

SECTION 09 78 23
PHENOLIC INTERIOR WALL PANELING

SPEC WRITER NOTES:

1. Delete between // // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
2. See 40 CFR 247 for guidelines on the use of recycled materials.

PART 1 - GENERAL**1.1 DESCRIPTION**

- A. This section specifies Interior solid phenolic wall panels.
- B. Trim and accessories for attaching wall panels, including fastenings, accessory features, connections to the building structure, and other items not mentioned specifically herein, and which are necessary to make a complete installation.

1.2 RELATED WORK

- A. Documents affecting work in this section includes but is not limited to the General Conditions, Supplementary Conditions and Sections in Division 1 - General Requirements of these Specifications.
- B. Section 05 50 00, METAL FABRICATIONS: additional sub framing.
- C. Section 06 20 00. FINISH CARPENTRY: Finish Carpentry.
- D. Section 06 40 00, ARCHITECTURAL WOODWORK.
- E. Section 07 92 00, CAULKING AND SEALANTS.
- F. Section 09 06 00, SCHEDULE FOR FINISHES: Color of phenolic panels.
- G. Section 09 22 16, NON-STRUCTURAL METAL STUD FRAMING.
- H. Section 09 29 00, GYPSUM BOARD SYSTEMS.
- I. Section 09 90 00, PAINTING.

1.3 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submit four samples, [3-inch x 3-inch showing available colors] [12-inch x 12-inch in specified color], and texture of specified products.
- C. Submit the following Quality Assurance Submittals:
 1. Test Reports: Submit certified test reports showing compliance with specified performance characteristics and physical properties.
 2. Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.

- D. Shop Drawings: Construction details at 1/2 scale, showing size, panel layout, trim, accessories, supports, anchoring and leveling devices.
 - 1. Show locations and sizes of cutouts, and holes for fixtures, and other items installed in decorative wall panels.
 - 2. Show location of joints and panel moldings.
 - 3. Indicate dressing of all openings as per approved drawings; including providing finished edges on panels and/ or capping panels or corners with specified moldings or abutting specified architectural moldings.
- E. Product Data: Technical data, physical properties and installation instructions for each component.
- F. Engineering Calculations: Fabricator shall submit engineering calculations as required by local and state building codes, showing the installed panels and attachment systems meet all applicable project requirements and building codes.
- G. // LEED submittals:
 - 1. MR Credit 4.1 and 4.2 Recycled Materials:
 - 2. Aluminum moldings contain minimum [__] percent pre-consumer waste by weight.
 - 3. MR Credit 5.1 and 5.2 Regional Materials:
 - 4. Product origin: [_,_]
 - 5. IEQ Credit 4.1 Low Emitting Materials: Adhesives and Sealants
- H. Components are not known to contain any VOC materials and have no intentionally added VOC content. //

1.4 **WARRANTY**

- A. Wall panel to be warranted against delamination for 10 years. The factory authorized fabricator, product installer and material manufacturer must sign and date the Warranty documents and submit a copy to the Contractor for the warranty to be valid.
- B. Manufacturer's warranty certificate.
- C. Installers written warranty statement.

1.5 **APPLICABLE PUBLICATIONS**

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- B. American National Standards Institute (ANSI)
ASTM International (ASTM):

ASTM E84-20.....Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E2768-11(2018).....Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)

ASTM G21-15.....Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.

C. American Wood Council (AWC)

D. Federal Specifications (Fed. Spec.):

E. FF-B-575C Bolt, Hexagon and Square

F. Code of Federal Regulations (CFR):

G. 40 CFR 247 Comprehensive Procurement Guidelines for Products Containing Recovered Materials

H. Commercial Item Descriptions (CID):

A-A-1925.....Shield, Expansion (Nail Anchors)

I. A-A-60003 Partitions, Toilet, Complete

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle materials following manufacturer instructions.

B. Immediately upon delivery notify manufacturer of damaged or defective materials for replacement.

1. Verify manufactures labels meet approved product name, color, texture and finish.

C. Store factory sealed materials indoors, above grade and protected from sun, weather and materials that could cause staining or discoloration of finish.

1. Maintain relative humidity levels of 35 to 65-percent during installation.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. Minimum of //[10]// //[30]// years successful experience producing phenolic materials.

