SECTION C

TDPL: 5-19-1175 DATED: 06/28/02 END ITEM CODE: CCP

NSN: 4240-00-866-1825 PART NO: 5-19-1175 START #: C32CAA04

NOMEN: Filter, Particulate, 20 CFM, M19, Assembly

The following engineering exceptions apply to this TDPL, and shall be incorporated into solicitations/contracts for the above listed PRON(s):

1. Where referenced in the TDP, and in the TDPL section SPECIFICATIONS AND STANDARDS, change as follows:

Was:	Is:
ASTM A366	ASTM A1008
DOD-STD-100	ASME Y14.100, Y14.24, Y14.34M, and Y14.35M
MIL-A-81596	SAE AMS-A-81596
MIL-F-51194	MIL-DTL-51194
MIL-P-116	MIL-STD-2073/1
MIL-R-6130	ASTM D6576
QQ-A-250/1	SAE/AMS-QQ-A-250/1 or ASTM B209
QQ-P-416	SAE AMS-QQ-P-416
QQ-S-571	ANSI J-STD-004, J-STD-005, and J-STD-006
SAE AMS-R-6130	ASTM D6576

2. TDPL, under SPECIFICATIONS AND STANDARDS, delete the following: ASTM A619.

3. TDPL, under PRODUCT DRAWINGS AND ASSOCIATED LISTS, drawing revisions will be as follows:

5-19-1175	M	04-JUN-03	(attached)
5-19-860	J	03-JUN-03	(attached)

4. TDPL, under OUTSTANDING ENGINEERING CHANGES, delete the documents listed and replace with the following (all attached):

349-0172-001	MIL-DTL-51194	3 July 2003
349-0172-002	P5-19-1175	3 July 2003
349-0172-003	5-19-1175	3 July 2003

5. Drawings 5-19-1175 and 5-19-1177. For ASME Standard AG-1, Section FC (HEPA Filters) will apply.

6. Drawing 5-19-855. Note 4, delete in its entirety and replaced with "Steel sheet, low carbon, CRDQ, DS, .0299 nominal thickness, Specification ASTM A1008."

Attachment 010

7. The following Statement of Work for Ozone Depleting Chemicals also applies.

STATEMENT OF WORK - OZONE DEPLETING CHEMICALS

1a. The following specifications and standards may be listed and included as part of this Technical Data Package (TDP)/ Scope of Work (SOW):

MIL-STD-2073-1

b. Other specifications and standards, which identify ODCs among alternative substances for use, are part of this TDP/SOW as follows: TT-C-490.

c. The above specifications and standards allow the optional use of Ozone Depleting Substances (ODS) or Ozone Depleting Chemicals (ODC). Preference should be given to the Non-ODS/ODC choices in compliance with Executive Order 12843, dated April 21, 1993, "Procurement Requirements and Policies for Federal Agencies for Ozone Depleting Substances".

2. Other specifications and standards containing ODS/ODC materials and included in this TDP for which a substitute is provided are as follows: N/A.

3. Other specifications and standards included in this TDP that specify use of an ODS/ODC and have been approved for use are as follows: N/A

4. NOTE: Offerers are requested, although not obligated, to perform their own screening of the TDP specifications and standards or SOW and identify any additional potential ODS/ODC to the contracting officer.

8. Shelf Life Markings shall apply to the packaging as specified in contract Section D and shall be in accordance with MIL-STD-129. The shelf life markings shall include the manufactured date (mo/yr) and the expiration date (mo/yr). The expiration date shall be 36 months in the future from the manufacture date.

INCH-POUND

MIL-DTL-51194D(EA)
8 July 2003
SUPERSEDING
MIL-F-51194C(EA)
6 September 1990

DETAIL SPECIFICATION

FILTER, PARTICULATE, 20 CFM, M19

This specification is approved for use by the U.S. Army Edgewood Chemical Biological 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 particulate filter rated at 20 standard cubic feet per minute airflow.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to insure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of De-

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Technical Director, U.S. Army Edgewood Chemical Biological Center, ATTN: AMSSB-REN-SE-SS, Aberdeen Proving Ground, MD 21010-5424 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 4240

fense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

STANDARDS

DEPARTMENT OF DEFENSE

MIL-STD-282 – Filter Units, Protective Clothing, Gas-Mask Components and Related Products: Performance – Test Methods

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

U.S. ARMY EDGEWOOD CHEMICAL BIOLOGICAL CENTER

DRAWINGS

5-19-1175 – Filter, Particulate, 20 CFM, M19 Assembly

(Copies are available from Technical Director, U.S. Army Edgewood Chemical Biologcal Center, ATTN: AMSSB-REN-SE, Aberdeen Proving Ground, MD 21010-5424.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Materials, components, and assembly.

3.1.1 Materials. All materials cited on Drawing 5-19-1175 and on the subsidiary drawings shall conform to the specifications listed thereon or 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 5-19-1175 and subsidiary drawings.

