

JAN-T-234

30 JUNE 1945

**JOINT ARMY-NAVY SPECIFICATION  
TRINITROTOLUENE (TNT), BLOCK**

**Army Number**  
50-13-13C

**Navy Number**  
51T9

This specification was approved by the War Department and the Navy Department for use of procurement services of the Army and the Navy and supersedes the following specifications:

U. S. Army  
50-13-13B  
15 May 1944

Navy Department  
Bureau of Ordnance  
OS-1214  
4 Dec. 1940

**A. APPLICABLE SPECIFICATIONS**

A-1. The following specifications, of the issue in effect on date of invitation for bids, form a part of this specification:

**JOINT ARMY-NAVY SPECIFICATIONS**

- JAN-P-106 Packaging and Packing for Overseas Shipment—  
Boxes; Wood, Nailed.
- JAN-P-108 Packaging and Packing for Overseas Shipment—  
Boxes, Fiberboard (V-board and W-Board), In-  
terior and Exterior.
- JAN-P-125 Packaging and Packing for Overseas Shipment—  
Barrier-Materials, Waterproof, Flexible.
- JAN-T-248 Trinitrotoluene (TNT).

**U. S. ARMY SPECIFICATION**

- 100-2 Standard Specification for Marking Shipments by ~~Con-~~  
tractors.

**NAVY DEPARTMENT SPECIFICATION**

General Specifications for Inspection of Material<sup>1</sup>

**B. TYPE**

B-1. This specification covers only one type of compressed TNT demolition block.

**C. MATERIAL AND WORKMANSHIP**

C-1. *Material.*—The material used in the construction of TNT blocks and containers shall be as specified hereinafter. Material not definitely specified shall be of the best quality normally used for the purpose in good commercial practice. Material shall be free from all defects and imperfections that might affect the serviceability of the finished product.

<sup>1</sup> Applicable only to Navy purchases.

**C-2. Workmanship.**—Workmanship shall be of the highest grade throughout and in accordance with the best standard practice for this type of commodity.

**D. GENERAL REQUIREMENTS**

**D-1.** See section E.

**E. DETAIL REQUIREMENTS**

**E-1. Description.**—TNT blocks furnished under this specification shall consist of an explosive charge in a container.

**E-2. Charge.**—The explosive charge shall consist of TNT (trinitrotoluene), grade I, conforming to the requirements of Joint Army-Navy Specification JAN-T-248, compressed into rectangular blocks having a cross section approximately  $1\frac{3}{4}$  inches square and a length of approximately  $3\frac{1}{4}$  inches. The longitudinal edges of the blocks shall be rounded to a radius of approximately  $\frac{3}{8}$  inch and the edges of the ends may be slightly chamfered, at the discretion of the manufacturer. The compressed TNT shall have a specific gravity of 1.46,  $\pm 0.05$ . A hole for inserting a detonator shall be formed or bored in the center of one end of each block. The diameter of the hole shall be 0.290,  $\pm 0.010$  inch, and the depth shall be  $2\frac{11}{16}$  inches,  $\pm \frac{1}{8}$  inch. The weight of the finished block shall be 0.5 pound with a tolerance of plus 5 percent or minus 2 percent.

**E-3. Container.**—The container shall conform to figure 1 and shall hold, with a snug fit, two blocks of compressed TNT conforming to the requirements of paragraph E-2. The body of the container shall be convolutely wound from three or more plies of water-resistant fiberboard giving a total wall thickness of 0.032, plus 0.012 inch or minus 0.002 inch, and the inner ply shall have a wax coating applied at the rate of 1.25 pounds per thousand bodies. The completed container shall withstand a top load compression of 150 pounds. The ends of the container shall be formed from either tin plate, lacquered tin plate, enameled sheet steel, or lacquered sheet steel. Both ends shall be securely crimped to the fiberboard body, forming a beaded rim. In the center of one metal end, a frustum of a cone shall be formed. The frustum shall not be more than  $\frac{3}{16}$  inch high and the top of the frustum shall not project beyond the beaded end of the assembled container. In the top of the frustum, a circular hole shall be provided, with the edge properly formed to receive the  $\frac{9}{16}$ -inch NC male thread on the Adaptor, Priming, Explosive M1A3, and standard firing devices.

