure inks.

Specifier Note: Retain and edit the following paragraph when finish is selected from Marlite's gallery. Visit the Marlite website at [www.marlite.com](http://www.marlite.com) for gallery color and pattern detail.

- 1. Gallery pattern:
  - a. Marble and granite.
  - b. Brick and stone.
  - c. Wood.
  - d. Tile and mosaic.
  - e. Cement.
  - f. Metal.
  - g. Textile.
  - h. Leather.
  - i. Aged wood and lap siding.
  - j. Classic Marlite finishes.
  - k. Translucent materials (acrylic).
  - l. Organic materials.
  - m. Objects.
  - n. Vector graphics.
  - o. [ ] SKY # and name.

**Specifier Note: Retain and edit the following paragraph when finish incorporates custom scanned or uploaded images supplied by the Architect.**

2. Custom Graphic: [Uploaded to manufacturer's website] [scanned] image file as selected by the Architect.

**Specifier Note: Retain and edit the following paragraph when finish solid color coating will be selected from manufacturer's or Sherwin-Williams color options. Visit the Marlite website at [www.marlite.com](http://www.marlite.com) for color charts.**

3. Solid Color: [ ] as selected from Sherwin-Williams color chart.
4. Acceptable Material Marlite MAP Decorative Panels with Advanced BlueSky Finishing.

**Specifier Note: Metal Panels may be perforated or laminated to a fiber board backing.**

- D. Metal Panels: Thin gauge metal sheet [laminated to wood fiber substrate].

**Specifier Note: Visit the Marlite website at [www.marlite.com](http://www.marlite.com) for applicable colors and patterns.**

1. Color and pattern: [ ] [As selected by Architect from manufacturer's standard range].

**Specifier Note: Standard grain direction is typically vertical, but horizontal can also be specified. Delete the following Paragraph if grain direction is not a consideration.**

2. Grain direction: [Vertical] [Horizontal].
  3. Acceptable Material: Marlite MAP Decorative Metal Panels.
- E. Wood Veneer Panels: Select AA grade quality wood veneer laminated to wood fiber substrate and coated with furniture grade catalyzed finish as protective topcoat.
    1. Edges: Square cut and finished.
    2. Balancing Backer: Wood veneer measuring between 0.015 and 0.025 inches.
    3. Veneer Face: 0.010 to 0.015 inches with catalyzed finish of approximately 0.003 inches.
    4. Matching between panels: Manufacturer's standard non-sequenced matching.
    5. Species and Cut: [ ] [As selected by Architect from manufacturer's standard range].
      - a. Grain direction: [Vertical] [Horizontal].
    6. Finish: [Classic Clear Topcoat] [Custom Stain].
    7. Acceptable Material: Marlite MAP Wood Veneer Panels.
  - F. High Pressure Laminate Panels: Vertical grade high pressure plastic laminate adhered to wood fiber substrate.
    1. Balancing Backer: Kraft paper that does not contribute to or pose additional fire hazard.
    2. Color and pattern: [ ] [As selected by Architect from manufacturer's standard range].
    3. Acceptable Material: Marlite High Pressure Laminate Panels.

## 2.6 ACCESSORIES

- A. Adhesives: Solvent based low VOC adhesive.

**Specifier Note: Marlite Brand C109 adhesive is recommended for the installation of Surface Systems. Marlite Brand C-109 adhesive is a solvent based material, and local code restrictions may require substitution. Any adhesive substitution must have the manufacturer's approval.**

1. Acceptable Material: Marlite C-109 Solvent Based Adhesive.

## 2.7 FABRICATION

- A. Ensure framing panels, hardware and accessories are factory finished and ready to install except for field fabrication as required at work site and perimeter conditions.
  1. Refinish field cut panel edges in accordance with manufacturer's instruction before installation.

2. Drill corners for cut-outs 1/8 inch radius minimum.

### **PART 3 EXECUTION**

#### 3.1 INSTALLER

- A. Use only installers who have training and experience of work similar to the work of this Section.

#### 3.2 EXAMINATION

- A. Verification of Conditions: Verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for framed decorative panel system installation in accordance with manufacturer's written recommendations.
  1. Visually inspect substrate in presence of Architect.
  2. Ensure substrate is smooth, sound, clean, dry and free of contaminants and other deleterious materials.
  3. Ensure vapor barrier has been provided on exterior walls behind backing to prevent warping.
  4. Ensure backing panels are smooth, solid, and flat and that drywall joints are taped and finished.
  5. Ensure walls are primed before installation begins.
  6. Ensure mechanical, electrical and building service or items affecting work of this section are placed and ready to receive this work.
  7. Ensure stud spacing does not exceed 24 inches.
  8. Inform Architect of unacceptable conditions immediately upon discovery.
  9. Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Architect.
  10. Starting installation of framed decorative panel system implies substrate conditions are acceptable for work of this section.
- B. Ensure structural walls are finished and building is completely closed with walls thoroughly dry before starting installation.

