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**Legacy report on the 1997 Uniform Building Code™ and the 2000 International Building Code®****DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07410—Metal Roof and Wall Panels****FCP, INC., STRUCTURAL PANELS****FCP, INC.**  
**POST OFFICE BOX 1555**  
**23100 BAXTER ROAD**  
**WILDOMAR, CALIFORNIA 92595****1.0 SUBJECT**

FCP, Inc., Structural Panels.

**2.0 DESCRIPTION****2.1 General:**

The FCP, Inc., structural panel is a factory-assembled, nonbearing, combustible, nonfire-rated, exterior wall panel limited to Group U, Division 1, Occupancies under the *Uniform Building Code*™ (UBC) and Group U occupancies under the *International Building Code*® (IBC). Each panel measures 12 feet (3658 mm) in length by 8 feet (2438 mm) in height, and is constructed from three 4-foot-long-by-8-foot-high (1219 mm by 2438 mm) plywood panels covered with sheet metal. The plywood panels are joined by interior steel splines and are encased in a steel C-channel perimeter frame to form a single unit panel.

**2.2 Materials:**

**2.2.1 Plywood Panel:** Plywood panels are nominal- $\frac{3}{4}$ -inch-thick, five-ply, five-layer, CD, Exposure 1 panels with a span rating of 48/24 complying with United States Department of Commerce, Product Standard PS 1-95 (UBC Standard 23-2).

**2.2.2 Steel Frame and Splines:** Steel frame and splines are galvanized C-channels manufactured from 14 gage [0.0705-inch (1.7907 mm) minimum base-metal thickness] steel, and conform to ASTM A 653 CS, Type A, and having a minimum yield strength of 50 ksi (345 MPa) or equivalent of SS GR. 50 or HSLAS GR. 50. The channels have the following dimensions: 2.06-inch-deep (52.3 mm) web, 1.5-inch-wide (38 mm) flanges, and 0.56-inch-long (14.2 mm) return lips. The splines, which adjoin the three 4-foot-by-8-foot (1219 mm by 2438 mm) plywood panels to form a 12-foot-by-8-foot (3658 mm by 2438 mm) panel, are factory-machined spot-welded back-to-back at 12 inches (305 mm) on center.

**2.2.3 U-channels:** U-channels, which are used for hold-downs, are manufactured from 16 gage [0.058-inch (1.47 mm) minimum base-metal thickness] galvanized steel conforming to ASTM A 653 CS, Type A, and having a minimum yield strength of 50 ksi (345 MPa). The U-channels are 4 inches (102 mm) long and 2.15 inches (54.61 mm) wide, and have  $1\frac{3}{8}$ -inch (35 mm) flanges.

**2.2.4 Fasteners:** Fasteners used to attach the wall panels to the U-channel hold-downs are No. 14, 1-inch-long (25.4 mm),  $\frac{1}{4}$ -inch-diameter (6.4 mm), self-tapping TEK screws.

**2.2.5 Sheet Metal:** Galvanized, 4-foot-by-8-foot (1219 mm by 2438 mm), No. 26 gage [0.018 inch (0.46 mm)] minimum base-metal thickness] sheet metal complying with ASTM A 792 CS, Type A, B or C, is inserted on both sides of plywood panels for weathering and esthetics only.

**2.3 Installation:**

Panels are supported on the foundation by two U-channel hold-downs (one at each end) at the bottom ends of the panel. The bottom of the panel is mechanically fastened to the U-channel flange using two (a total of four at each end of the panel) No. 14, 1-inch-long (25.4 mm),  $\frac{1}{4}$ -inch-diameter (6.4 mm), self-tapping TEK screws. The screws are spaced 2 inches (51 mm) apart, with a minimum edge distance of  $\frac{3}{8}$  inch (12.7 mm). Refer to Figures 1 through 3 for typical panel installation details of three different building configurations.

**2.4 Allowable Loads:**

The design racking shear value and transverse load capacity for the FCP structural panel are shown in Table 1. An analysis (incorporating the panel system, including fasteners and structural framing members) and a complete load path capable of transferring all loads and forces from their point of origin to load-resisting elements must be submitted to the building official for approval.

**2.5 Special Inspection:**

Any welding performed at the jobsite requires special inspection in accordance with Paragraph 5 of Section 1701.5 of the UBC and IBC Section 1704.3. Before proceeding, the welder must demonstrate the ability to produce the prescribed weld to the special inspector's satisfaction. The inspector's other duties include verification of materials, weld preparation, welding procedures and welding processes.

**2.6 Identification:**

Each panel is identified with the company name (FCP, Inc.), a serialized label of the inspection agency (Ramtech Laboratories), and the evaluation report number (PFC-5521).

**3.0 EVIDENCE SUBMITTED**

Reports of shear racking and transverse load tests, product literature, and a quality control manual.

