

MIL-F-51110A(EA)  
16 November 1976  
SUPERSEDING  
MIL-F-51110(MU)  
19 April 1968

## MILITARY SPECIFICATION

### FACEBLANK-LENS, C14R3

This specification is approved for use by Edgewood Arsenal, 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 a chemical-biological mask faceblank-lens assembly (see 6.1).

1.2 Classification. The faceblank-lenses shall be of the following sizes, as specified (see 6.2):

Small (small faceblank)  
Medium (medium faceblank)

#### 2. APPLICABLE DOCUMENTS

2.1 Government documents. The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this specification to the extent specified herein:

##### STANDARDS

###### FEDERAL

FED-STD-123 - Marking for Shipment (Civil Agencies).  
FED-STD-601 - Rubber; Sampling and Testing.

###### MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.

FSC 4240

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DRAWINGS

US ARMY ARMAMENT COMMAND

EDGEWOOD ARSENAL

D5-2-1593 - Faceblank-lens, C14R3.  
DL136-42-750-1 - Tester, Leakage, Protective Mask, DOP, M14.

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

3. REQUIREMENTS

3.1 Materials and components. All materials and components shall conform to Drawing D5-2-1593 and the subsidiary drawings listed thereon.

3.2 Assembly. The faceblank-lens shall be assembled as specified on Drawing D5-2-1593.

3.3 Faceblank-lens leakage. The overall leakage of the faceblank-lens, before and after aging, (excluding leakage at the faceblank periphery, hose stem, outlet valve stem, and microphone cable stem) shall not exceed 0.003 percent DOP smoke penetration when tested as specified in paragraph 4.4.4.1.

3.4 Faceblank-lens adhesion. The average strength of the faceblank-lens bonds, before and after aging (4.4.4.3), after weathering (4.4.4.4), and after exposure to low temperature (4.4.4.5), shall be no less than 30 pounds per linear inch width, and no individual specimen shall be less than 25 pounds, when tested as specified in 4.4.4.2.

3.5 Weathering. The faceblank-lens shall show no visual discoloration of the lens when tested as specified in 4.4.4.4.

3.6 Preproduction sample. Prior to the start of regular production and following any change in regular production methods, material, or equipment, a preproduction sample of faceblank-lenses shall be produced in accordance with this specification for examination and test (see 4.3).

3.7 Workmanship. The faceblank-lens shall be free from contamination (foreign matter) and damage such as permanent set of rubber, cuts, cracks, tears, and scratched or distorted lens. All mask lenses shall be free from any defects which might affect vision or visibility.

#### 4. QUALITY ASSURANCE PROVISIONS

##### 4.1 Responsibility for inspection.

4.1.1 Supplier's responsibility. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier 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 specified requirements.

4.1.2 Objective evidence. The supplier 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 Sample. Prior to the start of regular production and following any change in regular production methods, material, or equipment, a preproduction sample of 100 faceblank-lenses shall be produced using the same methods, materials, and equipment as will be used during regular production.

4.3.2 Inspection procedure. The entire preproduction sample shall be examined for all of the characteristics in 4.4.3.3 and if no failure occurs then the faceblank-lenses shall be tested as follows: test 5 before aging and after aging in accordance with 4.4.4.2. Test 5 after aging for  $48 \pm 1$  hours in accordance with 4.4.4.1 and then examine them for defects 103 and 105 of 4.4.3.3 (see 4.4.4.3). Test 5 for weathering in accordance with 4.4.4.4 and examine them for compliance with 3.4 and 3.5. Test 5 for low temperature in accordance with 4.4.4.5 and examine them for compliance with 3.4.

4.3.3 Acceptance/rejection criteria. Failure of any faceblank-lens to pass the above tests shall reject the preproduction sample. The supplier shall obtain written approval from the contracting officer before proceeding with regular production.

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4.4 Quality conformance inspection.