3.1.3 Assembly. The particulate filter shall be assembled as specified on Drawing 5-19-1175.

3.2 Airflow resistance. The resistance to airflow shall be no greater than 1.25 inches of water gage (iwg) at an airflow rate of 20 cubic feet per minute (cfm) at standard conditions (70° F and 1013 mbar).

3.3 Filtration efficiency. The filter shall be no less than 99.97% efficient in the removal of aerosols with a mean diameter of 0.3 microns.

3.4 Resistance to rough handling. The filter shall meet airflow resistance, filtration efficiency, and air leakage requirements after rough handling for 15 minutes at an amplitude of 3/4 inch with the filter face, pleats, and separators in a vertical position.

3.5 Air leakage. Air leakage (in and around gasket area) shall be not greater than 0.91 cubic inches per minute when the filter is internally pressurized to a pressure of not less than 12 inches of water.

3.6 Workmanship. The filter shall be free from chipped, burred, or bent metal sections and loose or damaged gaskets; foreign matter, such as oil or viscous substances, and rips, tears, or holes in the filtering medium.

3.7 First article. When specified (see 6.2), a sample of filters shall be subjected to first article inspection in accordance with 4.2.

4. VERIFICATION

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

(a) First article inspection (see 4.2)
(b) Conformance inspection (see 4.3)

4.2 First article inspection.

4.2.1 Sample. The first article sample shall consist of 20 particulate filters manufactured using the same methods, materials, equipment, and processes as will be used during regular production. The first article sample shall be submitted for inspection and approval in accordance with the terms of the contract.

4.2.2 Inspections to be performed. As determined by the Government, the sample first article items may be subjected to any or all of the examinations and tests specified in this specification and be inspected for compliance with any or all of the requirements of the applicable drawings.

4.2.3 Acceptance criteria. If any first article sample item fails to comply with any of the applicable requirements, the first article sample shall be rejected. The Government reserves the right to terminate inspection upon any failure to comply with any of the requirements. The

contractor shall obtain written approval from the contracting activity prior to proceeding with regular production.

TABLE I. First article requirement verification matrix

Characteristic	Requirement Paragraph	Verification Paragraph
Materials, components, and assembly	3.1	4.4.1
Airflow resistance	3.2	4.4.2
Filtration efficiency	3.3	4.4.3
Rough handling	3.4	4.4.4
Air leakage	3.5	4.4.5
Workmanship	3.6	4.4.6

4.3 Conformance inspection.

4.3.1 Lotting. A lot shall consist of the filters produced by one manufacturer, at one plant, from the same materials, under essentially the same manufacturing conditions, and offered for acceptance at one time; however, no more than one lot of filter material shall be represented in any one lot of finished filters. Each lot shall be identified by an alphanumeric lot number. The lot number shall include a manufacturer ŝ identification symbol consisting of 3 alpha characters, a numeric code identifying the year of production, a code or abbreviation that signifies the month of production, and an interfix-serial number. The interfix-serial number shall change if there is a change in the design, manufacturing process, materials, suppliers, production run, or if a new contract is used.

4.3.2 Sampling. Sampling shall be conducted in accordance with the classification of characteristics in 4.3.5 and, when specified, table I. Samples shall be selected at random.

TABLE I. Sampling

Lot size	Inspection levels and sample sizes										
	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
2 to 8	*	*	*	*	*	*	*	*	5	3	2
9 to 15	*	*	*	*	*	*	13	8	5	3	2
16 to 25	*	*	*	*	*	20	13	8	5	3	3
26 to 50	*	*	*	*	32	20	13	8	5	5	5
51 to 90	*	*	*	50	32	20	13	8	7	6	5
91 to 150	*	*	125	50	32	20	13	12	11	7	6
151 to 280	*	*	125	50	32	20	20	19	13	10	7
281 to 500	*	315	125	50	48	47	29	21	16	11	9
501 to 1200	*	315	125	75	73	47	34	27	19	15	11
1201 to 3200	1250	315	125	116	73	53	42	35	23	18	13
3201 to 10000	1250	315	192	116	86	68	50	38	29	22	15
10001 to 35000	1250	315	294	135	108	77	60	46	35	29	15
35001 to 150000	1250	490	294	170	123	96	74	56	40	29	15
150001 to 500000	1250	715	345	200	156	119	90	64	40	29	15
500001 and over	1250	715	435	244	189	143	102	64	40	29	15

*Indicates one hundred percent inspection. If sample size exceeds lot size, perform one hundred percent inspection.
Accept the lot represented on zero nonconforming characteristics and reject the lot represented on one or more nonconforming characteristics for all inspection levels.

4.3.3 Inspection procedure. Every item in the lot shall be inspected for critical characteristics. Sample filters shall be examined and tested in accordance with the classification of characteristics in 4.3.5. If a filter is found that does not conform to any characteristic inspected 100%, such as filtration efficiency and airflow resistance, the non-conforming filter shall be rejected and removed from the lot. For characteristics other than filtration efficiency and airflow resistance, failure of any sample filter to conform to any characteristic in the classification of characteristics based on the sampling and acceptance criteria specified therein shall be cause for rejection of the lot represented (see footnote, Table I).

