



Precision
Foam
Fabricators

Precision Panels™

Technical Specification Sheet

OUR PRECISION PANELS ARE USED IN THE FOLLOWING CONSTRUCTION APPLICATIONS:

- Exterior/Interior EPS Insulated Building Panels for Warehouses & Food Processing Plants
- Walk-On Suspended Ceiling Systems
- Storage Freezers & Coolers
- Blast/Spiral/IQF Freezer Tunnels & Enclosures
- Federally Inspected Food Processing Areas
- Environment/Atmosphere Control Rooms
- Factory-Laminated Fiberglass Reinforced Plastic (FRP)
- Residential Construction
- Commercial Buildings
- Portable Buildings
- Packaging & Distribution Centers
- Supermarkets
- School & Daycare Facilities
- And Many More...





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COMPANY PROFILE

At PFF, we have the capacity, engineering expertise and product lines to meet your needs. Precision Panels meet every standard where speed of erection, lightness of weight and thermal efficiency are required.

PFF was founded in 1969 and currently has a manufacturing facility in Social Circle, Georgia, which is conveniently located just 35 miles east of downtown Atlanta.

At our 50,000 sq ft manufacturing facility, we use a CONTINUOUS-LINE MANUFACTURING PROCESS which guarantees each panel is produced to meet rigid appearance and performance standards. Our in-house and third-party quality control systems ensure customer satisfaction throughout our product line, which has resulted in strong customer relationships over the years.

INSULATED PANEL SYSTEMS

PART 1: GENERAL

1.1 SECTION INCLUDES

- A. Expanded polystyrene (EPS) insulated-metal wall and ceiling panels with related accessories

1.2 RELATED SECTIONS

- A. Section 03300 - Concrete: Foundations
- B. Section 05120 - Structural Steel: Primary structure
- C. Section 05500 - Steel Fabrication: Supporting structure

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM) E96: Standard Test Methods for Water Vapor Transmission of Materials
- B. American Society for Testing and Materials (ASTM) E283: Standard Test Method for Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors

1.4 SYSTEM DESCRIPTION

- A. General: Construct panel system to provide for expansion and contraction of component materials without causing buckling, failure of joint seals, undue stress on fasteners, other detrimental effects to the panel system or adjacent building systems, or warping of faces of panel system
- B. Performance Requirements: Design and construct panels to meet requirements as indicated
 - 1. Design panel composition to resist wind load mandated by code, with deflection limit of $L/180$
 - a. No permanent damage to panels or connections when subjected to 1.5 times the design wind pressures for both inward and outward
 - 2. Air leakage: Not greater than .06 cfm per square foot when tested in compliance with ASTM E283 at 1.56 pounds per square foot

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations
 - 2. Storage and handling requirements and recommendations
 - 3. Detailed specification of construction and fabrication
 - 4. Manufacturer's installation instructions
 - 5. Certified test reports indicating compliance with specified performance requirements

- C. Shop Drawings: Indicate dimensions, description of materials and finishes, general construction, specific modifications, component connections, anchorage methods, hardware, and installation procedures, including specific requirements indicated
 - 1. Profile and gauge of both exterior and interior sheet
 - 2. Metal finish
 - 3. Relationship to other work
 - 4. Fully show details and connections to and locations of supporting steel indicating control points
- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns
- E. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color and patterns
- F. Quality Control Submittals:
 - 1. Statement of qualifications
 - 2. Design data
 - 3. Test reports

