

NOTICE OF INACTIVATION  
FOR NEW DESIGN

INCH-POUND

MIL-B-16041G  
NOTICE 1  
22 April 1998

**MILITARY SPECIFICATION**

**BUILDINGS, PREFABRICATED, READY-CUT, MAGAZINES, STEEL ARCH,  
16- AND 25-FOOT SPAN (EXTENSIBLE)**

MIL-B-16041G, dated 11 June 1993, is inactive for new design and is no longer used, except for replacement purposes.

**Custodians:**

Navy - YD1  
Air Force - 99

**Preparing activity:**

Navy - YD1

**Review activities:**

Army - CE  
Navy - MC  
Air Force - 84  
DLA - CC

AMSC N/A

FSC 5410

**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

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\* INCH-POUND \*  
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MIL-B-16041G  
11 June 1993  
SUPERSEDING  
MIL-B-16041F  
30 September 1988

MILITARY SPECIFICATION

BUILDINGS, PREFABRICATED, READY-CUT, MAGAZINES,  
STEEL ARCH, 16- AND 25-FOOT SPAN (EXTENSIBLE)

This specification is approved for use by all Departments and  
Agencies of the Department of Defense.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers prefabricated, semicircular steel  
arch, magazine buildings for general ammunition storage.

1.2 Classification. Buildings will be of the following spans and lengths,  
as specified (see 6.2):

Span 16 - 16-foot clear span (lengths in multiple increments of  
6 or 12 feet), clear height of 8 feet +/-2 inches.

Span 25 - 25-foot clear span (lengths in multiple increments of  
8 or 12 feet), clear height of 12 feet 6 inches +/-2 inches.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and  
standards form a part of this specification to the extent specified herein.  
Unless otherwise specified, the issues are those cited in the Department of  
Defense Index of Specifications and Standards (DODISS) and supplement thereto,  
cited in the solicitation (see 6.2).

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\* Beneficial comments (recommendations, additions, deletions) and any \*  
\* pertinent data which may be of use in improving this document should be \*  
\* addressed to: Commanding Officer (Code 156), Naval Construction Battalion \*  
\* Center, 621 Pleasant Valley Road, Port Hueneme, CA 93043-4300, by using \*  
\* the Standardization Document Improvement Proposal (DD Form 1426) appearing \*  
\* at the end of this document or by letter. \*  
\*-----\*

AMSC N/A

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SPECIFICATIONS

FEDERAL

- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
- PPP-B-636 - Boxes, Shipping, Fiberboard.
- PPP-T-97 - Tape, Packaging/Industrial, Filament Reinforced.

MILITARY

- MIL-P-116 - Preservation, Methods of.
- MIL-B-26195 - Boxes, Wood-Cleated, Skidded, Load-Bearing Base.
- MIL-C-52950 - Crates, Wood, Open and Covered.

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-1186 - Cushioning, Anchoring, Bracing, Blocking and Waterproofing; with Appropriate Test Methods.

Unless otherwise indicated, copies of federal and military specifications and standards are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of the documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)

- AISC S328 - Structural Steel Buildings Load and Resistance Factor Design.

(Application for copies should be addressed to American Institute of Steel Construction, 1 East Wacker Drive, Suite 3100, Chicago, IL 60601.)

AMERICAN IRON AND STEEL INSTITUTE (AISI)

- AISI SG-673 Part I-86 - Design of Cold-Formed Steel Structural Members.

(Application for copies should be addressed to the American Iron and Steel Institute, 1133 15th Street N.W., Suite 300, Washington, DC 20005.)

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ASTM

- ASTM A 123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- ASTM A 761/A 761M - Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches.
- ASTM B 633 - Electrodeposited Coatings of Zinc on Iron and Steel.
- ASTM D 3953 - Strapping, Flat Steel and Seals.

(Application for copies should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103.)

METAL BUILDING MANUFACTURERS ASSOCIATION (MBMA)

Recommended Design Practices Manual.

