

## SECTION 097700

### Interior Wall Lining with Fundermax Compact Interior

#### Part 1 – GENERAL

##### 1.1 SUMMARY

- A. Provide High pressure laminate (HPL) compact panels for interior architectural wall lining application.
- B. Related Sections: Coordinate with Work of other sections including the following:
  - 1. Section 062000 – Interior Finish Carpentry
  - 2. Section 064023 – Interior Architectural Woodwork
  - 3. Section 064219 – Plastic-Laminate-Faced Wood Paneling
  - 4. Section 079200 – Joint Sealants
  - 5. Section 092900 – Gypsum Board
  - 6. Section 099000 – Painting

##### 1.2 SUBMITTALS

- A. Product Data: For each type of product indicated. Include Manufacturer's written literature including product characteristics, technical data, performance values and available colors and thicknesses. Submit Manufacturer's written recommendations for evaluating, preparing and treating substrate and attachment to substrate and installation technique brochure.
- B. Shop Drawings: Show fabrication and installation layouts of HPL Compact Interior wall panels, details of attachment and wall structure conditions, anchorages for support structure, attachment system for panels, allowances for thermal expansion, trim, closures, corner conditions, and accessories as required or specified by the architect.
- C. Samples: For each type of finish required, provide samples of size and type indicated below for approval:
  - 1. Wall panels: Minimum of 4" x 4" or manufacturer standard sample size per color specified
  - 2. Substructure: as specified by architect provide z clip, closures, corner profiles or other required fasteners and substructure to achieve the design intent by architect
- D. Installer Qualification Data: For installer, provide certification or letter signed by Manufacturer certifying the installer complies with requirements to perform the work specified in this section.
- E. Closeout Submittals: From HPL Compact Interior manufacturer provide the following:

1. Operation and Maintenance data: operation, cleaning and maintenance manuals or brochures including methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance.
  2. FSC Chain of Custody Certificate.
  3. Environmental Product Declaration (EPD) Report
  4. Health Product Declaration (HPD)
  5. SEFA 8 independent test cert
  6. Greenguard certification
- F. Warranty: Provide Manufacturer's standard warranty for HPL Compact interior panel products against defects in manufacturing.

### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications: A firm experienced in the installation of interior HPL Compact wall panel systems who has a minimum of 2 years installing products indicated in this Project, whose work has resulted in applications with a record of successful in-service performance, and who is recognized and approved by the manufacturer as suitable for the execution of the Work.
- B. Fabricator Qualifications: A shop that employs skilled workers who custom fabricate HPL Compact or similar wall panel systems to those required for this Project and whose finished products have a record of successful in-service performance and who is approved by the manufacturer. If shop drawings are required for the Project the shop drawings are to be drawn and coordinated by the approved fabrication company.
- C. Source Limitations: Obtain HPL Compact Interior and all auxiliary materials from a single source Manufacturer who has a minimum of 35 years of experience in the manufacturing of high pressure HPL Compact or an accessory Manufacturer certified by the HPL Compact Interior panel Manufacturer. Panels to be manufactured in accordance to ISO9001, ISO14001 and EN 438-4
- D. Mock Ups: **(Optional)** Before construction of wall lining construct a mock-up to verify selections made under approved submittals and to demonstrate typical joints, surface finish, texture, tolerances, attachments to wall structure, methods of installation, connections to adjacent materials and standard and quality of workmanship. Build mock-up to comply with the following requirements using materials indicated for completion of the Work:
1. Mock-up shall be a minimum of \_\_\_\_square feet and shall demonstrate substrate surface preparation, typical joints, tolerances, attachment method to wall substrate and connections to adjacent materials.
  2. If Architect determines that the field constructed mock-up does not meet Project requirements, reinstall mock-up until approved.
  3. At the architect's discretion, the mock-up may be part of the finished work.

E. Pre-Installation Conference: Conduct pre-installation conference at Project site prior to commencing construction of mock-up specified herein to verify Project requirements.

1. Review wall lining installation requirements including substrate surface preparation, environmental or site limitations, typical details including attachment and trims, Manufacturer's recommended installation procedures, coordination with adjacent trades, inspection procedures (if any), protection of work and repair procedures.
2. Insure all sub-trades interfacing with or affected by the construction of the wall lining are present, including Architect, General Contractor, HPL Compact Manufacturer's Representative, and any other installer whose work interfaces with the HPL Compact wall panels.

F. PROJECT CONDITIONS, STORAGE AND HANDLING

1. Proceed with installation only when existing conditions permit assembly of the wall lining as performed to the Manufacturer's written installation instructions and warranty requirements.
2. Field Measurements: Verify actual panel measurements / openings by field measurement before fabrication to accommodate site tolerances and changes in construction.
3. Comply with Manufacturer's stated ordering, lead-time and manufacturing requirements to avoid construction delays.
4. Comply with Manufacturers written material handling and storage guidelines. Do not store panels in such a way that might cause damage by other trades, staining, scratching or other surface damage.
5. HPL Compact Interior installer shall notify General Contractor or Construction Manager immediately upon discovery of any issues with the substrate, i.e. improper framing, walls out of plumb or other conditions affecting proper on plane installation. These issues shall be appropriately addressed prior to continuation of panel system installation.
6. Remove damage and waste panel material from site and legally dispose of according to project guidelines or authority having jurisdiction.

G. WARRANTY

- A. Manufacturer's standard 10 year limited warranty covering defects in material or manufacturing quality. Panel to be warranted against delamination for 10 years.
- B. Warranty is only available when HPL Compact panels are installed and fabricated by an installation contractor that has been approved by the Manufacturer and has followed the recommended guidelines of the Manufacturer, and has been signed and dated by the appropriate parties listed on the warranty registration form.

