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Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, as described in *The Project Resource Manual—CSI Manual of Practice*.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” when editing this section.

SECTION 097700

FRP WALL AND CEILING LINER PANELS

Specifier Notes: This section covers Glasteel™ Glasliner FRP general-purpose and fire-retardant interior wall and ceiling liner panels. Consult Glasteel for assistance in editing this section for the specific application.

PART 1 GENERAL

1.1 SECTION INCLUDES

Specifier Notes: Specify general-purpose or fire-retardant Glasliner FRP liner panels.

- A. Fiberglass reinforced plastic (FRP), [general-purpose] [fire-retardant], interior wall and ceiling liner panels.

1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 07920 (07 92 00) - Joint Sealants.

1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. ASTM C 367 - Standard Test Methods for Strength Properties of Prefabricated Architectural Acoustical Tile or Lay-In Ceiling Panels.
- B. ASTM D 256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
- C. ASTM D 570 - Standard Test Method for Water Absorption of Plastics.
- D. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
- E. ASTM D 696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 Degrees C and 30 Degrees C With a Vitreous Silica Dilatometer.
- F. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- G. ASTM D 792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement.
- H. ASTM D 1929 - Standard Test Method for Determining Ignition Temperature of Plastics.
- I. ASTM D 2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
- J. ASTM D 3841 - Standard Specification for Glass-Fiber-Reinforced Polyester Plastic Panels.
- K. ASTM E 84 - Surface Burning Characteristics of Building Materials.
- L. ICC Evaluation Service ES Report ESR-2364.

1.4 SUBMITTALS

- A. Comply with Section 01330 (01 33 00) - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including installation instructions.
- C. Samples: Submit manufacturer's samples.
 - 1. Color Samples: Standard and special colors.
 - 2. Liner Panels: Minimum 4 inches by 4 inches.
 - 3. Moldings: Each type specified.
 - 4. Fasteners: Each type specified.
- D. Manufacturer's Certification:
 - 1. Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
 - 2. Submit evidence of manufacturer's ISO 9002 facility certification.

- E. Warranty: Submit manufacturer's standard warranty.

1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications:
 - 1. FRP wall and ceiling liner panels manufactured in ISO 9002 certified facility.
 - 2. More than 45 years experience
 - 3. Panels and moldings originate from the same manufacturer.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Storage:
 - 1. Store liner panels in clean, cool, dry, well-ventilated area indoors in accordance with manufacturer's instructions.
 - 2. Store liner panels flat.
 - 3. Stack panels on skids a maximum of 5 skids high.
 - 4. Do not allow moisture to collect on or in-between panels.
- B. Handling: Protect materials and finish from damage during handling and installation in accordance with manufacturer's instructions.

1.7 WARRANTY

- A. Liner Panel Warranty Period: Ten years from date of sale.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Stabilit America, Inc., dba Glasteel, 285 Industrial Drive, Moscow, Tennessee 38057. Toll Free (800) 238-5546. Phone (901) 877-3010. Fax (901) 877-1388. Web Site www.glasteel.com.

2.2 FRP WALL AND CEILING LINER PANELS

- A. Liner Panels: Glasliner FRP wall and ceiling liner panels.
 - 1. Conformance: ASTM D 3841.
 - 2. Approval:
 - a. ICC ES Report ESR-2364.
 - b. USDA.
 - c. ASTM E 84 tested and listed by Factory Mutual, Reports JI 3005041, 3001891, and 3005799.

Specifier Notes: Specify Glasliner FRP liner panel type. Consult Glasteel for more information.

- 3. Wall and Ceiling Liner Panel Type: [General-purpose, Class C] [Fire-retardant, Class A] panels.
- 4. Nominal Thickness:
 - a. Wall Liner Panels: 0.090 inch.
 - b. Ceiling Liner Panels: 0.100 inch.
- 5. Dimensions:

Specifier Notes: Specify Glasliner FRP liner panel dimensions.

- a. Wall Liner Panels: [4 feet by 8 feet] [4 feet by 9 feet] [4 feet by 10 feet] [4 feet by 12 feet].
- b. Ceiling Liner Panels: [23-3/4 inches by 23-3/4 inches] [23-3/4 inches by 47-3/4 inches].

Specifier Notes: Specify Glasliner FRP liner panel finish. Consult Glasteel for more information.

6. Finish: [Traditional pebbled, textured one side (TOS)] [Premium gel-coat, smooth both sides (SBS)].

Specifier Notes: Specify Glasliner FRP liner panel color. Consult Glasteel for availability of special-order colors. The SBS finish (Gel-Coat) is only available in Bright White.

7. Color:
 - a. Wall Liner Panels: [Bright White] [Almond] [Beige] [Light Gray] [Ivory] [Silver] [Black].
 - b. Ceiling Liner Panels: Bright White.

Specifier Notes: Specify physical properties for Series 1200, Glasliner FRP Class C general-purpose wall liner panels or Glasliner FRP Class A fire-retardant wall liner panels.