(Application for copies should be addressed to the Metal Building Manufacturers Association, 1230 Keith Building, Cleveland, OH 44115.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification takes precedence. Nothing in this specification, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

3.1 Description. The magazine buildings shall be unassembled, prefabricated, zinc-coated, all steel structure. The buildings shall have nominal inside clear spans of 16 feet or 25 feet, as specified. The buildings shall be in modular increment lengths of 6 or 12 feet for the 16-foot span building and 8 or 12 feet for the 25-foot span building. The barrel of the building shall be composed of a series of ring segments of formed sheet steel. The building shall include barrel, end walls, doors, ventilators, fasteners, and other necessary components to complete the structure. The building shall have threaded fastener connections for ease of field erection. The size of shop assembled components shall permit easy field erection with standard construction equipment and tools. The parts of the building shall be fabricated in such a manner that once assembled, the building can be dismantled, repackaged, and reassembled with minimum loss of material. One or more ventilators shall be installed on the crown of the arch. The rear end wall of the building shall be without openings. The front end wall shall have a double leaf doorway as specified herein. The front end wall shall have integral wing walls extending on both sides and an integral parapet for the retention of the earthfill. The wing walls and parapet shall be anchored to the roof of the building. The manufacturer shall furnish all zinc-coated metal anchor bolts, nuts, washers, clips, wedges, reinforcing members, bolts, hook bolts, convex washers, hardware,

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mastic, joint tape, and all accessories necessary for field assembly. The complete building shall be weathertight for full protection of ammunition, when erected.

3.2 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.2.1 and 6.4).

3.3 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification unless otherwise specified.

3.3.1 Zinc-coated (hot-galvanized) steel shape. After fabrication, all uncoated steel shapes and surfaces shall be zinc-coated in accordance with ASTM A 123.

3.3.2 Zinc-coating for fasteners. When specified (see 6.2), zinc-coating for fasteners shall be by the electrodeposited method conforming to ASTM B 633, type I.

3.3.3 Sheet steel for wall and roof covering. The wall and roof covering shall be zinc-coated sheet steel. Sheets shall be corrugated, structural plate conforming to ASTM A 761/A 761M.

3.4 Design. The magazine buildings shall be clear span and shall be designed for the dead load of the structure, the earthfill, and the snow load. In addition, the buildings shall be designed for a wind load on the front wall. Unless otherwise specified (see 6.2), the design shall allow provision for blast load to insure adequate resistance against the propagation of accidental detonation. Unless otherwise specified (see 6.2), the design shall allow for a snow load of 20 pounds per square foot superimposed on the saturated earthfill. Unless otherwise specified (see 6.2), the front building wall, door system, and ventilator shall be designed for a wind load of 15 pounds per square foot. The design of the building shall be in accordance with the applicable requirements of AISC S328, and AISI SG-673 Part I. The wind load design criteria shall be as shown in the MBMA Recommended Design Practices Manual. The following load combinations shall be used:

- a. Dead load, plus wet earth load, plus snow load over the whole width on sides and rear end wall and wing walls.
- b. Dead load, plus wet earth load, over the whole width on sides and rear end wall and wing walls plus wind load on front end wall.

3.5 Construction. The magazine building shall be erected on a concrete foundation and floor. The foundation and floor are not required to be furnished under this specification. Fasteners for attaching metal sheets to sheets, and

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sheets to framing members shall provide electrical conductivity for secondary lightning protection (electrostatic discharge). When the building is erected under corrosive soil conditions, cathodic protection shall be provided, when specified (see 6.2).

3.5.1 Wall and roof covering. The wall and roof covering shall be of a thickness and configuration that will meet the load requirements, with the stud, girt, or purlin spacings being designed accordingly.

3.5.2 End walls. The end walls shall be as specified herein. The front end wall anchors shall be steel rods with turn buckles or steel angle irons, with no connection passing through the barrel of the building. End walls and doors shall be of adequate strength with necessary stiffening.

