

MIL-C-13766C(ME)
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SUPERSEDING
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MILITARY SPECIFICATION

CONVERSION KIT, BARGE: DECK ENCLOSURE DESIGN 7006

FOR DESIGNS 231A and 7005

This specification is approved for use by the Mobility Equipment Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the construction of a knockdown, sectionalized, deckhouse kit for covering an existing 110-foot steel deck cargo barge (Design 7005) or a 120-foot steel deck cargo barge (Design 231A) into a covered lighter. Erection tools, welding, burning, and lifting gear are not included in the kit.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: USA Mobility Equipment Research and Development, Command, ATTN: DRDME-DS, Fort Belvoir, VA 22060 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified, the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

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| QQ-S-781 | - Strapping, Steel, and Seals. |
| PPP-B-601 | - Boxes, Wood, Cleated Plywood. |
| PPP-B-621 | - Boxes, Wood, Nailed and Lock-Corner. |
| PPP-B-636 | - Boxes, Shipping, Fiberboard. |

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| MIL-C-104 | - Crates, Wood; Lunber and Plywood Sheated, Nailed and Bolted. |
| MIL-P-116 | - Preservation, Methods of. |
| MIL-G-20241 | - Casket Material, Wool Felt, Impregnated, Adhesive Pressure-Sensitive. |
| MIL-P-23377 | - Primer Coatings: Epoxy-Polyamide, Chemical and Solvent Resistant. |

STANDARDS

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| MIL-STD-105 | - Sampling Procedures and Tables for Inspection by Attributes. |
| MIL-STD-129 | - Marking for Shipment and Storage. |
| MIL-STD-889 | - Dissimilar Metals. |
| MIL-STD-1186 | - Cushioning, Anchoring, Bracing, Blocking, and Waterproofing; with Appropriate Test Methods. |
| MIL-STD-1188 | - Commercial Packaging of Supplies and Equipment |

2.1.2 Other Government documents. The following other Government documents form a part of this specification to the extent specified herein.

DRAWINGS

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| TA13205E9300 | - Conversion Kit, Barge: Deck Enclosure, Design 7006, for Design 231A and 7005. |
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(Copies of specifications, standards, and drawings required by contractors in connection with specific acquisition functions should be obtained for the contracting activity or as directed by the contracting officer).

2.1.3 Order of precedence. In the event of a conflict between the text of this specification and the reference cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Description. The barge conversion kit shall be in accordance with Top Assembly TA13205E9300 and as specified herein.

3.1.1 Drawings. The drawings forming a part of this specification are end product drawings. No deviation from the prescribed dimensions or tolerances is permissible without prior approval of the contracting officer. Where tolerances could cumulatively result in incorrect fits, the contractor shall provide tolerances within those prescribed on the drawings to insure correct fit, assembly, and operation of the barge conversion kit. Any data (i.e., shop drawings, layouts, flow sheets, processing procedures, materials and material finishes, etc.) prepared by the contractor or obtained from a vendor to support fabrication and manufacture of the production item shall be made available, upon request, for inspection by the contracting officer or his designated representative.

3.1.2 Installation drawings. One set of installation drawings contained in TA13205E9300 shall be provided with each barge conversion kit.

3.2 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 4.3 and 6.3).

3.3 Material. Material shall be as shown on the applicable drawings. Materials not specified shall be selected by the contractor and shall be subjected to all provisions of this specification. All components and materials shall be new and unused.

3.3.1 Material deterioration and control. Conversion kits shall be fabricated from compatible materials, inherently corrosion resistant or suitably treated to provide protection against the various forms of corrosion and deterioration that may be encountered in any of the applicable operating and storage environment to which the item may be exposed.

3.3.1.1 Dissimilar metals. Dissimilar metals, as defined in MIL-STD-889, shall be electrically insulated from one another to minimize galvanic corrosion. Insulation shall be provided by a barrier such as a coat of epoxy primer conforming to MIL-P-23377 or chromate tape conforming to MIL-G-20241. Protection against any galvanic corrosion shall also be obtained by exclusion of the electrolyte if feasible.

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3.3.1.2 Identification of materials and finishes. The contractor shall identify the specific material, material finish or treatment for use with components and sub-components, and shall make information available, upon request to the contracting officer or his designated representative.

3.4 Watertightness. All gasket joints and external welded seams shall withstand a water stream of not less than 30 pounds per square inch (psi), without leakage.

3.5 Lifting. Pad eyes of each top panel shall withstand without deformation a 90 to 110 percent overload lift based on panel weight shown on the drawings.

3.6 Workmanship. Particular care shall be taken to insure a close fit of all joints. The tolerance of individual panels and components shall be controlled during fabrication to insure that mating and continuous panel joints compress all joint gaskets, and mating boltholes are aligned to permit field assembly without fitting or forcing.

4. QUALITY ASSURANCE

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 as specified herein. 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 assure supplies and services conform to prescribed requirements.

4.1.1 Material inspection. The contractor is responsible for insuring that materials used are manufactured, examined, and tested in accordance with the applicable specifications and standards.

