MILITARY SPECIFICATION

Propellant, Pressurizing Agent, Argon

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

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for two types and two grades of argon.

1.2 Classification. Argon shall be of the following types and grades as specified (6.2).

Type I. - Gaseous.
Type II. - Liquid.
Grade A. - 99.998 percent purity.
Grade B. - 99.985 percent purity.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposals form a part of this specification to the extent specified herein.

SPECIFICATIONS

Military

MIL-C-81302 - Cleaning Compound, Solvent, Trichlorotrifloroethane

MIL-C-83690 - Cylinders, Sampling

MIL-S-27626 - Sampler, Liquid Oxygen, TTU-131/E

MIL-T-27730 - Tape, Antiseize, Tetrafluoroethylene, with Dispenser

MIL-T-5542 - Thread Compound, Antiseize and Sealing, Oxygen Systems

MIL-V-2/11 - Valve, Cylinder, Gas, Argon, Helium, Nitrogen, Neon, and Xenon, (Inert-Oil Free) Outlet 581

MIL-V-2/51 - Valve, Cylinder Gas: High Pressure Gases, 6000 psi, Outlet 67U

STANDARDS

Military

MIL-STD-101 - Color Code for Pipelines and Compressed Gas Cylinders

MIL-STD-129 - Marking for Shipment and Storage

MIL-STD-172 - Color Codes for Containers of Liquid Propellants

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

2.2 Other Publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposals shall apply.

DEPARTMENT OF TRANSPORTATION (DOT)

49 CFR 170-179 - Department of Transportation Rules and Regulations for the Transportation of Explosives and Other Dangerous Articles

(Applications for copies should be addressed to the Superintendent of Documents, US Government Printing Office, Washington DC 20402).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

F 307 - Sampling Pressurized Gas for Gas Analysis

F 310 - Sampling Cryogenic Aerospace Fluids

E 29 - Recommended Practices for Designating Significant Places in Specified Limiting Values

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia PA 19103).

NATIONAL BUREAU OF STANDARDS (NBS)

Research Paper No 1865 - Measurement of Water in Gases by Electrical Conduction in a Film of Hygroscopic Material and the Use of Pressure Changes in Calibration

Technical Publication No NSRDS-NBS 27 - Thermodynamic Properties of Argon from the Triple Point to 300K at Pressures to 1000 Atmospheres

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington DC 20402).

COMPRESSED GAS ASSOCIATION (CGA)

G-11.1 - Commodity Specification for Argon

(Application for copies should be addressed to the Compressed Gas Association, Inc., 500 Fifth Avenue, New York NY 10036).

3. REQUIREMENTS

3.1 Composition. The composition of the argon shall conform to the limits in Table I when tested in accordance with the applicable test methods (4.5).

3.2 Limiting Values. The following applies to all specified limits in this specification: for purposes of determining conformance with these requirements, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right hand place of figures used in expressing the limitation value, in accordance with ASTM Method E29, "Recommended Practices for Designating Significant Places in Specified Limiting Values."

TABLE I, COMPOSITION

COMPOSITION	GRADES		TEST
	A	B	PARAGRAPH
Assay (purity), Argon (Ar) percent by vol, min	99.998	99.985	4.5.7
Water, ppm by vol, max	3.5	23	4.5.1
Dewpoint, F	-90	-65	4.5.1
Oxygen, ppm by vol, max	5	50	4.5.2
Hydrogen, ppm by vol, max	2	50	4.5.3
Nitrogen, ppm by vol, max	15	50	4.5.4
Total hydrocarbons (as methane) ppm by vol, max	1	not specified	4.5.5
Carbon dioxide, ppm by vol, max	1	not specified	4.5.6

4.0 QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for Inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or purchase order, the supplier may use his own or any other facilities suitable for ther 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 inspection are deemed necessary to assure supplier and services conform to the prescribed requirements (6.2).

4.1.1 Point of Inspection (6.2) Unless otherwise specified, quality conformance tests of the propellant, pressurizing agent shall be conducted at the site of filling. The quality conformance tests shall be completed prior to shipment of filled containers.

4.2 Classification of Tests. The inspection and testing of the propellant, pressurizing agent shall be classified as quality conformance tests.

