

AP FORT SHELTER®

OWNER'S MANUAL



AMERICAN®
PRODUCTS

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TECHNICAL SUPPORT

Please contact us if you have any issues or questions regarding your AP Shelter.

Technical assistance is available Monday to Friday, from 9am to 4pm CST.

Toll Free: (855) 736-2135

Phone: (417) 736-2135

Fax: (417) 736-9535

Email: sales@amprod.us

Web: amprod.us

To help us better assist you, please have the following information available when you contact us:

Part Number: _____

Serial Number: _____

Date of Purchase: _____

Date of Installation: _____

SAFETY FIRST

This manual provides information about shelter lifting, installation, electrical components and more. Please read through it carefully and watch out for the symbols below, which indicate important safety information.



Please read the manuals for your enclosure and included components before installing and/or using the enclosure. Failure to do so can result in serious injuries or death..

 DANGER	Indicates an extremely hazardous situation that could result in serious injuries or death.
 WARNING	Indicates a hazardous situation that could result in serious injuries or death.
 CAUTION	Indicates a hazardous situation that could result in minor or moderate injuries.
NOTICE:	Indicates information that is important, but not hazard-related, e.g., details regarding property damage.



PRODUCT OVERVIEW

The AP FORT® telecommunications shelter is ideally suited for protecting FTTx, wireless communications, power / equipment storage, telecom and other applications and can be easily deployed in remote locations or on top of buildings. The Heavy-Duty Galvanized and Powdered Coated Steel shell protects equipment from inclement weather while the R-11 insulated floor, wall and ceiling helps maintain even temperatures. Optional Air-Conditioners and Heaters are available for a complete environmental protection package.

This section includes specifications and information for the base model only. For the accurate specifications and features of your purchased product, please refer to the spec sheet provided with your product or contact our support team.

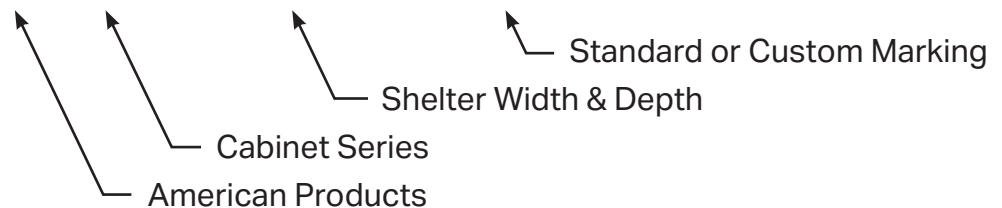
PRODUCT OVERVIEW

- The shelter is constructed of Aluminum & Galvanized Steel with optional powder coat painted or stone aggregate finish for superior corrosion resistance.
- The optional equipment-mounting bays have 19RU of vertical 19" or 23" rack space ea.
- All exterior walls, floor and ceiling are insulated.
- Floor, wall, ceiling and roof panels are bolted construction and made out of 14 gauge galvanized steel. Base is bolted construction and the channels are made from 8 gauge galvanized steel.
- All electrical conduit runs are surface mounted on the interior of the shelter which facilitates easy visual inspection. Interior panels and junctions utilized in standard configurations.
- Formed full height lifting straps on each corner and fork lift tubes in the base to facilitate crane or forklift positioning.
- The Cabinet is designed to allow various accessories to be mounted inside the shelter to meet customer requirements. For part number structure for Parent enclosure and accessories see diagram below:

Parts Numbering Examples

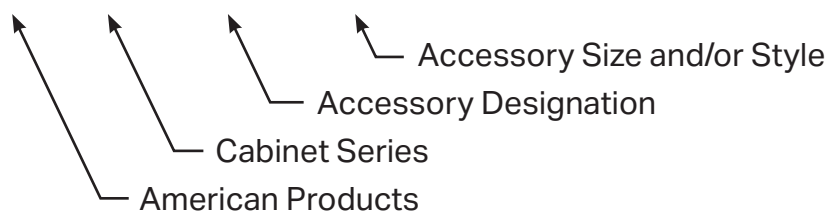
CABINETS

AM CS - 7277104 - STD



ACCESSORIES

AM CS - GP - 100



UNDERSTANDING LABELING

The following information will help you locate and decode the labels used on your American Products AP FORT[®] Shelter.

Serial Number

The Serial Number, Inspected Date, Accepted Date, Service Number, Support Contact information, and QR code for the contact form can be found on the sticker located inside the shelter, typically on the inside front wall near the door. Please have this information available when calling for service or support.

Electrical Labeling

Electrical labels can be found on every light switch, electrical outlet, and circuit breakers.



