

DETAIL SPECIFICATION

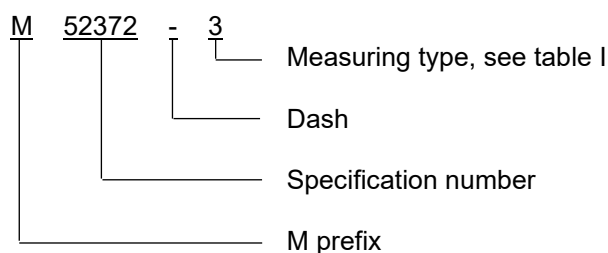
MEASURES, DRY CHEMICAL, WATER PURIFICATION

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers measures for use in military equipment.

1.2 Part or Identifying Number (PIN). The PIN consists of the letter "M" followed by the basic specification number a dash, and the applicable figure number 1 through 6.



PIN example M52372-3

TABLE I. Measuring types.

Dash number	Description
-1	Measure combination 5-1/2 pound limestone and 115 cu. In. filter aid, see figure 1
-2	Measure filter aid, 46 cubic inches, see figure 2
-3	Measure, filter aid; 12 cubic inches, see figure 3
-4	Measure, limestone, 0.75 pounds, see figure 4
-5	Measure, calcium hypochlorite, 1-1/4 pounds, see figure 5
-6	Measure, calcium hypochlorite, 0.20 pounds, see figure 6

Comments, suggestions, or questions on this document should be addressed to DLA Land and Maritime, Attn: VAI, 3990 East Broad Street, Columbus, OH 43218-3990 or fluidflow@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online at <https://assist.dla.mil>.



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 ensure the completeness of this list, document users are cautioned that they must meet all specified requirements 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 cited in the solicitation or contract.

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-STD-130 - Identification Marking of U.S. Military Property

(Copies of these documents are available online at <https://quicksearch.dla.mil>.)

2.3 non-Government publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Y14.5 - Dimensioning and Tolerancing

(Copies of these documents are available online at <https://www.ansi.org/>.)

ASTM INTERNATIONAL

ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
ASTM B210 - Standard Specification for Aluminum and Aluminum-Alloy Drawn Seamless Tubes
ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM D1784 - Standard Classification System and Basis for Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
ASTM E60 - Standard Practice for Analysis of Metals, Ores, and Related Materials by Spectrophotometry

(Copies of these documents are available online at <https://www.astm.org>.)

2.4 Order of precedence. Unless otherwise noted here in or in the contract, in the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), 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 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.

3.2 First article. When specified in the contract, the contractor shall furnish first article units in accordance with [4.3](#).

3.3 Recycled, recovered, environmentally preferable, or biobased materials. Recycled, recovered, environmentally preferable, or biobased materials should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