4.3 Quality Conformance Tests. Quality conformance tests are defined as tests specified herein to assure conformance to the requirements of Table I and subsection 5.3.6 of this specification. Quality conformance tests shall consist of Individual Tests (4.3.1) and Sampling Tests (4.3.2).

4.3.1 Individual Tests. Each Type I argon cylinder shall be subjected to the following tests:

4.3.1.1 Filling Pressure 4.6.1

4.3.1.2 Leakage 4.6.2

4.3.2 Sampling Tests. The number of argon containers shall be selected in accordance with Table II and subjected to the tests as described under 4.5.

TABLE II, SAMPLING FOR TEST

NUMBER OF CONTAINERS IN LOT	NUMBER OF CONTAINERS TO BE SAMPLED
1	1
2-40	2
41-70	3
71-over	4

4.3.2.1 Lot Definitions.

4.3.2.1.1 Grade A. Each filled container shall constitute a lot.

4.3.2.1.2 Grade B, Bulk Transports. Each filled container shall constitute a lot.

4.3.2.1.3 Grade B, Cylinders. A lot shall consist of one of the following:

4.3.2.1.3.1 The argon produced in not more than 24 consecutive hours from a continuous process which is used to fill shipping containers directly from the process output. A continuous process shall be the production of product by continuous input of raw materials and output of finished product by one manufacturer in one plant with no change in manufacturing conditions or materials.

4.3.2.1.3.2 The argon from individual runs of a batch process which is used to fill shipping containers directly from the process output. A batch process shall be the production of product by runs from single additions of raw materials which are reacted and purified forming the product.

4.3.2.1.3.3 The argon from either of both the continuous and batch processes which is held in a single storage tank and subsequently withdrawn to fill shipping containers. The product shall be homogeneous at the time of withdrawal and shall not be added to while being withdrawn. After each addition to the storage tank, the contents shall constitute a separate lot.

4.3.2.2 Sample. Each sample shall be of sufficient size to conduct all the quality conformance tests as specified herein. Unless otherwise specified, the quality conformance tests shall be made of each required sample (6.2). When required, an equivalent sample shall be forwarded to a laboratory designated by the procuring activity for subjection to the quality conformance tests specified herein.

4.3.2.2.1 Samplers. The sampler for Type I (gaseous) argon shall be in accordance with MIL-C-83690 or functionally equivalent thereto. The sampler for Type II (liquid) argon shall be in accordance with MIL-S-27626 or functionally equivalent thereto. The liquid samplers convert the entrapped liquid to gas. The aliquots taken for analysis are representative samples.

4.3.2.2.2 Sampling Methods. Unless otherwise specified, Type I (gaseous) argon shall be sampled in accordance with ASTM F307 and Type II (liquid) argon shall be sampled in accordance with ASTM F310 (6.2).

4.3.3 Cylinders. The number of cylinders (pressure and Dewar types) filled with Type I or Type II argon selected for sampling for each lot shall be in accordance with Table II. The first and last cylinders to be filled within a given lot shall be sampled. Other samples may be selected at random. The argon from each cylinder sampled shall constitute a separate sample. For the purposes of selecting sample cylinders only, any one cylinder may be selected from a group of cylinders filled simultaneously from a single manifold.

4.4 Rejection. When any sample of the propellant, pressurizing agent tested in accordance with 4.5 fails to conform to the requirements specified herein, the entire lot represented by the sample shall be rejected. Disposition of the rejected product shall be specified by the procuring activity (6.2).

4.5 Test Methods.

4.5.1 The Water Content. The water content of the sample shall be determined by one of the following methods. In cases of dispute the electrolytic method in 4.5.1.1 shall be used as the referee.

4.5.1.1 Electrolytic Method.

4.5.1.1.1 Procedure. Connect the sample container to a pressure regulator which is attached to the electrolytic moisture apparatus (hygrometer). Open the sample container valve and adjust the pressure to the apparatus in accordance with the manufacturer's recommended value. Allow sufficient time for the indicated moisture content to become stable and read the value obtained while using the most sensitive scale setting possible for the moisture content of the sample. The electrolytic moisture apparatus should be set on a range no greater than ten times the specified maximum moisture content.

