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MIL-STD-1805
17 MAY 1989

MILITARY STANDARD

BREATHING APPARATUS,
SELF-CONTAINED, 30 MINUTE

AMSC N/A

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FSC 4240

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FORWARD

1. This military standard is approved for use by WR-ALC, Department of the Air Force and is available for use within the distribution limitations noted on the cover page.
2. The 30 minute self-contained breathing apparatus is used by firefighters and rescue personnel for specific application. Minimum acceptable respiratory protection programs require close liaison among workers, supervisors, safety and medical personnel to safe guard life and health through proper training in the selection, use, care, and maintenance of self-contained breathing apparatuses assigned to individual workers for their exclusive use. Each SCBA shall be properly fitted, leakage tests performed and the face-to-face seal tested in a realistic test situation as outlined in the AFOSH standard. NIOSH approval is required for a SCBA and restricts interchange of parts including test equipment required to maintain the approved breathing apparatuses. To maintain several different types of equipment at one site could cause loss of life or permanent injury to personnel when an emergency exists. Stocking bench parts and training personnel on several different types of equipment is not cost effective to the Air Force. In order to insure user's safety when donning/doffing and wearing the unit in emergency situations, a control of proliferation of self-contained breathing apparatuses must be maintained. Additionally, minimizing the variety of SCBAs will reduce the costs involved with user certification, repair certification, test equipment and spare parts.
3. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: WR-ALC/MMEDT, Robins Air Force Base, Warner Robins GA 31098-5609 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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BREATHING APPARATUS - SELF-CONTAINED,
30 MINUTE

This military standard dated 17 January 1989 is approved for use by WR-ALC, Department of the Air Force, and shall be used in conjunction with Commercial Item Description A-A-50722A.

1. SCOPE

1.1 Scope. This specification covers 30 minute self-contained breathing apparatus for respiratory protection in oxygen-deficient, toxic, or smoked filled atmospheres containing hazardous vapors or gases. Protection is not provided against poisoning by skin absorption.

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2. APPLICABLE DOCUMENTS

2.1 Other Government document. The following document forms a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue is cited in the solicitation.

30 CFR 11 - Respiratory Protective Devices; Tests for Permissibility;
Fees

(The Code of Federal Regulations (CFR) and the Federal Register (FR) are for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, DC 20402. When indicated, reprints of certain regulations may be obtained from the Federal agency responsible for issuance thereof.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Z88.2 - 1980 Practices for Respiratory Protection

ANSI Z88.5 - 1981 Practices for Respiratory Protection for the
Fire Services

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York NY 10018-3308.)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA - 1981 Certification Regulation - Open Circuit
Self-Contained Breathing Apparatus for Fire
Fighters

(Application for copies should be addressed to National Fire Protection Association, Batterymarch Park, Quincy MA 02269.)

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3. DEFINITIONS

3.1 Acronyms used in this standard. The acronyms used in this standard are defined as follows:

- a. AFOSH - Air Force Occupational Safety and Health
- b. CID - Commerical Item Description
- c. CFR - Code of Federal Regulations
- d. DID - Data Item Description
- e. DODISS - Department of Defense Index of Specifications and Standards
- f. FR - Federal Register
- g. MSHA - Mining Safety and Health Administration
- h. NIOSH - National Institute for Occupational Safety and Health
- i. SCBA - Self-Contained Breathing Apparatus

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4. GENERAL REQUIREMENTS

4.1 Testing requirements and approval. Self-contained breathing apparatus furnished under this specification shall be tested and approved in accordance with 30 CFR 11 and NFPA - 1981 and shall possess NIOSH/MSHA approval. The self-contained breathing apparatus shall also meet the requirements of ANSI Z88.2 - 1980 and ANSI Z88.5 - 1981.

4.1.1 Certification. The supplier shall certify in writing to the contracting officer or his representative that the items he proposes to furnish the Government under this specification are jointly approved by NIOSH and MSHA, U. S. Department of the Interior, under 30 CFR 11, subpart H. The certification shall include the NIOSH approval number. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

4.1.2 Material. All apparatus furnished under this specification shall be of the manufacturer's most recent production model approved in accordance 30 CFR 11, subpart D. The materials used for the manufacturer and assembly of the apparatus shall be new.

4.1.3 Quality assurance provisions.

4.1.3.1 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 order, the supplier 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 that supplies and services conform to prescribed requirements.

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5. DETAILED REQUIREMENTS

5.1 Characteristics of the 30 minute breathing apparatus. The apparatuses shall be an individual respiratory protective device designed to provide the user with a respirable atmosphere from a compressed gas cylinder. The apparatus shall consist of the following groups:

- a. The facepiece assembly.
- b. The regulator assembly.
- c. The backpack and harness assembly.
- d. The alarm warning system.
- e. A suitcase type carrying case shall be furnished with each apparatus for transportation and storage purposes.
- f. The respirator tester.

5.1.1 Approved working temperature. The 30 minute breathing apparatus shall be able to work in conditions from -25°F to +160°F.

5.1.2 Facepiece assembly. The body material of the facepiece shall consist of a single-polycarbonate lens. The face seal material shall be composed of natural rubber blend. There shall be an adjustable 5-strap headharness. The facepiece must contain a speaking diaphragm and shall be used to project the sound of the user's voice through the mask. The lens material shall be treated with a scratch resistant coating to alleviate damage to the polycarbonate lens. The internal baffle shall be able to direct sound of the user's voice into the speaking diaphragm. The exhalation valve shall be capable of venting air to the surrounding atmosphere. The spectacle kit shall be used to mound prescription lenses inside the facepiece without disturbing the facepiece seal. The nosecup assembly shall be used to reduce the possibility of lens fogging. The cover lens shall provide additional facepiece protection. The facepiece shall possess corrosion resistant spring metal retainer clips. The facepiece assembly shall have a sufficient breathing tube to allow its connection to the regulator and shall be designed to allow inhalation rates as high as 100 liters per minute without collapse.