1.6 QUALITY ASSURANCE

- A. Installer shall be responsible for installation of panel and support framing as specified in this section to comply with the following:
 - 1. Wind load engineering to comply with code requirements
- B. Manufacturer's Qualifications: Not less than 15 years experience in the actual production of specified products
 - 1. Have a written Quality Control program that complies with rigid factory guidelines, which includes quarterly unannounced inspections by independent testing laboratories providing reports directly to code authority
 - 2. Successfully completed not less than 100 comparable scale projects using this system
- C. Installer's Qualifications: Experienced in installation of systems similar in complexity for specific requirements
 - 1. Acceptable to or licensed by manufacturer
 - 2. Not less than 3 years experience with systems
 - 3. Successfully completed not less than 5 comparable scale projects using this system
- D. Product Requirements:
 - 1. Metal members (prone to rust) and wood or wood by-products (prone to moisture absorption and rot), shall not be permitted within the panel connection system
 - 2. Panel joints connection system, tested in accordance with ASTM E283 "Air Leakage Rate Testing" and ASTM E96 "Water Vapor Permeance Rate Testing" shall have an air leakage rate at 75 Pa OF 0.00m³/h-m² (0.00cfm/sq.ft.) and a water vapor permeance rate of 0.00 perms
 - 3. Insulated panels, related accessories, and construction details shall be in accordance with the following regulatory agency, where required:
 - a. United States Department of Agriculture (USDA)
 - 4. Wall and ceiling panels, insulated with Type 1 Expanded Polystyrene (EPS) manufactured to EPS Type 1 standards, shall be listed in accordance with ULC/ORD-C376-1995, "Fire Growth of Foamed Plastic Insulated Building Panels in a Full-Scale Room Configuration"
- E. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship
 - 1. Finish areas designated by architect
 - 2. Do not proceed with remaining work until workmanship, color and sheen are approved by architect
 - 3. Refinish mock-up area as required to produce acceptable work

Precision Panels

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in per manufacturer's recommendation until ready for installation
- B. 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 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits

1.9 WARRANTY

- A. Provide manufacturer's standard limited warranty

PART 2: PRODUCTS

2.1 MANUFACTURERS

- A. Precision Foam Fabricators
754 E. Hightower Road
Social Circle, GA 30025
Tel: 770-464-2603 Fax: 770-464-2221
Email: Dan@precisionfoamfabricators.com
- B. Substitutions: Not permitted
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600

2.2 MATERIALS

- A. Panel General Requirements: Roll-formed exterior and interior steel sheet faces laminated to panel grade type 1 expanded polystyrene (EPS) foam core. EPS foam core shall not contain CFC's, HCFC's or HFC's. Insulated wall and ceiling panels shall be supplied in widths of approximately 45.5 inches. Panel lengths shall be factory-cut to meet required site dimensions
 1. Panel Thickness:
 - a. 2 inches (50 mm)
 - b. 4 inches (100 mm)
 - c. 6 inches (150 mm)
 - d. 8 inches (200 mm)
 - e. 10 inches (250 mm)
 2. Interior wall and ceiling panels shall be clad on all exposed areas with 26 gauge (0.455 mm) pre-painted G90 galvanized steel or AZ-50 Galvalume (USDA accepted)
 - a. Medium gloss white (SW3K25505 USDA White CERAM-A-STAR® 950U)
 3. Exterior insulated panels shall be clad on the weather-exposed side with 26 gauge (0.455 mm) pre-painted G90 galvanized steel or AZ-50 Galvalume (USDA accepted)
 - a. Medium gloss white (SW3K25505 USDA White CERAM-A-STAR® 950U)
 4. Metal skins shall be thermal-set to the Type 1 EPS insulation. Insulated panels shall be manufactured individually laminated, ensuring uniform adhesion between metal skins and EPS insulation
 5. Panel edges shall be fabricated with a tongue-in groove type panel connection system (slip joint)
 6. Slip joints shall be sealed internally by running continuous beads of FSI-96 butyloid caulking (or approved alternate) along the inside edges of the female sides of the panel joints
 7. Slip joints shall be externally caulked for USDA inspected areas only, or as specified, with white silicone (or approved alternate)