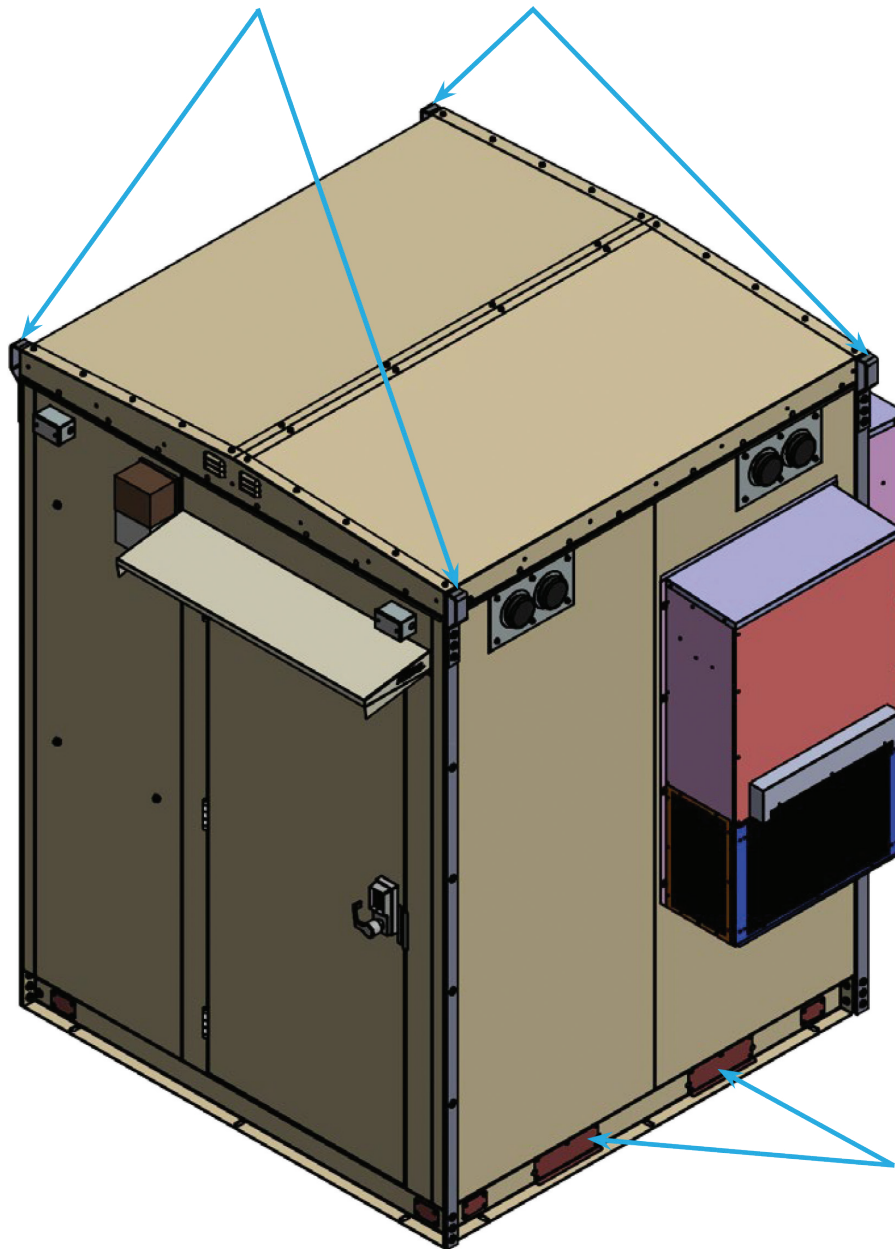
PROPER LIFTING

Please use the integrated lifting eyes and/or the forklift tunnels to raise and move your shelter.

Rigging, lifting and moving must be performed in accordance with all applicable requirements, including but not limited to OSHA 29 CFR 1910 Subpart N, by qualified personnel using properly rated lifting equipment, rigging and hardware.

Failure to do so can result in serious injuries, death or product damage.

Lifting Eyes On Each Corner



**Fork Lift Tunnels
on Right and Left
Side of Shelter**

INSTALLATION GUIDELINES

- Consult with your local municipality regarding deployment regulations/codes.
- Always mount AP FORT® on a structural pad
 - ♦ **Concrete Pad Specifications**
 - 6-8" thick
 - Adjust pad thickness up to 8" to meet floor live load requirements
 - Use reinforced 5000-PSI lightweight concrete
 - Place concrete ribs a maximum of 48" on center
 - Size ribs to resist loadings applicable of the building design
 - Place reinforcements in pad as directed in the ACI 318 Building Code Requirements
 - ♦ **Anchor Specifications**
 - ½"-diameter Red Head stainless steel TruBolt+ with 2" effective anchor depth
 - OR-
 - Red Head adhesive anchor with Epcon C6+ adhesive & ½"-diameter ASTM F593 stainless steel threaded rod with 2 ¾" effective depth that protrudes 1 ½" above concrete
- Use a level to ensure concrete is level & flat to within +/- ¼" tolerance
 - ♦ Check level from side to side, front to back & on the diagonal before mounting AP FORT®
- Use level on AP FORT® floor to ensure it is level to within +/- ¼" tolerance after installation
 - ♦ Check level from side to side & front to back
 - ♦ Ensure walls are plumb