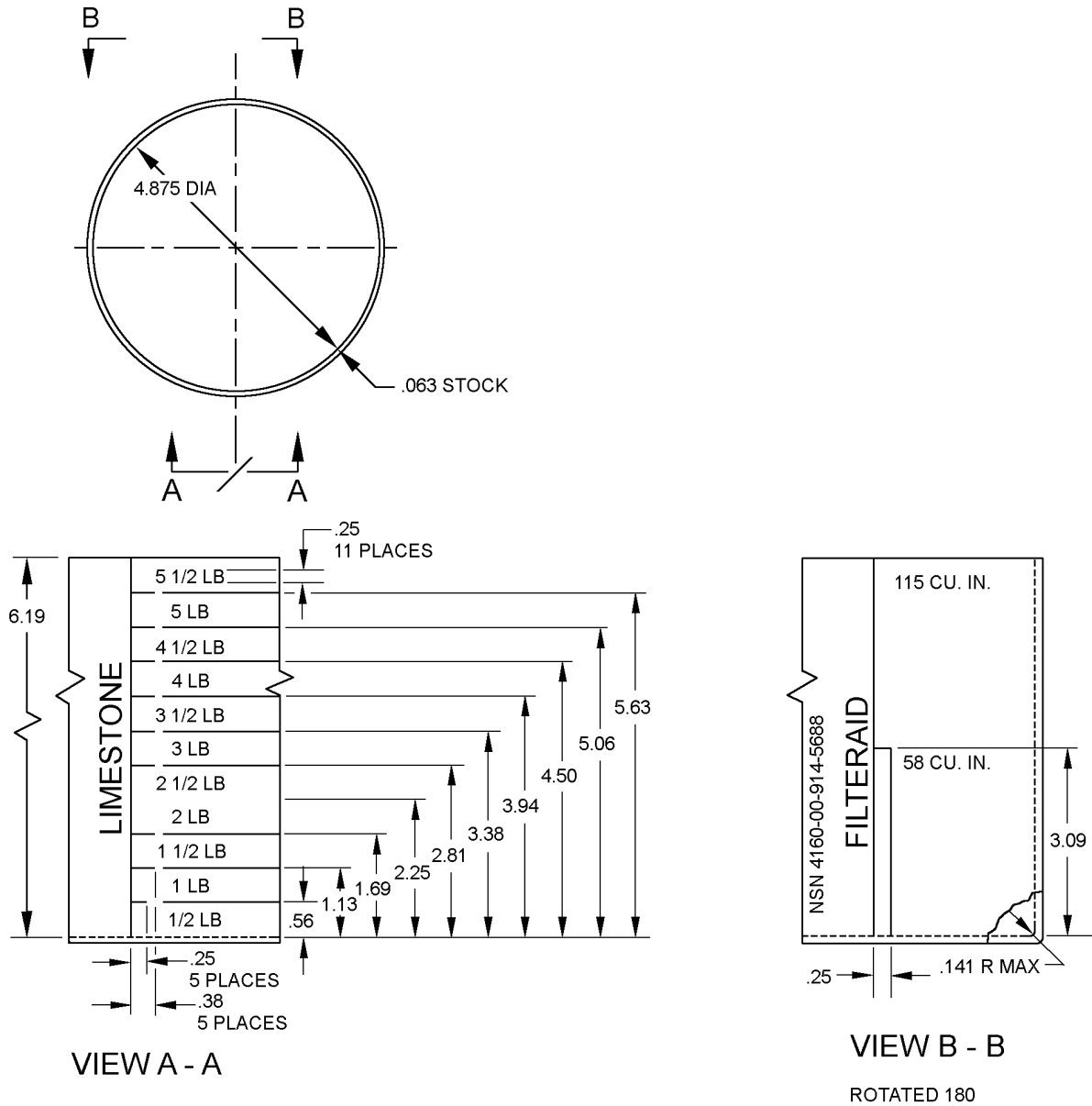
3.3.1 Recovered materials. The term “recovered materials” means materials, which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

3.3.2 Ozone depleting substances (ODS). Class I and II ozone depleting substances (ODS) shall not be used in MIL-DTL-52372 or any referenced procedures.

3.4 Design. Measures shall be as shown on figures 1 through 6, and as specified herein.

3.4.1 Materials. Measures shall be as shown on figures 1 through 6, as specified (see [6.2](#)) and as specified herein. Materials shall be selected by the contractor and shall be subject to all provisions of this specification, see [3.4.2](#) and [6.3](#).

3.4.2 Chemical analysis aluminum measures only (see [4.6.4](#)). When requested by the acquiring activity, certification-showing conformance with the applicable material specification shall be made available, see figures 1 through 4. If certification is not available chemical analysis in accordance with paragraph [4.6.4](#) shall be performed.



