INCH-POUND

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8 August 2008

SUPERSEDING
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DETAIL SPECIFICATION

VALVE, PRESSURE EQUALIZING, GASEOUS PRODUCTS

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

1. SCOPE

1.1 Scope.

This specification covers low pressure equalizing, gaseous product valves for use in shipping containers.

1.2 Classification.

Unless otherwise specified, relief valves are of the following types and reseal pressures (see 6.2).

TYPE I – Vacuum relief

Reseal pressure	½ psi (3.4 kPa)
Reseal pressure	1 psi (6.9 kPa)
Reseal pressure	2 psi (13.8 kPa)
Reseal pressure	3 psi (20.7 kPa)

Comments, suggestions, or questions on this document should be addressed to ASC/ENRS, Bldg 560, 2530 Loop Road W, Wright-Patterson AFB OH 45433-7101 or emailed to EngineeringStandards@wpafb.af.mil. Since contact information can be changed, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil.

AMSC N/A FSC 4820

TYPE II – Pressure relief

Reseal pressure	¼ psi (1.7 kPa)
Reseal pressure	½ psi (3.4 kPa)
Reseal pressure	1 psi (6.9 kPa)
Reseal pressure	2 psi (13.8 kPa)
Reseal pressure	3 psi (20.7 kPa)
Reseal pressure	5 psi (34.5 kPa)

TYPE III – Pressure and vacuum relief

Reseal pressures	½ psi (3.4 kPa) pressure, ½ psi (3.4 kPa)vacuum
Reseal pressures	1 psi (6.9 kPa), ½ psi (3.4 kPa) vacuum
Reseal pressures	1 psi (6.9 kPa), 1 psi (6.9 kPa) vacuum
Reseal pressures	1 ½ psi (10.4 kPa) pressure, 1 ½ psi (10.4 kPa) vacuum
Reseal pressures	2 psi (13.8 kPa) pressure, 1 psi (6.9 kPa) vacuum
Reseal pressures	2 psi (13.8 kPa) pressure, 2 psi (13.8 kPa) vacuum
Reseal pressures	3 psi (20.7 kPa) pressure, 2 psi (13.8 kPa) vacuum
Reseal pressures	5 psi (34.5 kPa) pressure, 2 psi (13.8 kPa) vacuum

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 of 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 cited in the solicitation or contract.

FEDERAL STANDARDS

FED-STD-H28	Screw-Thread Standards for Federal Services

COMMERCIAL ITEM DESCRIPTIONS

A-A-59588	Rubber, Silicone

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-31000	Technical Data Packages

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-130	Identification Marking of U.S. Military Property
MIL-STD-810	Environmental Engineering Considerations and Laboratory Tests
MIL-STD-889	Dissimilar Metals
MIL-STD-1916	DoD Preferred Methods for Acceptance of Product

(Copies of these documents are available online at http://assist.daps.dla.mil/quicksearch/ or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia PA 19111-5094.)

2.3 Non-Government publications.

The following documents 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.

ASME INTERNATIONAL

ASME Y14.5	Dimensioning and Tolerancing

(Copies of this document are available at www.asme.org or ASME International P.O. Box 2300, Fairfield NJ 07007-2300.

ASTM INTERNATIONAL

ASTM D3951	Standard Practice for Commercial Packaging
ASTM D999	Standard Test Methods for Vibration Testing of Shipping Containers

(Copies of this document are available at www.astm.org or ASTM International, 1916 Race Street, Philadelphia, PA 19103-1137.)

2.4 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 First article.

When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.3.

3.2 Recycled, recovered, or environmentally preferable materials.

Recycled, recovered, or environmentally preferable 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.

3.2.1 Commercial parts.

Commercial parts having suitable properties may be used where, on the date of invitation for bids, there are no suitable standard parts. In any case, commercial utility parts, such as screws, bolts, nuts, and cotter pins, having suitable properties may be used provided:

a. They can be replaced by the standard parts (AN or MS without alteration).

b. The corresponding standard part numbers are referenced in the parts list and, if practicable, on the contractor's drawings.

3.2.2 AN and MS standard parts.

With the exception specified in 3.2.1, AN and MS standard parts shall be used where they suit the purpose. They shall be identified on the drawings by their part numbers.