4.3.4 Inspection characteristics. Critical characteristics are characteristics whose nonconformance to specified requirements is likely to result in hazardous or unsafe conditions for individuals who use or maintain the product. Characteristics whose nonconformance to specified requirements is likely to prevent performance of the tactical function of a major end item are also critical characteristics. Major characteristics are characteristics whose nonconformance to

specified requirements is likely to result in failure or to reduce materially the usability of the item for its intended purpose. Minor characteristics are characteristics whose nonconformance to specified requirements is not likely to reduce materially the operation or usability of the item for its intended purpose.

4.3.5 Classification of characteristics. Conformance examinations and tests shall be as specified in the following classification of characteristics paragraphs. Unless otherwise specified, accept on 0 and reject on 1 attributes sampling inspection shall be performed on the designated characteristics using the stated levels in table I for selection of sample sizes.

CLASSIFICATION OF CHARACTERISTICS

PARAGRAPH	TITLE	SHEET 1 OF 1	DRAWING NUMBER
4.3.5	Filter, particulate, 20 CFM, M19		5-19-1175
			NEXT HIGHER ASSY

CATEGORY	CHARACTERISTIC	SAMPLING AND ACCEPTANCE CRITERIA	REQUIREMENT PARAGRAPH	INSPECTION METHOD
Critical				
1	Filtration efficiency	100 percent	3.3	4.4.3
2	Air leakage	100 percent	3.5	4.4.5
Major				
101	Airflow resistance	100 percent	3.2	4.4.2
102	Component evident	Table I, Level VII	3.1	4.4.1
103	Component correctly assembled	Table I, Level VII	3.1	4.4.1
104	Marking correct	Table I, Level VII	3.1	4.4.1
105	Overall dimensions correct	Table I, Level VII	3.1	4.4.1
106	Workmanship	Table I, Level VII	3.6	4.4.6
Minor				
201	Marking legible	Table I, Level IX	3.1	4.4.1

NOTES:

4.4 Verification methods and procedures.

4.4.1 Material, components, and assembly. Verify by examination of filter and drawings. Examination involves inspection of the item using the un-aided eye, tools, gages, or other commercial measuring devices.

4.4.2 Airflow resistance. The airflow resistance shall be determined at the airflow of 20 cfm. The measured pressure drop across the particulate filter, when corrected to standard conditions of 21° C (70° F) and 1 atm (1013 mbar), shall be no greater than that specified in 3.2. The up–stream and down–stream static pressure measuring tubes shall be as close as possible to the filter and shall not be on a section of duct that has a changing cross sectional area. Test for airflow resistance as follows:

(a) Connect the filter to a source of forced air.
(b) Set the flow of air through the filter to 20 cfm.
(c) Record the barometric pressure.
(d) Measure and record the air stream temperature.
(e) Determine and record the difference between up–stream and downstream static pressure.

If the recorded air stream temperature and barometric pressure is different than 21° C (70° F) and 1 atm, calculate and record the air flow resistance (• P (cal)) using the equation below to correct the measured airflow resistance to airflow resistance at standard conditions:

$$\bullet P\ (cal) = \bullet P\ (measured) \times P\ (test) \times 86.21 \bullet [(492 + 1.8T)^{1.768}]$$

where:

• P (cal) – air flow resistance corrected to standard conditions in millimeters of water gage (mm wg).
P (test) – barometric pressure at time of test in millimeters of mercury (mm Hg).
• P (measured) – air flow resistance from test measurement in millimeters of water.
T – temperature of air stream flowing through the filter in degrees C.

Note: Correction for nonstandard conditions is not required when it is clear that the passage or failure of the filter is not in doubt.

4.4.3 Filtration efficiency. The test apparatus used to measure the filtration efficiency shall be capable of maintaining a stable concentration of aerosol with a mean particle size of 0.3 microns with a steady flow through the filter of 20 scfm (see 6.4). The test apparatus shall have the capability to determine the concentration of aerosol both upstream and downstream of the filter within 0.005%. The downstream sample point shall be located such that changing of its location across the ductwork does not cause a significant change in measured concentrations. This shall be verified using a filter with a known measurable leak. The filter shall be placed in the test apparatus such that the flow of air containing the challenge aerosol is in the direction indicated by the marking on the filter, and the flow of aerosolized air shall be maintained at 20± 3

scfm. This flow shall be maintained for not less than 1 minute or more than 2 minutes. Filtration efficiency is calculated as from the concentrations or particle counts as follows:

Penetration % = (concentration downstream of the filter/concentration upstream) x 100, or
Penetration % = (no. particles counted downstream/ no. of particles counted upstream) x 100

Filtration efficiency % = 1 -penetration %

4.4.4 Resistance to rough handling. Fifteen (15) first article filters, which have previously passed airflow resistance (4.4.2) and filtration efficiency (4.4.3) tests, shall be subjected to rough handling in accordance with method T105.10 of MIL-STD-282. Then 5 each of the 15 filters shall be tested for resistance to airflow (4.4.2), filtration efficiency (4.4.3) and air leakage (4.4.5).