2. // [Produce FSC®(FSC-C115183) certified materials] //

3. Domestic factory assembly, shop fabrication and pre-finishing

4. Installer Qualifications: Minimum 2-years documented installation experience of specified materials.

B. Flame spread/ smoke development rating: Class //[A]// //[B]// tested to ASTM E84, Type V Construction.

- C. Pre-Installation Conference: Convene to review the following:
 - 1. Areas of installation.
 - 2. Framing and rough carpentry.
 - 3. Connections to adjacent surfaces and transitions.
 - 4. Structural requirements and anchoring locations.
- D. Mock-Up:
 - 1. Full-size *[[8-foot x 8-foot]]* *[[__]]* mock up erected at site, to verify color, workmanship and installation details.
 - 2. Complete assembly, color, sheen and model.
- E. Work Quality: All work of this Section to be manufactured and constructed, assembled and installed by skilled craft persons in finish carpentry. All such work to be accurately fabricated, assembled, joined and expertly finished in accordance with measurements taken on the job-site.
- F. Defective Work: All work, work not true to line, not in satisfactory operating condition, improperly installed, damaged or marred will not be accepted. Remedy, remove or replace defective work as directed by the Architect.
- G. Standards: All applicable Sections of the "Manual of Millwork" and current supplements published by the Woodwork Institute for the construction types and grades hereinafter specified. All modifications to such standards shown on the Contract Drawings and approved Shop Drawings or specified shall govern.
- H. Manufacturer: Install wall panels produced by one manufacturer whose published product literature clearly indicates compliance with specifications.

1.8 COORDINATION

- A. Do work of this Section in a fully coordinated and cooperative manner with work of other trades to provide complete and proper installation and to expedite the job without delays.
- B. Secure field measurements before preparation of shop drawings and fabrication where possible, for proper and adequate fabrication and installation of the work.
- C. Priming and back-painting of all carpentry and millwork is specified in Section 099000 - Painting. Do not set items until priming and back-painting have been completed.
- D. Where phenolic panels are clad around outside corners of a room, the drywall installer should avoid installing drywall corner beads, as this

makes shimming the phenolic panels very difficult. (See Section 092600).

- E. Protect all work against damage of any kind until final acceptance of the building. Repair or replace damaged work to the satisfaction of the Architect without additional cost to the Owner.
- F. Provide adequate ventilation and acclimate panels per Woodwork Institute Manual of Millwork.

1.9 FIELD CONDITIONS

- A. Weatherproof building and maintain temperature and humidity levels in accordance with manufacturers recommendations.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

- A. Solid phenolic: water resistant; graffiti resistant; non-absorbent; contain a minimum 30 percent post-consumer recycled plastic; Class C flame spread rating.
- B. Basis of Design: "Wall Panel Systems", Trespa North America, 800-487-3772. Represented locally by W.H. Steele Co., 909-930-0831. A list of approved installers that provide the system specified in this section as judged and approved by the architect may be acquired from the above.
- C. Substitutions: Approved Equals:
- D. "Gecko Wall Systems" by Spec-Rite Designs, 1054 Central Industrial Dr. St. Louis, MO 63110, Toll Free Tel: 877-249-6864, Fax: 314-771-4597, Email: request info (info@specritedesigns.com), Web: www.Specritedesigns.com.
- E. Fiberesin Industries, Inc. N48W37031 E. Wisconsin Avenue, Oconomowoc, WI Toll Free: (262)567-4427 www.stonewoodpanels.com; email: info@fiberesin.com
- F. Conform to Fed. CID A-A-60003, except as modified herein.
- G. Fabricate to dimensions shown or specified.

2.2 MATERIALS

- A. Basis of design: Trespa North America, colors and surface texture as specified by Architect.
- B. Thickness: A thickness of //10mm (3/8")// //8m (5/16")// is approved for interior walls with concealed fasteners, "Z" clip installations.
- C. Panel color/texture: to be selected by Architect from Manufacturer's standard //[Virtuon]// //[Meteon]// //[Athlon]// color pallet, which may include metallics or wood grains, or solid colors. (Note to Bidders: Virtuon and Meteon panels are more expensive than Athlon, and

in the Virtuon and Meeon lines metallics and wood grains are more expensive than solid colors.)

1. //[Color 1 side]// //[different color 2 sides]// //[same color both sides]//.
2. Texture to be //[Satin]// //[Gloss]// //[Rock]// //[Quartz]//.

2.3 FABRICATION

A. Trespa panels can be sawn, cut, routed and drilled with the usual tools used to fabricate hardwoods (i.e. carbide tipped blades). Wall Panel Systems is the Authorized Trespa fabricator who must fabricate the panels and attach the Z-Clips and trim to ensure proper tolerances. Field modifications are possible by the installing contractor using hand tools that meet the above requirements.

