



## SECTION

13129 Pre-Engineered Buildings  
13 34 20 Prefabricated Guard booths  
13 34 23 Fabricated Structures  
13 35 11 Prefabricated Steel Guard Booth

Display hidden notes to specifier by using "File"/"Options"/"Display"/"Hidden Text".

### PART 1

SECTION 13129 - Prefabricated Metal Buildings,  
SECTION 13 34 20 Prefabricated Guard booths  
SECTION 13 34 23 Fabricated Structures  
SECTION 13 35 11 Prefabricated Steel Guard Booth

### PART 2 GENERAL

#### 2.1 SECTION INCLUDES

A. Prefabricated Steel Buildings.

#### 2.2 RELATED SECTIONS

- A. Section 03300 - Cast-In-Place Concrete: Concrete pad, foundations and anchor bolts.
- B. Section 02870 - Bollards: Metal, concrete and stone bollards.
- C. Section 05500 - Metal Fabrications.
- D. Section 08710 - Door Hardware.
- E. Section 07900 - Joint Sealers.
- F. Division 15 - Plumbing: Plumbing services and connections.
- G. Division 16 - Electrical: Electrical power service and wiring connections.

#### 2.3 REFERENCES

- A. ASTM A 513 - Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.
- B. ASTM A 653/A - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- C. ASTM A 1008/A - Standard Specification for Steel Bars, Carbon and Alloy, Cold-Finished.
- D. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- E. ASTM B 221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.



- F. ASTM B 632/B 632M - Standard Specification for Aluminum-Alloy Rolled Tread Plate.
- G. ASTM C-578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- H. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass - Kind Hs, Kind Ft Coated and Uncoated Glass.
- I. ASCE 7 - Minimum Design Loads for Buildings and Other Structures
- J. APA PRP-108 or PFS PRP-133 - Performance Standards and Policies for Structural-Use Panels.
- K. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- L. NFPA 70 - National Electric Code.
- M. IBC - International Building Code.
- N. UL 752 - Standard for Bullet Resisting Equipment
- O. NIJ National Institute of Justice (NIJ) Standard 0101.04 (Ballistic Resistance of Personal Body Armor)

#### 2.4 DESIGN REQUIREMENTS

- A. Provide factory built, prefabricated structures capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.
- B. Wind Loads: Determine loads based on the following minimum design wind pressures:
  - 1. Uniform pressure of 50 lb. /sq. ft., acting inward or outward (standard).
  - 2. Uniform pressure as indicated on Drawings.
  - 3. Wind Load:
    - a. Buildings: 120 mph (2000 IBC Exp. C). (Standard).
  - 4. Snow Loads: 50 lb. /sq. ft. (standard).
- C. Seismic Performance: Provide factory built, prefabricated structures and shelters capable of withstanding the effects of earthquake motions determined according to:
  - 1. ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads".
- D. Thermal Movements: Provide factory built, prefabricated structures and shelters that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
  - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- E. Electrical Devices: Devices UL listed with wiring bearing UL classification and conforming to the current NEC,



## 2.5 PERFORMANCE REQUIREMENTS

- A. Cooperate with regulatory agency or authority and provide data as requested by authority having jurisdiction.

## 2.6 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes.
  2. Preparation instructions and recommendations.
  3. Storage and handling requirements and recommendations.
  4. Installation methods.
- C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- 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. Certificates: Product certificates signed by the manufacturer certifying material compliance with specified performance characteristics and criteria, and physical requirements.
- F. Warranty documents specified herein.

## 2.7 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing prefabricated structures and shelters with a minimum documented experience of twenty years and with a quality assurance program utilizing an independent third party quality control firm with a 5-stage, 35 step, quality inspection for each system.
- B. Pre-installation Meetings: Conduct meetings to verify project requirements, substrate conditions, utility connections, manufacturer's installation instructions, and warranty requirements. Comply with Division 1 requirements.

## 2.8 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect all components and accessories from corrosion, deformation, damage and deterioration when stored at job site. Keep materials free from dirt and foreign matter.