3.2.3 Part numbering of interchangeable parts.

All parts having the same manufacturer's part number shall be functionally and dimensionally interchangeable. The item identification and part number requirements of MIL-DTL-31000 (see 6.2) shall govern manufacturer's part numbers and changes thereto.

3.3 Materials.

All materials shall be as specified herein. Materials not specified shall be of the best quality used for the purpose in commercial practice. The materials shall be free from all defects or imperfections that might affect the serviceability of the finished product. Recovered or recycled materials may be used provided the end product is capable of passing the first article tests.

3.3.1 Metals.

Metals shall be of the corrosion-resistant type or suitably treated to resist corrosion or atmospheric conditions likely to be met in storage or normal service. MIL-STD-889 shall be utilized to determine compatibility of metals from which the valves are fabricated.

3.3.2 Protective treatment.

When materials used in the construction of the valves are subject to deterioration when exposed to climatic and environmental conditions likely to occur during service usage, they shall be protected against such deterioration in a manner that will in no way prevent compliance with the performance requirements of this specification. The use of any protective coating that will crack, chip, or scale with age or extremes of climatic and environmental conditions shall be avoided. Protective treatments used shall be non-hazardous and-environmentally safe.

3.3.3 Non-metals.

When utilized, non-metallic parts such as packings, interior gaskets, and valve seats shall be of the oil-resistant type.

3.3.4 Exterior gaskets.

Exterior gaskets for sealing valves to the container shall be made of silicone rubber conforming to A-A-59588 class 2 or 3, grade 60. No additional sealing material shall be required.

3.4 Construction.

3.4.1 Gasket seat.

Unless otherwise specified, valves employing exterior gaskets shall be provided with a groove to retain and seat such gaskets. The depth of the groove shall not be less than 50 percent nor more than 70 percent of the original gasket thickness.

3.4.2 Castings.

When used, castings shall be of high quality, clean, sound, and free of blow-holes, porosity, cracks, and other defects which may adversely affect the valve performance.

3.4.3 Valve body.

Unless specifically approved by the procuring agency, non-metallic materials shall not be used in the construction of the valve body.

3.4.4 Mounting devices.

Unless otherwise specified, each valve shall be provided with a nut, washer, and gasket or other suitable device for installation purposes.

3.5 Design.

3.5.1 Maintenance.

The design of the valve shall be such that installation and removal from containers may be accomplished with common hand tools.

3.5.2 Special features.

Special features, such as manual relief devices to permit equalization of pressure prior to opening the container or filters to limit the entrance of sand or dust, may be used provided they do not interfere with the other requirements of this specification.

3.5.3 Lubrication.

The design of the valve shall be such that lubrication shall not be required for operation during the service life.

3.5.4 Screw threads.

All screw threads shall be in accordance with FED-STD-H28, class 2.

3.5.5 Locking of parts.

All internal and external threaded parts shall be locked.

3.5.6 Pipe threads.

Pipe threads shall be in accordance with FED-STD-H28.

3.5.7 Dimensions.

Dimensions and tolerances shall be in accordance with ASME Y14.5. Where dimensions and tolerances may affect interchangeability, consistent operation, or performance of the valve, they shall be limited accordingly.

3.5.8 Weight and size.

Weight and size of the valve shall be as small as possible consistent with the requirements specified herein and with sound engineering practices.

3.6 Performance.

3.6.1 Reseal.

The valve reseal pressure shall be specified by the using activity (see 6.2). The specified reseal pressure establishes a lower limit by which the valve must be closed. The valve shall not leak at a rate of 0.061 cubic inch (1 cubic centimeter) of standard air per minute or more in the flow direction at the specified reseal pressure when tested as specified in 4.6.1.2. The actual reseal pressure will be equal to or greater than the specified reseal pressure.

3.6.1.1 Leakage.

Types I and II valves shall not leak at a rate of 0.061 cubic inch (1 cubic centimeter) of standard air per minute or more in the reverse flow direction at a pressure differential of 10 psi (68.9 kPa) when tested as specified in 4.6.1.2.

3.6.2 Cracking.

The valve cracking pressure shall be greater than the specified reseal pressure by a value that is within the pressure offset range specified below. The valve cracking pressure offset range is determined by the specified reseal pressure.