Minimum Clearance

Front Door

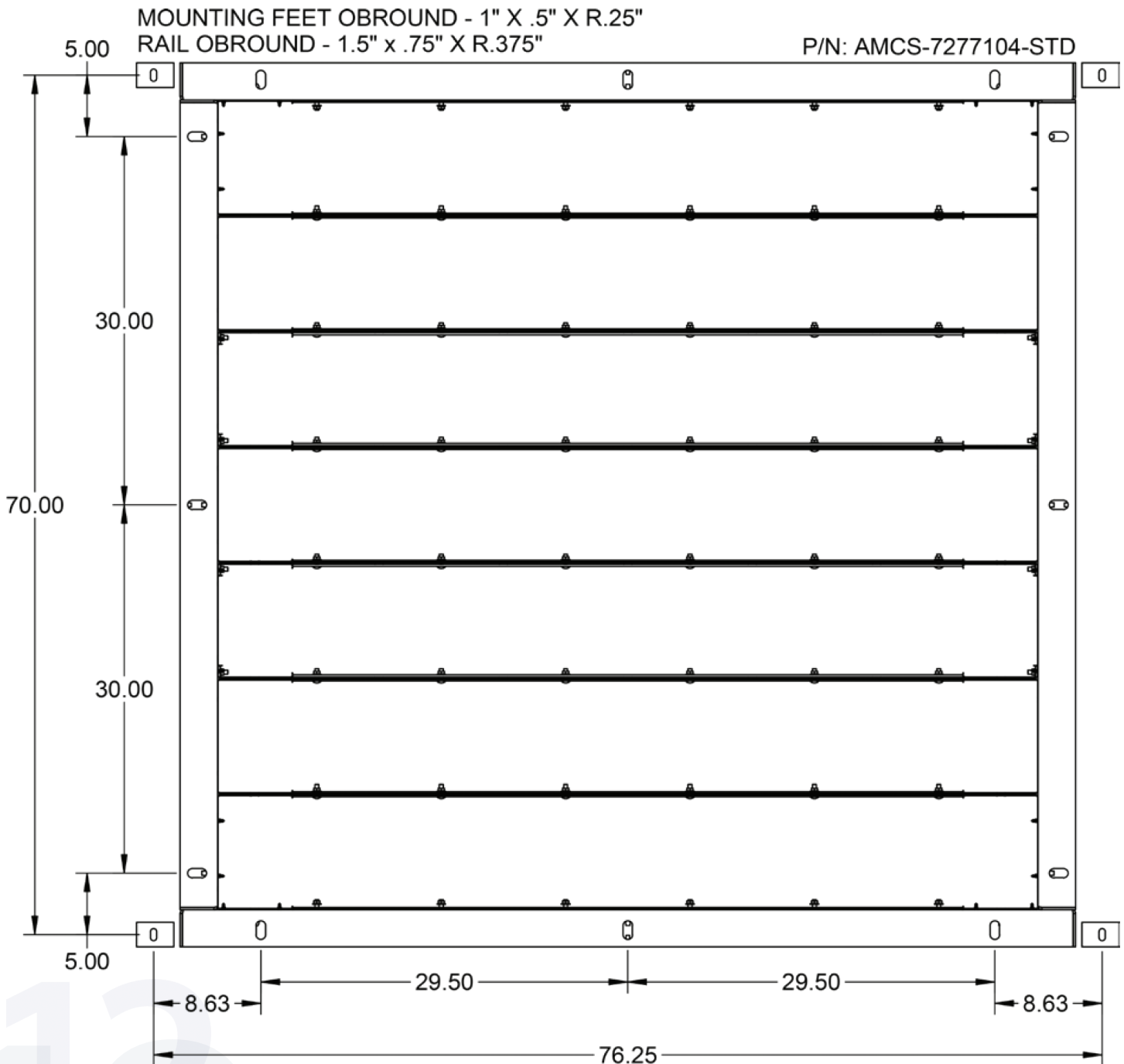
- At least 42" from front of shelter for door to swing open

 DANGER	Crushing hazard during lifting/moving! Stand clear of equipment, shelter, forklift & crane. Wear hard hats, safety glasses, gloves, steel toe boots & any other PPE required by your organization. Failure to do so can result in serious injuries or death.
 WARNING	Crushing hazard during lifting/moving! Use designated lifting eyes & forklift tunnels to lift & move AP FORT®. Failure to do so can result in serious injuries or death.
 CAUTION	Crushing hazard during lifting operations! Use equipment rated for to handle the AP FORT® size, as well as any equipment that is installed. Failure to do so can result in serious injuries or death.
NOTICE:	Equipment damage hazard during lifting operations! Insert forklift tines from the side opposite the air conditioner.

MOUNTING LOCATION

The AP FORT[®] shelter should be mounted on a concrete pad. See the figure below for pad mounting hole patterns.

