

MIL-D-51413A(EA)  
 14 December 1983  
 SUPERSEDING  
 MIL-D-51413(EA)  
 20 February 1975

## MILITARY SPECIFICATION

### DISPERSER AND RIOT CONTROL AGENT, MANUALLY CARRIED, CR, M36

This specification is approved for use by US Army Armament, Munitions and Chemical Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 This specification covers one type of disperser.

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. Unless otherwise specified, the following specifications, standards, and handbooks 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

QQ-S-781	- Strapping, Steel, Flat and Seals.
PPP-B-26	- Bag, Plastic, Polyethylene*
PPP-B-601	- Boxes, Wood, Cleated-Plywood.
PPP-B-636	- Boxes, Shipping, Fiberboard.
PPP-F-320	- Fiberboard: Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.

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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: Commander, Armament Research and Development Center, US Army Armament, Munitions and Chemical Command, ATTN: DRSMC-TSC-S(A), Aberdeen Proving Ground, MD 21010 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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MIL-B-117 - Bags, Sleeves, and Tubing, Interior Packing\*

STANDARDS

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by  
Attributes.  
MIL-STD-1168" - Lot Numbering of Ammunition.

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

DRAWINGS

US ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND

CHEMICAL RESEARCH AND DEVELOPMENT CENTER

116-6-271 - Disperser and Riot Control Agent, Manually Carried,  
CR, M36.

DEFENSE AMMUNITION CENTER AND SCHOOL

19-48-4116/102 - Unitization Procedures for Boxed Ammunition and  
Components on 4-Way Entry Pallets.

(Copies of specifications, standards, handbooks, drawings, and publications required by manufacturers in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting officer.)

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

3. REQUIREMENTS

3.1 Materials and components.

3.1.1 Materials. All materials cited on Drawing 116-6-271 or on subsidiary drawings shall conform to the specifications listed thereon, or to the specific characteristics set forth on the drawings.

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3.1.2 Components. All components of the disperser shall conform to the specifications and drawings listed on Drawing 116-6-271 and on subsidiary drawings.

3.2 Assembly. The disperser shall be filled and assembled in accordance with Drawing 116-6-271 (see 6.3). The container shall be clean and dry prior to filling (see 3.9). The outside of the container shall be free of agent after filling.

### 3.3 Leakage.

3.3.1 Disperser, empty. The empty disperser consisting of the assembled container, Drawing 116-6-220, and the valve assembly, Drawing 116-6-272, shall not leak, or rupture; and the valve assembly shall not separate when subjected to an internal pressure of 270 (+5, -0) pounds per square inch gage (psig) for a minimum period of 30 seconds when tested as specified in 4.4.4.5 (see 6.3)~

3.3.2 Water immersion test. The disperser shall not leak when tested in accordance with 4.4.4.1.

3.3.3 Disperser pressure. The filled disperser shall be charged with 140 + 5 psig of nitrogen and stored in an upright position for a minimum period of 4 hours. After this period, the minimum pressure shall be 110 psig when tested as specified in 4.4.4.2.

a .  
3.4 Functioning. The disperser, when activated, shall project a stream of agent that will strike a 10 inches by 10 inches (-1/2 inch) target which is mounted vertically and whose center is located 5 feet above the floor/ground at a distance of 12-1/2 + 1/2 foot from the dispersers. The test shall be conducted with a wind speed of zero and the continuous discharge time shall be a minimum period of 14 seconds when tested as specified in 4.4.4.3.

3.5 Gross weight. The gross weight of the filled and completely assembled disperser (Drawing 116-6-271) shall be 110± 2.0 grams when tested as specified in 4.4.4.4.

3.6 Safety lock. The safety lock consisting of the collar and actuator, Drawings 116-6-273 and 116-6-274 respectively and assembled to the container shall prevent the actuator from being depressed in the locked position. When the actuator is in the lock position, the disperser shall not function when tested as specified in 4.4.4.6.

3.7 Arming force. The disperser actuator shall have a torque of five to nine inch-pounds to move from the safe to armed position.

3.8 Preproduction. Prior to the start of regular production, a preproduction lot of dispersers shall be produced in accordance with this specification for examination and test (see 4.3).

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3.9 Workmanship. The disperser shall be free from foreign matter (oil, grease or dirt) and damage such as dents, cracks or deformation which could affect its intended use.