Specified Reseal Pressure Range	Cracking Pressure Offset Range
0.00 – 1.00 psi (0.0 – 6.9 kPa)	0.00 – 0.50 psi (0.0 – 3.4 kPa)
1.01 – 1.50 psi (6.9 – 10.4 kPa)	0.00 – 0.75 psi (0.0 – 5.2 kPa)
1.51 – 3.00 psi (10.4 – 20.7 kPa)	0.00 – 1.00 (0.0 – 6.9 kPa) psi
3.01 psi and greater (20.8 kPa and greater)	0.00 – 1.50 psi (0.0 – 10.3 kPa)

3.6.3 Minimum flow rate.

The valve minimum flow rate shall be specified by the using activity (see 3.6.3.1 and 6.2). When tested as specified in 4.6.1.2, the valve minimum flow rate shall be determined at a differential pressure of 1.5 psi (10.3 kPa) greater than the specified reseal pressure in the flow direction.

3.6.3.1 Minimum flow rate calculations.

Calculations shall be made as follows, by the valve using activity, to determine the minimum flow rate required to protect the container (see 6.2):

Minimum flow rate ft^3/minute (m^3/minute) = (Vc – Vm) 0.12

Where: Vc = Volume of container ft^3 (m^3)

Vm = Volume of material in container ft^3 (m^3)

3.6.4 Operating life.

The valves shall withstand 2500 cycles at ambient conditions from the closed position to the open position for either or both positive and negative pressure differentials, as applicable for the type concerned.

3.6.5 Environmental tests.

The valves shall be capable of withstanding the following environmental conditions when tested as specified in 4.6.3.

3.6.5.1 Temperature.

The valves shall be capable of withstanding without degradation of performance attributes, temperatures ranging from -80 to +160 °F (-62 to +71 °C) during operation and nonoperation.

3.6.5.2 Humidity.

The valves shall be capable of withstanding, without degradation of performance attributes, relative humidity up to 95 percent at 160 °F (71 °C) during operation and nonoperation.

3.6.5.3 Vibration.

The valves shall be capable of withstanding, without degradation of performance attributes, vibration incident to service use during operation and nonoperation.

3.6.5.4 Sand and dust.

The valves shall be capable of withstanding, without degradation of performance attributes, sand and dust particles encountered in desert areas during operation and nonoperation.

3.6.5.5 Rough handling.

The valves shall be capable of withstanding, without degradation of performance attributes, rough handling which may be encountered during shipping and service life.

3.6.5.6 Salt fog.

The valves shall be capable of withstanding, without degradation of performance attributes, exposure to salt atmosphere as encountered in coastal areas.

3.7 Identification of product.

The valves shall be marked for identification in accordance with MIL-STD-130.

3.8 Workmanship.

All parts of each valve shall be constructed and finished in accordance with good commercial practice. Particular attention shall be given to the machining of mating parts, finish of sealing surfaces, freedom of parts from burrs and sharp edges, and the removal of chips and other foreign material prior to and after assembly.

4. VERIFICATION

4.1 Classification of inspections.

The inspection requirements specified herein are classified as follows:

a. First article inspection (see 4.3).

b. Conformance inspection (see 4.4).

4.2 Inspection conditions.

Unless otherwise specified, all inspections shall be performed in accordance with the test conditions specified in 4.5.

4.3 First article inspection.

When specified, in the contract or purchase order, first article inspection shall be performed by the contractor, after award of contract and prior to production, at a location acceptable to the Government. First article inspection (see table I) shall be performed on sample units which have been produced with equipment and procedures normally used in production. First article approval is valid only on the contract under which it is granted, unless extended by the Government to other contracts. A certified test report (see 6.3) shall be submitted to the cognizant engineering activity.

TABLE I. First article inspection.

Characteristic	Requirement	Test
Performance	3.6	4.6
Reseal	3.6.1	4.6.1.2
Leakage	3.6.1.1	4.6.1.2
Cracking	3.6.2	4.6.1.2
Minimum flow rate	3.6.3	4.6.1.2
Operating life	3.6.4	4.6.2
Environmental	3.6.5	4.6.3
High temperature	3.6.5.1	4.6.3.1
Low temperature	3.6.5.1	4.6.3.2
Humidity	3.6.5.2	4.6.3.3
Vibration	3.6.5.3	4.6.3.4
Sand and dust	3.6.5.4	4.6.3.5
Rough handling	3.6.5.5	4.6.3.6
Salt fog	3.6.5.6	4.6.3.7

4.3.1 First article samples.

The first article test samples shall consist of three valves of each manufacturer's part number to be tested and shall be representative of the production valves. For valves employing filters (see 3.5.2), the filters shall be used during all tests to which the valve is subjected. The contractor shall be required to retest every three (3) years as a minimum; otherwise, the first article tests cannot be waived (see 6.2 and 6.5.1).

