

MIL-C-20356
27 November 1951

MILITARY SPECIFICATION

CONE, GLASS

This specification was approved by the Departments of the Army, the Navy, and the Air Force for use of procurement services of the respective Departments, and supersedes the following specification:

Army AXS-1289
15 May 1944

This specification consists of this cover sheet and Specification AXS-1289, dated 15 May 1944, attached hereto, without modification.

When a request for this specification is received by a supplying activity it will be necessary to attach this cover sheet to the pertinent specification before issue.

Copies of specifications required by contractors in connection with specific procurement functions should be obtained from the procuring agency or as directed by the contracting officer .

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ORDNANCE DEPARTMENT
U. S. ARMY
TENTATIVE SPECIFICATION

AXS-1289
15 May 1944

CONE, GLASS

A. APPLICABLE SPECIFICATIONS AND DRAWINGS.

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

- U.S. Army Specification No. 50-0-1, Ammunition, General Specification, Except Small Arms Ammunition.
- U.S. Army Specification No. 100-2, Standard Specifications for Marking Shipments.
- Ordnance Department Drawing 82-12-2, Charge, Demolition, Shaped, Ten Pound, M2A3 - Non-Explosive Parts, Details.

B. TYPE.

B-1. This specification covers one type of 60 degree glass cone.

C. MATERIAL AND WORKMANSHIP.

C-1. Material. The glass from which the cone is made shall be a clear potash-soda-lead-silicate having a minimum density of 3.00 grams per cubic centimeter.

C-2. Workmanship. The finished cones shall be free from surface stones, checks, and chips. Well buried stones of a maximum dimension of 3/16 inch, blisters of maximum dimension of 1/8 inch and hair line blisters will be allowed. Slight discoloration of the plunger and mold surfaces will be allowed, provided they do not indicate flaws or imperfections which would adversely affect the function of the cone. The shear mark shall be as near the apex of the cone as practicable.

D. GENERAL REQUIREMENTS

D-1. See detail requirements.

E. DETAIL REQUIREMENTS.

E-1. Dimensions and tolerances. The open end of the cone shall be plane and flat within 0.015 inch when measured with a flat plate and thickness gage. The base shall not vary more than plus or minus 0.031 inch

at any point around its diameter, either inside or out. The sides of the cone shall form an angle of 60 degrees, plus or minus one degree, with the plane of the base.

E-2. Anneal. The glass cone shall be fully annealed to relieve all undue strains which might cause failure when tested for resistance to heat shock (see paragraph F-6). The manufacturer shall examine all cones by means of a polariscope to determine whether the glass has been relieved of all strains. Cones showing evidence of unrelieved strains shall be rejected.

F. INSPECTION AND TESTS.

F-1. Inspection shall be in accordance with Specification 50-0-1, Ammunition, General Specification, Except for Small Arms Ammunition.

F-2. Size of lots. 10,000 cones from the same source of manufacture shall constitute a lot. This number may be changed at the discretion of the inspector.

F-3. Visual inspection. One hundred sample cones from each lot shall be visually inspected to determine compliance with workmanship requirements. (See paragraph C-2). If 5 percent or more of the samples in any lot fail to comply with the workmanship requirements, this failure shall be considered cause for rejection of the lot represented.

F-4. Alignment. Fifty sample cones from each lot shall be checked to determine whether the cone angle, wall thickness and other important physical dimensions meet the requirements of paragraph E-1 and the applicable drawing. If more than five samples in any lot fail to meet the dimensional tolerances, this failure shall be considered cause for rejection of the lot represented.

F-5. Density. Ten sample cones in each lot shall be checked to determine compliance with the density requirements. (See paragraph C-1). The density shall be obtained by weighing the sample cone, first in air and then, while freely suspended, in distilled water. The density shall be calculated by means of the following formula:

$$\frac{W_a}{W_a - W_w} = \text{Density}$$

W_a = Weight of cone in air

W_w = Weight of cone in water

If any sample cone fails to meet the density requirements, this failure shall be considered cause for rejection of the lot represented. (see paragraph C-1).

F-6. Heat shock test. Ten sample cones from each lot shall be heated in boiling water for twenty minutes. They shall then be plunged into water at 7° C. (plus or minus 2°C.). If any sample cone breaks or shows cracks when subjected to this test, this failure shall be considered cause for rejection of the lot represented.

F-7. Retest. Provided not more than one cone fails to meet the requirement of the original test, a retest using double the number of samples may be made if requested by the contractor. If any sample cone fails to meet the requirements, on the retest, this failure shall be considered as cause for final rejection of the represented lot.

G. PACKING AND MARKING FOR SHIPMENT.

G-1. Packing. Unless otherwise specified, the cones shall be delivered in standard commercial containers so constructed as to insure acceptance by common or other carriers for safe transportation, at the lowest rate, to the point of delivery.

G-2. Marking. Unless otherwise specified, the marking for shipment shall be in accordance with U. S. Army Specification No. 100-2.

H. NOTES.

H-1. The glass cone covered by this specification is intended for use with shaped charge devices.

NOTE: Copies of this specification may be obtained from the Office, Chief of Ordnance, Army Service Forces, Washington 25, D. C.