4.4.1 Lotting. A regular production lot shall consist of the faceblank-lenses produced by one manufacturer, from the same materials and under essentially the same manufacturing conditions. However, no more than one lot of faceblanks or one lot of lenses shall be represented in any one lot of finished faceblank-lenses.

4.4.2 Sampling.

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

4.4.2.2 For destructive tests. Sampling for destructive tests (3.4 and 3.5) shall be conducted in accordance with MIL-STD-105, level S-3.

4.4.3 Inspection procedure.

4.4.3.1 For examination. Sample faceblank-lenses shall be examined in accordance with the classification of defects and MIL-STD-105.

4.4.3.2 For destructive tests. Sample shall be tested in accordance with 4.4.4 and with MIL-STD-105, level S-3, AQL 0.65 percent defective.

4.4.3.3 Classification of defects.

(a) Faceblank-lens, Cl4R3 (Dwg D5-2-1593).

<u>Categories</u>	<u>Defects</u>	<u>Acceptance standards</u>
<u>*Critical:</u>		
1	Faceblank-lens leakage before aging	4.4.4.1
<u>Major:</u> AQL 0.65 percent defective		
101	Component missing, incorrect, or incorrectly assembled	
102	Damage (3.7)	
103	Permanent set	
104	Workmanship	
105	Cement missing or inadequate	
106	Excessive adhesive and/or activator on vinyl chloride lens	

#### 4.4.4 Tests.

4.4.4.1 Faceblank-lens leakage. Faceblank-lens leakage shall be determined using the M4 Gas Mask Leakage Tester (DL 136-42-750-1).

4.4.4.2 Faceblank-lens adhesion. Faceblank-lens adhesion shall be determined in accordance with Method 4311 of Fed. Test Method Std. No. 601 except that the test specimen shall be rectangular  $1.00 \pm 0.01$  inch wide by 3 to 4 inches long, consisting of approximately half lens and half faceblank material with the length of the specimen perpendicular to the faceblank-lens seam. The specimen shall be placed in the testing machine with the jaws no less than one inch from any part of the seam and the jaw separation rate shall be  $12.0 \pm 0.5$  inches per minute. Four test specimens shall be cut from each sample faceblank-lens.

4.4.4.3 Aging. Specimens selected for aging, shall be suspended without distortion at  $167^\circ \pm 2^\circ\text{F}$  for 24 hours. Cool to room temperature before testing.

4.4.4.4 Weathering. Specimens shall be subjected to weathering, for  $72 \pm 2$  hours, using an Atlas Weather-Ometer (type X-W) that operates with the light cam only.

4.4.4.5 Low temperature. Specimens shall be subjected to a temperature of  $-65^\circ\text{F}$  for  $48 \pm 2$  hours. Allow specimens to return to room temperature before testing for adhesion.

#### 5. PREPARATION FOR DELIVERY (see 6.3)

5.1 Packaging, packing and marking, interplant shipment (see 6.3). The faceblank lens shall be packaged and packed to provide adequate protection from the supply source to the first receiving activity for immediate use or further processing. Shipping containers shall comply with the rules and regulations applicable to the mode of transportation. Marking on shipping containers shall be in accordance with FED-STD-123 and shall include the name and address of the prime contractor and contract number.

5.2 Repair parts. When this item is procured for storage and issue as a repair part, preservation, packaging, packing, and marking shall be specified on the repair part packaging data sheet which is identified by the National Stock Number for the repair part.

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6. NOTES

6.1 Intended use. The faceblank-lens assembly covered by this specification is intended for use as a component of tank aircraft chemical-biological masks.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Size faceblank-lens.
- (c) Source of faceforms for packaging.

6.3 Interplant shipments. Packaging for supplies and materials which will not enter the military supply system. Typical interplant shipments are shipments from a vendor to a subcontractor or a prime contractor, or from a subcontractor to a prime contractor, or from a vendor or contractor to a military arsenal or plant.