4.1.2 Parts and components. Parts and components shall be inspected in accordance with the Quality Assurance Provisions (QAPs) on the drawings listed on TA13205E9300. Evidence that any part or component does not comply with the applicable drawings shall be cause for rejection of that part or component (see 6.5 and 6.6).

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

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).
- c. Inspection of packaging (see 4.6).

4.3 First article inspection.

4.3.1 Examination. The first article barge conversion kit shall be examined as specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

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4.3.2 Tests. The first article barge conversion kit shall be tested as specified in 4.5.2. Failure of any test shall be cause for rejection.

4.4 Quality conformance inspection.

4.4.1 Examination. Each barge conversion kit shall be examined for the defects specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.5 Inspection procedure.

4.5.1 Examination. The barge conversion kit shall be examined as specified herein for the following defects:

101. Components missing or not as specified.
102. Materials not corrosion resistant or suitably treated.
103. Dissimilar metals not in accordance with MIL-STD-889.
104. Material and material finish or treatment information not available.
105. Workmanship not as specified.
106. Welding not as specified (other than critical on the drawings).
107. Installation drawings not furnished.

4.5.2 Tests.

4.5.2.2 Test conditions. The barge conversion kit shall be erected prior to performance of the tests specified in 4.5.2.2 and 4.5.2.3. Erection shall be in accordance with the procedures shown on the drawings except that the coaming need not be welded to the erection surface provided that the full coaming can be laid down and secured to prevent slippage or misalignment both during and after erection of the barge conversion kit. After completion of the test, the kit shall be disassembled. All parts and components shall be visually inspected for damage which will prevent re-erection of the kit. Damaged parts and components shall be replaced. The disassembled kit shall be prepared for delivery in accordance with Section 5 of this specification. New gasket material shall be furnished with the kit.

4.5.2.2 Water. The entire length of each gasketed and caulked joint and external welded seam of the erected barge conversion kit shall be subject to a stream of water at not less than 30 psi at the joint surface. Evidence of leakage within the structure through any gasketed and caulked joint or external welded seam shall be cause for rejection.

4.5.2.3 Lifting. Each top panel shall be subjected to a 90 to 110 percent overload based on the individual panel weight. After loading, the panel shall be lifted by slings or cables from each pad eye with the load equally distributed over all eyes. Evidence of any deformation of the pads, pad eyes, or any plate or structural member of the panel shall be cause for rejection.

4.6 Inspection of packaging.

4.6.1 Preproduction pack inspection.

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4.6.1.1 Examination. The preproduction pack shall be examined for the defects specified in 4.6.2.3. Presence of one or more defects shall be cause for rejection.

4.6.2 Quality conformance inspection of pack.

4.6.2.1 Unit of product. For the purpose of inspection a completed pack prepared for shipment shall be considered a unit of product.

4.6.2.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.6.2.3 Examination. Samples selected in accordance with 4.6.2.2 shall be examined for the following defects. AQL shall be 2.5 percent defective.

- 108. Materials, methods, and containers not as specified for level A. Each incorrect material, method, or container shall constitute one defect.
- 109. Disassembly not as specified for level A.
- 110. Unprotected surfaces not coated with preservatives as specified for level A.
- 111. Rollers not lubricated as specified for level A.
- 112. Consolidation not as specified for level A.
- 113. Preservation and packing not in accordance with the referenced document for commercial.
- 114. Panels not grouped, secured, and protected as specified for level A.
- 115. Strapping not as specified for level A.
- 116. Packing of other components not as specified for level A.
- 117. Marking missing, illegible, incorrect, or incomplete for level A or commercial.

5. PACKAGING

5.1 Preproduction pack. The contractor shall furnish a preproduction pack for examination within the time frame specified (see 6.2), to prove prior to starting production packaging that the applied preservation, packing, and marking comply with the packaging requirements of this specification. Examination shall be as specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.4). The preproduction pack may be accomplished utilizing either the first article barge conversion kit or the production barge conversion kit. If first article barge conversion kit is utilized, any preservation and packing shall be removed by the contractor at no expense to the Government when requested by the Government to facilitate comparison between the first article barge conversion kit and the production barge conversion kit.

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

5.2.1 Level A.

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5.2.1.1 Preservation and methods of preservation. Preservatives shall conform to applicable specifications listed in and shall be applied in accordance with MIL-P-116. Methods of preservation shall be in accordance with MIL-P-116 and as specified herein.

5.2.1.2 Disassembly. Each barge conversion kit shall be unassembled. All bolts, nuts, and other small loose components shall be removed from the panels and major components, and preserved as specified herein.

5.2.1.3 Unprotected surfaces. Unpainted or unplated ferrous metal surfaces of structural components, appurtenances, miscellaneous fittings, and hardware, except as specified for threaded surfaces, shall be coated with type P-1 preservative.

5.2.1.4 Threaded surfaces. Threaded surfaces shall be coated with type P-6 or type P-11 preservative and preserved in accordance with method I. Like items shall be preserved together.