- B. Physical Properties, Series 1200, Glasliner FRP Class C General-Purpose Wall Liner Panels:
 1. Flexural Strength, ASTM D 790: 17,000 psi.
 2. Flexural Modulus, ASTM D 790: 6.0×10^5 psi.
 3. Tensile Strength, ASTM D 638: 8,000 psi.
 4. Tensile Modulus, ASTM D 638: 9.43×10^5 psi.
 5. Elongation, ASTM D 638: 1.20 percent.
 6. Water Absorption, ASTM D 570, 21 Degrees C at 72 Hours: 0.17 percent.
 7. Izod Impact Strength, ASTM D 256: 7.0 foot-pounds/inch.
 8. Coefficient of Linear Thermal Expansion, ASTM D 696: 2.22×10^{-5} inches/inch/degree F.
 9. Barcol Hardness, ASTM D 2583: 30 average.
 10. Specific Gravity, ASTM D 792: 1.6138.
 11. Abrasion Resistance, Tabor Weight Loss: 0.293 percent weight loss.
 12. Flash Ignition Temperature, ASTM D 1929: 430 degrees C.
 13. Self Ignition Temperature, ASTM D 1929: 450 degrees C.
 14. Surface Burning Characteristics, ASTM E 84:
 - a. Flame Spread Index: 200.
 - b. Smoke Developed Index: Less than 450.
- C. Physical Properties, Series 1200, Glasliner FRP Class A Fire-Retardant Wall Liner Panels:
 1. Flexural Strength, ASTM D 790: 10,000 psi.
 2. Flexural Modulus, ASTM D 790: 3.1×10^5 psi.
 3. Tensile Strength, ASTM D 638: 7,000 psi.
 4. Tensile Modulus, ASTM D 638: 3.1×10^5 psi.
 5. Elongation, ASTM D 638: 1.80 percent.
 6. Water Absorption, ASTM D 570, 21 Degrees C at 72 Hours: 0.72 percent.
 7. Izod Impact Strength, ASTM D 256: 7.16 foot-pounds/inch.

8. Coefficient of Linear Thermal Expansion, ASTM D 696: 2.39×10^{-5} inches/inch/degree F.
9. Barcol Hardness, ASTM D 2583: 35 average.
10. Specific Gravity, ASTM D 792: 1.5743.
11. Abrasion Resistance, Tabor Weight Loss: 0.391 percent weight loss.
12. Flash Ignition Temperature, ASTM D 1929: 400 degrees C.
13. Self Ignition Temperature, ASTM D 1929: 430 degrees C.
14. Surface Burning Characteristics, ASTM E 84:
 - a. Flame Spread Index: 25.
 - b. Smoke Developed Index: Less than 450.

- D. Physical Properties, Glasliner FRP Ceiling Liner Panels:
1. Sag, ASTM C 367, 23-3/4 Inches by 47-3/4 Inches Panel: 0.193-inch to 0.25-inch sag.
 2. Surface Burning Characteristics, ASTM E 84:
 - a. Flame Spread Index: 200.
 - b. Smoke Developed Index: 450.

2.3 ACCESSORIES

- A. Moldings: PVC, same manufacturer and color as liner panels.
1. Dividers.
 2. Outside corners.
 3. Inside corners.
 4. End caps.
 5. Angles.
- B. Fasteners: Nylon rivets, 1-piece, non-corroding, same manufacturer and color as liner panels.
- C. Silicone Sealant: As specified in Section 07920 (07 92 00).
- D. Adhesive: Water-based or solvent-based adhesive, compatible with Glasliner FRP liner panels.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive liner panels. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Ensure solid wall surfaces to receive liner panels are plumb, clean, flat, smooth, and dry.
- B. Precondition liner panels before installation in accordance with manufacturer's instructions.

3.3 INSTALLATION

- A. Install liner panels in accordance with manufacturer's instructions.
- B. Install liner panels over plumb, clean, flat, smooth, dry, solid wall surfaces.
- C. Install liner panels plumb, level, square, and in proper alignment.

- D. Lay out liner panels to minimize joints. Use full panels where possible.
- E. Cut liner panels in accordance with manufacturer's instructions for proper installation.
- F. Expansion and Contraction:
 - 1. Install liner panels with gap at ceiling, floor, and between panels in accordance with manufacturer's instructions to allow for expansion and contraction of panels due to changes in temperature.
 - 2. Allow for expansion and contraction of liner panels when pre-drilling holes for fasteners and when installing around penetrations, including pipes, conduits, and electrical outlets.
- G. Moldings and Sealants:
 - 1. Install moldings and silicone sealant with liner panels in accordance with manufacturer's instructions to achieve moisture-resistant installation.
 - 2. Remove excess silicone sealant during installation or trim after silicone has cured.
- H. Adhesive: Apply adhesive in accordance with manufacturer's instructions along with fasteners when installing liner panels.
- I. Fasteners:
 - 1. Install liner panels with non-corroding fasteners.
 - 2. Use fastener type and size as required for installation.

3.4 CLEANING

- A. Clean liner panels promptly after installation in accordance with manufacturer's instructions.
- B. Do not use harsh or abrasive cleaning materials or methods that would damage liner panels or finish.

3.5 PROTECTION

- A. Protect installed liner panels and finish from damage during construction.

END OF SECTION