4.5.1.2 Frost (Dew) Point Method.

4.5.1.3 By a piezoelectric sorption hygrometer that is set on a range no greater than ten times the specified maximum moisture content.

4.5.1.4 By an aluminum oxide capacitor-equipped analyzer on a range that is no greater than ten times the specified maximum moisture content.

4.5.1.5 By the electrical conductivity method in accordance with NBS Research Paper Number 1865.

4.5.2 The Oxygen Content. The oxygen content of the sample shall be determined by a specific oxygen analyzer which operates on the principle of the galvanic cell (e.g. polarography) or measurement of heat of reaction. Calibration of the analyzer may be performed with accurate trace oxygen standards, or integrally in accordance with Faraday's Law. The sensitivity and accuracy of the instrument, when calibrated, shall not be less than plus or minus five percent of the specified maximum oxygen content; measuring accuracy shall not be less than two times the sensitivity.

4.5.2.1 In cases of dispute, the galvanic cell shall be used as referee.

4.5.3 The Hydrogen Content. The hydrogen content of the sample shall be determined by one of the following methods. In cases of dispute, the heat of reaction method in 4.5.3.3 shall be used as referee.

4.5.3.1 By a gas chromatograph which has been calibrated by methods traceable to the National Bureau of Standards (NBS).

4.5.3.2 By an analyzer in which hydrogen reacts to form a compound which is subsequently measured. The analyzer shall be calibrated at appropriate intervals by the use of calibration gas standards (6.5). The range of the analyzer shall be no greater than ten times the specified maximum hydrogen content.

4.5.3.3 By a heat of reaction type analyzer. The analyzer shall be calibrated at appropriate intervals by the use of calibration gas standards or integrally in accordance with Faraday's Law. The range of the analyzer shall be no greater than ten times the specified maximum hydrogen content.

4.5.4 The Nitrogen Content. The nitrogen content of the sample shall be determined by one of the following methods. In case of dispute the gas chromotographic method in 4.5.4.3 shall be used as referee.

4.5.4.1 Ion Mobility Analyzer. This ion current measuring technique compares the mobility of nitrogen ions to the mobility of argon ions. The analyzer shall be calibrated at appropriate intervals by the use of calibration gas standards (6.5). The range shall be no greater than ten times the specified maximum nitrogen content.

4.5.4.2 Spectrophotometric Analyzer. This method requires an analyzer in which a high voltage gas discharge spectrum is optically filtered and measured photoelectrically to yield a signal proportional to the nitrogen. The analyzer shall be calibrated at appropriate intervals by the use of calibration gas standards (6.5). The range will be no greater than ten times the specified maximum nitrogen content.

4.5.4.3 Gas Chromatograph. This method may be used not only for nitrogen content determination, but for other gaseous impurities with the exception of total hydrocarbons. The analyzer shall be capable of separating the compound with a sensitivity of 0.5 ppm or 20% of the specified maximum concentration of the component, whichever is greater. Appropriate impurity concentration techniques may be used to attain the sensitivity. A typical chromatogram is shown in Figure 1. The gas chromatograph shall be calibrated at appropriate intervals by the use of calibration gas standards which contain the applicable limiting characteristic gaseous components in argon (6.5).

4.5.5 The Total Hydrocarbon Content. The total hydrocarbon content of the specified grade and type of the sample shall be determined by one of the following procedures. In cases of dispute, the flame ionization type analyzer shall be used as the referee.

4.5.5.1 By a flame ionization type analyzer. The analyzer shall be calibrated at appropriate intervals by the use of argon calibration gas standards (6.5). The range used shall not be greater than ten times the specified maximum total hydrocarbon content expressed as methane.

4.5.5.2 By a gas cell equipped infrared analyzer. The analyzer shall be calibrated at appropriate intervals with methane-in-argon standards (6.5) at approximately 3.5 microns. The sensitivity of the analyzer shall be at least 0.5 ppm or 10 percent of the specified total hydrocarbons, whichever is greater.

4.5.6 The Carbon Dioxide Content. The carbon dioxide content of the sample shall be determined by one of the following methods. In cases of dispute, the non-dispersive infrared analyzer shall be used as the referee.