4.4.5 Air leakage. The sample filters shall be tested for leakage using a test apparatus which shall have two flat (within 0.005 inch) smooth (32 micro inch) surfaced metal plates at least 0.25 inch thick that can be clamped to the gaskets on the inlet and outlet of the filter. The clamping mechanism shall be controlled so that the total combined compression of the two gaskets does not exceed 0.120 inch. There shall be provisions in one of the plates which shall be fixed to the base of the apparatus for pressurized air to be introduced into the filter under test through a flow meter capable of measuring a flow of 0.91± 0.06 cubic inches per minute of air flow. There shall also be provisions for measuring the pressure inside the filter between these plates through the use of a manometer or pressure gage capable of measuring pressures of 12.00 inches of water with an accuracy of ± 0.06 inches of water. The internal pressure measurement shall be taken through a separate passage through one of the two plates from the passage that is used to introduce the measured flow of air. The apparatus shall also have a flow regulation valve by which the air flow can be controlled. The test shall be conducted by clamping the filter to be tested between the two metal plates, opening the air flow control valve, and adjusting the flow until a pressure of at least 12 inches of water is established within the filter. The flow rate that is required to maintain this pressure is the air leakage value.

4.4.6 Workmanship. Verify by examination.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point ŝ packaging activity within the Military Department or Defense Agency, or within the Military Department ŝ System Command. Packaging data retrieval is available from the man-

aging Military Department ŝ or Defense Agency ŝ automated packaging files, CD–ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The particulate filter covered by this specification is intended for use in the M13A1 gas–particulate filter units.

6.2 Acquisition requirements. Acquisition documents must specify the following:

(a) Title, number, and date of this specification
(b) Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1)
(c) First article:
  (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.
(d) Shelf life codes

6.3 Submission of alternative inspection provisions. Proposed alternative inspection provisions may be submitted by the contractor to the procuring contracting officer for evaluation and approval by the technical activity responsible for preparation of this specification.

6.4 Filtration efficiency tests and aerosol materials. The TDA 100 Filter Penetration Tester manufactured by Air Techniques Inc. has been found to be capable of performing the filtration efficiency test when operated with Poly–Alpha Olefin (common trade names are Ethyl Flow 164 and Emery 3004) or Dioctylphthalate (DOP) as the aerosol agent. DOP is not recommended because of its potential as a carcinogen.

6.5 Subject term (key word) listing.
Air purifier

Custodian:

Army – EA

Preparing activity

Army – EA
Project No. 4240–A268

NOTES:

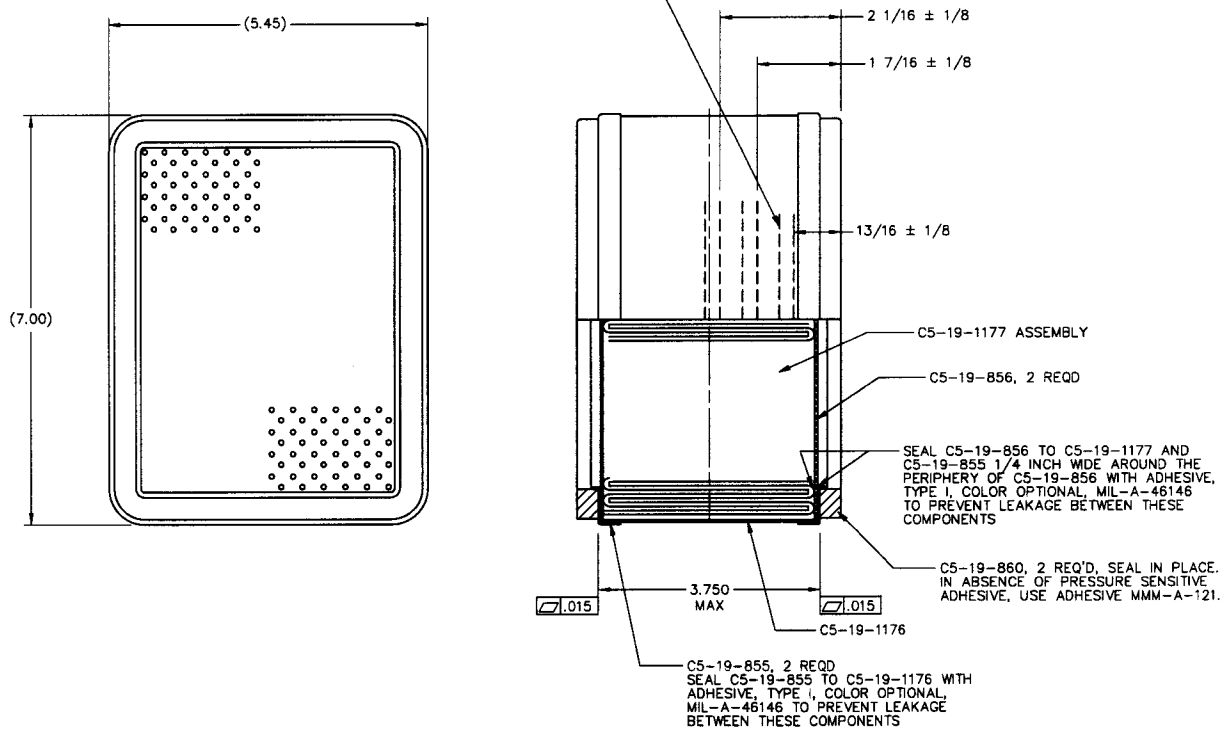
1. THIS DRAWING SHALL BE INTERPRETED IN ACCORDANCE WITH ASME Y14.100 WITH THE ADDITION OF APPENDICES B THROUGH E.
2. THE FOLLOWING ARE MANDATORY WHEN INDICATED BY ■
   - ☐ REMOVE BURRS ☐ BREAK SHARP EDGES .010 MAX
   - ☐ FILLETS R .010 MAX.
   - ☐ 125 ALL OVER, EXCEPT AS NOTED
   - ☐ DIMENSIONS APPLY AFTER PLATING
   - ☐ TOLERANCES ON STOCK MATERIAL SIZES, SHALL BE AS SPECIFIED IN APPLICABLE SPECIFICATIONS.
   - ■ ANSI Y14.5–DATED 1982 APPLIES
   - ☐ FED–STD–H28 APPLIES