**E-3a. Approval of containers.**—The contractor shall submit a sample of the container he proposes to furnish to the bureau or agency concerned for approval prior to the manufacturing of the containers.

**E-4. Assembly.**—The compressed TNT blocks shall be placed in the container so that the detonator hole in the block will register with the hole in the metal end of the container. Prior to crimping the metal end to the body of the container, as described in paragraph E-3, a piece of water-resistant paper, or similar material, approximately conforming in size to the cross-section of the TNT block, shall be placed between it and the metal end, to prevent the entry of any extraneous matter into the detonator hole. The thickness of the paper shall be such as to be readily punctured when inserting a detonator into the detonator hole.

**E-5. Label.**—Each container of TNT shall have an olive drab label extending completely around the body of the container. Printing shall

be done in "News Gothic" capitals and shall run the long dimension of the container. One side shall bear the following printing:

**HIGH EXPLOSIVE**  
**TNT**  
**1 POUND NET**  
**CORPS OF ENGINEERS, U. S. A.**  
**DANGEROUS**

The above printing shall be in the following sizes and colors:

	Size	Color
Line 1.....	14 point.....	Red.
Line 2.....	24 point.....	Black.
Line 3.....	14 point.....	Do.
Line 4.....	10 point.....	Do.
Line 5.....	24 point.....	Red.

The side opposite the aforementioned side shall bear the following, printed in black with type as large as the space will permit:

**FOR FRONT LINE DEMOLITION ONLY**  
**NOT TO BE USED FOR GENERAL BLASTING**  
**DO NOT USE UNDERGROUND OR IN ENCLOSED SPACES**  
**BECAUSE OF DANGEROUS FUMES**

One of the remaining sides shall bear the following, printed in red with 14-point type:

**EQUIVALENT TO TWO ½-POUND TNT BLOCKS**

On the remaining side the manufacturer shall place his name.

**F. METHODS OF SAMPLING, INSPECTION, AND TESTS**

F-1. *Sampling.*—Sampling of the explosive in crystalline or flake form shall conform to the requirements of Joint Army-Navy Specification JAN-T-248, except that the lot size shall not exceed 25,000 pounds.

F-2. *Inspection.*—Material furnished under this specification shall be subject to inspection, during and after the process of manufacture, by Government inspectors, who shall be afforded proper facilities for determining compliance with this specification.

F-2a. *TNT (trinitrotoluene).*—Inspection of the explosive in crystalline or flake form shall be made in accordance with the requirements of Joint Army-Navy Specification JAN-T-248.

F-2b. *Compressed TNT blocks and container.*—One sample, selected at random from each 5,000 charges after assembly, shall be inspected to determine that the dimensions and shape of the compressed TNT blocks and that the materials, dimensions, and workmanship of the container, comply with the requirements of this specification. Each sample container shall be inspected to determine that the formed opening is correct, by attaching a  $\frac{9}{16}$ -inch NC male thread having the following dimensions:

Major diameter 0.5601 inch, plus 0.000 inch or minus 0.0158 inch.

Pitch diameter 0.5060 inch, plus 0.000 inch or minus 0.0079 inch.

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**F-3. Tests.**—Material furnished under this specification shall be given such tests as may be necessary to determine compliance with the requirements of this specification. The contractor shall provide the necessary facilities and supplies for all tests made prior to final acceptance.

**F-3a. TNT (trinitrotoluene).**—Tests of the explosive in crystalline or flake form shall be made in accordance with Joint Army-Navy Specification JAN-T-248. Tests of the explosive may be made either before or after it has been compressed into blocks. If made after blocking, the test for granulation is not required.