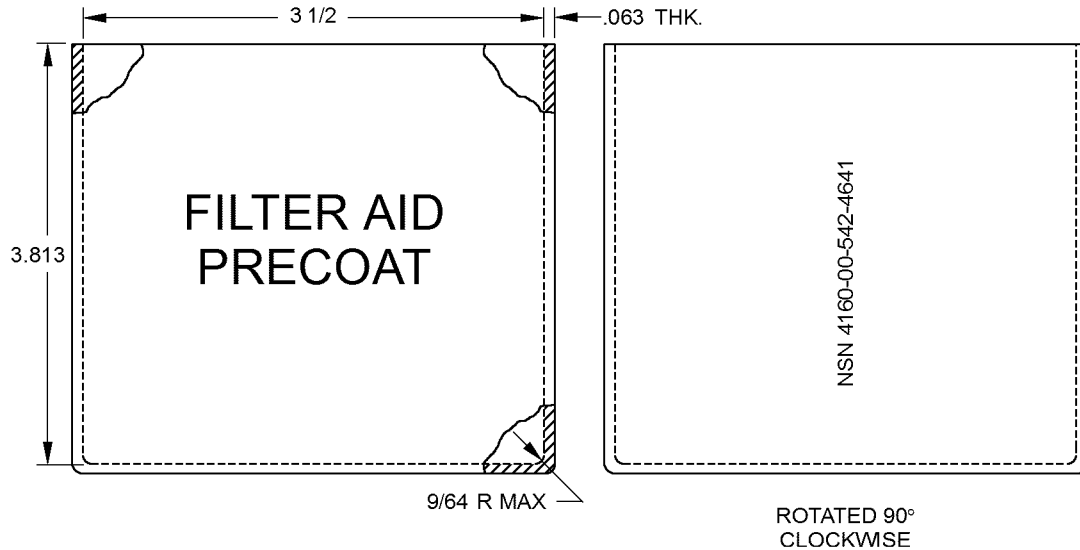
See notes at end of figure.

FIGURE 1. Measure combination 5-1/2 pound limestone and 115 cu. In. filter aid.

NOTES:

1. Tolerances on two place decimals $\pm .03$ inch and 3-place decimals $\pm .015$ inch.
2. All edges to be chamfered $.02 \times 45^\circ$.
3. Diameter shall be round within $.125$ inch.
4. Bend radius $.14$ inches max.
5. For interpretation of dimensioning and tolerancing see ANSI Y14.5.
6. Letters, numerals, and graduations shall be permanently indented to a maximum depth of $.02$ inches.
7. The graduation lines shall be on both the inside and outside surfaces. The numerals and letters shall be on the outside of the measure.
8. All letters to be located approximately as shown.
9. Measure may be multi-piece construction.
10. Material shall be in accordance with ASTM B209, ASTM B210, or ASTM B221 alloy 3003-0 or 5052-0.

FIGURE 1. Measure combination 5-1/2 pound limestone, and 115 cu. In. filter aid - Continued.



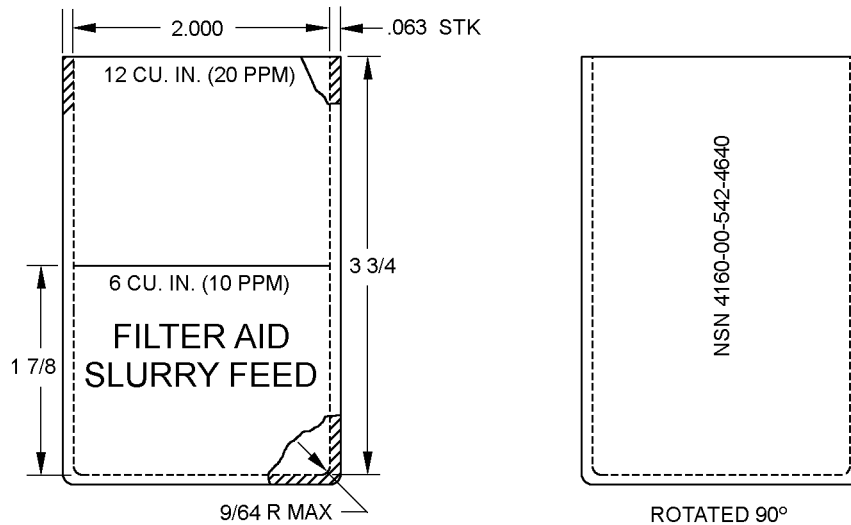
See notes at end of figure.