6.4 International interest. Certain provisions of this specification are the subject of international standardization agreement QSTAG 216 and 234. When amendment, revision, or cancellation of this specification is proposed which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including departmental standardization offices, if required.

6.5 Figure 1. Figure 1 is a miniature reproduction of assembly drawing and is attached for information only.

Custodian:

Army - EA

Preparing activity:

Army - EA

Project No. 4240-A622

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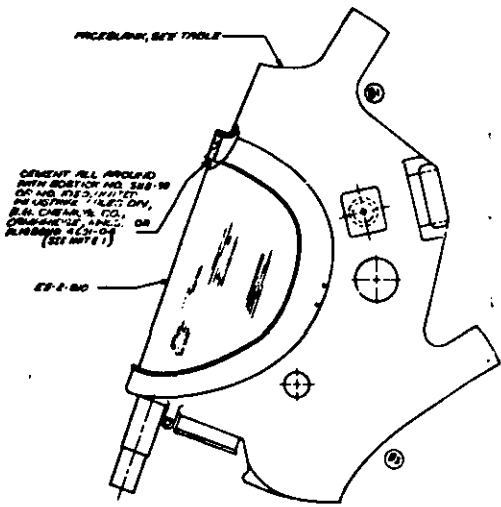
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ITEM NUMBER	QUANTITY	DESCRIPTION	UNIT	REVISIONS	DATE	BY	CHKD	APPROVED	REVISIONS	DATE	BY	CHKD	APPROVED	REVISIONS	DATE
1	1	FACEBLANK, C14R3	PCB												
2	1	LENS, C14R3	PCB												
3	1	BASE, C14R3	PCB												

**4. PURCHASE DESCRIPTION**

(a) NUMBER OF LENSES OF EACH SIZE TO BE AS ORDERED IN QUANTITY FOR PCB.

**NOTES:**

1. WHEN USING PLASMA GUN TO FLARE THE SURFACES TO BE COPPERED BY HEATING WITH GUN, THE NUMBER LENS BLANK SHOULD RECEIVE THE HEAT, AND THE SIDE OF THE LENS AND MOUNTING TABS AND THE LENS SLOT MUST BE CLEANED SOLUTION VERY PARTS AND APPLY THE COAT OF COPPER ALONG THE FIRST SIDE TO BE PLASMA APPLYING THE SECOND COAT. AFTER THE SECOND COAT IS DRY, INSERT THE LENS INTO THE SLOT AND REACTIVATE THE COPPER BY APPLYING STRONG SOLVENT OR HEAT. APPLY SUFFICIENT PRESSURE TO THE LENS OF THE LENS SLOT TO REMOVE FROM SENSITIVE CONTACT BETWEEN THE LENS AND THE SIDE OF THE SLOT. FULL STRENGTH OF THE SOLDER JOINT SHOULD DEVELOP WITHIN 48 HOURS.



FACEBLANK - LENS	FACEBLANK	BASE
CS-2-1533-1	CS-2-1533-2	CS-2-1533-3
CS-2-1533-2	CS-2-1533-3	CS-2-1533-4

**FIGURE 1. Faceblank-Lens, C14R3**

THIS FIGURE IS A MINIATURE COPY OF AN EDGEWOOD ARSENAL DRAWING AND IS FOR INFORMATION ONLY. THE DRAWING REFERENCE IN PARAGRAPH 2.1 GOVERNS

<b>SPECIFICATION ANALYSIS SHEET</b>		Form Approved Budget Bureau No. 22-R255
<p><b>INSTRUCTIONS:</b> This sheet is to be filled out by personnel, either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.</p>		
SPECIFICATION		
ORGANIZATION		
CITY AND STATE		CONTRACT NUMBER
MATERIAL PROCURED UNDER A <input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A. GIVE PARAGRAPH NUMBER AND WORDING.		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO (If "yes", in what way?)		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity - Optional)		DATE

DD FORM 1426  
1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.