

MILITARY SPECIFICATION

FILTER PARTICULATE, 200 CFM (MODULAR COLLECTIVE PROTECTION EQUIPMENT (MCPE)/SIMPLIFIED COLLECTIVE PROTECTION EQUIPMENT (SCPE) APPLICATIONS)

This specification is approved for use within 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.

1. SCOPE

1.1 Scope. This specification covers one type of cylindrical particulate filter with an airflow rating of 200 cubic feet per minute (cfm).

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Standards. The following standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

STANDARDS

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.
- MIL-STD-282 - Filter Units, Protective Clothing, Gas-Mask Components and Related Products: Performance Test Methods.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, U.S. Army Chemical Research, Development and Engineering Center, ATTN: SMCCR-SPT-S, Aberdeen Proving Ground, MD 21010-5423 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

2.1.2 Government drawings. The following Government drawings form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

U.S. ARMY ARMAMENT, MUNITIONS AND CHEMICAL COMMAND

CHEMICAL RESEARCH, DEVELOPMENT AND ENGINEERING CENTER

DRAWINGS

5-19-6262 - Filter Particulate.
76-2-641-0 - Penetrometer, Filter Testing, DOP, Q107.

SPECIAL PACKAGING INSTRUCTIONS (SPI)

P5-19-6262 - Filter, Particulate.

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

2.2 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. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Materials and components.

3.1.1 Materials. All materials cited on Drawing 5-19-6262 and on the subsidiary drawings, shall conform to the specifications listed thereon and to the specific characteristics set forth on the drawings.

3.1.2 Components. All components of the particulate filter shall conform to the specifications and drawings listed on Drawing 5-19-6262 and subsidiary drawings.

3.2 Manufacture and assembly. The particulate filter shall be manufactured and assembled in accordance with Drawing 5-19-6262.

3.3 Performance.

3.3.1 Airflow resistance. The airflow resistance of the particulate filter shall not exceed 2.0 inches water gauge (iwg) at an airflow rate of 200 \pm 10 cfm when tested as specified in 4.4.4.1.

3.3.2 Diocetylphthalate (DOP) smoke penetration. The DOP smoke penetration shall be no greater than 0.03 percent at an airflow rate of 200 \pm 10 cfm when tested as specified in 4.4.4.1.

3.3.3 Resistance to rough handling. After rough handling as specified in 4.3.3 for 15 minutes at 3/4 inch amplitude and a frequency of 200 cycles per minute with the filter pleats, faces and separators in the vertical position, the filter shall comply with the airflow resistance and DOP penetration requirements of 3.3.1 and 3.3.2.

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

3.5 Workmanship. The particulate filter shall be free from foreign matter (dirt, oil, or viscous materials) and abraided gaskets.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. 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.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specifications shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

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 Sample. a preproduction lot of 20 particulate filters shall be manufactured using the same methods, materials, equipment and processes as will be used during regular production (see 6.2).

4.3.2 Inspection procedure.

4.3.2.1 For examination. Each particulate filter in the preproduction sample shall be examined for all requirements of the applicable drawings and this specification.

4.3.2.2 For tests. Each particulate filter in the preproduction lot shall be tested in accordance with 4.4.4.1. After the lot has passed the examination, and airflow and DOP penetration test, eight particulate filters from the preproduction lot shall be tested in accordance with 4.3.3.

4.3.3 Rough handling test. The particulate filter shall be rough handled in accordance with method T105.10 of MIL-STD-282 and then tested for airflow resistance (3.3.1) and DOP smoke penetration (3.3.2) in accordance with 4.4.4.1.

4.3.4 Acceptance/rejection criteria. The preproduction sample of particulate filters shall comply with all the requirements of this specification when examined and tested as specified in 4.3.2 to be acceptable. The contractor shall obtain written approval from the contracting activity before proceeding with regular production.

4.4 Quality conformance inspection.

4.4.1 Lotting. A lot shall consist of the particulate filter assemblies of one type produced by one manufacturer, from the same materials, at the same location, under essentially the same manufacturing conditions, and at essentially the same time. However, no more than one lot of filter medium shall be represented in any one lot of finished filters.

4.4.2 Sampling for examination. Sampling shall be conducted in accordance with MIL-STD-105.

4.4.3 Inspection procedure.

4.4.3.1 For examination and tests. Sample particulate filters shall be examined and tested in accordance with the classification of defects (4.4.3.3) and MIL-STD-105.

4.4.3.2 Critical defects. Each filter in the lot shall be inspected for critical characteristics listed in the classification of defects.

4.4.3.3 Classification of defects.

(a) Filter, particulate, 200 cfm, (Dwg 5-19-6262).

<u>Categories</u>	<u>Defects</u>	<u>Acceptance standards</u>
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Critical:

1	Airflow resistance (3.3.1)	4.4.4.1
2	DOP smoke penetration (3.3.2)	4.4.4.1

Major: AQL 1.0 percent defective

- 101 Component missing, incorrect, or incorrectly assembled
- 102 Gasket damaged, improperly secured, or improperly located
- 103 Overall dimensions incorrect
- 104 Pleat spacing incorrect
- 105 Marking incorrect
- 106 Dents or bulges 0.25 inch or larger

Minor: AQL 2.5 percent defective

- 201 Workmanship (3.5)

(b) Packaging inspection (section 5).

<u>Categories</u>	<u>Defects</u>
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Critical: None defined

Major: AQL 4.0 percent defective

- 101 Unit packing incorrect
- 102 Packing incorrect
- 103 Marking missing, illegible, or incorrect

4.4.4 Tests.

4.4.4.1 Airflow resistance and DOP smoke penetration. The airflow resistance and DOP smoke penetration of the particulate filter shall be determined with the Q107 Penetrometer, or equivalent, at an airflow rate of 200 \pm 10 cfm.

5. PACKAGING

5.1 Packaging. Packaging shall be as specified in SPI P5-19-6262.

6. NOTES

6.1 Intended use. This specification covers a particulate filter intended for use with MCPE/SCPE components.

6.2 Ordering data. Acquisition documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Level of unit packing and packing required.
- (c) 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 instructions when testing is performed by the Government.

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

6.3 Subject term (key word) listing.

Airflow resistance
DOP smoke penetration
Filter, particulate
Media, filter
Penetrometer filter testing

6.4 Supersession data. This specification supersedes Chemical Systems Laboratory Purchase Description EA-F-1125A, dated 23 June 1980.

Custodian:

Army - EA

Preparing activity:

Army - EA

(Project 4240-A832)