## 2.9 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.

## 2.10 WARRANTY

- A. Panel Built, Inc. warrants the building system purchased from Panel Built for a period of one (1) year from the date of shipment. This includes all materials and



freight to rectify any product defects. Panel Built further warrants the Panel Built system (walls and roof) for a period of five (5) years against delamination, structural defects or system breakdown under normal wear and tear conditions. All buildings must be installed in accordance with Panel Built installation instructions, drawings and specifications.

**B.\*\* NOTE TO SPECIFIER \*\* Delete the following paragraph if the stated accessory items are not required.**

- C. Provide manufacturer's warranties on all accessory items provided such as, but not limited to, air conditioning, lights, and heating units.

## PART 3 PRODUCTS

### 3.1 MANUFACTURERS

- A. Acceptable Manufacturer: Panel Built, Inc., 906 Beasley Street, Blairsville, GA 30512  
Toll Free Tel: 800-636-3873, Fax: 800-594-3245,  
Email: salesgroup@panelbuilt.com, Web: <http://www.panelbuilt.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

### 3.2 MATERIALS

- A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish specified, and as follows:
  - 1. Sheet: ASTM B 209.
  - 2. Extruded Shapes: ASTM B 221.
  - 3. Rolled Tread Plate: ASTM B 632/B 632M, Alloy 6061-T4 or 6061-T6.
- B. Cold-Rolled Steel Sheet: ASTM A 1008/A, Commercial Steel (CS), Type B.
- C. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A, commercial quality, G90 (Z275) coating designation; mill phosphatized.
- D. Aluminum Tread plate: 1/8-inch aluminum plate conforming to ASTM B 209.
- E. Steel Mechanical Tubing: ASTM A 513, welded steel mechanical tubing.
- F. Expanded Polystyrene (EPS) Core: Minimum of .95 pcf complying with ASTM C-578 Type 1.
- G. Oriented Strand Board (OSB): Standard Grade; minimum physical properties conforming to APA PRP-108.
- H. Clear Tempered Float Glass: ASTM C 1048, Kind FT, Condition A, Type I, Class 1, and Quality q3.
- I. Ballistics-Resistant Glazing: Comply with requirements of UL 752 and/or NIJ.
- J. Anchorages: Anchor bolts, as specified in Section 03300.



### 3.3 PREFABRICATED STEEL BUILDINGS

- A. Size:
1. 4 feet by 6 feet.
  2. 4 feet by 8 feet.
  3. 4 feet by 10 feet.
  4. 5 feet by 8 feet.
  5. 5 feet by 10 feet.
  6. 5 feet 6 inches by 7 feet 6 inches (minimum ADA size).
  7. 6 feet by 8 feet.
  8. 6 feet by 10 feet.
  9. 6 feet by 12 feet.
  10. 6 feet by 15 feet.
  11. 8 feet by 10 feet.
  12. 8 feet by 12 feet.
  13. 8 feet by 14 feet.
  14. 8 feet by 16 feet.
  15. 10 feet by 10 feet.
  16. 10 feet by 12 feet.
  17. 10 feet by 14 feet.
  18. 10 feet by 16 feet.
  19. 10 feet by 20 feet.
  20. 12 feet by 12 feet.
  21. 12 feet by 14 feet.
  22. 12 feet by 16 feet.
  23. 12 feet by 18 feet.
  24. 12 feet by 20 feet.
  25. Custom: \_\_\_\_\_ by \_\_\_\_\_
- B. Height: Nominal outside height 96 inches (2438.4 mm). Interior floor to ceiling height 90 inches.
- C. Prefabricated with 14 gauge (1.78 mm) mechanical tube, welded framing system. Exterior smooth and flat with no exposed fasteners on building exterior.
- a. Lifting lugs shall be provided
  - b. Forklift pockets shall be provided.
  - c. Optional Decorative Reveal
  - d. Exterior custom veneer panel
- D. Doors:
- a. Sliding door on one side.
  - b. Sliding doors on both sides.
  - c. Swinging door(s).
  - d. As indicated on Drawings.
- E. Windows:
- a. Fixed windows 360 and one slider with insect screen and positive locking device.
  - b. Additional horizontal sliding window(s).
  - c. Vertical Sliding Window(s).
  - d. One Cashier Window.
  - e. As indicated on Drawings.
- F. Glazing:
- a. 1/8 inch (3 mm) thick, clear tempered safety glass.



