AS 4297—1995
Reconfirmed 2017

Australian Standard®

Underground mining—Stationary air compressors

[Based on ISO 5388-1981 Stationary air compressors—Safety rules and code of practice]

This Australian Standard was prepared by Committee ME/18, Mining Equipment. It was approved on behalf of the Council of Standards Australia on 15 May 1995 and published on 5 August 1995.

The following interests are represented on Committee ME/18:

Australasian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Australian Coal Association
Australian Mining Industry Council
Bureau of Steel Manufacturers of Australia
Chamber of Mines of Western Australia
Department of Energy and Minerals, Vic.
Department of Minerals and Energy, Qld
Department of Minerals and Energy, W.A.
Department of Minerals Resources, N.S.W.
Institute of Engineers, Australia
Institute of Mining Electrical and Mining Mechanical Engineers
New South Wales Coal Association
Queensland Coal Board
Queensland Mining Council
South Australian Chamber of Mines
Testing Interests
University of New South Wales

Additional interests participating in preparation of Standard:

Mining companies
Mining consultants
Mining equipment manufacturers and suppliers

This Standard was issued in draft form for comment as DR 94232.

STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 4297—1995
Underground mining—Stationary air compressors

RECONFIRMATION NOTICE

Technical Committee ME-018 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 26 February 2017.

The following are represented on Technical Committee ME-018:

Australasian Institute of Mining and Metallurgy
Australian Chamber of Commerce and Industry
Australian Industry Group
Construction and Mining Equipment Industry Group
Department of Industry, Skills and Regional Development (NSW)
Department of Mines and Petroleum (WA)
Department of Natural Resources and Mines (QLD)
Engineers Australia
Minerals Council of Australia
Mining Electrical and Mining Mechanical Engineering Society
Solid Energy New Zealand
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NOTES

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PREFACE

This Standard was prepared by the Standards Australia Committee ME/18 on Mining Equipment. The objective of this Standard is to provide rules for the safe design, construction, installation and operation of air compressors located in underground mines.

This Standard is based on ISO 5388:1981, *Stationary air compressors—Safety rules and code of practice*, the full text of which has been reproduced herein. Where the text of ISO 5388 has been varied technically to accommodate different or additional requirements pertaining to underground compressors in Australia, it is indicated by marginal bars against the clause affected.

Variations to ISO 5388 are given in Appendix ZZ.

References to international publications in ISO 5388 should be replaced, where appropriate, by references to Australian Standards as follows:

Reference to International Standard		*Australian Standard*	
ISO		AS	
508*	Identification colours for pipes conveying fluids in liquid or gaseous condition in land installations and on board ships	—	
1000	SI units and recommendations for the use of their multiples and of certain other units	1000	The International System of Units (SI) and its application
1996	Acoustics—Description and measurement of environmental noise	—	
1996.1	Part 1: Basic quantities and procedures.		
1999	Acoustics—Assessment of occupational noise exposure for hearing conservation purposes	—	
2151	Measurement of airborne noise emitted by compressor/primemover-units intended for outdoor use	2221	Method for measurement of airborne sound emitted by compressor units including primemovers and by pneumatic tools and machines
		2221.1	Part 1: Engineering method for measurement of air-borne sound emitted by compressor/prime-mover units intended for outdoor use
2314	Gas turbines—Acceptance tests	—	
3046	Reciprocating internal combustion engines: Performance	2789	Internal combustion engines —Performance
3448	Industrial liquid lubricants— ISO viscosity classification	—	

* Since the publication of ISO 5388:1981, ISO 508 has been subsequently withdrawn.

ISO		AS	
3864	Safety colours and safety signs	—	
3977	Gas turbines—Procurement	—	
3989*	Acoustics—Measurement of airborne noise emitted by compressor units including primemovers—Engineering method for determination of sound power levels	—	
IEC			
34	Rotating electrical machines	1359	Rotating electrical machines —General requirements
45	Specification for steam turbines	—	

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

* Since the publication of ISO 5388:1981, ISO 3989 has been subsequently withdrawn.

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First published as AS 4297— 1995.

AUSTRALIAN STANDARD

Underground mining—Stationary air compressors

Section one : General

1 Scope and field of application

1.1 This International Standard establishes standards for the safe design, conStruction, installation and operation of stationary and skid-mounted air compressors for general use. It specifies requirements to help minimizecompressor accidents and defines general safety practices for the field. Potential hazards associated with compressors are listed and detailed under the following headings in clause 6 :

a) improper lubrication;

b) inadequate cooling;

c) mechanical failures;

d) personal injury;

e) exposure to noise;

f) fires and explosions in the pressure system;

g) crankcase explosions;

h) incorrect installation, operation or maintenance.

This International Standard does not cover the prime movers, which are dealt with in other International Standards.

1.2 This International Standard is based on the requirement that the compressor components be designed in accordance with recognized good practice and applicable national standards.

1.3 This International Standard is intended to apply to stationary and skid-mounted air compressors for general use. However, the following types of compressor are specifically excluded :

a) compressors with a shaft input less than 2 kW;

b) compressors with an effective discharge pressure less than 0,5 bar (50 kPa);

c) compressors with an effective discharge pressure exceeding 50 bar (5 MPa);

d) compressors specifically supplying air for breathing, diving or surgery;

e) compressors used for air brake systems

f) ejectors.

2 References

ISO 508, *Identification colours for pipes conveying fluids in liquid or gaseous condition in land installations and on board ships.*[1)]

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units.*

ISO 1996, *Acoustics — Description and measurement of environmental noise — Part 1 : Basic quantities and procedures.*[2)]

ISO 1999, *Acoustics — Assessment of occupational noise exposure for hearing conservation purposes.*

ISO 2151, *Measurement of airborne noise emitted by compressor/primemover-units intended for outdoor use.*

ISO 2314, *Gas turbines — Acceptance tests.*

ISO 3046, *Reciprocating internal combustion engines: Performance.*

ISO 3448, *Industrial liquid lubricants — ISO viscosity classification.*

ISO 3864, *Safety colours and safety signs.*[3)]

ISO 3977, *Gas turbines — Procurement.*

1) At present at the stage of draft. (Revision of ISO/R 508-1966.)

2) At present at the stage of draft. (Revision of ISO/R 1996-1971.)

3) At present at the stage of draft. (Revision of ISO/R 408-1964 and ISO/R 557-1967.)