B. SOURCE QUALITY CONTROL:

C. Panels shall be of material specifically designed for wall cladding. Fabricated panels shall comply with all current codes and regulations. Panels shall have uniform thickness (+0.03") and flatness (maximum difference of 0.03") for 10-foot span.

SPEC WRITER NOTE: If Class A Fire Rating is not required, then use Class B, as it saves 1 percent of cost of panels.

D. Flame spread (ASTM E-84): Panels to be UL registered and labeled for quality consistency.

1. Class 1 or Class A.
2. Class 2 or Class B.
3. Performance requirements:
4. Modulus of elasticity: 1,500,000-psi minimum.
5. Shear strength: 2000-psi minimum.
6. Compressive strength: 24,000-psi minimum.
7. Weight: 93 lbs. per cubic foot maximum.
8. Tensile strength: 13,000-PSI, minimum.
9. Flexural strength: 16,000-PSI minimum.
10. Surface Impact Resistance: 9 lb.
11. Scratch Resistance: 0.8 lb.

E. Panel Tolerance:

1. Thickness: 1/32", maximum.
2. Length: 1/4", maximum.
3. Width: 1/4", maximum.

4. Non-porous surface and edges.

F. Physical Properties:

1. Specific Gravity: 87 lbs. per cubic foot, minimum.
2. Dimensional Stability: 0.03 in/ft, maximum.
3. Water Absorption: 3% by weight, maximum.
4. Vapor Diffusion: 30,000

G. Optical Properties:

1. Color Stability: Gray scale 4 - 5 according to ISO 105A02-87, (3000 hours Xenon test 1200).
2. SO (2) resistance: Gray scale 4 - 5 (50 cycles 0.0067 percent).

2.4 SUB-FRAME ASSEMBLY

- A. Aluminum "Z" clips and trim to be manufactured specifically to meet the following requirements:

1. Handle the weight of phenolic panels.
2. Fasteners for panel assembly to be designed to keep panels consistently flat at each joint.
3. Capable of holding panels up to 6' high x 12' wide.
4. Allow 1/4" ventilation gap between the wall and the back side of the panel clip, to prevent condensation behind the panels.
5. System to allow interchanging of components at a later date, with a dryfit installation. No liquid adhesives to be used.

B. Trim and Clip Material

1. Where not seen: Al 6061-T6.
2. Where visible: Al 6063-T5.
3. Thickness: not less than 0.62".

- C. Panel trim for joints, edges and corners to be from Wall Panel Systems; Shadowline, Captured, or Open Reveal System (ORS) as shown on drawings.

SPEC WRITER NOTE: Choose between finish options.

1. Finish:
 - a. Mill Finish
 - b. Clear Satin Anodized
 - c. Black Anodized
 - d. Bronze Anodized
 - e. Gold Anodized

2.6 FASTENERS:

- A. Partition Fasteners: CID A-A-60003.

- B. Use expansion bolts, CID A-A-60003, for anchoring to solid masonry or concrete.
- C. Use toggle bolts, CID A-A-60003, for anchoring to hollow masonry or stud framed walls.
- D. Use steel bolts FS-B-575, for anchoring pilasters to overhead steel supports.

SPEC WRITER NOTE: Use the following paragraph for fasteners used in Mental Health and Behavioral Patient Care Units.

- E. Fasteners used in Mental Health and Behavioral Patient Care Units shall be tamper resistant.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install panels and fixing system as per shop drawings and specification.
- B. Install aluminum sub-frame to support the "Z" clip sub-frame assembly.
- C. Aximum fixing distances:
 - 1. 2 fixing points in one direction using:
 - a. 8 mm panel is 27".
 - b. 10 mm panel is 33".
 - 2. 3 or more fixing points in one direction:
 - a. 8 mm panel is 31"
 - b. 10mm panel is 37".
- D. The installation of the panel clip system shall be true and plumb.
- E. Face of the panels are to sit out from the face of the wall $\frac{3}{4}$ " +/- shimming as required.
- F. Installed panels shall have vertical joints with splines routed directly in the center of the panel edge to ensure that all four intersecting panels are kept in the same plane.
- G. Exact sizes and dimensions of the trim to be coordinated with the drawings, field conditions and approved shop drawings.

3.2 PROTECTION

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

3.3 CLEANING

- A. Panels to be cleaned with standard cleaning solution. Mild solvents may be used to remove stubborn marks and dirt.

- B. Repair or replace all damaged material to the satisfaction of the Architect and/or Contractor.
- C. Installed areas or portions of the work shall be inspected by Architect or General Contractor and approved immediately following completion of such areas.

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