2. AN OPTIONAL REINFORCEMENT OF 1100 ALUMINUM SHEET, TEMPER H14, .012 NOMINAL STOCK THICKNESS, SPEC QQ–A–250/1 MAY BE ASSEMBLED COMPLETELY AROUND PLEATED FILTER. ALSO, FILTER MEDIUM, FIRE RESISTANT, HIGH EFFICIENCY, SPEC MIL–F–0051079 MAY BE USED AS A FILLER BETWEEN REINFORCEMENTS AND FILTER FRAME, AND/OR BETWEEN FILTER ELEMENT AND FILTER FRAME TO HELP SECURE THE FILTER ELEMENT IN PLACE, AND TO HELP CONTROL LEAKAGE.

3. FOR TEST SEE MIL–F–51194

REVISIONS			
LTR	DESCRIPTION	DATE (YR–MO–DA)	APPROVED
M	REPLACES C5–19–1175 REV L, DATED 91–03–21, NOR CCP–0002–0003, 03–05–22	03–06–04	BBS

MARK THE FOLLOWING 1/4 HIGH LETTERS AND FIGURES COLOR BLACK NO. 37038
FILTER, PARTICULATE, 20 CFM, M19
LOT NO.
FOR USE IN M13 AND M13A1 FILTER UNIT
STENCIL MARKING USE:
INK, MARKING, TYPE I OR III, SPEC A–A–208



THIS DRAWING INCOMPLETE WITHOUT PL5–19–1175

QTY REQD	DWG SIZE	DRAWING OR PART NO.	NOMENCLATURE OR MATERIAL	SPECIFICATION	ITEM NO.
PARTS LIST					

APPLICATION	
DWG SIZE	NEXT ASSY
	PL5–19–1175
	D5–19–2353

EQUIPMENT CODE NO.
349
318

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
2 PLACE DECIMALS ± .04
3 PLACE DECIMALS ± .010
FRACTIONS ± 1/64
ANGLES ± 0° 30'
MATERIAL

ORIGINAL DATE (YR–MO–DA): 57–06–19
DRAWN BY: RF
CHECKED: FH
SUBMITTED
DESIGN APPROVAL: JERRY F. MAXA
DRAWING APPROVAL: H.J. NEIBUHR
CONTRACT NO.

U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
EDGEWOOD CHEMICAL BIOLOGICAL CENTER
ABERDEEN PROVING GROUND, MARYLAND, 21010–5424

FILTER, PARTICULATE 20 CFM, M19 ASSEMBLY

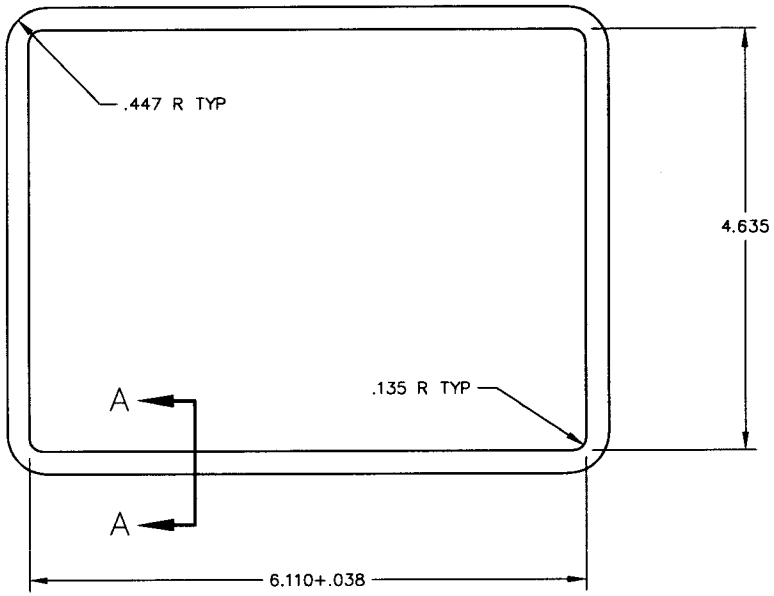
SIZE	CAGE CODE	DWG NO.
D	81361	C5–19–1175