4.5.6.1 By a gas cell equipped dispersive or non-dispersive infrared analyzer. The analyzer shall be calibrated at appropriate intervals with carbon dioxide in argon standards (6.5) at approximately 4.5 microns. The sensitivity of the analyzer shall be at least 1 ppm or 10 percent of specified maximum carbon dioxide content, whichever is greater.

4.5.6.2 By a gas chromatograph in accordance with 4.5.4.3.

4.5.7 Final Calculations. The argon content of the sample shall be calculated by the following formula.

4.5.7.1 $\% \text{ Ar} = 100 - 10^{-4} \Sigma C_i$

Where ΣC_i = the sum of the impurities found in the sample (ppm/vol)

4.6 Gas Cylinder Tests.

4.6 1 Filling Pressure. Samples shall be tested for proper filling pressure by attaching a calibrated Bourdon tube or equivalent gauge outlet and by attaching either a thermocouple or thermometer to the cylinder wall. The gauge shall have scale divisions not greater than 10 psi for service pressures of less than or equal to 3000 psig. For service pressures greater than 3000 psig a maximum of 100 psi per scale division is acceptable. If a thermometer is used, tape or putty shall be applied to the bulb to protect it from alien temperatures. Putty shall not be applied between the bulb and the cylinder wall. The thermometer shall not have scale divisions greater than 2°F or 1°C. The containers shall be stabilized to ambient temperature. Then the valve shall be opened and the internal pressure observed on the gauge.

4. 6.2 Leakage. Each Type I argon container shall be tested for leaks at the neck threads, stem packing, and safety device of the valve with leak detection fluid Valve seat leakage shall be tested after filling has been completed. This shall be done by applying the leak-detection fluid sparingly across the outlet of the valve. Only leak-detection fluid that leaves no residue shall be used on the outlet.