5.1.3 Regulator assembly. The regulator assembly shall be a chest mounted positive pressure system. The regulator shall incorporate a high-pressure and low-pressure relief device to preclude possibility of damage to the regulator's internal components or diaphragm cover in case a build-up of excessive pressure. The regulator shall possess an integral air pressure gauge, supply hose, and an integral main line and by-pass controls. The main line valve and by-pass valve knobs shall consist of two different colors and shapes.

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5.1.4 Harness and backplate assembly. The harness shall be fabricated to allow maximum support and comfort to the user. The harness shall be foam padded with a two-inch wide nylon strap at each shoulder and a padded strap across the bottom of the backplate where contact is made with the wearer's back. The harness assembly shall be flame resistant. The harness fittings shall be treated for protection against corrosion. The backplate shall be fabricated of 1/8 inch thick anodized aluminum or equivalent material. The weight of the cylinder shall be supported by two ramps riveted to the backplate. The cam-action clamp shall be secured to the harness by a self-locking cam-action clamp designed to prevent accidental release.

5.1.5 Alarm warning system. The alarm warning system shall give an audible warning sound (AWS) when the cylinder pressure reaches approximately 540 psig. The AWS shall continue until the cylinder pressure drops below approximately 200 psig. The operating pressures must be preset at the manufacturer's plant. When AWS occurs, the alarm should consume no more than two liters of air per minute.

5.1.6 Carrying case. The breathing apparatus shall be supplied a case to facilitate carrying the apparatus and to protect it in storage. The dimensions shall approximately equal 27 x 18 x 11 inches and weighs not more than approximately 12 pounds (empty).

5.1.7 Respirator testers. The 30 minute breathing apparatus shall be capable of being tested with existing testers in the Air Force system.

5.2 System weight. The standard system's weight for the breathing apparatus shall be no greater than 32 pounds. When light weight material is used, the system's weight shall be no greater than 26 pounds.

5.3 Workmanship. The apparatus tubes shall be free from contamination (grease, oil, or other foreign matter), damage (dents, scratches, or punctures), and other defects which might affect functioning.

5.4 Justification for standardizing the 30 minute breathing apparatus. The 30 minute self-contained breathing apparatus is used by firefighters and rescue personnel for specific application. Minimum acceptable respiratory protection programs require close liaison among workers, supervisors, safety and medical personnel to safe guard life and health through proper training in the selection, use, care and maintenance of self-contained breathing apparatuses assigned to individual workers for their exclusive use. Each SCBA shall be properly fitted, leakage tests performed and the face-to-face seal tested in a realistic test situation as outlined in the AFOSH standard. NIOSH approval is required for a SCBA and restricts interchange of parts including test equipment required to maintain the approved breathing apparatuses. To maintain several different types of equipment at one site

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could cause loss of life or permanent injury to personnel when an emergency exits. Stocking bench parts and training personnel on several different types of equipment is not cost effective to the Air Force. In order to insure user's safety when donning/doffing and wearing the unit in emergency situations, a control of proliferation of self-contained breathing apparatuses must be maintained. Additionally, minimizing the variety of SCBAs will reduce the costs involved with user certification, repair certification, test equipment and spare parts.

5.5 Testing requirement. The breathing apparatuses shall be tested and approved in accordance with 30 CFR 11 and shall possess NIOSH/MSHA approval. Additionally, the units must be tested and approved in accordance with NFPA - 1981 (1987) requirements.

5.6 Preparation.

5.6.1 Packaging, packing, and marking. The 30 minute breathing apparatus shall be packaged, packed, and marked in accordance with normal commercial practice.

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6. NOTES

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

6.1 Intended use. Breathing apparatuses in accordance with this specification shall be designed for use by emergency crews for entrance into hazardous atmospheres. They are not for underground mine rescue or recovery operations except as auxiliary equipment.

6.2 Issue of DODISS. When this standard is used in acquisition, the applicable issue of the DODISS must be cited in the solicitation (see 2.1 and 2.2).

6.3 Consideration of data requirements. The following data requirements should be considered when this standard is applied on a contract. The applicable Data Item Descriptions (DIDs) should be reviewed in conjunction with the specific acquisition to insure that only essential data are requested/provided and that the DIDs are tailored to reflect the requirements of the specific acquisition to insure that only essential data are requested/provided and that the DIDs are tailored to reflect the requirements of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
4.1.1	DI-T-3714A	Acceptance Test Procedure	---
4.1.1	DI-T-3721A	Acceptance Test Reports	---

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6.4 Acceptable manufacturers. The following products are known to meet the requirements of this specification. Commercial Item Description (CID) A-A-50722 shall be used in conjunction with this specification for the acquisition of the breathing apparatuses listed below.

<u>Manufacturer</u>	<u>NSN</u>
Mine Safety Appliances	4240-01-190-0455
Scott Aviation Company	4240-00-109-3287

6.5 Subject term (key word) listing.

Breathing apparatus
 Breathing apparatus, self-contained
 Breathing apparatus, self-contained, 30 minutes
 Firefighters respiratory protection
 Rescue personnel respiratory protection
 Respiratory protection
 Self-contained breathing apparatus
 SCBA

MILITARY INTEREST
 Custodians:

Air Force - 99
 Navy - AS

PREPARING ACTIVITY
 Air Force - 84

Project No.
 (4240 - 0556)

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