FIGURE 2. Measure filter aid, 46 cubic inches.

NOTES:

1. Tolerances on 3-place decimals $\pm .005$ inch, fractions $\pm 1/64$ inch.
2. All edges to be chamfered $.015 \times 45^\circ$.
3. Diameter shall be round within $1/8$ inch.
4. For interpretation of dimensioning and tolerancing see ANSI Y14.5.
5. Letters and numerals shall be on the outside of the measure and shall be limited to 220/0 of the periphery.
6. Material shall be in accordance with ASTM B209, ASTM B210, or ASTM B221, alloy 30030 or 50520.
7. Measure may be multi-piece construction.

FIGURE 2. Measure filter aid, 46 cubic inches - Continued.

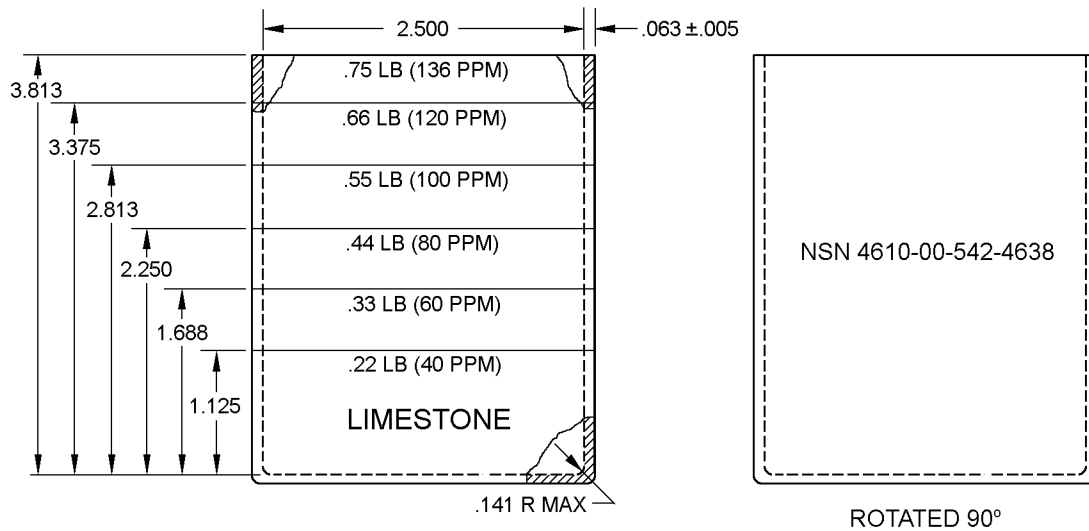


NOTES:

1. Tolerances on 3-place decimals $\pm .005$ inch, fractions $\pm 1/64$ inch.
2. All edges to be chamfered $.015 \times 45^\circ$.
3. Diameter shall be round within $1/8$ inch.
4. For interpretation of dimensioning and tolerancing see ANSI Y14.5.
5. Letters, numerals, and horizontal graduations shall be permanently indented to a maximum depth of $1/64$ inch.
6. The horizontal graduation lines shall be on both the inside and the outside surfaces. The numerals and letters shall be limited to 22% of the periphery.
7. Material shall be in accordance with ASTM B209, ASTM B210, or ASTM B221; ally 3003-0 or 5052-0.
8. Measure may be of multi-piece construction.

FIGURE 3. Measure, filter aid; 12 cubic inches.