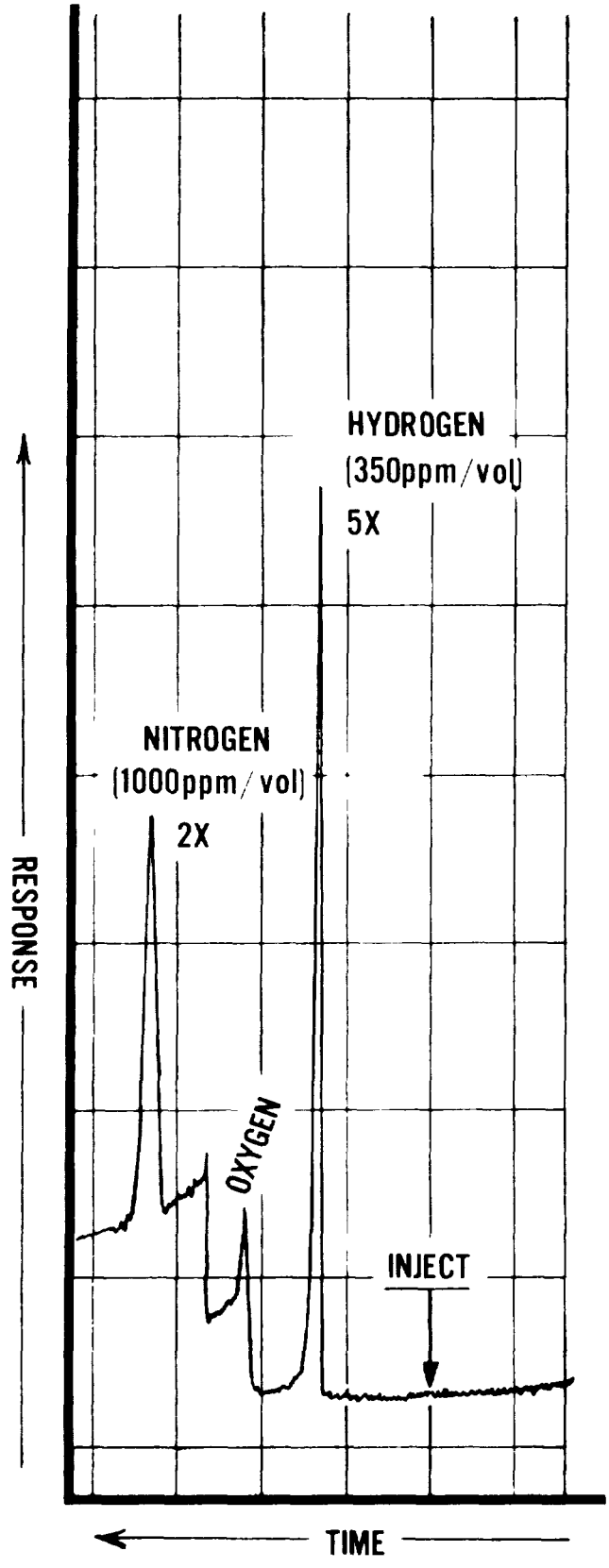

Figure 1: TYPICAL CHROMATOGRAM

5.0 PREPARATION FOR DELIVERY

5.1 Packaging. The product furnished under this specification is a hazardous material regulated by the Department of Transportation. All containers shall comply with the requirements of Title 49, CFR 170-190 or DOT special permit. Containers and quantities shall be specified by the procuring activity (6.2 and 6.3).

5.2 Preparation of Shipping Containers. The contractor shall establish the condition of all containers and insure that 5.3 and 5.4 as applicable are complied with. Contractor owned containers shall be cleaned, tested, and repaired in accordance with the schedule established in the contract or purchase order (6.2). All containers shall be free from oils, greases, and other odorous or toxic impurities.

5.3 Gas Cylinders. Qualification, maintenance, cleaning, and use of cylinders shall conform to the requirements of DOT in 49 CFR 173.34 and as follows: (Also see Figure 2).

5.3.1 Structural Damage. Cylinders shall be inspected externally for damage such as dents, gouges, deep scratches, arc burns, and fire exposure in excess of DOT allowable limits. Unacceptable cylinders shall be rejected and processed in accordance with 5.3.5.

5.3.2 Hydrostatic Date. Cylinders shall be inspected for the date last hydrostatically tested. Any cylinder with a date which will expire prior to the date of filling shall not be filled. Cylinders due for hydrostatic test shall be reconditioned and tested prior to use in accordance with DOT requirements. Rejected cylinders shall be processed in accordance with 5.3.5.

5.3.3 Residual Gas Test. Cylinders received for filling shall show a positive residual pressure of at least 5 psi ($3.45 N/cm^2$) by gauge or have an audible hiss when the valve is cracked open. Cylinders with insufficient residual pressure may be inverted to determine presence of accumulated water. If water is evident, the cylinder shall be visually inspected prior to use (5.4.1).

5.3.4 Valves. Cylinder valves shall be inspected for proper operation and damage. Any valves found damaged or otherwise unsatisfactory shall be repaired if only minor adjustments are required or replaced with a new valve. Valves conforming to MIL-V-2/11 shall be used for service pressures of less than or equal to 3500 psi ($2413 N/cm^2$). For service pressures greater than 3500 psi but less than or equal to 6000 psi ($4137 N/cm^2$) use valves conforming to MIL-V-2/51,

5.3.4.1 Thread Compound. When valves are installed, or removed and reinstalled, a small amount of compound conforming to MIL-T-5542 or tape conforming to MIL-T-27730 shall be used. It shall be applied only to the male threads, except for the first two threads.

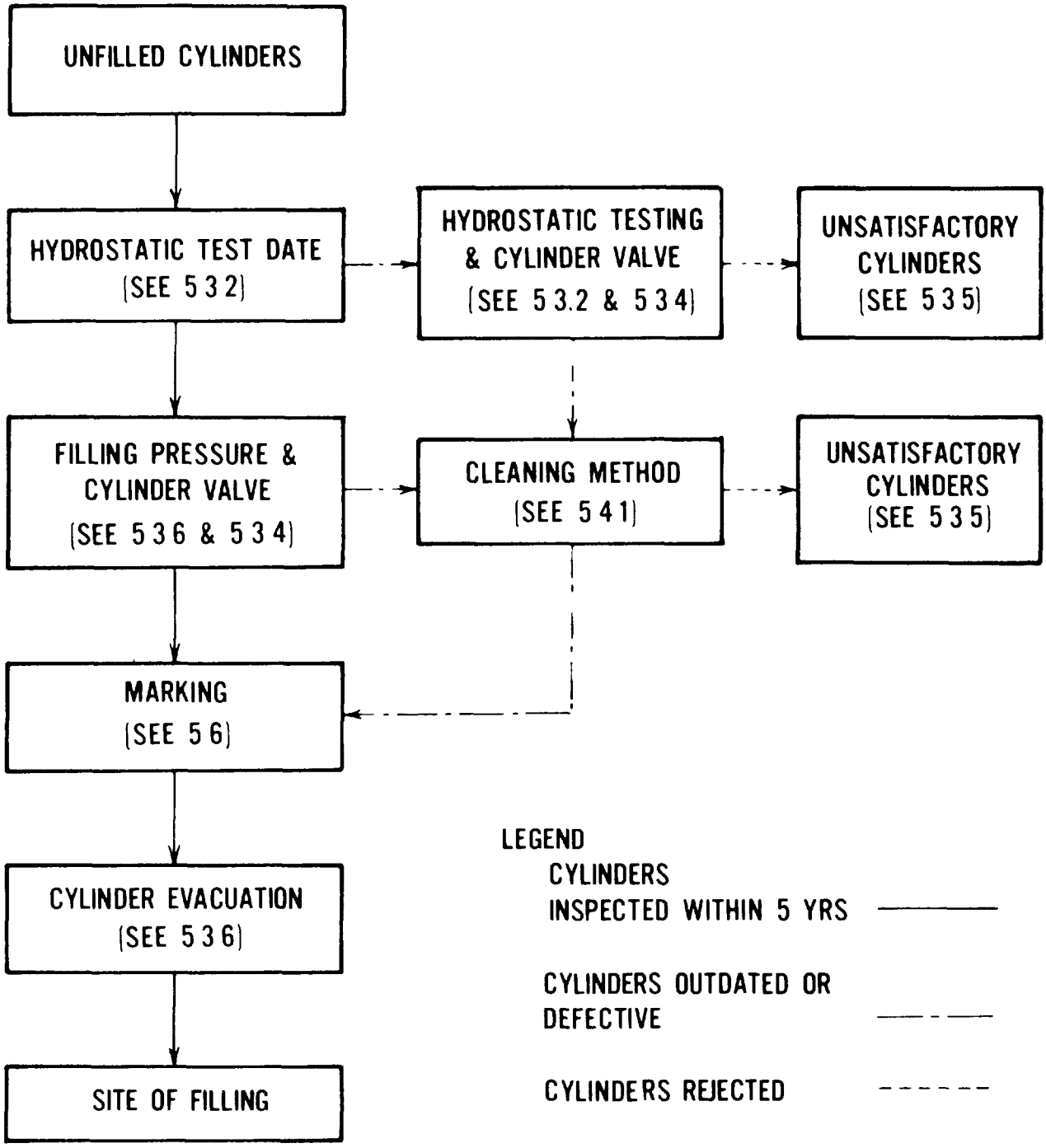

Figure 2 FLOW DIAGRAM FOR CYLINDER PROCESSING

5.3.4.2 Valve Installation. All valves shall be installed and torqued until a maximum of five and not less than a minimum of one full thread shows above the cylinder. New valves shall have as near five threads showing as is possible to effect a tight seal. When a valve is re-installed in its mated cylinder a reliable seal can be achieved by torquing the valve one half to one full thread into the cylinder beyond its previous installation. Used valves should seal displaying one or two threads less than with any previous installation. If a gas-tight seal cannot be achieved through a reasonable application of the above guidelines, the cylinder shall be rejected and marked condemned for enlarged neck threads.

5.3.5 Rejected Cylinders. Government owned cylinders considered unsatisfactory for filling or refilling shall be processed as specified in the contract or purchase order (6.2). Other cylinders shall be disposed of by the contractor.

5.3.6 Filling. Just prior to the filling operation, the cylinders shall be evacuated to 100 mmHg or less pressure. Drying in accordance with 5.3.5 may be substituted for this step if accomplished just prior to filling. The cylinders shall be filled through a filter (5.5) to a pressure within a range of 99 to 100% of a value selected from the applicable pressure temperature conversion chart. Selection of the above value shall be based on the rated service pressure stamped on the cylinders and the ambient temperature. For service pressures of 1800 psig to 2640 psig, the Pressure-Temperature Conversion Chart of CGA Specification G-11.1 shall be used. For service pressures of 6000 psig, Table III shall be used. Cylinders having more than the maximum allowable filling pressure shall be discharged to within the acceptable range Cylinders having less than the specified minimum filling pressure shall be recharged to within the acceptable range.