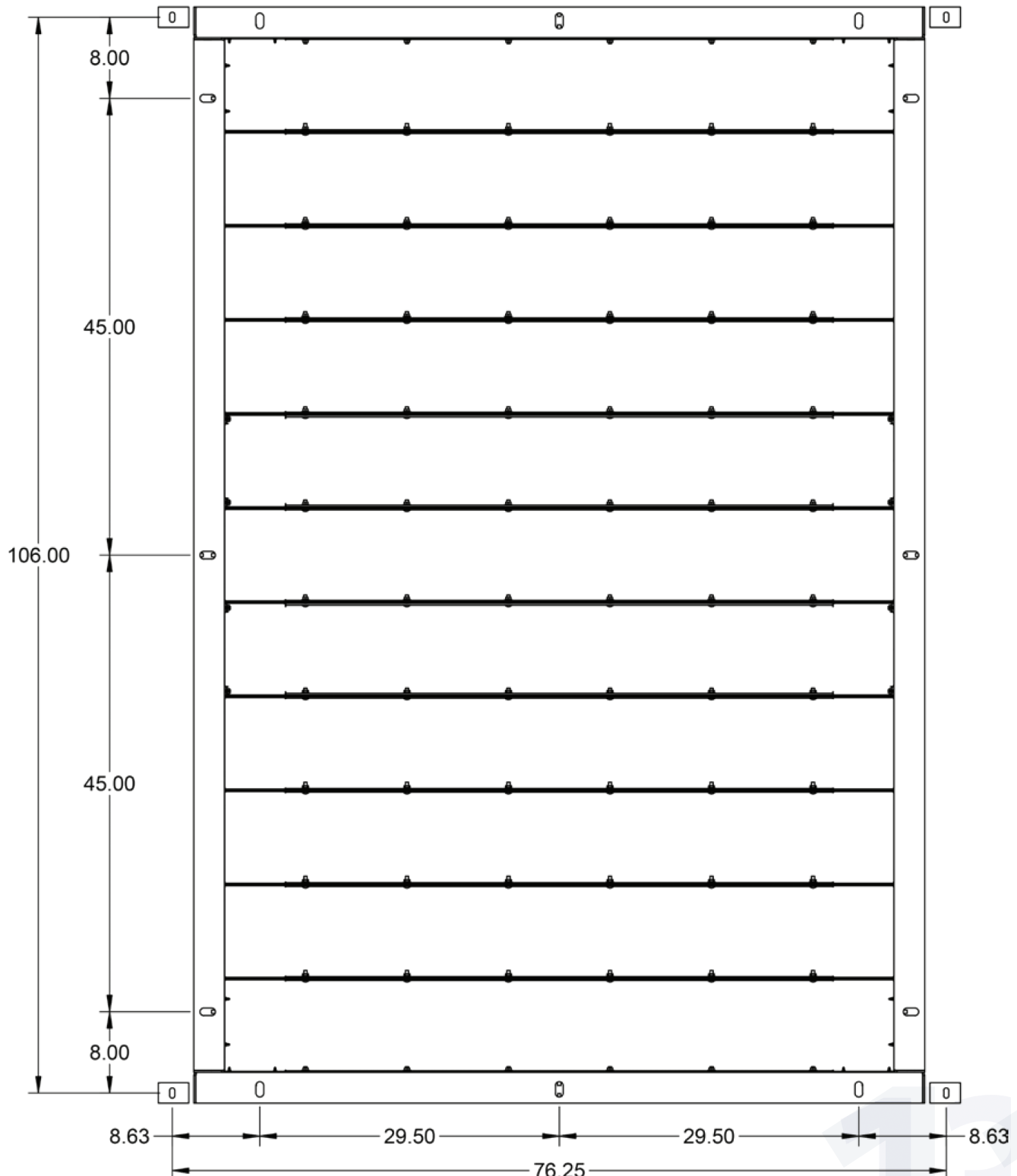
6 X 6 SHELTER



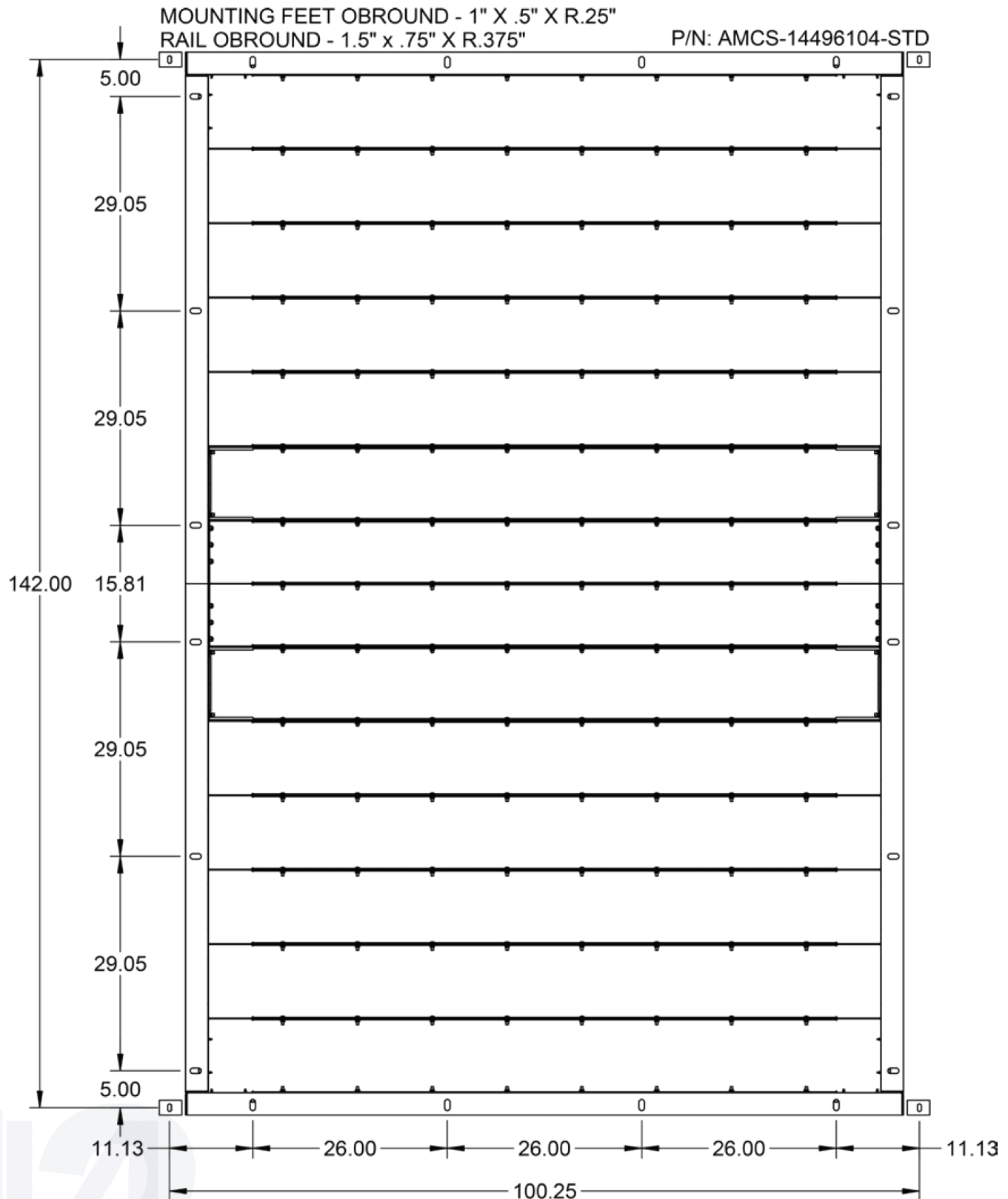
6 X 9 SHELTER

MOUNTING FEET OBROUND - 1" X .5" X R.25"
RAIL OBROUND - 1.5" x .75" X R.375"

