

: INCH-POUND :

MIL-F-51193C(EA)  
AMENDMENT 3

13 December 1989  
SUPERSEDING

AMENDMENT 2  
21 August 1987

# MILITARY SPECIFICATION

## FILTER, GAS 10 CFM, M18

This amendment forms a part of Military Specification MIL-F-51193C(EA), dated 16 June 1980, and is approved for use by the U.S. Army Chemical Research, Development and Engineering Center, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

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2.1:

Under "STANDARDS", "FEDERAL" add "FED. TEST METHOD STD. NO. 101 - Test Procedures for Packaging Materials."

Under "STANDARDS", "MILITARY" delete "MIL-STD-414 - Sampling Procedures and Tables for Inspection by Variables for Percent Defective."

Under "DRAWINGS AND TECHNICAL DATA PACKAGE LIST" add the following:

"SPECIAL PACKAGING INSTRUCTIONS (SPI)

P5-19-2350 - Filter, Gas, 10 CFM, M18."

Add 2.2 as follows:

"2.2 Other publications. The following document(s) form a part of this specification to the extent specified herein. The issues of the documents which are indicated as DOD adopted shall be the issue in the current DoDISS and the supplement thereto, if applicable.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARDS

D 2867 - Moisture in Activated Carbon

(Application for copies should be addressed to ASTM, 1916 Race Street, Philadelphia, PA 19103.)"

AMSC N/A

FSC 4240

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3.6, Delete entire paragraph and substitute the following:

"3.6 Rough handling. Sample filters shall be rough handled in the vertical position for 15 minutes at 3/4 inch fall and 200 cycles per minute as specified in 4.4.4.4. Sample filters shall show no evidence of cracks, dents, or charcoal granule leakage upon visual inspection."

3.7, Delete entire paragraph and substitute the following:

"3.7 DMMP value (destructive). After meeting the requirements of 3.6, the filter shall have a DMMP gas life of not less than 100 minutes at rated flow when subjected to a DMMP challenge of  $2.0 \pm 0.2$  milligrams per liter with an air stream at 15 percent RH maximum and air stream temperature of  $24 \pm 5^\circ\text{C}$ . Break concentration shall be 0.04 micrograms per liter. This requirement shall be met when tested in accordance with 4.4.4.5.

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4.3.1: Add the following to the end of the paragraph: "The sample filters shall be packaged in accordance with SPI P5-19-2350."

4.3.2.1, line 2: Delete "applicable drawing and this specification." and add "applicable drawing, Special Packaging Instruction, and this specification."

4.3.2.2:

Line 1: Insert the following before the first sentence:

"A sample of charcoal sorbent taken during the filling of the first, seventh and fourteenth filters shall be placed in an open container. The samples shall experience the same environmental conditions that their respective filters experience. Immediately following critical testing, the samples shall be tested for moisture content in accordance with 4.4.4.1."

Add the following sentence to the end of the paragraph: "Unit packed filters shall be tested in accordance with 4.4.4.7."

4.3.2.2, line 2: Delete "4.4.4.1".

4.4.2.2, Delete in its entirety and substitute the following:

"4.4.2.2 For tests. Sampling for DMMP tests and for CK tests shall be as follows:

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<u>Lot size</u>	<u>DMMP sample size</u>	<u>CK sample size</u>
500 or less	4	4
501 to 800	5	5
801 to 1300	7	7
1301 to 3200	10	10
3201 or greater	15	15

Sampling for packaging test shall be conducted in accordance with MIL-STD-105."

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4.4.3.1, line 1: Delete "Sample filters shall be" and substitute "Sample filters and sample packaged filters, as appropriate, shall be".

4.4.3.2:

Delete the sentence which begins "The test results . . ." and substitute "Each sample filter which is tested against DMMP shall meet the minimum requirement for the lot to be acceptable. Each sample filter which is tested against CK shall meet the minimum requirement for the lot to be acceptable."

Add the following to the end of the paragraph: "Unit packed filters shall be tested in accordance with 4.4.4.7. Unit packed filters that fail the leakage test shall be immediately dried, reprocessed, repackaged and retested."

4.4.3.3: Delete "cause the lot to".

4.4.3.4: Add the following new subparagraph:

"(b) Packaging inspection (see section 5).

<u>Categories</u>	<u>Defects</u>	<u>Acceptance standards</u>
<u>Critical:</u>	None defined	
<u>Major:</u>	AQL 2.5 percent defective	
101	Item not completely clean/dry	
102	Unit pack container (can)/closure not as specified	
103	Unit pack quantity not as specified	
104	Blocking pads missing or not as specified	
105	Separator pads missing or not as specified	
106	Supplemental container (box)/closure missing or not as specified	
107	Marking missing, incorrect, or illegible"	

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4.4.4.1: Delete paragraphs (a) through (e) and substitute the following:

"(a) The moisture content of the charcoal sorbent shall be determined according to ASTM Standard D 2867.

(b) If the moisture content of the charcoal sorbent samples exceeds the requirement, the filters represented by the samples shall be considered unacceptable.

(c) Filters not meeting the moisture requirement may be dried at a temperature of not more than 100°C. After drying, two filters shall be chosen at random and disassembled. The moisture content of the charcoal sorbent from these filters shall be redetermined according to ASTM Standard D 2867."

4.4.4.3, line 2: Delete (a) and substitute the following:

"(a) Position the filter rigidly with the long axis in the vertical position. Connect the filter to a source of forced air. Also, place a mixing chamber at the influent side of the filter."

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4.4.4.3, line 9: Delete (g) in its entirety.

4.4.4.4: Delete entire paragraph and substitute the following:

"4.4.4.4 Rough handling. Unpackaged filters shall be rough handled in accordance with test method T105.10 of MIL-STD-282 and the test parameters specified in 3.6."

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4.4.4.5, line 1: Delete "GB" and substitute "DMMP".

4.4.4.7: Add the following new paragraph:

"4.4.4.7 Unit pack container leakage. The leakage of the unit pack container (can) containing each filter shall be determined by subjecting the sample to the hot water technique of FED. TEST METHOD STD. NO. 101, method 5009.2."

5.1: Delete in its entirety and substitute the following:

"5.1 Packaging requirements shall be as specified in SPI P5-19-2350."

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6.2: Delete "(c) When packaging data sheet is required." and substitute  
"(c) Shelf life code."

6.3: ~~Delete~~ in its entirety.

Custodian:

Army - EA

Preparing activity:

Army - EA

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