- b. 3/16 inch (4.5 mm) thick, clear tempered safety glass.
  - c. 1/4 inch (6 mm) thick, clear tempered safety glass.
  - d. 3/4 inch (19 mm) thick, insulated, clear tempered safety glass.
  - e. 1/4 inch (6 mm) thick, clear polycarbonate.
  - f. With tint, grey, bronze, green.
  - g. Low E.
  - h. Ballistic protection as specified.
  - i. As indicated on Drawings.
- G. Roof Type:
- a. Polystyrene roof, 3-PLY 3" thick composite sandwich panels
  - b. Flat Deck Roof with 3 inch high overlapping deck pans
  - c. EPDM
  - d. Standing Seam Hip
  - e. Asphalt Shingle Hip
  - f. Optional Decorative Corner Arches
  - g. As Indicated on Drawing
- H. Roof Overhang:
- a. 4 inch overhang (standard).
  - b. 9 inch overhang.
  - c. 12 inch overhang.
  - d. 24 inch overhang.
  - e. As indicated on drawing.
- I. Finish: Finish shall have a prime to paint system manufacturer's epoxy primer with a urethane finish as follows:
- a. Color as selected from manufacturer's standard colors.
  - b. The exterior and the interior shall be the same color. (standard)
  - c. Custom color as selected by the Architect.
- J. Base/Floor. Floor is mounted to 2 inch to 4 inch (51 mm to 102 mm) minimum tube/channel steel base frame. Finished floor of
- a. Nonskid (powder coated or galvanized) steel tread plate.
  - b. Commercial Vinyl Tile and cove base molding.
  - c. Rubber anti fatigue Tile and cove base molding
  - d. As indicated on Drawings.
- K. Wall Panel: Exterior face of manufacturer's standard 16 gauge galvanized steel, E.P.S. insulation core and a 16 gauge galvanized steel interior face. Panels shall be MIG welded into place.
- 1. Overall thickness:
    - a. 2 inches (50.8 mm) R-10.
    - b. 3 inches (76.2 mm) R-12.
    - c. R-value as indicated on drawing.
- L. Interior Ceiling Panels: Insulation above ceiling rating to be specified
- a. Suspended ceiling:
  - b. Prefinished steel, 24 gauge painted white with expanded polystyrene core providing a smooth flat interior.
  - c. None: Bottom of roof panel shall be finished ceiling
- 1.1 BUILDING ACCESSORIES
- A. Sliding Doors: Horizontal sliding unit with steel frame, top hung.



1. 32 inches by 84 inches half glass steel sliding door with mortised laminated hook bolt lock capable of being keyed.
  2. Glazing: 1/8 inch (3.18 mm) thick, clear tempered safety glass.
  3. As indicated on the Drawings.
- B. Swinging Doors: 1-3/4 inches (44 mm) thick, tubular-frame design.
1. Commercial Grade Steel Swing Door 36 inches by 84 inches with 12 inch by 12 inch (305 mm by 305 mm) lite with steel single bore lever handle lockset with keyed entry and interior push button as indicated on drawing.
  2. Commercial Grade Steel Swing Door 36 inches by 84 inches. No Glass.
  3. As indicated on the Drawings.
- C. Ballistic Fixed Windows:
1. Ballistic resistant glazing, UL 752:
    - a. Level I.
    - b. Level II.
    - c. Level III.
    - d. Level IV.
    - e. Level V.
    - f. Level VI.
    - g. Level VII.
    - h. Level VIII.
  2. Ballistic resistant glazing NIJ
    - a. NIJ Level I.
    - b. NIJ Level II.
    - c. NIJ Level IIA.
    - d. NIJ Level III.
    - e. NIJ Level IIIA.
    - f. NIJ Level IV.

Glazed with an extruded aluminum interior stop which are mechanically fastened to interior face of the window rough openings. Glass sealed with butyl architectural glazing tape.