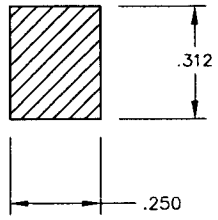
SCALE 1/1 SHEET

REVISIONS			
LTR	DESCRIPTION	DATE (YR-MO-DA)	APPROVED
J	REPLACES C5-19-860 REV H, DATED 91-03-21 NOR CCP-0002-0001, 03-05-22	03-06-03	BBS

NOTES:

1. THIS DRAWING SHALL BE INTERPRETED IN ACCORDANCE WITH ASME Y14.100 WITH THE ADDITION OF APPENDICES B THROUGH E.
2. THE FOLLOWING ARE MANDATORY WHEN INDICATED BY ■
   - ☐ REMOVE BURRS ☐ BREAK SHARP EDGES .010 MAX
   - ☐ FILLETS R .010 MAX
   - ☐ 125 ALL OVER, EXCEPT AS NOTED
   - ☐ DIMENSIONS APPLY AFTER PLATING
   - ☐ TOLERANCES ON STOCK MATERIAL SIZES, SHALL BE AS SPECIFIED IN APPLICABLE SPECIFICATIONS.
   - ■ ANSI Y14.5-DATED 1973 APPLIES
   - ☐ FED-STD-H28 APPLIES
3. NEOPRENE, TYPE II, GRADE A, CONDITION MEDIUM, SPEC MIL-R-6130.
4. GASKET MAY BE COATED ON ONE SIDE WITH A PRESSURE SENSITIVE ADHESIVE. THE ADHESIVE SHALL HAVE A TEMPERATURE RANGE RATING OF -50° TO +160°F AND A MINIMUM PEEL STRENGTH OF 5 LBS/IN.





SECTION A-A
SCALE: 4/1

QTY REQD	DWG SIZE	DRAWING OR PART NO.	NOMENCLATURE OR MATERIAL	SPECIFICATION	ITEM NO.

PARTS LIST

APPLICATION	
DWG SIZE	NEXT ASSY
D	D5-19-853
C	C5-19-1175
C	C5-19-2354

EQUIPMENT CODE NO.		
350	349	318
552	564	
558	665	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON:
2 PLACE DECIMALS ± .04
3 PLACE DECIMALS ± .015
FRACTIONS ± 1/64
ANGLES ± 1°

MATERIAL
SEE NOTE 3

ORIGINAL DATE (YR-MO-DA): 50-08-02
DRAWN BY: JRC
CHECKER: VJG
SUBMITTED: F. HARTMAN
DESIGN APPROVAL: JOSEPH A. RICCI
DRAWING APPROVAL: ALBERT R. HERWIG
CONTRACT NO.

U.S. ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND
EDGEWOOD CHEMICAL BIOLOGICAL CENTER
ABERDEEN PROVING GROUND, MARYLAND, 21010-5424

GASKET

SIZE	CAGE CODE	DWG NO.
C	81361	C5-19-860

SCALE 1/1 SHEET

NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.

1. DATE (YYMMDD)	Form Approved OMB No. 0704-0188
030226	

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/ PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.

2. PROCURING ACTIVITY NO.	3. DODAAC
349-0172	

4. [redacted]	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last) Craig M. Sherwood	Dir. ECBC ATTN: AMSSB-REN-SE-SS APG, MD 21010-5423	81361	0001
		7. CAGE CODE 81361	8. DOCUMENT NO. MIL-F-51194

9. TITLE OF DOCUMENT	10. REVISION LETTER		11. ECP NO.
	a. CURRENT	b. NEW	
Filter Unit, Gas-Particulate: 20 CFM, M19	C	D	349-0172

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES

Filter Unit, Gas-Particulate: EMD, 20 CFM, M13A1 NOR Sheet 1 of 11

13. DESCRIPTION OF REVISION

This NOR is against MIL-F-51194C(EA) with no outstanding NORs.
Intent is to release MIL-DTL-51194D(EA) into the EDM technical data system.
See attached NOR continuation sheets.

Note: Changes to the attached document are so extensive that they are not indicated.

14. THIS SECTION FOR GOVERNMENT USE ONLY

a. (X one)

- [X] (1) Existing document supplemented by this NOR may be used in manufacture.
- [ ] (2) Revised document must be received before manufacturer may incorporate this change.
- [ ] (3) Custodian of master document shall make above revison and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT	c. TYPED NAME (First, Middle Initial, Last)
CDR, SBCCOM, ATTN: AMSSB-RSO-CPT(R)	GUY N. CABELL
d. TITLE Configuration Manager, Collective Protection Team	e. SIGNATURE Guy N. Cabell
	f. DATE SIGNED (YYMMDD) 2003/07/03
16. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISON COMPLETED (Signature)
	c. DATE SIGNED (YYMMDD)

DD Form 1695, APR 92 *Previous editions are obsolete.*

NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.