B. Wall and Ceiling Panel Insulation:

1. Wall panels and ceiling panels shall consist of Type 1 Expanded Polystyrene (EPS) insulation
2. Finished panels shall have an R-value of 4.38 per inch at 75 degrees F (23.8 degrees C). Insulation thickness of panels shall be adjusted in accordance with design R-value requirements
3. Insulation shall not contain CFCs or HCFCs, or other expanding agents
4. EPS Type 1 shall be manufactured with BASF KF262 bead size (or approved alternate), ensuring uniform densities throughout the insulation
5. EPS Type 1 panel grade insulation shall meet or exceed federal standards for Type 1 EPS

2.3 FIELD FABRICATION OF PANELS

A. Corners:

1. Corner panel connections shall be butted or mitered, flashed, and finished by installation crew on-site
2. Where specified, corner panel connections shall be a single unit corner panel with a continuous metal skin on the outer bend

- B. Offset: Maximum offset from true alignment between two identical members abutting end-to-end: 1/8 inch (3 mm)

PART 3: EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion

1. Panel installer to verify that structural steel supports for wall panels are within tolerances in the AISC Code of Standard Practice, Section 7 and supplement modification controlling Section 7.11.3, adjustable items. Limit maximum deviation of steel alignment to plus or minus 3/16 inch (4 mm) from the control with a 1/8 inch (3 mm) maximum change in deviation for any member for any 10 feet (3 m) length of panel
2. Do not proceed until unsatisfactory conditions have been corrected

- B. If support system preparation is the responsibility of another installer, notify architect of unsatisfactory preparation before proceeding

3.2 INSTALLATION

- A. Install in accordance with manufacturer's instructions & industry standards

3.3 TOLERANCES

- A. Variation: Maximum variation from vertical or horizontal plane, 1/4 inch (6mm) in 12 feet (3658 mm) length section or 1/2 inch (13 mm) over total length
- B. Offset: Maximum offset from true alignment between two identical members abutting end-to-end: 1/8 inch (3 mm)

3.4 FIELD QUALITY CONTROL

- A. Installer shall make periodic inspections and issue report to architect regarding compliance with manufacturers installation recommendations developed for the project

3.5 ADJUSTING

- A. Repair damage caused during construction
 1. Touch-up mars, scratches, and cut edges to match original finish
 2. If repairs cannot be made to comply with architect's requirements, remove damage and install new materials

Precision Foam Fabricators – EPS Structural Insulated Panel System
Precision Panel Technical and Test Data Table

Insulation Core Properties by Thickness @ Average Temperature +75° F				
Inches/Millimeters	2"(50mm)	4"(100mm)	6"(150mm)	8"(200mm)
R-VALUE (ASTM C 1363-05)	8.77	17.53	26.30	35.07
Water Vapor Transmission (ASTM E 96)	all sizes transmit 2.0 – 5.0 perms per inch at all temperatures			
Typical Foam Core Density	2lb	1lb	1lb	1lb
Composite Panel Weight (per sq ft)	2.3lb	2.3lb	2.49lb	2.64lb
Panel Facing Thickness	.019 thick G-90 Galvanized Steel or AZ-50 Galvalume			

Certified Test Data for PFF Panels	2"(50mm)	4"(100mm)	6"(150mm)	8"(200mm)
Florida Product Approved	N/A	YES	YES	N/A
ASTM E1886/1996 Tensile Strength & Large Missile Impact	N/A	PASSED	N/A	N/A
ASTM E1886/1996 Cyclic Static Air Pressure Loading	N/A	PASSED	N/A	N/A
SBCCI/SSTD 12-99 Non-Porous Impact Protective Membrane Integrity	N/A	PASSED	N/A	N/A
ASTM E1592 Wind Uplift for Roof	N/A	N/A	PASSED	N/A
ASTM E 108 Classification "B" Roofing Assembly - Fire Test	N/A	N/A	PASSED	N/A
UL 1715 (UBC 26-3) Wall Corner Assembly - Fire Test	N/A	N/A	PASSED	N/A
ASTM E 72 Racking Load Test with Corner Condition	N/A	PASSED	N/A	N/A
ASTM E 90 Acoustical STC Rating	N/A	N/A	20	N/A

For More Information:

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