Ballistic Protection: Provide ballistic resistant wall panels, doors and glazing in accordance to the following level:

1. Ballistic resistant UL 752:
    - a. Level I.
    - b. Level II.
    - c. Level III.
    - d. Level IV.
    - e. Level V.
    - f. Level VI.
    - g. Level VII.
    - h. Level VIII.
  2. Ballistic resistant NIJ
    - a. NIJ Level I.
    - b. NIJ Level II.
    - c. NIJ Level IIA.
    - d. NIJ Level III.
    - e. NIJ Level IIIA.
    - f. NIJ Level IV.
- B. Electrical Power Service: Provide in accordance with NEC Standards.
- a. 125 amp, 120/240 VAC, single-phase, main lug only 3-wire service with 8-16 circuit breaker panel.
  - b. 100 amp, 120/240 VAC, single-phase, main breaker 3-wire service with



- c. 14 circuit breaker panel
  - c. As shown on drawings or specified by architect.
- C. Wiring Method
  - a. Use copper wiring in surface mounted 1/2-inch (12.5 mm) minimum EMT conduit.
  - b. Use copper wiring #12 minimum MC cable concealed in the panel and attached to surface mounted 2x4 boxes at receptacle and switch locations
- D. Wiring Devices
  - a. Provide one 120-V 20 amp duplex receptacle.
  - b. Provide one 120-V 20 amp GFCI power duplex receptacle with tester on exterior.
  - c. Provide one telephone/computer prep – 3/4" conduit to junction box.
- E. Indoor Lighting Fixtures:
  - 1. Ceiling-mounted fluorescent light fixture(s) 48 inches (1200 mm) long with two 32-W T8 lamps.
  - 2. Ceiling-mounted fluorescent light fixture(s) with acrylic lens 48 inches (1200 mm) long with two 32-W T8 lamps.
  - 3. Troffer type fluorescent light fixture(s) 48 inches (1200 mm) long with four 32-W T8 lamps.
  - 4. Ceiling-mounted LED light fixture(s) with acrylic lens 48 inches.
  - 5. Troffer type LED light fixture(s) 48 inches (1200 mm) long.Provide single-pole switch mounted adjacent to door to control lighting fixtures.
- F. Outdoor Lighting Fixtures:
  - 1. Hi Abuse Fixture, Linear Fluorescent 32 Watts, Lamp Quantity 2, 120 V. Length 49.38 inches, width 9.25 inches, depth 3.38 inches, white, cold weather.
  - 2. Flood light, 500 Watt Quartz 120V, White.
  - 3. Flood light, 500 Watt Quartz 120V, Bronze.
  - 4. Flood light, LED Specify wattage 120V
  - 5. Flood light, HID Metal Halide Specify wattage 120V
  - 6. Provide single-pole switch mounted adjacent to door to control lighting fixtures.
  - 7. Provide photoelectric controller.
- G. Heating Unit: Wall-mounted, thermostatically controlled:
  - 1. 110V, 1500W, 5120 Btu, electric heater with fan-forced operation, Enclose heater in enameled steel cabinet.
  - 2. 230 /208V, 13,000/10,000 Btu, electric fan force, surface mounted electric heater.
  - 3. Infrared Heater, 1500 watt 120 V.
- H. Thru-wall Air Conditioning:110 V
  - 1. 9,900 Btu, 110V.
  - 2. 9,900 Btu, high mount, 110V.
- I. Thru-wall Heating/Air Conditioning: 230/208V
  - 1. 9,000/11,100 Heat Pump
  - 2. 12,000/11,100 Heat Pump
  - 3. 18,000/11,100 Heat Pump
  - 4. 9,300/11,000 BTU AC with Electric Heat