**4.0 FINDINGS**

That the FCP, Inc., Structural Panel described in this report conforms to the 1997 *Uniform Building Code*<sup>TM</sup> and 2000 *International Building Code*<sup>®</sup>, subject to the following conditions:

- 4.1 Installation complies with this report and the manufacturer's instructions.
- 4.2 The design values do not exceed those found in Table 1 of this report.
- 4.3 The panels are limited to nonbearing wall applications in combustible, nonfire-rated

construction in Group U, Division 1, Occupancies under the UBC and Group U Occupancies under the IBC.

- 4.4 Structural calculations and plans are submitted to the building official for each project.
- 4.5 The remaining portions of the structure are designed and constructed in accordance with the code.
- 4.6 Special inspection is provided for welding, if required, at the jobsite in accordance with Section 2.5 of this report.
- 4.7 The panels are fabricated by FCP, Inc., at their manufacturing plant located in Wildomar, California, under a quality control program with inspections by Ramtech Laboratories, Inc. (AA-655).

This report is subject to re-examination in two years.

**TABLE 1—ALLOWABLE PANEL CAPACITY**

TYPE OF LOAD	DESIGN VALUE
Transverse Uniform Load <sup>1</sup>	42 psf
Racking Shear <sup>2,3</sup>	295 plf

For **SI**: 1 inch = 25.4 mm, 1 psf = 47.8 Pa, 1 plf = 14.6 N/m.

<sup>1</sup>Value is based on a minimum 4-inch bearing width at the supports.

<sup>2</sup>Value is based on panel attachment by two (one per end) U-channel hold-downs at the bottom ends of the panel as described in Section 2.3 of this report.

<sup>3</sup>Minimum height-to-length ratio is 2:3.