**Specifier Note: Retain and edit the following article to meet project requirements. Retain only those paragraphs appropriate to the project.**

#### 3.3 PREPARATION

- A. Conditioning: Allow panels to acclimate to balanced environment in installation location for 72 hours minimum before and during installation.
  1. Maintain environmental conditions of 60° to 80° F and 35% to 55% humidity in installation location for 72 hours before and during installation.
- B. Protect existing surfaces with drop cloths.
- C. Except as indicated, before installing, examine panels and arrange to achieve best combination of color, pattern, texture and grain.
- D. Ensure HVAC system is operable and installation area is balanced to normal operating conditions before proceeding with installation.

#### 3.4 INSTALLATION

- A. Install framed decorative panel system in accordance with manufacturer's written recommendations.

**Specifier Note: Retain the following Paragraph only if panel materials are being used as part of casework.**

1. Do casework to Architectural Woodwork Institute standards [and in accordance with Section 06 41 00 - Architectural Wood Casework].
- B. Install materials straight, plumb and level in accordance with manufacturer's written instructions.
  1. Anchor units tightly and securely in place.



2. Cut sheets to meet existing supports.

**Specifier Note: Retain and edit the following Paragraph only when LED light panels are included in the project.**

- C. Fasten supports and trim using #6 trim-head screws anchored into stud or other solid substrate at 16 inch centers.
  1. Where screws do not hit studs, fasten with adhesive in accordance with manufacturer's written recommendations.
  2. Pre-drill holes through members and fasten screw flush with flange on aluminum profile.
  3. Where necessary countersink for screw head to seat flush with flange.
- D. Avoid contamination of the panel faces with adhesives, solvents or cleaners during installation.
  1. Clean up spills immediately.

### 3.5 FIELD QUALITY CONTROL

- A. Field Inspection: Coordinate field inspection in accordance with Section [01 45 00 Quality Control].

**Specifier Note: Specify requirements if manufacturers are to provide field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Manufacturer field reports are included under PART 1, Submittals.**

- B. Manufacturer's Services:

**Specifier Note: Use the following Paragraphs only when manufacturer's field services are provided and required to verify the quality of the installed components. Establish the number and duration of periodic site visits required by manufacturer and specify below. Contact Marlite, Inc. to determine any costs associated with Technical Representatives providing manufacturer's field services. Delete if field services are not required.**

1. Coordinate manufacturer's services with Section [01 45 00 - Quality Control].

**Specifier Note: Delete the following paragraph if no costs are associated with manufacturer's services.**

2. Arrange for payment for manufacturer's services.
3. Have manufacturer review work involved in handling, storage and installation of framed decorative panel system, and submit written reports in acceptable format to verify compliance of Work with Contract conditions.
4. Manufacturer's Field Services: Provide manufacturer's field services consisting of product use recommendations and periodic site visits for product installation review in accordance with manufacturer's instructions.
  - a. Report any inconsistencies from manufacturer's recommendations immediately to Architect.

**Specifier Note: Edit the following Paragraph to meet project requirements. Coordinate site visits with manufacturer or delete the Paragraph and all of its subparagraphs if site visits are not required.**

5. Schedule site visits to review work at stages listed:
  - a. After delivery and storage of framed decorative panel system, and when preparatory work on which Work of this Section depends is complete, but before application begins.
  - b. During progress of work.
  - c. Upon completion of Work, after cleaning is carried out.
  - d. Obtain reports within three days of review and submit immediately to Architect.

### 3.6 CLEANING

- A. Perform daily progress cleaning.
  1. Leave work area clean at end of each day.
- B. Upon completion, remove surplus materials, rubbish, tools and equipment.



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- C. Collect recyclable waste and dispose of in accordance with manufacturer's written recommendations and at appropriate recycling facilities.

**Specifier Note: Specify protection methods completed after installation, but prior to acceptance by the owner. Include only statements unique to this Section. Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.**

### 3.7 PROTECTION

- A. Protect installed framed decorative panel system from damage during construction.
- B. Repair or replace adjacent materials damaged by installation of framed decorative panel system.

**END OF SECTION**