



AEROSPACE STANDARD	AS8026™	REV. B
	Issued 1987-05 Reaffirmed 2016-06 Revised 2019-08 Superseding AS8026A	
Crewmember Demand Oxygen Mask for Transport Category Aircraft		

RATIONALE

Various aspects of the existing document have become outdated. Among these are content related to flammability, material choices, and cleaning methods. This document serves as the Minimum Performance Standard for TSO/ETSO C78 and recent revisions to this TSO/ETSO have taken exception to several aspects of this document's content. This revision updates the content of the Standard to reflect state-of-the-art current practices and to harmonize this standard with the most recent version of the TSO/ETSO.

1. SCOPE

This standard covers oxygen masks and breathing valves used with both panel mounted and mask mounted demand and pressure-demand oxygen regulators. Mask mounted oxygen regulators are covered under other standards, but when the mask mounted regulator incorporates an integral exhalation valve, the performance of this valve shall meet the requirements of this standard.

1.1 Purpose

This standard establishes the minimum performance standards for the manufacture of demand type crewmember oxygen masks to be used with straight demand, diluter-demand, and pressure-demand oxygen systems.

2. REFERENCES

NOTE: Within this document, specific revisions and/or revision dates of certain references are cited in order to maximize the extent of harmonization between this document and the relevant TSO/ETSO. If a party desires to utilize a more recent revision that achieves equal or better performance, this possibility should be coordinated with the responsible Airworthiness Authority.

2.1 Applicable and Related Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and 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. Materials listed but not subsequently referenced are included to provide the reader with additional information that may be useful but is not necessarily required for compliance.

To facilitate use of equipment in the broadest range of locales, it may be appropriate to consider simultaneously complying with regulations from multiple regions (e.g., FAA requirements for the U.S. and EASA requirements for the EU) to the extent feasible.

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2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AIR825B	Oxygen Equipment for Aircraft
ARP1176	Oxygen System and Component Cleaning
AS1046	Minimum Standard for Portable Gaseous, Oxygen Equipment
AS1194	Regulator Oxygen, Diluter Demand, Automatic Pressure Breathing
AS8027	Crewmember Oxygen Regulators, Demand
AS8031	Personal Protective Devices for Toxic and Irritating Atmospheres, Air Transport Flight Deck (Sedentary) Crewmembers

2.1.2 ASTM Publications

Available from ASTM International, 100 Bar Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM D572-81	Rubber-Deterioration by Heat & Oxygen
ASTM D750-85	Rubber Deterioration in Carbon-Arc Weathering Apparatus
ASTM D1149-86	Rubber, Deterioration-Surface Ozone Cracking in a Chamber
ASTM D1171-86	Rubber Deterioration - Surface Ozone Cracking Outdoors or Chamber (Triangular Specimens)
ASTM D2228-83	Rubber Property-Abrasion Resistance (Pico Abrader)

2.1.3 EASA Publications

Available from European Aviation Safety Agency, Ottoplatz, 1, D-50679 Cologne, Germany, Tel: +49 221 8999 000, www.easa.europa.eu.

EASA ETSO C78	Crewmember Oxygen Masks
EASA ETSO C89a	Crew Member Oxygen Regulators, Demand
EASA ETSO C99a	Flight Deck (Sedentary) Crewmember Protective Breathing Equipment
EASA ETSO C139a	Aircraft Audio Systems and Equipment
EASA CS-25	Large Aeroplanes

2.1.4 FAA Publications

Available from Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591, Tel: 866-835-5322, www.faa.gov.

FAA AM-78-41	FAA Report, Optical Properties of Smoke Protective Devices
FAA TSO C78a	Crewmember Demand Oxygen Masks
FAA TSO C89a	Crewmember Oxygen Regulators, Demand

FAA TSO C99a Flight Deck (Sedentary) Crewmember Protective Breathing Equipment

FAA TSO C139a Aircraft Audio Systems and Equipment

2.1.5 FAR Publications

Available from Federal Aviation Regulations, <https://www.faa.gov>.

FAR Part 25 Airworthiness Standards, Transport Category Aircraft

FAR Part 91 General Operating Flight Rules

2.1.6 Other Publications

American National Standard (ANSI) Z87.1-1979, Practice for Occupational and Educational Eye and Face Protection.

MIL-L-38169, Lenses, Goggle & Visor, Helmet, Optical Characteristics, General Specification For (Now renumbered as MIL-PRF-38169).

MIL-STD-417, Rubber Composition, Vulcanized General Purpose, Solid.

An Anthropometric Sizing Program for Oral Nasal Oxygen Masks Based on 1967 US Air Force Survey Data, AMRL Technical Report 75-51, J. T. McConville and Milt Alexander.

Anthropometric Sizing and Fit-Test of MC-1 Oral-Nasal Oxygen Mask, WADC Technical Report 58-505, March 1959, I. Emanuel, M. Alexander and E. Churchill.

Anthropometry of Air Force Women, AMRL Technical Report 70-5, April 1972, C. D. Clauser, et al.

Recommended Subject Selection and Test Procedure for Quantitative Respirator Testing, J. T. McConville, E. Churchill and A. Hack, HEW Contract HSM-99-75-15, November 30, 1973.

Anthropometry for Respirator Sizing, J. T. McConville, E. Churchill and L. L. Lauback, HEW Contract HSM-099-71-11, April 30, 1972. 2.3.

2.2 Definitions

ETSO: A technical standard order issued by EASA.

Lbf: pound-force – a unit of force or weight used in some systems of measurement, including English Engineering units.

N: Newton – an international unit for measurement of force equal to 1 kilogram meter per second squared.

Oxygen Mask: The oxygen masks to be used for transport aircraft shall be of the oronasal type covering the mouth and nose, or a full-face type which includes coverage of the eyes as well as the mouth and nose. Within this document the term “mask” is used as a shortened alternative to “oxygen mask.”

TSO: Technical Standard Order. This term frequently refers to technical standard orders issued by the FAA in the U.S. but also is sometimes used generically to refer to a technical standard order issued by an Airworthiness Authority.

2.3 Classification

This standard covers, but is not limited to the following types of oxygen masks:

Type I - Quick donning mask with integral breathing valve(s),

Type II - Quick donning mask without integral breathing valve(s),

Type III - Non-Quick donning mask with integral breathing valve(s),