P/N: AMCS-10877104-STD



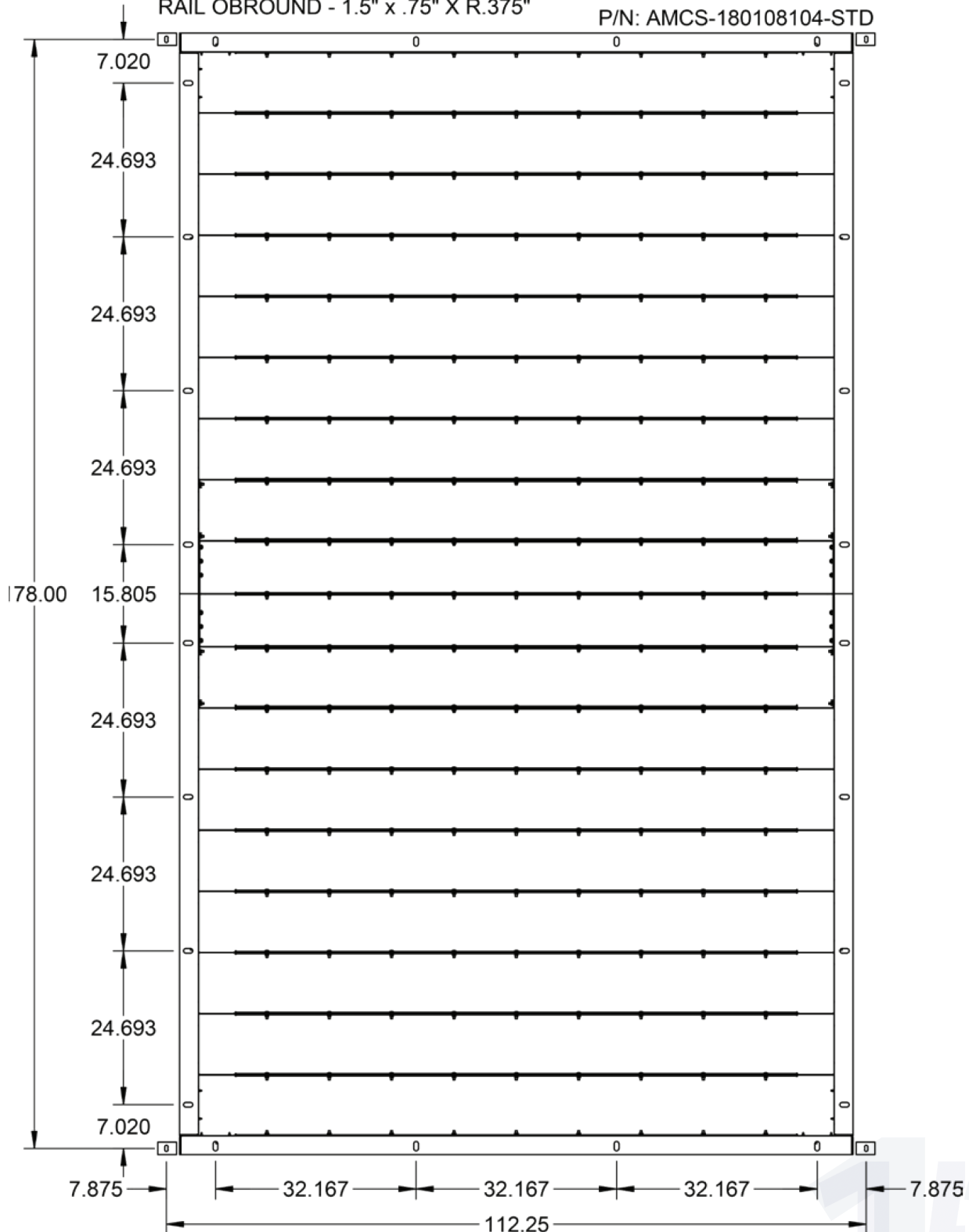
8 X 12 SHELTER



9 X 15 SHELTER

MOUNTING FEET OBROUND - 1" X .5" X R.25"
RAIL OBROUND - 1.5" x .75" X R.375"