3.5.2.1 Rear end walls. The rear end walls shall be composed of steel panels formed similarly to those used for the barrel and fastened together in the same general manner as the barrel segments. A weather cap shall be provided along the top of all formed end wall sections. The entire end wall shall be designed to assemble into position under the last barrel sheet and to fasten securely.

3.5.2.2 Front end wall. The front end wall shall be fabricated of formed steel sheets of thicknesses required for the design load. The front end wall shall have a double leaf doorway. The door jambs shall have an angle or channel frame. All panels shall be designed for assembly by bolts and for secure positioning by base angle and girt angle connections to the barrel. The front end wall shall be secured to the barrel and provide for attachment to the barrel for a complete weathertight connection. The parapet and wing wall of the front end wall shall be anchored to the arch roof with no connection passing through the barrel of the building.

3.5.3 Doors. Doors shall be furnished completely fabricated. Each double door leaf for the 16-foot clear span building shall be not less than 3 feet wide by 7 feet high. Each double door leaf for the 25-foot clear span building shall be not less than 4 feet wide by 10 feet high. The doors shall have steel stiles and rails and shall be faced on the outside with steel panels. Doors shall be of welded construction, shall be straight, true, and rigid to maintain themselves in one plane under conditions of usage indicated. Straps forming stops and astragal for doors shall be of steel.

3.5.3.1 Hardware. The hardware for each door shall be as specified herein. Each door shall be hung on at least four hot-dip, zinc-coated, heavy steel hinges which shall be bolted to doors and jambs. Each door shall be provided with a hook and eye to hold in open position. A foot and chain bolt with engaging clip shall be provided at bottom and head of standing leaf. A hasp of approved design shall be provided for securing doors, with suitable eyes for padlock.

3.5.3.2 Louvers. Each door leaf shall be provided with a complete and operable louver. Ventilating louver blades shall be provided in the face panel of the door. Backup louver blades shall be provided on the inside of each door louver panel. Ventilating louvers shall have a minimum area of 4 square feet in each door. Louvers shall be constructed in such a manner as to prevent the passage of water spray, or a suitable baffle for providing such prevention.

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Each louver shall be provided with a manually operable, vertical sliding, gravity closing damper panel on the interior side of the louver. Unless otherwise specified (see 6.2), the louver damper shall be manually operable from the outside of the building. The damper shall have a mechanical system for holding it in a normally open (up) position. The system shall permit one-handed manual release of the damper to achieve gravity closure. The manual release system shall have an external overriding fusible link device to permit automatic gravity closure at elevated temperatures, unless otherwise specified (see 6.2). The fusible link shall be replaceable and shall have a temperature rating of 160 degrees (o) Fahrenheit (F).

3.5.3.3 Spark and missile screening. A spark screen of bronze or brass wire cloth 14 by 14 by 16 mesh per linear inch by not less than 0.018-inch diameter wire shall be provided for each door louver. The spark screen shall be secured in a suitable zinc-coated frame and mounted over the outside of the louver. A missile screen of steel woven wire cloth, galvanized after weaving, of 2 by 2 mesh per linear inch by not less than 0.105-inch diameter wire shall be provided for each louver. The missile screen shall be secured in a suitable zinc-coated steel frame and mounted over the outside of the louver. The spark screen and missile screen may be mounted in the same frame.

3.5.3.4 Gaskets. Synthetic rubber gaskets shall be provided to make each door weathertight. The gasket material shall be an elastomer of the polychloroprene (neoprene) or polyurethane type. The gasket material shall be compounded to withstand an operational environmental temperature range of -35oF to +160oF. Antiozonants and antioxidants shall be incorporated into the compound to extend the useful life of the gaskets. The gasket material shall have a design shelf life of 5 years plus a design operational life of 5 years as certified by the contractor.

3.5.4 Base angles and channels. Base angles and channels shall be provided and shall be punched for anchor bolts and for securing arch rib plates. A gutter formed in the concrete foundation will be provided by others.