5.3.6.1 Leakage. No leakage shall be observed when filled cylinders are tested in accordance with 4.6.2.

5.3.7 Rejected Filled Cylinders. Filled cylinders rejected because of impurity content shall be discharged to zero pressure and reprocessed in accordance with 5.3.5.

5.4 Liquid Cylinders. Qualification, maintenance, and use of liquid cylinders (Dewar type) shall conform to requirements of DOT 49 CFR 173.34, and any other DOT requirements, and as follows.

5.4.1 Cleaning and Repair. Unless otherwise provided for in the contract or purchase order, all cylinders shall be visually inspected both internally and externally for the presence of water, rust, scale, oil film, or other foreign matter, sufficient insulation and vacuum, and physical damage (6.2). Any insulation damage, vacuum depletion, or physical damage which would endanger safe transportation of the product

TABLE III

Pressure Temperature Conversion Chart *

Container Service Pressure - 6000 psig

TEMP F	PSIG	TEMP F	PSIG	TEMP F	PSIG
0	4567	44	5469	88	6366
2	4608	46	5510	90	6407
4	4649	48	5551	92	6448
6	4690	50	5592	94	6488
8	4731	52	5633	96	6529
10	4772	54	5674	98	6570
12	4813	56	5714	100	6610
14	4854	58	5755	102	6651
16	4895	60	5796	104	6691
18	4936	62	5837	106	6732
20	4978	64	5878	108	6772
22	5019	66	5918	110	6813
24	5060	68	5959	112	6853
26	5101	70°F.	6000	114	6894
28	5142	72	6041	116	6935
30	5183	74	6081	118	6975
32	5224	76	6122	120	7016
34	5265	78	6163	122	7056
36	5305	80	6204	124	7096
38	5346	82	6244	126	7137
40	5387	84	6285	128	7177
42	5428	86	6326	130	7218

* Calculated from the equation of state for argon of A. L. Gosman, et al. See NBS Technical Publication NSRDS-NBS 27.

shall be repaired prior to reuse. If evidence of internal contamination is found, the cylinders shall be recleaned by a suitable method to remove the contamination prior to use.

5.4.2 Gaskets. Gaskets used to seal cylinder openings shall be polytetrafluoroethylene, polychlorotrifluoroethylene, or other material compatible with the product and approved for use by the procuring activity (6.2). The contractor shall assure that all gaskets are serviceable and furnish new gaskets when necessary so that a tight seal is assured.

5.4.3 Filling. Cylinders and cryogenic tank trailers shall be filled through a filter (5.5) to the filling density specified by DOT.

5.5 Filter.

5.5.1 Containers. A filter with a 10-micron nominal and 40-micron absolute rating shall be installed between the manufacturer's plant system and the manifold used to fill the gas or liquid containers for delivery.

5.6 Labeling and Marking. Each container shall be labeled and placarded in accordance with MIL-STD-129, and established DOT regulations or special permit. In addition, an identification tag, and container color code shall be used.

5.6.1 Identification Tag. Unless otherwise specified in the contract or purchase order, an identification tag impervious to climatic conditions shall be wired to the outlet port of each container and shall contain the following information: Product name, specification number with revision letter, type designation, FSN number, quantity, name of manufacturer, name of contractor (if different from manufacturer), date of manufacture, and lot identification number (6.2).

5.6.2 Cylinder Color Code. Unless otherwise specified by the procuring activity, each cylinder shall be color coded in accordance with MIL-STD-101 for Type I, or MIL-STD-172 for Type II, and the exact name identification to be marked on the outside of the cylinders shall be "argon" or "liquid argon" as appropriate (6.2). Any other name identification shall be obliterated by removing or overpainting

6.0 NOTES: This section contains nonmandatory provisions only to assist both the contractor and buyer in the proper understanding and utilization of this specification.

6.1 Intended Use. The argon is used as a welding, purging, pressurizing, atmospheric inerting agent, or missile checkout gas in various systems.