P/N: AMCS-180108104-STD

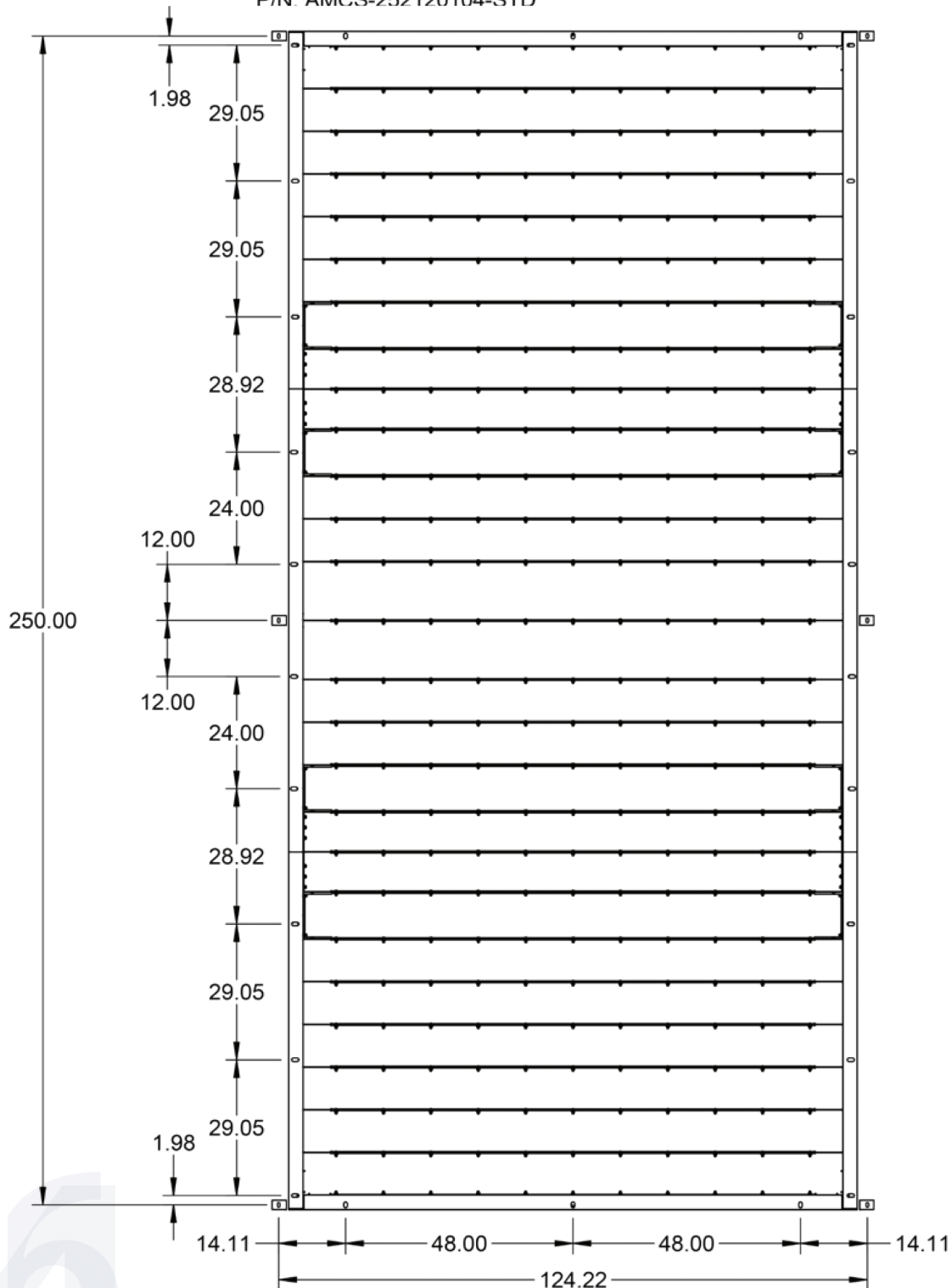


10 X 21 SHELTER

MOUNTING FEET OBROUND - 1" X .5" X R.25

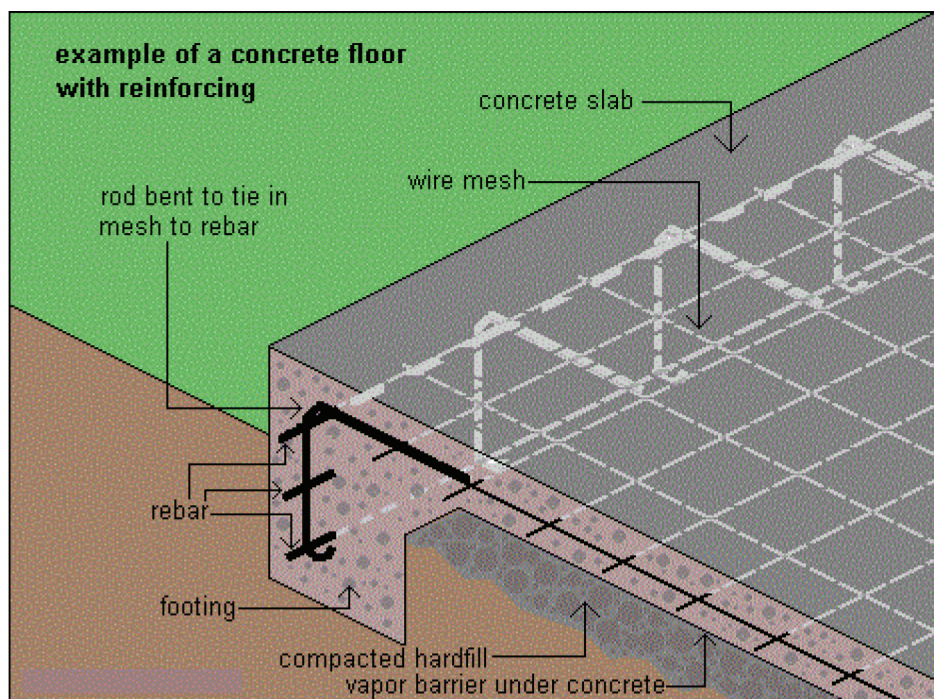
RAIL OBROUND - 1.5" x .75" X R.375"

P/N: AMCS-252120104-STD



RECOMMENDED REFERENCES FOR BUILDING PADS

Building pad should be of six-inch ribbed reinforced concrete construction with proper size spacing to meet the required floor loadings. Increased pad thickness (up to 8") may be required to meet floor live load requirements. Properly reinforced 5000-PSI lightweight concrete should be used for the pad. Concrete ribs will be placed a maximum of 48" on center. Concrete ribs will be of adequate size to resist the loadings applicable of the building design. Reinforcement should be properly placed in the pad panel to provide adequate reinforcement, spacing and cover as required by ACI 318 Building Code Requirements.



It is recommended that all work should conform to the standards of the applicable code editions:

- International Code Council, including:
 - ♦ International Building Code
 - ♦ International Fire Code
 - ♦ International Plumbing Code
 - ♦ International Mechanical Code
 - ♦ International Energy Conservation Code
- NFPA 70 National Electrical Code
- Americans with Disabilities Act

REFERENCE STANDARDS FOR CONCRETE

A. American Concrete Institute (ACI)

1. ACI 117, Standard Specifications for Concrete Construction and Materials.
2. ACI 301, Structural Concrete for Buildings
3. ACI 304, Measuring, Mixing, Transporting, and Placing Concrete.
4. ACI 309, Consolidation of Concrete.
5. ACI 318, Building Code Requirements for Reinforced Concrete

B. American Society Testing and Materials (ASTM)

1. ASTM A36, Carbon Structural Steel
2. ASTM A82, Steel Wire for Concrete Reinforcement
3. ASTM A108, Steel Bars, Carbon, Cold-Finished, Standard Quality
4. ASTM A153, Zinc Coating (Hot-Dip) on Iron and Steel Hardware
5. ASTM A185, Welded Steel Wire Fabric for Concrete Reinforcement
6. ASTM A497, Welded Deformed Steel Wire Fabric for Concrete Reinforcement
7. ASTM A615, Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
8. ASTM C33, Concrete Aggregates
9. ASTM C150, Portland Cement
10. ASTM C494, Chemical Admixtures for Concrete
11. ASTM C618, Coal Fly Ash for Use as a Mineral Admixture in Concrete

ELECTRICAL

 WARNING	Electrical shock hazard! Use appropriate safety equipment, e.g., insulating gloves, to avoid electrical shock. Failure to use appropriate procedures and equipment can result in serious injuries or death.
NOTICE:	All electrical work must comply with the National Electric Code (NEC). Additions and modifications must be approved by regional and local building code jurisdictions. All electrical work, including wiring, circuit breakers, panels, switches and outlets, should be done by trained, licensed and qualified electrical personnel.