5. 12,000/11,100 BTU AC with Electric Heat.
  6. 18,000/11,100 BTU AC with Electric Heat.
- J. Roof mount Air Conditioning:
1. 13,500 Btu, 110V.
- K. Roof mount Heating/Air Conditioning:
1. 13,500 Btu with 5,600 Btu electric heat, 110V.
- L. HVAC - Cooling And Heating (Mini Split System):  
The air handlers will be mounted on the wall/ceiling of the modular building. The compressors for the modular building HVAC shall be mounted external on roof or external pad to the existing building with all conduit and refrigerant lines to be properly sealed at all penetrations through the walls/roof. As a minimum all HVAC and related items shall be in accordance with local and state building codes.
- M. Wall Exhaust Fan:
1. Duct diameter 8 Inches.
- N. Counter(s):
1. Laminate Type.
  2. Painted Steel.
  3. Stainless Steel.
- O. Storage Drawers:
1. Thru-wall transaction drawer, stainless steel housing with bullet resistant plastic drawer, counter mounted.
  2. Locking storage drawer, mounted underside of counter.
  3. Locking Cash Drawer, mounted underside of counter.
- P. Restrooms:
- a. Restrooms shall be plumbed on site
  - b. Restrooms shall be factory plumbed.
  1. Standard restroom package (non-ADA) provided with following items wired and installed.
    - c. Lighting with wall switch.
    - d. Thru wall exhaust fan.
    - e. Heater: Wall mounted electric with fan forced operation, 1500w/5120 BTU thermostat in an enamel coated 20 gauge steel cabinet.
    - f. Swing door with privacy lock.
    - g. Fixtures installed:
      - 1) Standard toilet.
      - 2) Wall mounted lavatory.
      - 3) One Toilet tissue holder.
      - 4) Paper towel holder
      - 5) Mirror
      - 6) 2.5 gal water heater
      - 7) Instantaneous water heater
    - h. Supplied fixtures for installation by others:
      - 1) Standard toilet.
      - 2) Wall mounted lavatory.
      - 3) One Toilet tissue holder.
      - 4) Paper towel holder
      - 5) Mirror



- 6) 2.5 gal water heater
  - 7) Instantaneous water heater
4. ADA restroom package provided with following items wired and installed:
- a. Lighting with wall switch.
  - b. Thru wall exhaust fan.
  - c. Heater: Wall mounted electric with fan forced operation, 1500w/5120 BTU, thermostat in an enamel coated 20 gauge steel cabinet.
  - d. Swing door with privacy lock.
  - e. Fixtures installed:
    - 1) ADA elongated toilet.
    - 2) ADA wall mounted lavatory.
    - 3) One 18 inch grab bar.
    - 4) One 36 inch grab bar.
    - 5) One 42 inch grab bar.
    - 6) One Toilet tissue holder.
    - 7) Paper towel holder
    - 8) Mirror
    - 9) 2.5 gal water heater
    - 10) Instantaneous water heater
  - f. Supplied fixtures for installation by others:
    - 1) ADA elongated toilet.
    - 2) ADA wall mounted lavatory.
    - 3) One 18 inch grab bar.
    - 4) One 36 inch grab bar.
    - 5) One 42 inch grab bar.
    - 6) One Toilet tissue holder.
    - 7) Paper towel holder
    - 8) Mirror
    - 9) 2.5 gal water heater
    - 10) Instantaneous water heater

## 1.2 FABRICATION

- A. Fabricate factory built, prefabricated structures and shelters completely in factory.
- B. Pre-glaze windows and doors at factory.
- C. Prewire factory built, prefabricated structures and shelters at factory, ready for connection to service at Project site.
- D. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- E. Fabricate factory built, prefabricated structures and shelters for forklift unloading under base of booth with forklift pockets in base of booth or welded in place or lifting lugs at roof that are suitable for placement of the structure on prepared foundations.

## PART 2 EXECUTION

### 2.1 EXAMINATION

- A. Examine supporting foundations for compliance with manufacturer's requirements, including installation tolerances and other conditions affecting performance of



supporting members.

- B. Check installed anchor bolts for accuracy. Verify that bearing surfaces are ready to receive the work.
- C. Verify the rough-in of required mechanical and electrical services prior to placement of the structure.
- D. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

## 2.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

## 2.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Separate dissimilar materials using nonconductive tape, paint, or other material not visible in finished work.
- C. Place on prepared concrete foundations and slabs provided as specified under Section 03300.
- D. Anchor securely in place, allowing for required movement, including expansion and contraction.
- E. Connect mechanical services as specified under Division 15.
- F. Connect electrical services as specified in Division 16.

## 2.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION