

## TECHNICAL SPECIFICATIONS

### 3" PORT-A-FLOOR

#### 1. GENERAL

- 1.1 The floor system shall be a standard manufactured panelized type as manufactured by Elite Buildings, Van Alstyne, TX.
- 1.2 The floor system shall be supplied complete with all necessary component parts and accessories to form a complete floor system that will minimize field erection. All parts shall be new and free from all defects and imperfections.
- 1.3 The floor system width and length shall be measured from the outside surface of the wall panels (O.D. dimensions).

#### 2. DESIGN

- 2.1 The floor system shall be designed in accordance with the latest edition of the following standards:
  - A. American Institute of Steel Construction (AISC) *Specification for Structural Steel Buildings*
  - B. American Iron and Steel Institute (AISI) *North American Specification for the Design of Cold-Formed Steel Structural Members*
- 2.2 The floor system shall be designed to withstand the following minimum loading conditions:
  - A. The Live Load of the building shall not be less than twenty pounds per square foot (20 psf or \_\_\_\_ ) with a deflection limit of the panel length over 180 (1/180).
    - a. The Live Load of the floor system in its entirety shall be increased to meet or exceed the engineer's required floor loadings and shall be supported by a manufacturer's recommended support structure beneath the floor system and/or additional support built into the floor system.
  - B. The Live Load of the floor system shall be distributed and applied in accordance with the applicable sections of the latest edition of the *International Building Code* published by the International Code Council.

- C. The floor system shall meet or exceed seismic criteria as specified in the applicable sections of the latest edition of the American Society of Civil Engineers (ASCE) *Standard 7-05*.

### 3. FLOOR SYSTEM

- 3.1 The floor system shall be level. A tolerance of plus or minus 1/4" (+/-1/4") in 12 ft. after installation shall be kept.
  - A. Each panel in the floor system shall be continuous in length from sidewall to sidewall on buildings up to fifteen feet (15 ft.) wide.
    - a. The floor system shall be long enough to serve as support for the entire building structure.
  - B. The floor system panels shall utilize a manufacturer's approved support system for additional support beneath the floor system.
  - C. The floor system shall be furnished complete with floor covering and trim as requested by the engineer.
    - a. The floor covering shall be installed by a manufacturer's approved installer.
- 3.2 The floor system shall be fabricated using floor panels that have been factory pre-assembled. The structural floor panels are formed into a complete unit by chemically bonding sixteen gauge (16 ga.) "U-shaped" cold-formed channels, an interior and exterior metal siding, and polyurethane foam insulation together.
- 3.3 The floor panels shall be interlocked together by Elite Buildings Quick-Turn fastening system to eliminate the use of exterior screws or bolts for the panel attachment.
  - A. The floor panels shall form a tight metal-to-metal seal with the adjoining panels. Each panel joint shall be sealed with a good quality silicone sealant prior to installation.
- 3.4 Floor system panels shall be attached to the support structure by a manufacturer's approved method.
- 3.5 The entire building structure will be attached to the floor system by a manufacturer's approved method.

#### 4. PANEL DESIGN

- 4.1 Structural panels shall be thirty-six inches (36") wide unless otherwise required to meet building dimension criteria.
- A. Each floor panel frame work shall consist of a three inch (3") deep "U-shaped" cold-formed channel made from 16 gauge (16 ga.) G90 A527 galvanized material. The channel will be used to create a lock-forming frame around the perimeter of each panel.
- 4.2 The standard Quick-Turn fasteners used to join the panels together shall be high quality carbon steel and shall be an integral part of the panel framework.
- A. Each fastener shall consist of a male part on one panel and a female part on the adjoining panel.
- B. Fasteners shall be joined together by means of a standard 3/4" wrench through sliding access covers.
- 4.3 Panels shall have interior and exterior sidings of a minimum of 29 gauge steel conforming with ASTM A-653 specifications with a galvanized coating conforming to G90 (1.25 oz. commercial) standards.
- A. The interior and exterior metal sidings shall have a four coat metal protection consisting of 1) Hot Dip Galvanizing, 2) Zinc Phosphate Coating, 3) Primer Paint, and 4) Silicified Polyester Paint.
- a. Panels shall meet the following performance standards after 10 years of continuous exposure in normal atmospheric conditions not containing corrosive fumes such as chemical fumes or salt spray:
- Exterior color coatings shall show no evidence of blistering, peeling, or chipping; Panels shall not show surface chalking in excess of the No. 8 rating D659 as established by the American Society of Testing Materials (ASTM); After cleaning, panels shall not show color change in excess of five (5) NBS units when measured in accordance with the ASTM D-2244 standard.

The above performance standards shall not apply where panels have been damaged by fire, radiation or other physical damage.

- 4.4 The entire core of the panels shall have poured in place polyurethane foam yielding an insulation of R-7 per inch of panel thickness.
- A. The polyurethane foam shall be comprised of 50% type "A" (isocyanate) and 50% type "B" (polyol) chemicals forming a rigid closed cell structured matrix with two pounds per cubic foot (2 pcf) uniform density.
  - B. The total insulating value of each three inch (3") thick floor panel shall be a minimum R-21.

5. ACCESSORIES

- 5.1 The following items shall be furnished as part of the floor system:
- A. Engineer's requested support structure beneath the floor system.
  - B. Engineer's requested finish floor covering.