



Guide to Standards - Iron Ore Mining

**Your snapshot of Australian Standards
and Certification**

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Introduction

Iron ore can be extracted underground by using tunnelling and shaft equipment, or it can be sourced at ground level through the use of open pit mines (also known as surface mines). Iron ore is then transported and shipped to milling plants. This guide provides information on Standards, Certification schemes and other industry specific information that may be of interest to anyone working within the iron ore mining industry, including information relevant to mining, electrical, and civil/structural engineers, mining surveyors, metallurgists, electricians, government officers and environmental scientists.

You can find Standards relevant to the building and construction industry via the SAI Global [InfoStore](#) Subject Area [Mining and Minerals](#). Here, the Preface, Table of Contents, Foreword and Scope of most Australian Standards® are available.



The nature of the mining industry means that it encompasses a number of industry professions. As such, there is a wide range of Standards for this industry which are referenced in legislation. Knowing where those references appear in legislation and whether they are relevant to your organization can be difficult. The SAI Global [LexConnect](#) module provides understanding of which Australian Standards are referenced in which Australian Commonwealth, State and Territory legislation and regulation.

Disclaimer: The information contained in these pages is provided by way of indicative guidance only and SAI Global Limited does not represent that it is accurate or complete or suitable for any particular specific purposes. The onus remains with users to satisfy themselves of their requirements and needs for their own particular circumstances.

Workplace Health and Safety

Risk assessments can be completed by following the information that is included in [AS/NZS ISO 31000:2009, Risk management – Principles and guidelines](#). For more information on risk assessments, please refer to the [Management - Risk Management](#) section of this guide.

[AS/NZS 4801:2001, Occupational health and safety management systems - Specification with guidance for use](#) sets out requirements for an OH&S management system which may be used for auditing and certification purposes.

Occupational health and safety management systems can also be implemented by following the information described in:

- [AS/NZS 4804:2001, Occupational health and safety management systems – General guidelines on principles, systems and supporting techniques](#)
- [HB 211-2001, Occupational health and safety management systems – A guide to AS 4801 for small business](#)

Comprehensive information of workplace health and safety can be found in the [Standards Guide - Occupational Health & Safety](#).



It can be difficult understanding and keeping up-to-date with your Safety, Health & Environment (SH&E) obligations, especially in regard to how they apply to your business and which particular areas are affected. The SAI Global [SH&E Monitor](#) provides weekly alerts to assist you with understanding when, where and how relevant regulation impacts your business. The [SH&E Knowledgebase](#) provides an online comprehensive summary of Safety, Health & Environment obligations based on industry, business process, jurisdiction, Regulation type and/or key certification Standards.

Machinery Safety

Guarding and Risk Assessments

All machinery supplied with moving parts should be guarded by using the information in [AS 4024, Safety of machinery Series](#).

Risk assessments may also be undertaken by using the information included in:

- [AS 4024.1302-2006, Safety of machinery - Risk assessment - Reduction of risks to health and safety from hazardous substances emitted by machinery - Principles and specifications for machinery manufacturers](#)
- [EN 12100:2010, Safety of machinery – General principles for design – Risk assessment and risk reduction](#) (Note: This Standard is commonly used to complete risk assessments for imported equipment that has been tested/certified to the European Machinery Safety Directive, 2006/42/EC).

The above Standards are also referenced in [Safe Work Australia's Model Code of Practice, Managing Risks of Plant in the Workplace](#).

Tripping Devices

Distances operators should be from electro-sensitive and pressure sensitive tripping devices for machinery are described in [AS 4024.2801-2008, Safety of machinery - Safety distances and safety gaps - Positioning of protective equipment with respect to the approach speed of parts of the human body](#).

Design and safety requirements for two-hand tripping control devices are described in [AS 4024.2601-2008, Safety of machinery - Design of controls, interlocks and guarding - Two-hand control devices - Functional aspects and design principles](#).

Definitions for different types of tripping devices are also included in [AS 4024.1201-2006, Safety of machinery - General principles - Basic terminology and methodology](#).

Control Systems

Safety requirements for control systems used with machinery are included in [AS 4024.1501-2006, Safety of machinery – Design of safety related parts of control systems – General principles for design](#) and [AS 4024.1502-2006, Safety of machinery – Design of safety related parts of control systems – Validation](#).

Programmable Controllers

Programmable controllers used with machinery should be tested to [AS 61508, Functional safety of electrical/electronic/programmable electronic safety-related systems Series](#). Functional control systems used with machinery should be tested to the information that is included in [AS 62061-2006, Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems](#).

Automated Machinery

Automated machinery used on mining sites should be tested to [EN ISO 10218, Robots for Industrial Environments Series](#).

Accessing and Egressing Buildings and Facilities

Emergency evacuation plans for buildings and facilities should be prepared by following the information included in [AS 3745-2010, Planning for emergencies in facilities](#).