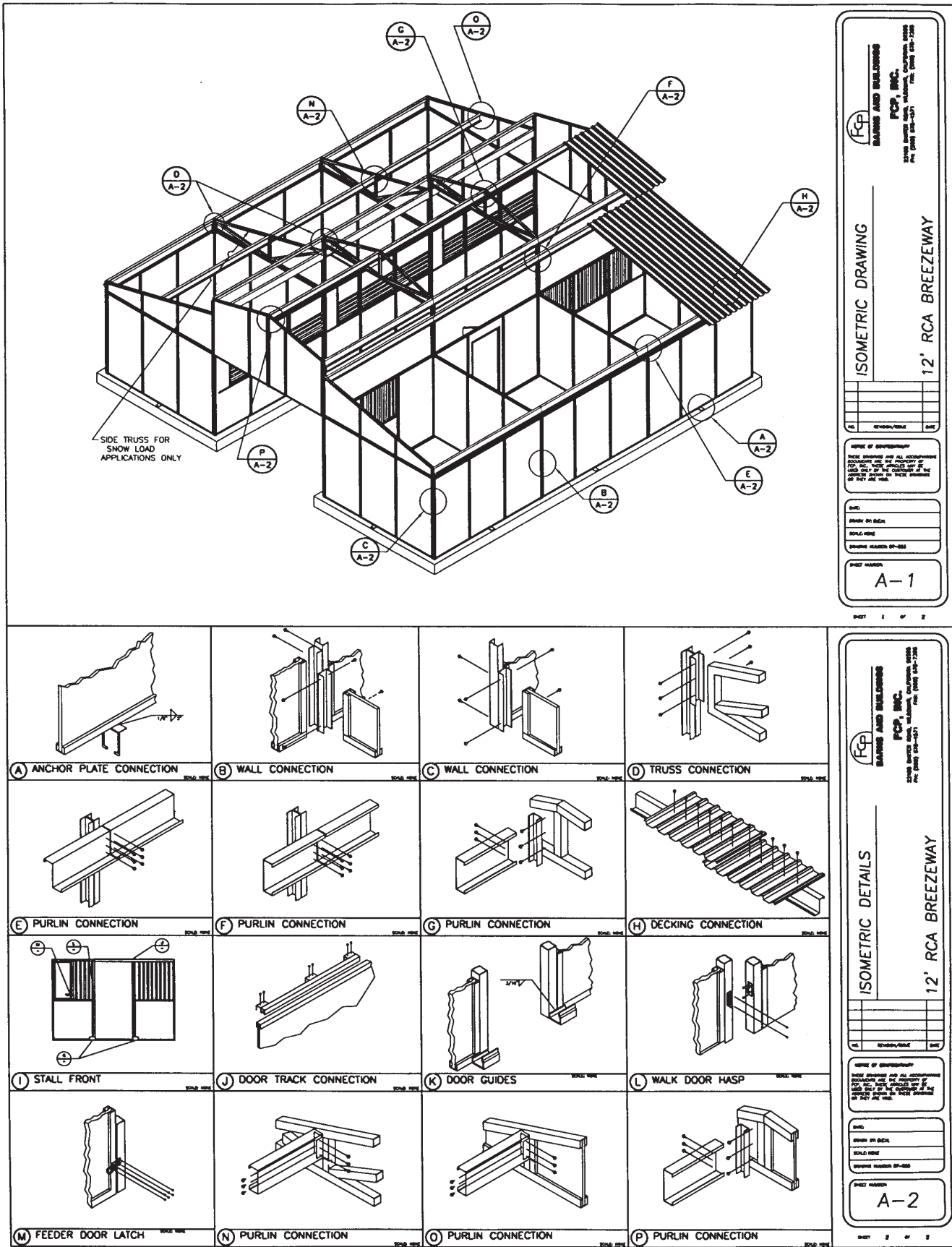


FIGURE 1—GENERAL INSTALLATION DETAILS



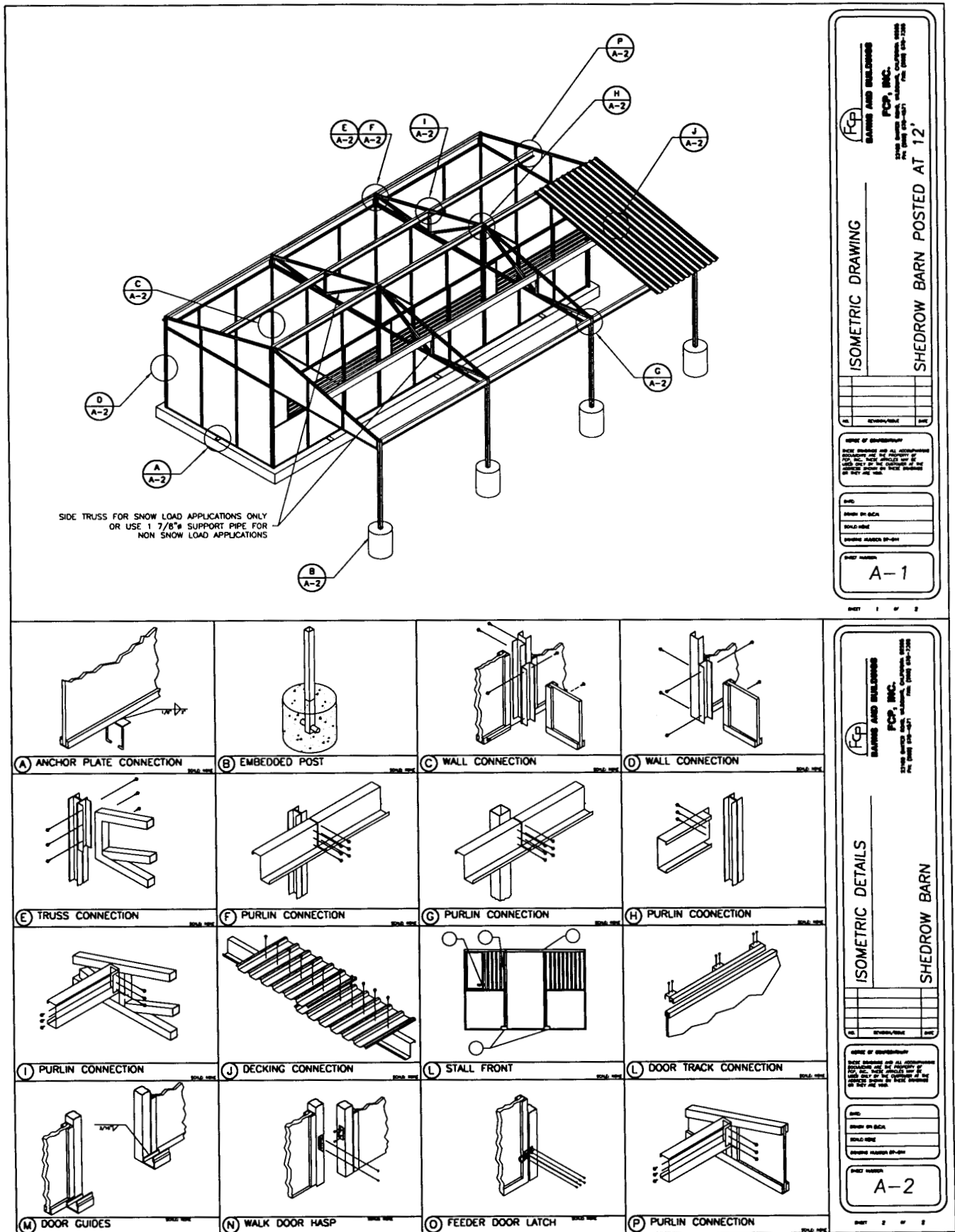


FIGURE 3—GENERAL INSTALLATION DETAILS