4.3.2 Test sequence.

The three test samples shall be subjected to the following specified tests:

SAMPLE VALVE 1	SAMPLE VALVE 2	SAMPLE VALVE 3
a. Cycling, cracking, reseal, leakage, flow rate (4.6.1)	a. Cycling, cracking, reseal, leakage, flow rate (4.6.1)	a. Cycling, cracking, reseal, leakage, flow rate (4.6.1)
b. Humidity (4.6.3.3)	b. High temperature (4.6.3.1)	b. Rough handling (4.6.3.6)
c. Salt Fog (4.6.3.7)	c. Low temperature (4.6.3.2)	c. Vibration (4.6.3.4)
d. Cracking, reseal, leakage, flow rate (4.6.1.2)	d. Sand and dust (4.6.3.5)	d. Operating life (4.6.2)
	e. Cracking, reseal, leakage, flow rate (4.6.1.2)	e. Cracking, reseal, leakage, flow rate (4.6.1.2)

4.3.3 Failures.

One or more failures shall be cause for refusal to grant first article approval.

4.4 Conformance inspection.

Contractors are required to have a process focused quality system that is approved by the Government for conformance inspection. The contractor shall be able to demonstrate process focus with objective evidence of effectiveness to the Government upon request from the Government. In the absence of an approved quality system, MIL-STD-1916, verification level II shall apply. Conformance inspection shall be performed on sample valves chosen from a lot to determine conformance of said lot with the requirements set forth in this specification. Conformance inspection shall consist of cycling and the reseal, leakage, cracking, and flow rate tests in 4.6.1. and table II.

TABLE II. Conformance inspection tests.

Characteristic	Requirement	Test
Reseal	3.6.1	4.6.1.2
Leakage	3.6.1.1	4.6.1.2
Cracking	3.6.2	4.6.1.2
Minimum flow rate	3.6.3	4.6.1.2

In addition, each sample valve shall be subjected to an examination to determine conformance to the manufacturer's drawings and the requirements of this specification.

4.4.1 Test equipment and inspection facilities.

Test and measuring equipment and inspection facilities of sufficient accuracy, quality, and quantity, as approved by the Government, to permit performance of the conformance inspection, shall be established and maintained by the contractor.

4.5 Test conditions.

4.5.1 Pressure.

Pressures specified are gauge pressures ±0.1 psi (689 Pa).

4.5.2 Temperature.

Unless otherwise specified, tests shall be conducted at ambient temperatures of 50 to 90 °F (10 to 32 °C).

4.5.3 Flow.

Unless otherwise specified, all flow rates specified are cubic feet per minute taken at standard conditions. Standard conditions are defined to be 68 °F (20 °C) for temperature and 14.7 psi (101.4 kPa) for pressure.

4.6 Performance tests.

4.6.1 Cycling, cracking, reseal, leakage, and flow rate.

Cycling and the following tests shall be performed for each sample valve in the order listed.

4.6.1.1 Cycling.

The cycling procedures are used in the operating life performance test (see 4.6.2) and in preparation for the cracking, reseal, leakage, and flow rate tests, to be performed in the order listed. For cracking, reseal, leakage, and flow rate test preparation, the valves shall be initially cycled 10 times in order to normalize operating conditions. The procedure for each valve type is as follows:

4.6.1.1.1 Types I and II.

Air pressure shall be applied to the inlet port of the valve with the outlet port open to the atmosphere or suitably vented. The pressure differential shall be uniformly increased until an air flow of at least 20 percent of the rated flow rate is reached. The air pressure shall then be reduced to zero differential. The cycle shall be accomplished in 3 to 10 seconds.

4.6.1.1.2 Type III.

One complete cycle shall consist of the cycle detailed in 4.6.1.1.1 accomplished in each direction of flow.