#### 4. QUALITY ASSURANCE PROVISIONS

##### 4.1 Responsibility for inspection.

4.1.1 Contractor's responsibility. 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.

4.1.2 Objective evidence. The contractor shall provide objective evidence acceptable to the contracting officer that the requirements of 3.1 and section 5 for which specific inspection has not been provided in this specification have been satisfied.

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

- (a) Preproduction inspection (see 4.3)
- (b) Quality conformance inspection (see 4.4)

##### 4.3 Preproduction inspection.

4.3.1 Lot. A preproduction lot of ten empty dispersers and 60 filled dispersers shall be assembled by randomly taking components from the commercially supplied lot of components.

4.3.2 Inspection procedures. Sampling and inspection shall be in accordance with table 1.

##### 4.4 Quality conformance inspection.

4.4.1 Lotting. Each lot shall be identified and controlled in accordance with MIL-STD-1168. However, no more than one interfix number of filling agent from one manufacturer shall be contained in any one lot of assembled dispersers.

##### 4.4.2 Sampling.

4.4.2.1 For examination and nondestructive tests. Sampling shall be conducted in accordance with MIL-STD-105.

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TABLE I. Preproduction sampling, inspection, acceptance/rejection criteria

Quantity	Requirement	Test	Accept	Reject
: 10 empty :	3.3.1	: 404.4.5 :	0 :	1 :
: 60 filled :	3.7	: 4.4.4.7 :	0 :	1 :
: <del>60</del> filled :	3.3.2	: 4.4.4.1 :	0 :	1 :
: 60 filled :	3.3.3	: 4.4.4.2 :	0 :	1 :
: 60 filled :	3.4	: 4*4.4.3 :	0 :	1 :
:		:	:	:

NOTE : Dispensers passing test in 4.4.4.2 shall be used for testing in 4.4.4.3. Each dispenser shall be examined and tested in 4.4.3.3 prior to testing in 4.4.4.3.

4.4.2.2 For destructive tests. Sampling shall be conducted in accordance with MIL-STD-105, inspection level S-3.

#### 4.4.3 Inspection procedure.

4.4.3.1 For examination and nondestructive tests. The sample dispensers and the level A packaging shall be examined and tested in accordance with the classification of defects and with MIL-STD-105.

4.4.3.2 For destructive tests. The sample dispensers shall be tested in accordance with 4.4.4.3 using an AQL of 1.0 percent defective.

#### 4.4.3.3 Classification of defects.

Dispenser, riot control agent, manually carried, CR, M36 (Dwg 116-6-271).

<u>Categories</u>	<u>Defects</u>	<u>Acceptance standards"</u>
<u>Major:</u>	100% inspection	
101	Water immersion	4.4.4.1
<u>Major:</u>	AQL 0.065 percent defective	
102	Leakage	4.4.4.2
103	Arming force	4.4.4.7
104	Safety lock inoperative	4.4.4.6
105	Stem height incorrect	

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Major: AQL 1.0 percent defective

106	Component missing or incor- rectly assembled	
107	Weight incorrect	<b>4*4.4*4</b>
108	Marking incorrect or missing	
109	Workmanship (3.9)	
110	Length of tube incorrect	
111	Pressure	<b>4.4.4.2</b>
112	Tamper-proof seal missing or incorrect	

**4.4.4 Tests.** Tests shall be conducted as follows:

**4.4.4.1 Water immersion.** After filling and pressurizing to 140± 5 psig and prior to assembly of collar and actuator, place the disperser valve end up, in water, so that the valve is 4-6 inches below the surface. The water shall be maintained at a temperature of 130° + 5°F for 5 minutes. The appearance of bubbles indicates leakage. Do not confuse the release of occluded air which will be released immediately upon submergence. Remove leakers from lot of later disposal. At end of the prescribed time, remove the disperser from the water and air dry.

**4.4.4.2 Disperser pressure.** Subject the disperser to the required period of time and check pressure using a commercial gage for the specified pressure.  
**Record gage pressure.**

**4.4.4.3 Functioning.** Hold the disperser on a support (stand/table) with the nozzle 5 ± 1/2 foot above the floor/ground. Aim the disperser at the target, rotate the actuator to the unlock position and press until the disperser is empty. Time and record the duration of continuous discharge. The angle of discharge may vary from 0° to 10° above horizontal in order to achieve a range of 12 feet.