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w/AMENDMENT 1

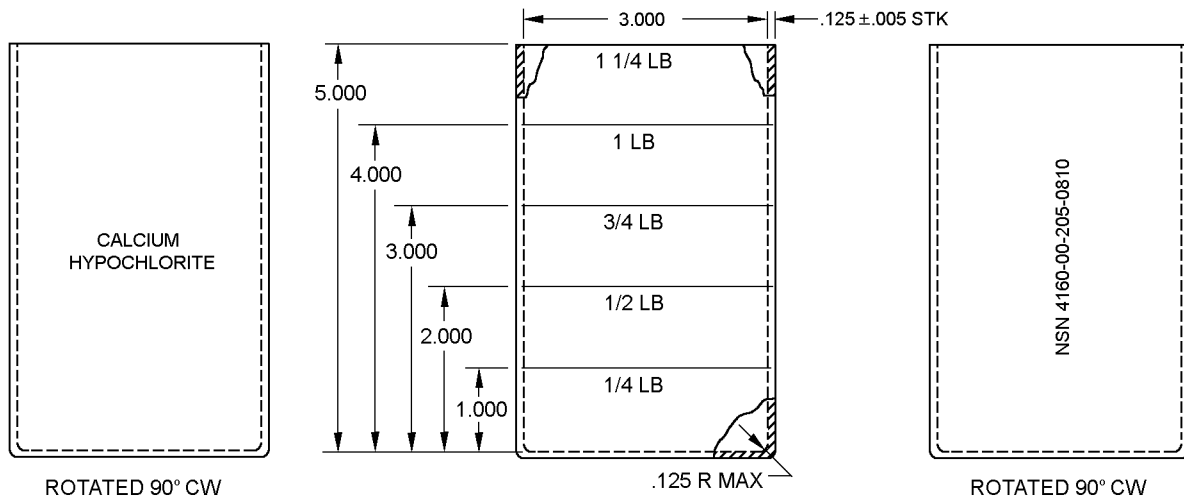


NOTES:

1. Tolerances on 3-place decimals ±.005 inch.
2. All edges to be chamfered .015 x 45°.
3. Diameter shall be round within .125 inch.
4. For interpretation of dimensioning and tolerancing see ANSI Y14.5.
5. Letters, numerals, and horizontal graduations shall be permanently indented to a maximum depth of 1/64 inch.
6. The horizontal graduation lines shall be on both the inside and the outside surfaces. The numerals and letters shall be limited to 22% of the periphery.
7. Material shall be in accordance with ASTM B209, ASTM B210, or ASTM B221; alloy 3003-0 or 5052-0.
8. Measure may be of multi-piece construction.

FIGURE 4. Measure, limestone, 0.75 pounds.