3.5.5 Ventilators. Ventilators shall be designed for placement and weathertight attachment on the crown of the magazine buildings. Ventilators shall be of a height sufficient to function with the earth depth and equivalent snow depth specified herein. Spark and missile screening shall be provided for and attached to the ventilator collar sheet adjacent to the crown of the buildings. Spark and missile screening shall be provided for and attached to the ventilators and shall be identical to that specified for the door leaf louvers. For the 16-foot span building, one ventilator shall be provided for each 18-foot length or fraction thereof; and for the 25-foot span, one ventilator for each 24-foot length or fraction thereof. The first ventilator shall be located adjacent to the back wall. Unless otherwise specified (see 6.2), ventilators shall be of the stationary type, 12-inch diameter stack, with storm band, baffles, and vent collar sheet; and with manually operated damper at least 4 feet 6 inches above the crown of the building. A fusible link having a temperature rating of 160oF shall be attached externally to the ventilator, and the damper shall close automatically when the fusible link melts. When specified (see 6.2), ventilators shall have a built-in downdraft diverter and shall have positive exhaust action regardless of the wind direction. The ventilator shall be subjected to air velocity and downdraft tests.

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3.6 Joint sealing materials. The steel arch magazine shall be sealed using a liquid applied polyurethane elastomeric compound and an elastomeric joint tape.

3.6.1 Liquid applied polyurethane elastomer. A sufficient quantity of polyurethane elastomer shall be provided to cover all vertical and horizontal joints, all bolts, screws, or fasteners that have pierced the shell and between the steel arch and foundation to a thickness of approximately 0.120 inch. The elastomer coating shall extend at least 3 inches to either side of joints and openings and at least 10 inches up from the foundation. The elastomer shall have a tensile strength of 100 pounds per square inch (psi), elongation of 200 percent, shore A hardness of 30 and an adhesion strength of 15 psi.

3.6.2 Elastomer joint tape. A sufficient quantity of elastomer rubber base tape shall be provided to cover all vertical and horizontal joints of the steel arch.

3.7 Identification marking. Identification shall be permanently and legibly marked directly on the door of each building or on a corrosion-resisting metal plate securely attached to the door of each building at the source of manufacture. Identification shall include the manufacturer's model and serial number, name and trademark to be readily identifiable to the manufacturer.

3.8 Extra materials. The contractor shall furnish, with each building, an additional 5 percent of nuts, washers, and bolts by size and length and of waterproofing sealant materials.

3.10 Workmanship.

3.10.1 Steel fabrication. The steel used in fabrication shall be free from kinks, sharp bends, and other conditions which would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the steel to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to insure uniformity of size and shape.

3.10.2 Bolted connections. Bolt holes shall be accurately punched or drilled and shall have the burrs removed. Washers or lock washers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight.

3.10.3 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein.



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Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Material inspection. The contractor is responsible for insuring that supplies and materials are inspected for compliance with all the requirements specified herein and in applicable referenced documents.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).

4.2.1 First article inspection. The first article inspection shall be performed on one complete magazine building when a first article is required (see 3.2 and 6.2). This inspection shall include the examination of 4.4 and the tests of 4.5. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.2.2 Quality conformance inspection. The quality conformance inspection shall include the examination of 4.4, the tests of 4.5, and the packaging inspection of 4.6. This inspection shall be performed on the samples selected in accordance with 4.3.

4.3 Sampling. Sampling and inspection procedures shall be in accordance with MIL-STD-105. The unit of product shall be one prefabricated, ready-cut building. All completed buildings offered for delivery at one time shall be considered a lot for the purpose of inspection. The inspection level shall be level 2 and the Acceptable Quality Level (AQL) shall be 4.0 percent defective. If an inspection lot is rejected, the contractor may rework it to correct the defects, or screen out the defective units, and resubmit for a complete reinspection. Resubmitted lots shall be reinspected using tightened inspection. If the rejected lot was screened, reinspection shall be limited to the defect causing rejection. If the lot was reprocessed, reinspection shall be performed for all defects. Rejected lots shall be separated from new lots, and shall be clearly identified as reinspected lots.