Bonding and Grounding

Ground the AP FORT® to the earth BEFORE connecting an electrical power source.

Key Bonding & Grounding Information

- **Interior Ground Bar** (Tin-plated copper ground bar)
 - ♦ 12 pairs – 1/4" stud holes spaced 5/8" apart
 - ♦ 3 pairs – 3/8" stud holes spaced 1" apart
- **(Exterior Ground Bar)** Hot-dipped galvanized steel ground bar—12"L x 4"W x 1/4" thick
 - ♦ Universal hole spacing for 3/8"
 - ♦ 27 universal holes – 7/16" OD holes for up to 9 runs
 - Accepts 3/4", 13/16" or 1" 2-hole lugs
 - ♦ Can be used inside or outside shelter
 - ♦ **NOTE:** Hot-dipped galvanizing complies with ASTM A123 & A6 standards
- **Ground Wire** - Found between Interior & Exterior Ground Bars & in Interior Halo
- **Ground Wire to Racks** - Copper ground wire from Halo
- **H-Tap** - For Halo to branch grounds

NOTICE:	Equipment &/or property damage! Properly coat all ground connections with NO OX to prevent metal oxidation. Oxidation, i.e., rust and/or corrosion, can create high-resistance connections that can cause diminished high-voltage protection and/or signaling functions.
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MAINTENANCE

Powder-Coated Metal

Cleaning frequency depends on:

- Geographical location
- Surrounding environment, e.g., marine, industrial, swimming pool
- Atmospheric pollution levels
- Prevailing winds
- Protection by other structures/surrounding area
- Possibility of airborne debris, e.g., sand & dust, that could cause wear & erode coating

Suggested Powder Coat Cleaning Methods

- Regularly wash with warm water/mild detergent solution
- Use soft cloth or sponge—Nothing harsher than natural bristle brushes
- Windows can be cleaned at same time as powder coating
- Adjust frequency to meet your desired appearance standards & keep componentry free of deposits that could cause damage through prolonged contact with powder coat or metal substrate
 - ♦ If located in area with high atmospheric pollution or an extremely hazardous atmosphere, clean more often
 - ♦ If located in non-hazardous environment, e.g., rural or average urban area, clean at least 1 time every 12 months—Increase cleaning frequency if heavy soiling occurs
- Cleaning should be done by professional cleaning contractor
 - ♦ Keep updated records of cleaning schedules
 - ♦ If located near/in unusually hazardous, saltwater, estuary or marine environment, consult American Products Support about properly cleaning your AP FORT[®]

NOTE: Never use strong solvents or solutions containing:

- Chlorinated Hydrocarbons
- Esters
- Ketones
- Abrasives

SUGGESTED CLEANING SCHEDULES

Normal Environment (C3)	Clean and check every 12 months
Marine Environment (C4 Coastal) • 5,000m–2,000m from high water level • 2,000m–500m from high water level • 500m–50m from high water level	Clean and check every 12 months Clean and check every 6 months Clean and check every 3 months
Industrial Environment (C5-I) • 5,000m–2,000m from source • 2,000m–500m from source • 500m–50m from source	Clean and check every 12 months Clean and check every 6 months Clean and check every 3 months

Do not under any circumstances use strong solvents or solutions containing:

- Chlorinated Hydrocarbons
- Esters
- Ketones
- Abrasive Cleaner or Polish

PVC PANEL CARE

Your PVC panels are manufactured from the highest quality materials and designed to provide years of trouble free service. As with any wood based panel cannot be made totally waterproof, care should be taken to wipe up spills immediately, ensuring the panels are not exposed to high or continuous levels of moisture, steam and humidity.

General Cleaning

- Use mild spray & soft cloth to mitigate residue
 - ♦ Wipe in a circulate motion
- Refer to cleaning product manufacturer's recommendations
- Do **NOT** use the following on PVC panels:
 - ♦ Commercial cleaning products
 - ♦ Abrasive cleaners
 - ♦ Scouring pads
 - ♦ Abrasive papers
 - ♦ Acids & alkalis
 - ♦ Solvents
 - ♦ Thinners

- ♦ Turpentine (Turps)
- ♦ Ammonia
- ♦ Bleach
- ♦ Acetone
- ♦ Easy-Off BAM!
- ♦ Methyl Ethyl Ketone (MEK)
- ♦ Any agents containing organic solvents or the above-mentioned products

AGGREGATE PANEL CARE

Aggregate panels are:

- Maintenance free
- Unaffected by extreme climates
- Moisture resistant
- Chemical resistant

Aggregate panels are available as an option. Contact American Products for details.

Panels can be installed year round and are compatible with all common building materials.

Accelerated weather testing equivalent to 7 years of exposure showed no significant change in appearance/performance.