1. DATE (YYMMDD)	Form Approved OMB No. 0704-0188
030226	

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/ PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.

2. PROCURING ACTIVITY NO.	3. DODAAC
349-0172	

4. GENERATOR		5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last)	b. ADDRESS (Street, City, State, Zip Code)	81361	0002
Dean V. Hansen	Dir. ERDEC ATTN: AMSSB-REN-SE-PK APG, MD 21010-5423	7. CAGE CODE 81361	8. DOCUMENT NO. P5-19-1175

9. TITLE OF DOCUMENT	10. REVISION LETTER		11. ECP NO.
	a. CURRENT	b. NEW	
Filter, Particulate, 20 CFM, M19	A		349-0172

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES

Filter Unit, Gas-Particulate: EMD, 20 CFM, M13A1

NOR Sheet 1 of 3

13. DESCRIPTION OF REVISION

THIS CHANGE IS AGAINST REVISION A OF THE DOCUMENT DATED 9 AUGUST 1990, WITH NO OUTSTANDING ACTIONS.

Note: Changes to the attached document are so extensive that they are not indicated.

14. THIS SECTION FOR GOVERNMENT USE ONLY

a. *(X one)*

- [X] (1) Existing document supplemented by this NOR may be used in manufacture.
- [ ] (2) Revised document must be received before manufacturer may incorporate this change.
- [ ] (3) Custodian of master document shall make above revison and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT	c. TYPED NAME (First, Middle Initial, Last)	
CDR, SBCCOM, ATTN: AMSSB-RSO-CPT(RI	GUY N. CABELL	
d. TITLE Configuration Manager, Collective Protection Team	e. SIGNATURE Guy N. Cabell	f. DATE SIGNED (YYMMDD) 2003/07/03
15. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)	c. DATE SIGNED (YYMMDD)

DD Form 1695, APR 92 *Previous editions are obsolete.*

NOT APPLICABLE TO INTERPLANT SHIPMENTS (A)

SPECIAL PACKAGING INSTRUCTION(SPI) (A)			NATIONAL STOCK NUMBER 4240-00-866-1825
NOMENCLATURE **Filter Particulate, 20 CFM, M19 Assembly**	UI EA	QUP 1	SPI NUMBER (PN) P5-19-1175

Cleaning & Drying shall be in accordance with MIL-STD-2073-1

MILITARY PRESERVATION REQUIREMENT (MIL-STD-2073-1, Method 10)	STEPS	DRAWING OR SPECIFICATION	STYLE	TYPE	GRADE	CLASS	SIZE AND REMARKS (INCHES)
Cushioning Pads	(B)1	ASTM D 4727	Variety SW	CF	W5c	WR	4 3/8 x 5 7/8 (4 Reqd)
Container	(C)2	ASTM D 5118	RSC	CF	W5c	WR	7 1/8 x 5 1/2 x 4 1/2
Closure	3	ASTM D 1974					Method 2B6

INTERMEDIATE PACKAGING AND PACKING
- ☒ In accordance with MIL-STD-2073-1
- ☐ As specified hereon.

MARKING
- ☒ In accordance with MIL-STD-129
- ☒ As specified hereon. **(D)**

QUALITY PERFORMANCE and TESTING REQUIREMENTS
- ☐ In accordance with MIL-STD-2073-1
- ☒ As specified hereon. **SEE NOTE (E)**

Unless otherwise specified, materials shall be minimum size in accordance with MIL-STD-2073-1. Tolerances shall be in accordance with material specifications.

UNIT PACK LOGISTICS DATA (Approximate unit pack weight and size)

WEIGHT (POUNDS)	CUBE (CUBIC FEET)	SIZE (EXTERIOR FEET)
2.63 lbs.	.117 cu. ft.	.61 x .48 x .40

REMARKS/ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.

(A) – **This SPI is not applicable for Interplant shipments.** Packaging and marking for interplant shipment is for supplies and materials that do not directly enter the military supply system. Typical interplant shipments are shipments from a vendor to a subcontractor or a prime contractor, or between contractors and subcontractors, or from a vendor or contractor to a military arsenal, plant, or other activity for evaluation, immediate use, or further processing as specified in the applicable contract.

(B) – Place two pads against the large faces of the filter to protect the gaskets.

(C) – Additional fiberboard pads (step 1) shall be used as necessary to ensure a tight unit pack container.

(D) – Shelf life markings and lot number markings shall be applied.

349-0172-002
NOR Continuation Sheet 2 of 3

Original Preparer: N J Matassa — *Revised by: Dean Hansen* — *Date: Feb 26 2003*

ITEM DATA (APPROX)
ITEM CODE – 318, 349
ITEM SIZE – 7 x 5 1/2 x 4 1/4 inches
ITEM WEIGHT – 2.00 lbs.