Exit signs and other types of lighting systems should be designed, installed and maintained by following the information in [AS/NZS 2293, Emergency escape lighting and exit signs for buildings Series](#). These Standards are also available as [AS 2293 Set-2005](#).

Recommended outdoor lighting levels for different types of facilities (including iron ore mine sites) can be determined by following the information in [AS/NZS 1680.5:2012, Interior and workplace lighting – Outdoor workplace lighting](#).

Emergency Safety (Deluge) Showers

Manufacturing requirements for emergency safety showers are included in [AS 4775-2007, Emergency eyewash and shower equipment](#).

Miners Lamps and Torches

Miners lamps used in areas where iron ore is excavated and processed can be tested to either:

- [AS/NZS 62013.1:2001, Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion](#) and [AS/NZS 62013.2:2001, Caplights for use in mines susceptible to firedamp - Performance and other safety-related matters](#)
- [AS/NZS 60079.35.1:2011, Explosive atmospheres – Caplights for use in mines susceptible to firedamp – General requirements - Construction and testing in relation to the risk of explosion](#)

Instructions and ergonomic issues that may need to be considered by those using miners lamps are included in [AS/NZS 60079.35.2:2012, Explosive atmospheres - Caplights for use in mines susceptible to firedamp - Performance and other safety-related matters](#).

Torches and communication devices used by persons working in underground iron ore sites should be tested to [AS/NZS 60079.11:2011, Explosive atmospheres - Equipment protection by intrinsic safety 'i'](#).

Working at Heights

Scaffolding

Those responsible for erecting and dismantling scaffolds should follow the information included in [AS/NZS 4576:1995, Guidelines for scaffolding](#).

Structural design, manufacturing and safety requirements for different types of scaffolding systems are included in [AS/NZS 1576, Scaffolding Series](#). Specific design and operational requirements for scaffolding, except trestle scaffolding, portable ladder intended to be used as working platforms and elevating working platforms is included in [AS/NZS 1576.1:010, Scaffolding – General requirements](#). Load-bearing requirements for scaffolds can be determined by following the information contained in [AS/NZS 1170, Structural design actions Series](#).

Fall Arrest Devices, Harnesses and Lifeline Systems

Fall-arrest devices should be selected and maintained by following the information that is included in [AS/NZS 1891.4:2009, Industrial fall-arrest systems and devices – Selection, use and maintenance](#). Manufacturing information for fall-arrest devices and harnesses is covered by:

- Harnesses and accessories
[AS/NZS 1891.1:2007, Industrial fall-arrest systems and devices - Harnesses and ancillary equipment](#)
- Horizontal lifeline and rail systems
[AS/NZS 1891.2:2001, Industrial fall-arrest systems and devices – Horizontal lifeline and rail systems](#)
- Fall-arrest Devices
[AS/NZS 1891.3:1997, Industrial fall-arrest systems and devices – Fall-arrest devices](#)

Ladders, Platforms, Walkways and Stairways

Personnel working at heights or accessing different types of machinery using fixed ladders, platforms, walkways and stairs are required to use the information included in [AS 1657-1992, Fixed platforms, walkways, stairways and ladders – Design, construction and installation](#). This Standard also includes information on testing requirements for fixed ladders.

Ladders, platforms and stairs used to access earth-moving machinery should be designed and tested to the information contained in [AS 3868-1991, Earth-moving machinery – Design guide for access systems](#).

Portable ladders should be selected by following the information contained in [AS/NZS 1892.5:2000, Portable ladders – Selection, safe use and care](#). Manufacturing information for different types of ladders is included in:

- Metal
[AS/NZS 1892.1:1996, Portable ladders – Metal](#)
- Timber
[AS 1892.2-1992, Portable ladders – Timber](#)
- Plastic
[AS/NZS 1892.3:1996, Portable ladders – Reinforced plastic](#)

Ropes and Slings

Information on the selection and maintenance of slings and ropes commonly used to assist those working at heights is included in:

- Wire-Rope Slings
[AS 1666.2-2009, Wire-rope slings – Care and use](#)
- Round Slings
[AS 4497.2-1997, Roundslings – Synthetic fibre – Care and use](#)
- Fibre Ropes
[AS 4142.1-1993, Fibre ropes – Care and safe usage](#)
- Rope Access Systems
[AS/NZS 4488.2:1997, Industrial rope access systems – Selection, use and maintenance](#)

Roof Edge and Temporary Edge Protection Systems

Roof edge protection systems for buildings used on mining sites with slopes no greater than 35 degrees can be installed and dismantled by following the information included in [AS/NZS 4994.2:2009, Temporary edge protection – Roof edge protection – Installing and dismantling](#).

Edge protection systems used by persons working near an opening in a floor, or near a platform edge, or floor edge prior to the installation of a permanent wall system can be installed and dismantled by following the information that is included in [AS/NZS 4994.3:2010, Temporary edge protection – Installing and dismantling for edges other than roof edges](#).