VINYL FLOOR

Keep your floor functional and looking its best with the following steps:

- Lay plywood panels on floor when moving appliances or heavy furniture
- Use floor protectors to mitigate indentions—Use thicker protectors for heavier items
- Use rolling casters with caution—Only use double-wheel style casters if necessary to reduce damage
- Use walk-off mat(s) at outside entrance(s) to reduce dirt incursion—Avoid latex- & rubber-backed mats that can cause discoloration

FLOOR CARE

- Sweep or vacuum regularly to keep dirt, sand & pebbles from scratching the floor
 - ♦ Do not use vacuums with a beater bar that can damage the floor
 - ♦ Do not use electric brooms with a hard plastic bottom
- Clean up spills immediately
 - ♦ Do not use highly abrasive scrubbing tools
- Wash floor regularly with floor cleaner
 - ♦ Do not use detergents, abrasive cleaners or “mop-and-shine” products
- Use floor polish to restore dulled shine
 - ♦ Do not use paste wax or solvent-based polishes

WARRANTY POLICY

1. Products designed and manufactured by Seller shall be warranted to be free of material defects in materials or workmanship under normal use and service, normal wear and tear excepted, for a period of 5 years (U.S. & Canada) and 3 years (International deployments) from the date of shipment. Should the product be proven to be defective and the defect is covered by this warranty, Seller will have the option to repair or replace the product.
2. Products designed by entities other than Seller and produced by Seller shall be warranted to be free of material defects in materials or workmanship under normal use and service, normal wear and tear excepted, for a period of 1 year from the date of shipment. Should the product be proven to be defective and the defect is covered by this warranty, Seller will have the option to repair or replace the product.
3. Products not designed by Seller and not manufactured by Seller will carry only the original manufacturer's warranty and are not warranted by Seller or covered by this Limited Warranty. To the extent it is permitted to do so, Seller assigns to the Buyer the warranty (if any) from the original manufacturer.
4. Seller shall have no obligation under this warranty or otherwise: (i) if the product is improperly installed or maintained, or is not operated in conformance with Seller's product manuals or specifications; is installed outside of stated design and operating parameters or is exposed to such conditions; is used for applications other than the approved applications; or has been altered, modified, serviced, or repaired by anyone other than Seller; (ii) if damage or malfunction is caused by or results from external occurrences, such as lightning, fire, water damage, floods, temperature extremes, acts of nature, power surges, or the like; (iii) if the defect is caused by or results from misuse, abuse, vandalism, theft, or improper storage; (iv) if the defect results from or was caused by failures related to batteries of any type or by use of the product with other products; (v) if there have been any alterations of serial numbers; or (vi) if the product has been exposed to any level of radioactive or toxic material, corrosive chemicals, or other environmental condition outside of its operating parameters. It is the responsibility of the Buyer to communicate any special environmental concerns in which the enclosures will be utilized to Seller prior to purchasing the product. Special materials may be required to allow for proper corrosion resistance for harsh environments. Warranty does not cover abuse, modifications by others, or reimbursement for unauthorized rework. At no time will Seller reimburse the Buyer for unauthorized rework on any product.
5. Seller does not represent or warrant that its products may not be compromised, circumvented, or will prevent unauthorized access to the contents thereof; that the products will prevent any personal injury or property loss by theft, fire, lightning, electrical surge, water, or otherwise; or that the products will in all cases provide adequate protection to their contents.
6. Seller shall have no obligation or liability for any damage to any equipment or other property placed inside an enclosure even if such damage is due to a defect in the product. Any descriptions of the goods or services, whether in writing or made orally by Seller or its agents, in any specifications, samples, models, bulletins, drawings, diagrams, engineering sheets, or similar materials used in connection with a client's order are for the sole purpose of identifying the goods and shall not be construed or treated as a warranty of any kind, whether expressed or implied.

7. Any suggestions by Seller or its agents regarding use, applications, or suitability of the goods shall not be construed as a warranty of any kind.
8. EXCEPT AS EXPRESSLY STATED IN THIS WARRANTY, NEITHER SELLER, NOR ANY PERSON ACTING ON BEHALF OF IT, HAS MADE, IS MAKING, OR SHALL BE DEEMED TO HAVE MADE ANY ORAL OR WRITTEN REPRESENTATIONS OR WARRANTIES, WHETHER EXPRESSED OR IMPLIED, BY OPERATION OF LAW OR OTHERWISE (INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), WITH RESPECT TO THE GOODS.
9. IF SELLER CANNOT LAWFULLY DISCLAIM STATUTORY OR IMPLIED WARRANTIES, THEN TO THE EXTENT PERMITTED BY LAW, ALL SUCH WARRANTIES SHALL BE LIMITED IN DURATION TO THE WARRANTY PERIOD.
10. UNDER NO CIRCUMSTANCES SHALL SELLER BE LIABLE TO ANYONE FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR EXEMPLARY DAMAGES, LIQUIDATED DAMAGES, LOSS IN PROFITS, RENTS OR REVENUES, COSTS OF CAPITAL, DOWNTIME COSTS, OR DAMAGES RELATED TO OUR PRODUCT PERFORMANCE FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, OR UPON ANY OTHER BASIS OF LIABILITY WHATSOEVER, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY SELLER'S OWN NEGLIGENCE OR FAULT AND EVEN IF SELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES OR DAMAGES.
11. If Seller is held liable whether directly or indirectly for any loss or damage with respect to the products it sells, regardless of cause or origin, its maximum liability shall not, under any circumstances, exceed the purchase price of the product, which shall be fixed as liquidated damages and not as a penalty and shall be the complete and exclusive remedy against Seller

WARRANTY CLAIMS

Enclosures found to be defective and covered by this warranty will be repaired or replaced with the same or comparable product, at the election of Amprod LLC dba, American Products. All warranty claims must be communicated to our customer service (855) 736-2135 department to obtain an RMA number. For approved warranty claims in the USA and Canada, freight will be managed and paid by Amprod LLC dba, American Products. For warranty claims outside of the USA and Canada, the customer will be responsible for managing the freight and freight expenses. Products being returned from other than US or Canada are to be returned to the factory in Strafford, MO to receive warranty resolution, once approved with an RMA.

AMERICAN[®]
PRODUCTS
Turn-Key Enclosure Solutions

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