**F-3b. Test for density (specific gravity).**—(One sample block of compressed TNT, selected at random from each 5,000 charges after assembly, shall be tested for density (specific gravity). The density of the compressed TNT block shall be determined as follows:

All weight determinations shall be made on a laboratory Tripp balance accurate to 0.1 gm. The block shall be weighed in air, then given a light coat of paraffin by dipping into molten paraffin, and reweighed in air. The difference ( $p$ ) in these two weights divided by the density of paraffin (approx. 0.9) gives the volume of the paraffin coating ( $V_p$ ). The coated block shall then be suspended from a laboratory balance by a fine thread, and weighed while submerged in a liter beaker of water, making certain that the hole for the detonator is completely filled with water. The temperature ( $t$ ) of the water shall be noted and maintained within 1° C., during the determination.

$$D = \frac{0.9dm}{m - 0.1n - 0.9w}$$

where:

$D$  = TNT block density

$m$  = weight of TNT in air

$n$  = weight of coated TNT in air

$w$  = weight of coated TNT in water

$d$  = density of water at temperature "t" referred to its density at 4° C.

0.9 = average density of paraffin.

## G. PACKAGING, PACKING, AND MARKING FOR SHIPMENT

**G-1. Packing.**—Fifty 1-pound packages shall be packed in one layer containing 5 rows of 10 packages each, with detonator holes on top. Rows of packages shall be separated with W6c fiberboard, conforming to the requirements of Joint Army-Navy Specification JAN-P-108, and, when necessary, similar separators shall be used between packages in a row, and at sides, ends, top, and bottom of the box to make a snug fit. An instruction sheet, printed as shown on figure 2, on 60-pound (per 480 sheets, 24 x 36 inch) book paper, shall be packed in the top and bottom of each shipping container. The wood shipping container shall conform to the requirements of Joint Army-Navy Specification JAN-P-106, style 2 box for type 3 load. The box shall be lined with a waterproof case liner conforming to the requirements for type L-2 of Joint Army-Navy Specification JAN-P-125. The case liner shall completely enclose the interior of the box and shall be sealed with a water-resistant, nitroglycerin-resistant adhesive at all joints, seams, and folds. The box and liner shall be of

the proper size to fit the contents so there will be no strain on the liner nor any shifting of load. Boxes shall be closed and strapped girthwise with 2 straps in accordance with the requirements of the Appendix to Joint Army-Navy Specification JAN-P-106, except that only round strapping, class A, shall be used. The straps shall be tensioned and sealed, but not stapled.

G-2. *Marking.*—Unless otherwise specified, shipping containers shall be marked with the name of the material, size, and quantity contained therein as defined by the contract or order under which shipment is made, the name of the contractor, the number of the contract or order, and the gross weight. In addition, shipments for the Army shall be marked in accordance with the requirements of U. S. Army Specification 100-2; for the Navy, in accordance with the requirements of the latest issue of the Navy Shipment Marking Handbook.

#### H. NOTES

H-1. Requests, requisitions, schedules, and contracts or orders should contain the title of the specification, the number, and date.

H-2. TNT blocks furnished under this specification are intended for military demolition use.

H-3. All materials, parts, specimens, component assemblies, or other complete items destroyed or consumed in conducting the tests required by this specification should be in addition to the quantity of trinitrotoluene blocks ordered, and the cost thereof should be included in the contract, requisition, or purchase order.

H-4. Copies of Navy Shipment Marking Handbook may be obtained upon application to the Bureau of Supplies and Accounts, Navy Department, Washington 25, D. C.

H-5. Copies of Joint Army-Navy specifications (required for Army purchases) and U. S. Army specifications may be obtained as indicated in the "Index of United States Army, Joint Army-Navy and Federal Specifications Used by the War Department." Copies of this Index may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Agencies within the War Department will obtain copies of Joint Army-Navy and United States Army specifications through established War Department channels. Both the title and identifying symbol number should be stipulated when requesting copies of specifications.