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4.4 Examination. Each selected building shall be examined for compliance with the requirements specified in section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.5 Tests. Tests shall be conducted as specified herein. Specification of test requirements does not preclude the use of other test fixtures if the mechanics of the systems are duplicated for similar tests. Any failures of welds or mechanical joints and any permanent distortions or any other damage to any part of the item that would affect serviceability will be considered as failing to comply with the requirements of this specification. Certified evidence of compliance with all applicable tests must be available upon request. Items used in the test must be available for examination by the inspector.

4.5.1 Test erection unit. The inspector shall select at random from the component parts of the first 10 complete magazine buildings, the components to be combined to form one complete building, including doors and ventilators, for test erection by the contractor. The test erection unit shall be not less than 12 feet in length for the 16-foot span building and not less than 24 feet in length for the 25-foot span building. The test erection unit shall be erected on a concrete foundation or slab with appropriate anchoring devices where anchor bolts are indicated on the drawings. The foundation shall be level or capable of being leveled by shims at anchor bolt points so that the total vertical deviation between any two anchor bolt points shall be not greater than 1/16 inch. Neither the weatherproofing joint sealing materials nor the earthfill is required for the test erection. The test unit shall be erected using only the erection hand tool set listed by the manufacturer as necessary for field erection. The components shall fit together to form one complete building without abnormal racking, bowing, bending, or deformation of parts. Bolt holes shall align properly to receive the fasteners, using draft pins to aid final alignment. Ease of assembly, fit, and alignment of parts and bolt holes are essential requirements. The contractor shall provide all labor, facilities, and supplies necessary for test erection assembly, disassembly, including repair or replacement of damaged or unrepairable parts and fasteners. When reusable, repaired, and replaced components of the test erection unit have been repacked, such components may be submitted as part of a completed production unit.

4.6 Packaging inspection. The preservation, packing, and marking of the item shall be inspected to verify conformance to the requirements of section 5.

## 5. PACKAGING

5.1 Preservation. Preservation shall be level A or commercial as specified (see 6.2).

### 5.1.1 Level A.

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5.1.1.1 Methods of preservation. Cleaning processes, drying procedures, preservatives, and methods of preservation specified in the following paragraphs are listed in MIL-P-116, and shall conform to the requirements of MIL-P-116 and any applicable specifications.

5.1.1.2 Cleaning and drying. Prior to the application of preservative compounds or paint, surfaces shall be cleaned by process C-1 and dried by any applicable procedure of MIL-P-116.

5.1.1.3 Unprotected surfaces. Unprotected exterior metal surfaces requiring the application of a contact preservative in accordance with MIL-P-116 and not specifically provided for herein shall be preserved with P-1. Joints of hinges shall be coated with type P-9 preservative.

5.1.1.4 Fasteners. Fasteners for one complete building shall be packaged method III.

5.1.1.5 Ventilators, louvers, screens and equipment door hardware. The items needed for one complete building shall be packaged method III.

5.1.1.6 Flashing, ducts, beam and girder connectors, struts, braces, rods, roof tie assemblies, and ridge end covers. These items of like description for one complete building shall be bundled together to form a nonshifting bundle which will provide convenient handling. The bundles shall be secured with tape conforming to PPP-T-97, type IV, or with soft annealed wire. The threaded surface of the rods shall be protected to prevent damage to the threads.

5.1.1.7 Technical publications. Technical publications for each piece of equipment shall be preserved method IC-1 or IC-3.

5.1.1.8 Consolidation. Items requiring the protection of a container for each complete building shall be consolidated in containers conforming to PPP-B-636, class weather-resistant. Contents shall be cushioned, blocked, and braced to prevent movement in accordance with MIL-STD-1186.

5.1.2 Commercial. The equipment shall be preserved in accordance with the contractor's standard practice in a manner to prevent deterioration and damage. The equipment shall be lubricated for operational service as required in technical publications.