5.2.1.5 Gaskets. Gaskets shall be preserved in accordance with method III.

5.2.1.6 Canvas hatch covers and riggings. The canvas hatch covers and rigging shall be folded, rolled into a compact bundle, and preserved in accordance with method IC-1 or IC-3.

5.2.1.7 Installation drawings. Installation drawings shall be preserved in accordance with method IC-1 or IC-3. Like items shall be preserved together.

5.2.1.8 Rollers. Each door shall be lubricated with the operational lubricant. Excess lubricant shall be removed by wiping with a clean cloth.

5.2.1.9 Consolidation. Small components, such as removed bolts, nuts, small loose components, canvas hatch covers, hardware, gaskets, ladder rungs, etc, preserved as specified shall be placed in boxes conforming to PPP-B-636, class weather-resistant, style optional. Components of like type, size, etc, shall to the greatest practical extent, be placed within the same box. The contents shall be blocked, braced, cushioned or anchored as applicable within the box to prevent movement or damage. Box closure and sealing shall be as specified for method V in accordance with the appendix to the box specification. The boxes shall then be consolidated together into a single box conforming to PPP-B-621, class 2, style optional or PPP-B-601, overseas type, style optional. Box closure shall be in accordance with the appendix to the applicable box specification. Strapping shall not be required.

5.2.2 Commercial. The components comprising the barge conversion kit shall be preserved in accordance with MIL-STD-1188.

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

5.3.1 Level A. The barge conversion kit, preserved as specified in 5.2 shall be prepared for shipment in secured lifts and crates (see 5.3.1.1 and 5.3.1.2).

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5.3.1.1 Panels. Panels, except filler panels (see 5.3.1.2), shall be grouped as specified in table I. One or more groups shall be combined into lifts and secured together using steel strapping conforming to QO-S-781, finish B, size as applicable or by using fabricated securing devices such as tie rods, turnbuckles, bolts, cables, structural steel shapes, or wooden members, or by combinations thereof. Blocking, bracing, and cushioning to compensate for irregularities in mating faces of the panels secured together and to prevent damage to protruding components shall be provided.

TABLE I. Grouping of panels.

Group	Panels
I	T-1
II	T-2
III	T-3
IV	T-4
V	T-5 and small hatch covers
VI	F-1, F-2, and F-3
VII	A-1 and A-2
VIII	S-1 and S-3
IX	S-4 and S-7
X	S-5 and S-6
XI	S-2 and S-8
XII	D-1 and D-3
XIII	All D-2 panels

5.3.1.2 Other components. All components of the barge conversion kit, including the filler panels and the boxed consolidated components, except for the panels specified in 5.3.1.1, shall be packed together in a crate conforming to MIL-C-104, type I, class 1 or 2, style a. Blocking, bracing, anchoring and strapping shall be in accordance with the crate specifications and in accordance with MIL-STD-1186.

5.3.2 Commercial. The components comprising the complete barge conversion kit, preserved as specified in 5.2, shall be packed in accordance with MIL-STD-1188.

5.4 Marking.

5.4.1 Military. Marking for military levels of protection (level A) shall be in accordance with MIL-STD-129.

5.4.2 Commercial. Marking for commercial packaging shall be in accordance with MIL-STD-1188.

6. NOTES

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6.1 Intended use. The barge conversion kit is intended for converting steel cargo barges into covered lighters for the protection of deck cargo against weather damage or pilferage while being transported in harbor areas. The kit may also be used as a shelter for intransit storage, barracks barge, power plant barge, and marine maintenance storage barge.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. When a first article is required for inspection and approval and the number of units required (see 3.2).
- c. Time frame for submission of the preproduction pack (see 5.1).
- d. Degree of preservation and degree of packing required (see 5.2 and 5.3).

6.3 First article. When a first article inspection is required, the item should be examined and should be a preproduction model. The first article should consist of one or more units. The contracting officer should include specific instructions in the acquisition documents regarding arrangements for examinations, test and approval of the first article.

6.4 Preproduction pack. Any change or deviations of production packs from the approved preproduction pack will be subject to the approval of the contracting officer. Approval of the preproduction pack will not relieve the contractor of his obligation to preserve, pack and mark the barge conversion kit in accordance with this specification.

6.5 Quality assurance provisions (QAP). The contracting officer should require the contractor to maintain records of all QAP inspections. A suggested paragraph is as follows:

"The contractor shall maintain complete records of all examinations and tests performed to verify the requirements of classified QAP characteristics. The records shall include, as a minimum, lot size, sample size, drawing requirements, actual measurements, number and type of deficiencies found, quantity approved, quantity rejected, and corrective action taken when applicable.

6.6 Definitions.

6.6.1 Quality assurance provisions (QAP). A QAP is a contractual requirement that supplements Section 4 of the specification. QAP indicates the minimum requirements which must be inspected on the product drawings to verify the design objectives of the product and assure interchangeability of repair parts.

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