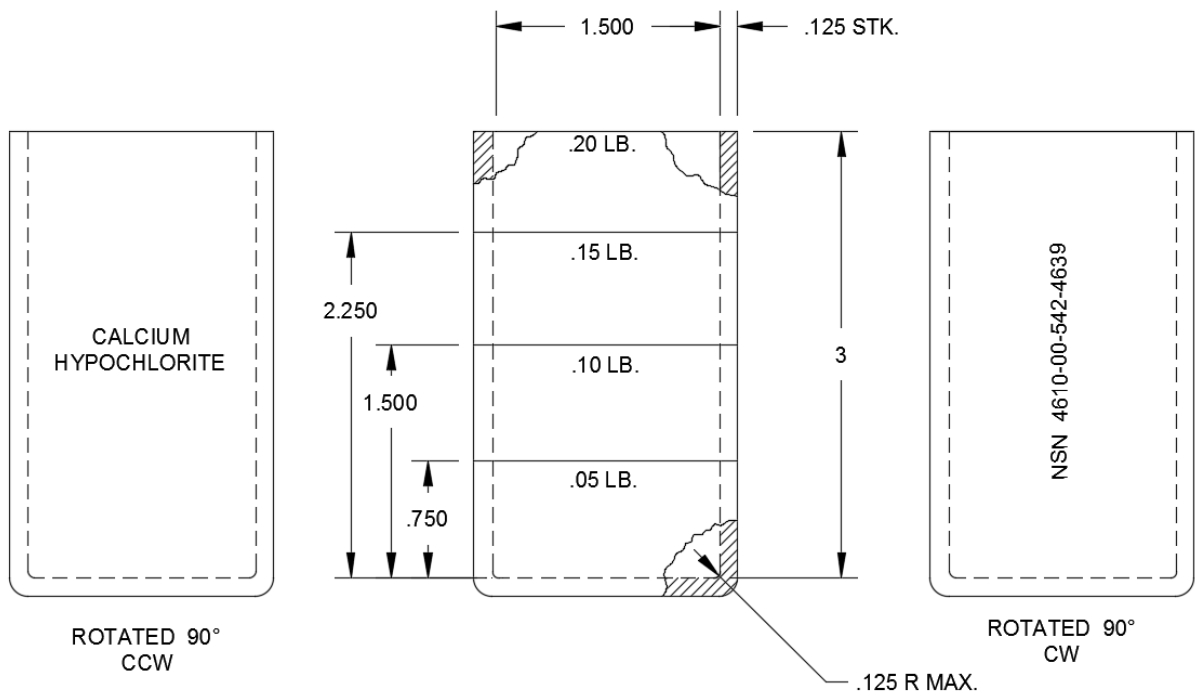
MIL-DTL-52372C
w/AMENDMENT 1



NOTES:

1. Tolerances on 3-place decimals $\pm .005$ inch.
2. All edges to be chamfered $.015 \times 45^\circ$.
3. Diameter shall be round within $.125$ inch.
4. For interpretation of dimensioning and tolerancing see ANSI Y14.5.
5. Letters, numerals, and horizontal graduations shall be permanently indented to a maximum depth of $1/64$ inch.
6. The horizontal graduation lines shall be on both the inside and the outside surfaces. The numerals and letters shall be limited to 22% of the periphery.
7. Material shall be in plastic PVC accordance with ASTM D1784 medium impact strength, low chemical resistance, non-toxic according to intended use.
8. Measure may be of multi-piece construction.

FIGURE 5. Measure, calcium hypochlorite, 1-1/4 pounds.



NOTES:

1. Tolerances on 3-place decimals $\pm .010$ inch.
2. All edges to be chamfered $.015 \times 45^\circ$.
3. Diameter shall be round within $.125$ inch.
4. For interpretation of dimensioning and tolerancing see ANSI Y14.5.
5. Letters, numerals, and horizontal graduations shall be permanently indented to a maximum depth of $1/64$ inch.
6. The horizontal graduation lines shall be on both the inside and the outside surfaces. The numerals and letters shall be limited to 22% of the periphery.
7. Material shall be in plastic PVC accordance with ASTM D1784 medium impact strength, low chemical resistance, non-toxic according to intended use.
8. Measure may be of multi-piece construction.

FIGURE 6. Measure, calcium hypochlorite, 0.20 pounds.

3.5 Marking. In addition to markings specified on the applicable figure, the measure shall be identified in accordance with the general requirements of MIL-STD-130.

3.6 Workmanship. All parts of the measures that are molded, formed, or stamped shall be cleaned and free from dirt, fins, cracks, pinholes, slivers, pits, and other extraneous material that may impair the serviceability of the measures.

4. VERIFICATION

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, 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.

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

- a. First article inspection (see 4.4).
- b. Conformance inspections (see 4.5).

4.3 Responsibility for compliance. All items shall meet all requirements of sections 3 and 4. 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 specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.3.1 First article inspection. First article inspection shall be performed at a laboratory acceptable to the procuring activity on sample units produced with equipment and procedures used in production.

4.4 First article. Unless otherwise specified in the contract, the first article inspection shall be performed by the contractor.

4.4.1 First article units. The contractor shall furnish 2 measures.

4.4.2 First article inspection. The first article inspection shall consist of the inspections specified in table II.

4.4.3 First article data. The first article test plan and test report(s) shall be as required in the contract.

TABLE II. First article inspection.

Inspection	Requirement paragraph	Test paragraph
Dimensions	3.4.1	4.6.1
Material	3.4.2	4.6.2
Tolerance	3.4.1	4.6.1
Radius	3.4.1	4.6.1
Graduation lines	3.4.1 and 3.5	4.6.1
Workmanship	3.6	4.6.1

4.4.4 Failures. All samples must meet all the contract requirements. Failure of a sample unit to pass any test shall be cause for rejection of the entire lot and to grant first article approval.