4.6.1.2 Cracking, reseal, leakage, and flow rate.

The valve shall be cycled (see 4.6.1.1) in preparation for cracking, reseal, leakage, and flow rate tests. The valve shall be placed in a test cell so that required pressure differentials can be applied. Suitable gauges or manometers shall be connected to the cell to determine the pressure differential across the valve to within ±5 percent of the actual values. For reseal, cracking, and leakage testing, a gas flowmeter, capable of measuring a flow rate of 0.061 ±0.006 cubic inch (1.0 ±0.1 cubic centimeter) of standard air per minute, shall be connected in series with the valve test cell so that all air flowing through the valve flows through the flowmeter. For valve flow rate testing, a flowmeter capable of measuring the specified valve flow rate ±5 percent shall be connected in series with the valve test cell. A suitable regulator or throttling valve shall be used to control the test pressure so that test conditions are maintained to within ±5 percent of specified values during the test. Test results shall be reported in standard air conditions. For reseal and leakage tests, an indicated flow of 0.061 cubic inch (1.0 cubic centimeter) of standard air per minute through the valve, or the reseal pressure to be less than the specified reseal pressure shall be an indication of failure and cause for rejection. For cracking tests, failure of the cracking pressure to be within the offset range of the specified reseal pressure shall be an indication of failure and cause for rejection. For flow rate tests,

failure to develop at least the specified flow rate at a differential pressure of 1.5 psi (10.3 kPa) greater than the specified reseal pressure across the valve in the flow direction shall be an indication of failure and cause for rejection.

4.6.1.2.1 Types I and II cracking and reseal.

Initially, the valve shall be in the closed state with an applied pressure differential of 0.0 psi (0.0 kPa) for a period of at least five (5) seconds. The pressure differential shall then be increased until the flow rate is slightly greater than 0.061 cubic inch (1.0 cubic centimeter) per minute. The pressure at which the valve cracks shall be measured. The valve shall then be subjected to the pressure differential causing the specified flow rate. The pressure differential shall be decreased until the valve flow rate is slightly less than 0.061 cubic inch (1.0 cubic centimeter) per minute. The pressure at which the valve reseals shall be measured. Failure of the valve to crack within the offset range (see 3.6.2) of the specified reseal pressure, or to reseal at or above the specified reseal pressure shall be cause for rejection.

4.6.1.2.2 Types I and II leakage.

The valve shall be subjected to a pressure differential of 10.0 psi (68.9 kPa) which tends to produce flow in the non-flow direction. Observation for leakage shall then be made.

4.6.1.2.3 Type III cracking and reseal.

The valve shall be subjected to the test detailed in 4.6.1.2.1 for both pressure and vacuum relief directions.

4.6.1.2.4 Flow rate.

For each flow direction, the valve shall be subjected to a pressure differential of 1.5 psi (10.3 kPa) greater than the specified reseal pressure which tends to produce flow in that respective flow direction. The flow rate through the valve shall be measured in each respective flow direction. For valves using filters, the filters shall be installed during the flow rate test.

4.6.1.2.4.1 Types I and II flow rate.

The valve shall be subjected to the test described in 4.6.1.2.4 in the specified relief direction.

4.6.1.2.4.2 Type III flow rate.

The valve shall be subjected to the test described in 4.6.1.2.4 for both pressure and vacuum relief directions.

4.6.2 Operating life.

The valve shall be subjected to 2500 cycles, at room temperature, as specified in 4.6.1.1.1 or 4.6.1.1.2. After completion of the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

4.6.3 Environmental tests.

The valve shall be subjected to the following tests in accordance with applicable procedures of MIL-STD-810 and ASTM D999. The valve shall be mounted in a test cell that permits operation of the valve during those tests that require valve operation. The valve shall be mounted in a manner that exposes those surfaces to the test environment that would normally be exposed when the valve is installed in a shipping container. For type II and type III valves a vacuum shall

be applied to the test cell to produce vacuum relief operation. Surfaces of the valve normally protected by the shipping container internal environment may be protected by the test cell internal environment.