5.2 Packing. Packing shall be level A or commercial, as specified (see 6.2).

5.2.1 Level A. Only one complete building shall be packed as a set consisting of boxes, bundles, and crates. Components shall be arranged within each bundle, box, or crate to provide ease of erection of the building when removed.

5.2.1.1 Doors, louvers, screens, loose and bundled components, and consolidated packages. These items shall be packed in boxes conforming to PPP-B-601, overseas type; PPP-B-621, class 2; or MIL-B-26195 type II, style and class optional, with plywood superstructure. The contents shall be cushioned, blocked, braced, and waterproofed with a shroud in accordance with MIL-STD-1186.

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5.2.1.2 Structural members. Structural members, such as girders, purlins, and similar components shall be nested, arranged, and secured with bolts or steel straps, or a combination of both to form compact nonshifting bundles. Wood blocking shall be used under strapping to eliminate large voids or irregular shaped bundles. Strapping shall be 0.023 by 3/4-inch flat steel conforming to ASTM D 3953, type 1, zinc-coated. Strapping shall be stapled to any wood blocking provided. Strapping shall be spaced not to exceed approximately 36 inches on center, with end straps placed not more than 18 inches from each end. Edge protectors shall be used when strapping bears on edges of structural members in the bundles. Bundled structural members shall have wooden blocks secured to the bottom of the load to provide for handling by forklift and for stacking. The forklift clearance shall be no less than 2-1/2 inches high. The bundles shall not exceed 5,000 pounds. When specified (see 6.2), the individual bundles shall be packed in crates conforming to MIL-C-52950, type III. The contents shall be blocked, braced, or otherwise anchored in accordance with the appendix to the crate specification.

5.2.2 Commercial. The equipment shall be prepared for shipment in a manner which will ensure arrival at destination in a satisfactory condition. Preparation for delivery shall comply with applicable carrier rules and regulations.

5.3 Marking. Marking shall be in accordance with MIL-STD-129.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The prefabricated buildings described and specified herein are intended for use as ammunition magazines when provided with the specified depth of earth cover.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Span required and length of building (see 1.2).
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- d. When first article is required for inspection and approval (see 3.2, 4.2.1, and 6.4).
- e. When zinc coating for fasteners should be electrodeposited (see 3.3.2).
- f. When blast load for adequate resistance against accidental detonation is not required (see 3.4).
- g. When snow load is other than as specified (see 3.4).
- h. When wind load is other than as specified (see 3.4).
- i. When cathodic protection is required for the building erected under corrosive soil conditions (see 3.5).
- j. When the louver damper panel should not be manually operable from the outside of the building (see 3.5.3.2).
- k. When doors should be supplied without fusible link for automatic gravity closing (see 3.5.3.2).
- l. When ventilators shall be other than as specified (see 3.5.5).

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- m. When ventilators shall have built-in downdraft diverters and positive exhaust action regardless of wind direction (see 3.5.5).
- n. Level of preservation and level of packing required (see 5.1 and 5.2).
- o. When individually bundled structural members are to be packed in crates (see 5.2.1.2).

6.3 Data requirements. When this specification is used in an acquisition and data are required to be delivered, the data requirements shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved Contract Data Requirements List (DD Form 1423), incorporated into the contract. When the provisions of DOD FAR Supplement, Part 27, Sub-Part 27.475-1 are invoked and the DD Form 1423 is not used, the data should be delivered by the contractor in accordance with the contract or purchase order requirements.

6.4 First article. When a first article inspection is required (see 6.2), the item will be tested and should be a first production item or it may be a standard production item from the contractor's current inventory as specified in 4.2.1. The first article should consist of one complete building. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

6.5 Subject term (key word) listing.

Ammunition storage  
Earth-covered building

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Navy - YD  
Air Force - 99

Preparing activity:

Navy - YD

(Project 5410-0358)

Review activities:

Air Force - 84  
DLA - CS

User activities:

Army - CE  
Navy - MC