**4.4.4.4 Gross weight.** Weigh the filled and completely assembled dispersers from each lot and determine their weight. Use a platform-type scale accurate to within 0.5 grams.

**4.4.4.5 Disperser, empty test.** Test shall be conducted as follows in the lock position: Subject the empty disperser to the specified pressure for the required period of time. Dispersers used in this test shall not be used in production.

**4.4.4.6 Safety lock.** Rotate the actuator to both positions and attempt to function the disperser in the lock position. If disperser squirts in lock position the stem is too high.

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4.4.4\*7 Arming force. Measure the force of the actuator of the completely filled and assembled disperser (excluding the tamper-proof seal) using a commercial torque gage.

## 5. PACKAGING

### 5.1 Preservation. level A.

5.1.1 Unit packing. The dispersers, clean and free of foreign matter and with disperser heads in the locked position, shall be sealed, one per bag, in polyethylene bags conforming to type 11, style 1 of PPP-B-26. The bag dimensions in inches shall be 3 by 9, width and length, respectively, with a 4 mil wall thickness. The 1/2 inch long lip is not required. Included air volume shall be kept to a practicable minimum,

5.1.2 Intermediate packing. The dispersers, unit packaged in accordance with 5.1.1, shall be intermediately packaged, 12 per box, in corrugated fiberboard boxes conforming to style RSC, grade W6c of PPP-B-636, having inside dimensions in inches 6-3/4 by 5-1/4 by 6-3/8 length, width and depth, respectively. Arrangement shall be on end with nozzles up in 3 rows of 4 each. Interlocking partitions fabricated of fiberboard conforming to grade W6C, B or C flute of PPP-F-320 shall be included to separate the dispersers from each other. Filler pads of the same material as the partitions shall be included, one at each face, in the bottom and four sides between the box and the partition assembly. The height of the partitions and the four side filler pads shall be 5 + 1/16 inch and the corrugations in the fiberboard shall run parallel to the height of the partition assembly and side pads. Prior to closure of the intermediate package, 80 tamper-proof seals (Drawing 116-6-271) shall be enclosed in a heat-sealed polyethylene bag conforming to type I, class C, type 2 of MIL-B-117. Useable inside dimensions of the bag shall be 3-1/2 by 4-1/2 inches. The bagged seals shall be placed on top of the dispersers in a flat manner. The boxes shall be closed by taping in accordance with method IV of the appendix to PPP-B-636.

### 5.2 Packing, level A.

5.2.1 The dispersers, packaged in accordance with 5.1, shall be packed one intermediate pack of 12 dispersers per wood shipping container conforming to overseas type, style A, grade A for a type 2 load per PPP-B-601. Inside dimensions of the shipping container shall be 7-3/8 by 5-3/4 by 7-1/8 inches (length by width by depth, respectively). The box shall be closed and strapped using flat steel strapping conforming to type I or IV, class A or B of QQ-S-781 in accordance with the closure requirements of PPP-B-601.

### 5.3 Marking.

5.3.1 Intermediate pack. Intermediate packs shall be marked as shown on Drawing 116-6-280, as applicable.

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5.3.2 Outer pack. Shipping containers shall be marked in accordance with Drawing 116-6-280.

5.3.3 Pallet. Items palletized as shown on Drawing 19-48-4116/102 shall be marked for shipment as specified therein.

5.4 Palletization. Unless otherwise specified in the contract or order, dispersers, packed as specified in 5.2, shall be palletized in accordance with the applicable configuration of Drawing 19-48-4116/102.

60 NOTES

6.1 Intended use. This item is intended for use as a hand held portable weapon capable of prompt and effective coverage of a target with irritant agent CR.

6.2 Ordering data. Acquisition documents should specify the following:

(a) Title, number, and date of this specification, and

(b) Preproduction:

(1) Time allowed for contractor submission of samples for Government test and evaluation after award of contract,

(2) Name and address of test facility and shipping instruction when testing is performed by the Government, and

(3) Time required for the Government to notify the contractor whether or not to proceed with production.

6.3 precaution. Due to the hazards attending the filling of munitions with chemical agents and testing of these munitions with high pressures, contractors are advised to take all necessary precautions to protect personnel while assembling and testing.

Custodian:

Army - EA

Preparing activity: .

Army - EA

Project No. 1040-A156