6.2 Ordering Data. Purchasers should exercise any desired options offered herein, and procurement documents should specify the following:

6.2.1 Procurement Requirements.

6.2.1.1 Title, number, type and date of this specification.

6.2.1.2 Method of shipment, type and capacity of container (5.1 and 6.3)

6.2.1.3 When inspection requirements are to be performed by other than the supplier (4.1).

6.2.1.4 When variation in points of inspection are granted (4.1.1).

6.2.1.5 When waiver on quality conformance tests on each sample is granted (4.3.2.2).

6.2.1.6 When variation in sampling method is granted (4.3.2.2.2).

6.2.1.7 When disposition of rejected product has to be specified (4.4).

6.2.1.8 When cleaning and repair schedule is required for leased or Government owned containers (5.2).

6.2.1.9 When instructions for disposition of rejected cylinders are required (5.3.6).

6.2.1.10 When cleaning and repair provisions are other than specified (5.4.1).

6.2. 1.11 When approval of gasket material is required (5.4.2).

6.2.1.12 When identification tag is to be other than specified (5.6.1).

6.2.1.13 When the container, color code is waived (5.6.2).

6.2.1.14 When variation in requirement is granted (3.1).

6.2.1.15 When other than a service pressure of 6000 psi is required for Grade A, Type I.

6.2.2 Contract Data Requirements. Data conforming to Data Item Description DI-T-3733, Quality Conformance Test Reports (Fuels), is a requirement for delivery in connection with this specification. The data item will be specified for delivery on the DD 1423.

6.3 Containers. As of the date of this specification, the following listed containers are considered acceptable for military use and approved for argon as specified by DOT:

6.3.1 Type I (Gaseous).

6.3.1.1 Cylinders of specifications DOT 3A, 3AA, 3AAX, and 3E1800.

6.3.2 Type II (Liquid).

6.3.2.1 Cylinder (Dewar Type) of specification DOT 4L 200.

6.4 Field Use Limits. The requirements established by this specification are applicable for procurement purposes only and are valid solely as utilized by vendor and the procuring activity. They are not intended to constitute field use limits, which should be individually determined for each application.

6.4.1 Particulate Contamination. Long term storage of filled argon containers may allow particulate contaminants to accumulate. For this reason, the installation of in-line filters between the containers and system if applicable is recommended prior to use. Filters with a five micron nominal and 25 micron absolute rating for Type I (gaseous) and with a 10 micron nominal and 40 micron absolute rating for Type II (liquid) are suggested.

6.5 Calibration Gas Standards. Calibration gas standards may be required to calibrate (zero and span) the analytical instruments used to determine the purity and impurity contents of the argon. The accuracy of measuring equipment used in preparing these standards shall be traceable to the NBS.

6.6. Supersession Data. This specification includes the requirements of the following Air Force Purchase Item Description (AFPID's):

AFPID	6830-5	Dated	19 April 1971
AFPID	6830-6	Dated	22 September 1971
AFPID	9135-19	Dated	17 February 1972

PREPARING ACTIVITY

Air Force - 12

Project No. 9135-F076

☆U S GOVERNMENT PRINTING OFFICE 1976 703-020/1564

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

OMB Approval
No 22-R255

INSTRUCTIONS The purpose of this form is to solicit beneficial comments which will help achieve procurement of suitable products at reasonable cost and minimum delay, or will otherwise enhance use of the document DoD contractors, government activities, or manufacturers/vendors who are prospective suppliers of the product are invited to submit comments to the government Fold on lines on reverse side, staple in corner, and send to preparing activity Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements Attach any pertinent data which may be of use in improving this document If there are additional papers, attach to form and place both in an envelope addressed to preparing activity

DOCUMENT IDENTIFIER AND TITLE

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

1 HAS ANY PART OF THE DOCUMENT CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A GIVE PARAGRAPH NUMBER AND WORDING

B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2 COMMENTS ON ANY DOCUMENT REQUIREMENT CONSIDERED TOO RIGID

3 IS THE DOCUMENT RESTRICTIVE?

☐ YES ☐ NO *(If "Yes", in what way?)*

4 REMARKS

SUBMITTED BY *(Printed or typed name and address - Optional)*

TELEPHONE NO

DATE

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