4.6.3.1 High temperature.

MIL-STD-810, Method 501.4, Procedure II – Operation, shall be used, except that during the +160 °F (+71 °C) exposure period, the valve shall be operated through 1000 cycles as specified in 4.6.1.1.1 or 4.6.1.1.2. The duration of the test shall be 72 hours. After completion of the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

4.6.3.2 Low temperature.

MIL-STD-810, Method 502.4, Procedure II (Operation), shall be used, except that during the -80 °F (-62 °C) exposure period the valve shall be operated through 1000 cycles as specified in 4.6.1.1.1 or 4.6.1.1.2. The duration of the test shall be 72 hours. After completion of the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

4.6.3.3 Humidity.

MIL-STD-810, Method 507.4, Procedure II, Induced Hot Humid Condition for 10 diurnal periods shall be used. Cycling shall be performed periodically during the test. At least two (2) complete cycles as specified in 4.6.1.1.1 or 4.6.1.1.2 shall be accomplished each hour. After completion of the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

4.6.3.4 Vibration.

ASTM D999, Method B shall be used. After completion of the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

4.6.3.5 Sand and dust.

MIL-STD-810, Method 510.4, Procedure I (Blowing Dust), shall be used. The air velocity through the test chamber shall be 5 ft/s ±1.6 ft/s (1.5 m/s $\pm$0.5 m/s). The test temperature shall be 73 °F (23 ^{o}C). At least two (2) complete cycles as specified in 4.6.1.1.1 or 4.6.1.1.2 shall be accomplished each hour during the test. After completing the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs. Removal of accumulated dust from the test item by brushing, wiping, shaking, air blast, or vacuum cleaning prior to testing shall not be permitted.

4.6.3.6 Rough handling.

The valve shall be mounted in a container conforming to figure 1. The container shall be dropped three (3) times on each of the three (3) mutually perpendicular adjoining faces, for a total of nine (9) drops, from a height of 3 ft (0.91 m) onto a concrete surface. The valve shall then be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

4.6.3.7 Salt fog.

MIL-STD-810, Method 509.4, Procedure I shall be used. After completion of the test, the valve shall be tested as specified in 4.6.1.2 and applicable sub-paragraphs.