- C. Submittal of Warranty must be made within 6 months of substantial completion of the Project. Contact Manufacturer for warranty submittal procedure.

## PART 2 – PRODUCTS

### 2.1 MATERIALS

- A. These specifications are based on Fundermax Max Compact Interior High Pressure Laminate (HPL) wall panels manufactured by Fundermax GmbH, Fundermax North America, 9401-P Southern Pine Boulevard Charlotte, NC 28273. Telephone: (980) 299-0035. A list of local fabricators or installers that provide products complying with this specification section may be requested from the above address.

1) Basis of Design: Fundermax Max Compact Interior F Quality for interior application

2) Alternate Products:

- a) Max Compact IP F-quality
- b) Xxx

Substitutions for alternate products can be made providing they meet or exceed BOD and are approved by the architect ten days prior to bid submittals.

B. Product Description:

1. HPL Compact Interior consists of multiple layers of cellulose fibrous material impregnated with thermosetting resins and decorative surface layers bonded together in a high heat and pressure process, defined as the simultaneous application of heat (>120 degrees C) and high specific pressure (>5 MPa) providing for flow and subsequent curing of the thermosetting resins resulting in a homogenous, non-porous material. The thermosetting resins are irreversibly cross-linked by chemical bonds during the curing process producing a non-reactive and stable material. The HPL Compact Interior comprises a minimum of 60% recycled content
2. Acceptable alternate products must be manufactured using a high pressure laminate press process in accordance with EN 438-4 and may not be manufactured as a low pressure lamination to a phenolic core.
3. Panel Decor: **select as appropriate** (Unicolours) or (Nature) or (Material) or (Metallic)
  - a. Color number XXXX , Color number XXXX **(or delete and use below)**
  - b. As selected by Architect from Manufacturer's standard color range
4. Panel Surface: FH

5. Panel Core: Brown, Black or Color Through Core
6. Panel Thickness: **select as appropriate** (6mm) or (8mm) or (10mm) or (13mm)
7. Panel Module for finished installation: Refer to architectural drawings

## 2.2 SOURCE QUALITY CONTROL:

- A. Panels shall be of a HPL Compact specifically designed for wall cladding applications. Fabricated panels shall comply with all current codes and regulations for the Project. Panels shall have uniform thickness (+0.03") and flatness (maximum difference of 0.03") for a 10 foot span.
- B. Flame Spread: Panels to conform to ASTM E-84 for Class A fire rating with a Flame spread index of less than 25 and Smoke development index of less than 450.
- C. Panels must comply with the European standard EN 438-4 as high pressure compact laminate (HPL).
- D. Performance Requirements:
  1. Weight: 6mm, 1.8 lbs./SF; 8mm 2.4 lbs./SF; 10mm, 3 lbs./SF; 13mm, 3.9 lbs./SF
  2. Tensile Strength: 11,000-PSI, minimum.
  3. Flexural Strength: 13,000-PSI, minimum.
  4. Surface Impact Resistance:  $\leq 8$  per EN 438:2:21
  5. Scratch Resistance:  $\geq 3/4$  N per EN 438:2:25
  6. Resistance Against Stress Abrasion:  $\geq 150$  U per EN 438-2-10
  7. Optical Properties: Color Stability Gray Scale  $\geq 4$  per EN 438:2:27
  8. SEFA 8PH-2014, 8.1 – Pass rate with zero level 3 conditions
- E. Panel Tolerance:
  1. Thickness: 1/32" maximum.
  2. Length: 1/4" maximum.
  3. Width: 1/4" maximum.

## 2.3 SUB-FRAME ASSEMBLY

- A. Aluminum z-clips as approved by Manufacturer and according to Manufacturer technical guidelines and must be designed to handle the weight per square foot of the specified panel

- B. Glue-fix adhesive system as approved by Manufacturer and according to Manufacturer technical guidelines.
- C. Allow manufacturer minimum clear air space of  $\frac{3}{4}$ " behind vertical attached sub-structure for ventilation of panels to prevent condensation accumulation behind wall panels
- D. Wall Lining System by a recognized wall lining system supplier (fill in specified system here)

## **PART 3 – EXECUTION**

### **3.1 INSTALLATION**

- A. Install vertical sub-frame for ventilation in accordance to shop drawings. A minimum  $\frac{3}{4}$ " free air space should be created regardless of mounting sub-structure selected.
- B. Install Fundermax HPL Compact Interior wall panels according to shop drawings and specification.
- C. Maximum fastening (fixing) distances for panels is dependent on mechanical or adhesive fastening system and the Fundermax Interior Technique Brochure should be referenced on pages 40 -52.
- D. If a z-clip system is to be used the panel clip is to be true and plumb.
- E. Installed panels shall have horizontal and vertical joints of equal dimension. 8mm joints are the recommended joint width subject to design of panel module. Exact dimension of joint may vary depending on wall panel size. The joint allows for controlled expansion and contraction of panels.
- F. Corner conditions are to be per architectural specification and drawings.

### **3.2 PROTECTION**

- A. After installation the General Contractor shall protect the panels from damage from other trades until the facility is opened. The panels shall be kept free from paint, plaster, cement scratches, or any other destructive forces.

### **3.3 CLEANING**

- A. Panels are to be cleaned per Manufacturer's recommended practices using non-abrasive cleaners. Refer to the Cleaning and Chemical Resistance of Fundermax HPL Compact Panels in the close-out package for maintenance and cleaning instructions.

End of Section 097700