SBCCOM 81361
AMSSB-REN-SE-PK

PAGE NUMBER 1 | NUMBER OF PAGES 2

DRAFT

APPROVAL		REVISION	DATE
JGS	S0L3018-0001	A	9 Aug 90
	C6K2947-0002	–	16 Oct 86

DISTRIBUTION STATEMENT A: Approved for public release, distribution unlimited.

SPECIAL PACKAGING INSTRUCTION		NATIONAL STOCK NUMBER 4240-00-866-1825
NOMENCLATURE **Filter, Particulate, 20 CFM, M19 Assembly**	PAGE NUMBER 2 of 2	SPI NUMBER (PN) P5-19-1175

(E) -PACKAGING QUALITY ASSURANCE PROVISIONS (PQAP)

Part I – Applicable Documents

Military standards

MIL-STD-2073-1 – Standard Practice For Military Packaging

MIL-STD-1916 – Department Of Defense Test Method Standard

Part II – Quality Provisions.

1. First Article Inspection. The first article packaging sample shall be pulled from the sample of M19 20 CFM Particulate Assemblies as specified in MIL-DTL-51194; however these samples shall be packaged as specified herein. If required, special sampling, inspection and acceptance criteria are con-tained in Part III of this PQAP and inspected for compliance with any or all of the requirements of this SPI.

a. Acceptance Criteria. If any first article sample fails to comply with any of the requirements, the first article sample shall be rejected.

2. Conformance Inspection.

a. Sampling. Sampling shall be conducted in accordance with the attributes sampling plan of MIL-STD-1916 using the verification levels (VLs) specified herein. The packaged M19 20 CFM Particu late Assemblies shall be subjected to the following nondestructive test. If required, special sampling, inspection and acceptance criteria are contained in Part III of this PQAP.

b. Inspection. Inspection shall consist of examination and test of all the characteristics contained in Part III and Part IV of this PQAP.

3. Inspection equipment coding.

CE – Commercial inspection equipment

VI – Visual inspection

PART III – INSPECTION REQUIREMENTS

CLASSIFICATION OF CHARACTERISTICS

Category	Characteristic	Sampling and acceptance criteria	Inspection method
101	Item completely clean and dry prior to unit packaging	VL-III	VI
102	Cushioning Pads (step 1) evident and correct	VL-III	VI and CE
103	Container (step 2) evident and correct	VL-III	VI and CE
104	Closure (step 3) evident and correct	VL-III	VI and CE
105	Unit pack container marking evident, correct, and legible	VL-III	VI and CE

PART IV – CERTIFICATION REQUIREMENTS Certification shall be required for each characteristic specified below and shall include actual examination and test results when required herein. Results of examinations shall be on file at the contractor $ facility and shall be available to the Government for review.

Number	Characteristic	To comply with
401	Packaging material	Applicable specification or standard specified in this SPI.

349-0172-002
NOR Continuation Sheet 3 of 3

NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED

1. DATE (YY/MM/DD)	Form Approved OMB No. 0704-0188
03/03/25	

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.

2. PROCURING ACTIVITY NO.	3. DODAAC
349-0172	

4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last)	ATTN: AMSSB-RSO-CPT (RI)	81361	349-0172-003
Guy N. Cabell	Rock Island, IL 61299	7. CAGE CODE 81361	8. DOCUMENT NO. 5-19-1175

9. TITLE OF DOCUMENT	10. REVISION LETTER		11. ECP NO.
	a. CURRENT	b. NEW	
Filter, Particulate, 20 CFM, M19 Assembly	L		349-0172

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES
Filter, Particulate, 20 CFM, M19 Assembly

NOR Sheet 1 of 1

13. DESCRIPTION OF REVISION

THE DESCRIBED CHANGE IS WRITTEN AGAINST DRAWING 5-19-1175, REV. L, WITH NOR CCP-0002-003 OUTSTANDING.

1. Note 3, change specification reference as follows:

FROM: "MIL-F-51194".

TO: "MIL-DTL-51194".

2. Add the following note:

"4. Unless otherwise instructed, when packaging this part for delivery to the Government as a contract line item, use SPI P5-19-1175."

14. THIS SECTION FOR GOVERNMENT USE ONLY

a. (X one)		
	X	(1) EXISTING DOCUMENT SUPPLEMENTED BY THIS NOR MAY BE USED IN MANUFACTURE.
		(2) REVISED DOCUMENT MUST BE RECEIVED BEFORE MANUFACTURER MAY INCORPORATE THIS CHANGE.
		(3) CUSTODIAN OF MASTER DOCUMENT SHALL MAKE ABOVE REVISION AND FURNISH REVISED DOCUMENT.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT	c. TYPED NAME (First, Middle Initial, Last)
CDR, SBCCOM, ATTN: AMSSB-RSO-CPT (RI)	GUY N. CABELL

d. TITLE	e. SIGNATURE	f. DATE SIGNED (YY/MM/DD)
Configuration Manager, Collective Protection Team	Guy N. Cabell	2003/07/03

15. a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)	c. DATE SIGNED (YY/MM/DD)

DD Form 1695, APR 92 *Previous editions are obsolete.*

DISTRIBUTION STATEMENT A
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