4.4.5 First article information. Upon completion of first article inspection, the Government activity responsible for conducting the inspection program (see 6.2), shall report the results of the inspection, with appropriate recommendation, to the contracting officer. Approval of the first article samples or the waiving of first article inspection does not preclude the requirements for performing conformance inspection.

4.4.5.1 Disposition of samples. First article samples shall be furnished to the Government as directed by the contracting officer (see 6.2). Unless otherwise specified, after award of the contract or order, the manufacturer shall forward, from randomly selected samples, 1 measure. The sample shall be representative of the construction, workmanship, components, and materials to be used during production.

4.4.6 Waivers or deviations to specification requirements. All waivers or deviations to specification requirements shall be coordinated through the preparing activity: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, Ohio 43218-3990 or e-mailed to FluidFlow@dla.mil.

4.5 Conformance Inspection.

4.5.1 Inspection of product for delivery. Inspection of product for delivery shall consist of conformance inspection.

4.5.2 Inspection lot. An inspection lot shall consist of all measures of the same part number produced under essentially the same conditions and offered for inspection at one time.

4.5.3 Conformance inspections. Each measure shall be visually examined for completeness, workmanship, and identification requirements.

4.5.3.1 Noncompliance. If one or more sample units fails to pass conformance inspections, the lot shall be considered to have failed. If a sample fails to pass conformance inspections, the manufacturer shall notify the Contracting Officer and the cognizant inspection activity of such failure and take corrective action on the materials or processes, or both, as warranted, and on all units of product which can be corrected and which are manufactured under essentially the same materials and processes, and which are considered subjected to the same failure. Acceptance and shipment of product shall be discontinued until corrective action, acceptable to the Contracting Officer has been taken. After the corrective action has been taken, Conformance inspection shall be repeated on additional sample units (all tests and examinations, or the test which the original sample failed, at the option of the Contracting Officer). Final acceptance and shipment shall be withheld until the conformance inspection has shown that the corrective action was successful. In the event of failure after re-inspection, information concerning the failure shall be furnished to the cognizant activity and the Contracting Officer.

4.5.3.2 Disposition of conformance sample units. Unless otherwise specified, sample units which have been subjected to and passed conformance inspection may be delivered in the contract, provided sample units meet requirements of 4.5.1.

4.6 Test methods.

4.6.1 Visual inspection. Fittings shall be examined to ensure conformance with this specification. Continuous examination shall be performed to assure compliance with the following requirements:

- a. Design, construction and physical dimensions (see [figure 1](#), 2, 3, 4, 5, or 6 as applicable.).
- b. Materials (see [3.4.1](#) and [3.4.2](#)) (see [figure 1](#), 2, 3, 4, 5, or 6 as applicable.).
- c. Marking (see [3.5](#)).
- d. Workmanship (see [3.6](#)).

4.6.2 Chemical analysis (see [3.4.2](#)). When specified, spectrochemical analysis shall be in accordance with ASTM E60, see [3.4.2](#) and [6.2](#)).

5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see [6.2](#)). When actual packaging of material 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's packaging activity within the Military department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's 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 measures are intended to measure dry chemicals for military designed water purification equipment. Measures are military unique because they contain the chemical name to be measured and NSN for reordering.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Figure number required.
- c. Whether first article inspection is waived (see [4.4.5](#)).
- d. Name and address of the first article inspection test facility to which first article samples are to be forwarded (see [4.4.5.1](#)) and the name and address of the Government activity responsible for conducting the first article inspection program (see [6.3](#)).
- e. Name and address of the Government activity responsible for receiving a production sample (see [4.3.5](#)).
- f. Chemical analysis, aluminum parts only (see [4.6.2](#)).
- g. Quality per box.
- h. Packaging requirements (see [5.1](#)).

6.3 First article. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first article samples. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

6.5 Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

6.6 Keyword listing.

Aluminum
Chemical analysis
PVC
Spectrochemical

CONCLUDING MATERIAL

Custodians:
Army - AT
Navy - YD
DLA - CC

Preparing activity:
DLA - CC

(Project 4610-2023-001)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.