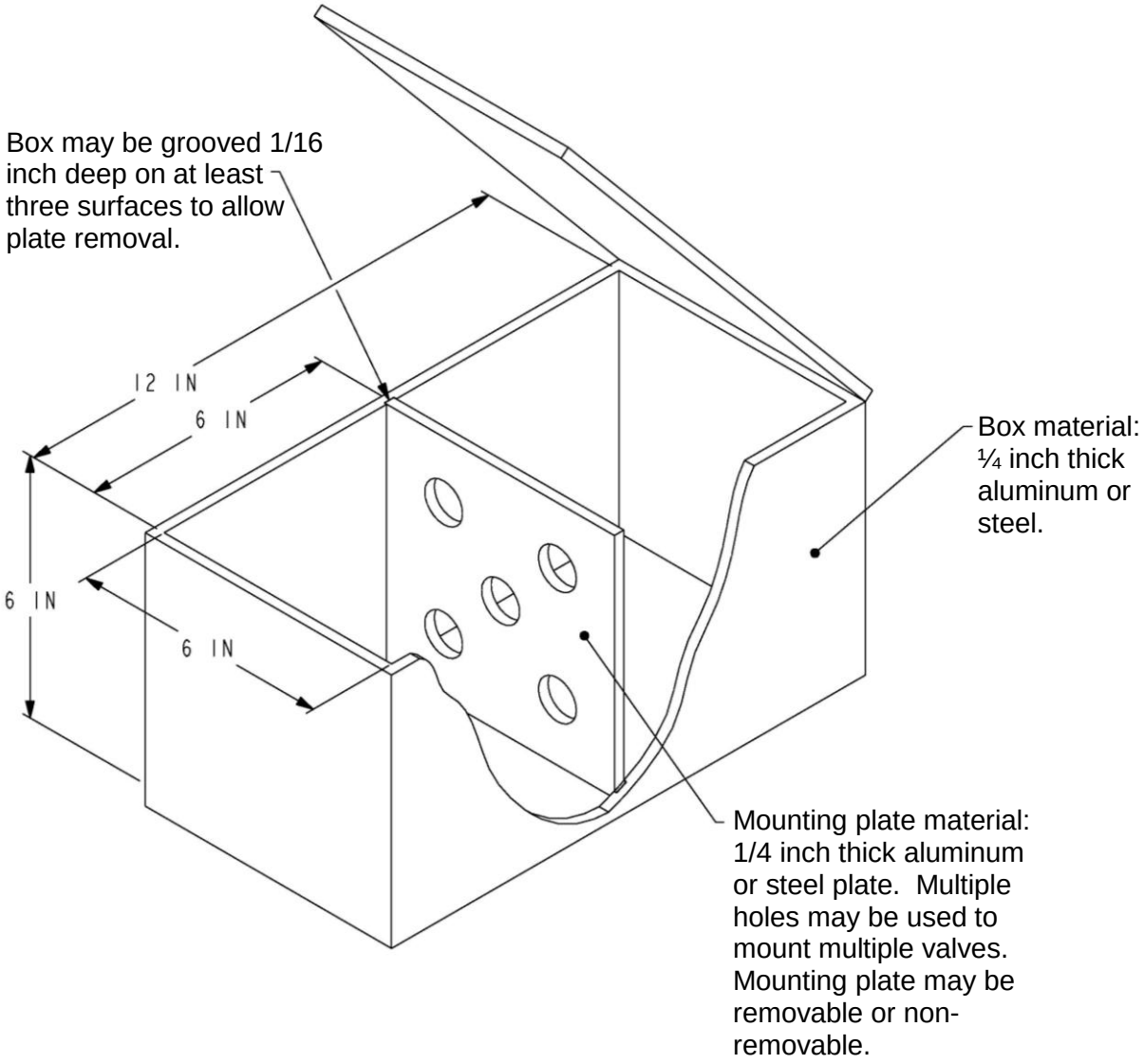

FIGURE 1. Container for rough handling test.

5. PACKAGING

5.1 Packaging.

For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. 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 air relief valves covered by this specification are intended for use in shipping containers as a protective device against excessive internal pressure or vacuum resulting from air lift or extreme temperature changes. Types I and II valves are intended to be used in sets of one of each type where a separation of the pressure and vacuum relief ports may be desirable. Type III valves are intended to be used where separation of pressure and vacuum relief ports is not desirable or required.

6.1.1 Use recommendations.

The relief valves are intended to allow significant container weight reductions by limiting differential gas pressure loads that the container must support. When a valve-equipped controlled humidity container is to be in outdoor storage, the difference between pressure and vacuum reseal pressures should be at least 3 psi (20.7 kPa) to prevent cyclic breathing caused by daily solar heating and nightly cooling. Under some environmental conditions, breathing-induced air movement into and out of the container may increase the desiccant depletion rate unacceptably.

6.2 Acquisition requirements.

Acquisition documents should specify the following.

a. Title, number, and date of this specification.

b. Type and reseal pressures required (see 1.2 and 3.6.2).

c. When first article is required (see 3.1).

d. If required, manufacturer's part number (see 3.2.3).

e. If required, cracking pressure (see 3.6.2).

f. Flow rate required (see 3.6.3 and 3.6.3.1).

g. Waiver of first article testing (see 4.3.1).

h. Packaging requirements (see 5.1).

6.3 Consideration of data requirements.

The following data requirement should be considered when this document is applied on a contract. The applicable Data Item Description (DID) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID is tailored to reflect the requirements of the specific acquisition. When it is necessary to obtain the data, the applicable DIDs must be listed on the Contract Data Requirements List (DD Form 1423).

DID Number	DID Title
DI-NDTI-80809	Test/Inspection Report

The above DID was current as of the date of this specification. The ASSIST database should be researched at http://assist.daps.dla.mil ensure that only current and approved DIDs are cited on the DD Form 1423.

6.4 Disposability.

The preferred methods of disposing of valves are recycling, baling, and sanitary landfill.

6.5 First article.

When first article inspection is required, the item should be a first article sample or it may be a standard production item from the contractor's current inventory as specified in 4.3.1. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitation 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. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.5.1 Waiver of first article tests.

If a particular valve has been delivered under a previous Government contract and a certified first article test report for that valve has been submitted to the cognizant engineering activity, first article tests for like valves will be waived (see 6.2.g). When the first article tests have been waived, the contractor will certify that the valve conforms to the requirements of this specification.

6.6 Subject term (key word) listing.

Container components
Cracking
Flow rate
Gasket seat
Packaging
Pressure relief
Shipping container components
Vacuum relief
Valve leakage

6.7 Changes from previous issue.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL

Custodians:

Army – MI
Navy – AS
Air Force - 11

Review activities:

Army – AR, AV
Navy – OS, SA
Air Force – 22, 71, 99
DLA - CC

Preparing activity:

Air Force - 11

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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 http://assist.daps.dla.mil.