H-6. Copies of Joint Army-Navy specifications (required for Navy purchases) and Navy Department specifications may be obtained upon application to the Bureau of Supplies and Accounts, Navy Department, Washington 25, D. C., except that Naval activities should make application to the Supply Officer in Command, Naval Supply Depot, Bayonne, N. J. Both the title and identifying symbol number should be stipulated when requesting copies of specifications.

Notice.—When Government drawings, specifications, or other data are used for any purpose other than in connection with a definitely related Government procurement operation, the United States Government thereby incurs no responsibility nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data, is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation or conveying any rights or permission to manufacture, use, or sell any patented invention that may in any way be related thereto.

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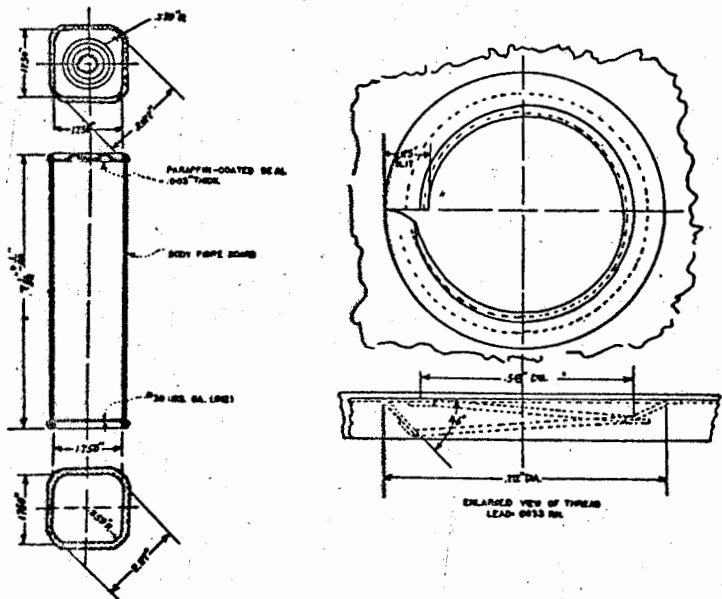


FIGURE 1.

# INSTRUCTIONS READ CAREFULLY

## TO PRIME WITH PRIMING ADAPTOR

### 1 - NON ELECTRIC CAP

A- SLIDE FUSE THROUGH ADAPTOR



B- CRIMP CAP TO FUSE

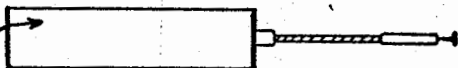


USE CAP SEALING COMPOUND IF POSITIVE WATERPROOFING IS NECESSARY

C- PULL CAP INTO ADAPTOR



D- SCREW INTO TNT BLOCK WHEN CHARGE IS IN PLACE, AFFIX LIGHTER

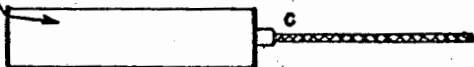


### 2 - PRIMACORD

A- SLIDE PRIMACORD THROUGH ADAPTOR

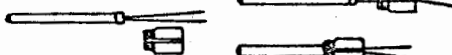
B- CRIMP CAP TO PRIMACORD

C- PULL CAP INTO ADAPTOR, SCREW INTO TNT BLOCK

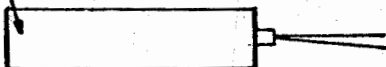


### 3 - ELECTRIC BLASTING CAP

A- PLACE LEG WIRES IN SLOT & PULL CAP INTO ADAPTOR



B- SCREW INTO TNT BLOCK



SEE PARAGRAPH E-6  
FOR LABELING

NOTE - METHODS SET FORTH IN FM 5-25 STILL APPLY AS EXPEDIENTS

FIGURE 2.