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SAFE WORKING IN A CONFINED SPACE



STANDARDS ASSOCIATION OF AUSTRALIA
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This Australian standard was prepared by Committee SF/37, Work in Confined Spaces. It was approved on behalf of the Council of the Standards Association of Australia on 27 February 1986 and published on 5 May 1986.

The following interests are represented on Committee SF/37:

Australian Chemical Industry Council
Australian Institute of Occupational Hygienists
Australian Institute of Petroleum Ltd
Australian Wine and Brandy Producers Association
Australian and New Zealand Society of Occupational Medicine
Confederation of Australian Industry
Department of Defence
Department of Employment and Industrial Affairs, Qld
Department of Employment and Industrial Affairs, Vic
Department of Employment and Industrial Relations
Department of Health
Department of Industrial Relations, N.S.W.
Department of Labour and Industry, Tas.
Gas and Fuel Corporation of Victoria
Melbourne and Metropolitan Board of Works
Metal Trades Industry Association of Australia
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AUSTRALIAN STANDARD

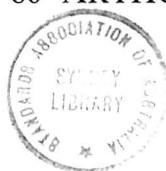
SAFE WORKING IN A CONFINED SPACE

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PREFACE

This standard was prepared by the Association's Committee on Work in Confined Spaces under the direction of the Safety Standards Board.

The standard was prepared to meet the need for requirements and procedures for the prevention of occupational injuries and fatalities associated with persons entering and working in a confined space. The standard is designed not only to ensure that confined spaces are made safe for those entering them, but also to highlight the likely hazards associated with such work areas and the relevant safe work practices necessary to deal with these hazards.

The standard emphasizes the responsibilities for safety both at the time of entry and during the entire operation. Such responsibilities cover conditions of work for an organization's own employees as well as for any contractors or other workers on the premises. Adequate steps must be taken to eliminate or control hazards and all persons involved in entry of a confined space must be trained and instructed on the nature of the hazards and the precautions to follow.

Appendices are included to list additional recommendations for the conduct of specific tasks (e.g. cleaning, hotwork) in a confined space. These recommendations list only the special precautions necessary when such tasks are undertaken in a confined space.

Because the definition of 'confined space' includes such a wide variety of situations/operations, it has been necessary to provide exemptions from *some* provisions of the standard for those organizations, particularly large instrumentalities, who have documented standing orders approved by regulatory authorities for the safe conduct of their respective operations (e.g. in sewers, telecommunication tunnels, etc).

All interests represented on the drafting committee are hopeful that this Australian standard will be considered for incorporation in statutory regulations and that uniform national requirements will be applied for work in confined spaces.

During development of this standard, reference was made to the documents listed below and acknowledgement is made of the assistance received therefrom:

- ✓ (a) ILO Encyclopedia of Occupational Health and Safety—Confined Spaces $\frac{363.11}{10}$
- (b) CIS Information Sheet No 6, Entering Tanks and Other Enclosed Spaces
- ✓ (c) ANSI Z117.1-1977, Safety Requirements for Working in Confined Spaces $\frac{363.11}{11}$
- ✓ (d) NIOSH Criteria for a Recommended Standard—Working in Confined Spaces $\frac{363.11}{9}$
- ✓ (e) Guidance Note GS5 from the (U.K.) Health and Safety Executive
- ✓ (f) National Health and Medical Research Council (NHMRC) Occupational Health Guide—Threshold Limit Values. $\frac{2613.6}{4}$

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

SAFE WORKING IN A CONFINED SPACE

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard sets out the particular requirements and procedures for the safety of persons required to enter and/or work in a confined space.

NOTE 1: For the purpose of this standard, a person whose upper body and/or head is within a confined space is considered to have entered the confined space.

The purpose of this standard is to guide employers and their employees so that they may avoid hazards which may otherwise be experienced when entering a confined space and thereby prevent collapse, injury, or death from those hazards.

NOTE 2: Major hazards commonly resulting in fatalities in a confined space include—

- (a) Oxygen deficiency in the confined space.
- (b) The presence of atmospheric contaminants in the confined space.
- (c) Accidental operation of machinery, services.
- (d) Performance of non-routine tasks.

The standard does not include requirements and procedures for ensuring general occupational health and safety, as these are covered in other standards and regulations. However, it should be noted that a confined space may exacerbate other hazards, e.g. noise, heat stress.

NOTE 3: Recommendations for design, construction and installation aspects of a confined space, intended to minimize hazards during occupancy, are listed in Appendix A.

1.2 APPLICATION. This standard applies to confined spaces as defined in Clause 1.4.2, but does not apply to underground mining and tunnelling construction, or to work in a space at other than atmospheric pressure.

1.3 REFERENCED DOCUMENTS. A list with titles of the standards referred to in this standard is given in the Annex.

1.4 DEFINITIONS. For the purpose of this standard, the following definitions apply:

1.4.1 Authorized person—a person authorized in writing to undertake specific tasks (e.g. place locks and tags on isolating equipment, testing of atmosphere, etc).

1.4.2 Confined space—a space of any volume which—

- (a) is not intended as a regular workplace;
- (b) has restricted means for entry and exit;

- (c) may have inadequate ventilation and/or an atmosphere which is either contaminated or oxygen-deficient; and

- (d) is at atmospheric pressure during occupancy.

NOTE: Confined spaces include but are not limited to—

- (i) storage tanks, tank cars, process vessels, boilers, silos and other tank-like compartments usually having only a manhole for entry;
- (ii) open-topped spaces of more than 1.5 m in depth such as pits or degreasers, which are not subject to good natural ventilation;
- (iii) pipes, sewers, tunnels, shafts and ducts, and similar structures; and
- (iv) any shipboard spaces entered through a small hatchway or manhole, cargo tanks, cellular double bottom tanks, duct keels, cofferdams, ballast and oil tanks, and void spaces; but not including dry cargo holds.

1.4.3 Contaminant—any dust, fume, mist, vapour, gas, or other substance, the presence of which can be harmful.

1.4.4 Explosive (flammable) range—the range of flammable vapour or gas-air mixture between the Lower Explosive Limit (LEL) and the Upper Explosive Limit (UEL).

1.4.5 Hot work—welding, thermal or oxygen cutting, heating, and other fire-producing or spark-producing operations.

1.4.6 Regulatory Authority—a Minister of the Crown, a government department, commission or other authority having power to issue regulations, orders or other instructions having the force of law in respect of any subject covered by this standard.

1.4.7 Responsible person—that person authorized in writing as responsible for the safe execution of the work.

NOTE: The Regulatory Authority and/or owner of a confined space may require authorization of the responsible person to be subject to an appropriate examination.

1.4.8 Shall and should—the word 'shall' is to be understood as mandatory and the word 'should' as non-mandatory, advisory or recommended.

1.4.9 Threshold limit values (TLV) for atmospheric contaminants—the airborne concentrations of contaminants which represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effect.

NOTE: Reference should be made to the National Health and Medical Research Council (NHMRC) Occupational Health Guide 'Threshold Limit Values'. Guidance on the interpretation of these limits should be obtained from persons trained in the discipline of Occupational Hygiene.