Requirements for the design, manufacture and testing of equipment that is intended to provide temporary edge protection for persons working on roofs of buildings is included in [AS/NZS 4994.1:2009, Temporary edge protection – General requirements](#).

Confined Spaces

Information on control, training and risk assessment methods for those working in confined spaces are included in [AS 2865-2009, Confined spaces](#).

Management Systems

Quality Management

Management systems (including environmental management systems) can be followed according to the information in [AS/NZS ISO 19011:2003, Guidelines for quality and/or environmental management systems auditing](#).

The skeleton framework for different types of quality management systems is based on the Plan-Do-Check-Act methodology described in [AS/NZS ISO 9001:2008, Quality management systems - Requirements](#). Further information on quality management systems can also be found in:

- [HB 90.1-2012, The Small Business Handbook – Guide to ISO 9001:2008](#)
- [AS/NZS ISO 9000:2006, Quality management systems – Fundamentals and vocabulary](#)
- [AS/NZS ISO 9004:2001, Managing the sustained success of an organization – A quality management approach](#)

Environmental Impact and Auditing

Environmental management systems can be certified according to the information provided in [AS/NZS ISO 14001:2004, Environmental management systems - Requirements with guidance for use](#). This Standard specifies requirements for a management system to enable an organization to develop and implement environmental policy and objectives. Guidance on this Standard can be found in [AS/NZS ISO 14004:2004, Environmental management systems - General guidelines on principles, systems and support techniques](#).

Information on risk management processes and techniques that can be used to control different types of environmental issues are included in [AS/NZS ISO 31000:2009, Risk management – Principles and guidelines](#).

[AS 5334-2013, Climate change adaptation for settlements and infrastructure – A risk based approach](#) describes a systematic approach to planning the adaption of settlements and infrastructure based on the risk management process in [AS/NZS ISO 31000:2009](#).

Those responsible for implementing environmental management systems may require information on life cycle assessment techniques which are described in [AS/NZS ISO 14040:1998, Environmental management - Life cycle assessment - Principles and framework](#).

Environment costs associated with the use of materials used on mining sites (including energy and waste management) can be determined by following the information in [ISO 14051-2011, Environmental management – Material flow cost accounting – General framework](#). This Standard adopts the Plan-Do-Check-Act methodology that is described in [AS/NZS 14001:2004](#), [AS/NZS ISO 9001:2008](#), [AS/NZS 4801:2001, Occupational health and safety management systems - Specification with guidance for use](#) and other commonly used management system certification Standards. A flowchart describing Plan-Do-Check-Act techniques is included in [HB 90.1-2012, The Small Business Handbook – Guide to ISO 9001:2008](#).

Greenhouse Gas Emissions

Iron ore mining sites can be asserted, verified and reported in terms of greenhouse gas emissions by using the information included in [AS ISO 14064, Greenhouse gases Series](#). These Standards are also available as [AS ISO 14064 Set-2008](#).

Organizations engaged to independently validate and verify greenhouse gas emission levels can follow the information that is included in [AS ISO 14065-2009, Greenhouse gases - Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition](#).

Carbon footprint levels for products emitting greenhouse gases can be quantified and communicated on by following the information in [ISO/TS 14067:2013, Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification and communication](#).

Contaminated Sites

Decision making processes that should be undertaken by those responsible for assessing sites that may have contaminated soils can follow the information in [AS 4482.1-2005, Guide to the investigation and sampling of sites with potentially contaminated soil – Non-volatile and semi-volatile compounds](#). Soils can also be collected and classified by using the information in [AS 1726-1993, Geotechnical site investigations](#).

Levels of leachates that may be present in contaminated sites can be determined by following the information that is included in the [AS 4439, Wastes, sediments and contaminated soils - Preparation of leachates Series](#).

Capacity levels and location requirements for bunds used to contain flammable and combustible liquids can be determined by following the information that is included in [AS 1940-2004, The storage and handling of flammable and combustible liquids](#).

Levels of asbestos (also known as synthetic mineral fibres) that may be located on contaminated sites can be determined by using the information included in [AS 4964-2004, Method for the qualitative identification of asbestos in bulk samples](#).

Waste Management

Information on waste management and related areas is included in:

- [AS/NZS 3816:1998, Management of clinical and related wastes](#)
- [AS/NZS 3831:1998, Waste management – Glossary of terms](#)
- [AS 4123, Mobile waste containers Series](#) (Note: Colour coding requirements for waste containers are included in [AS 4123.7-2006, Mobile waste containers - Colours, markings, and designation requirements](#))
- [AS/NZS 4494:1998, Discharge of commercial and industrial liquid waste to sewer – General performance requirements](#)

Water Quality

Water quality levels for mining sites can be determined by using the methods included in [AWWA STD MTDS Exam of water & wastewater Ed. 22 \(2012\), Standard methods for the examination of water and wastewater](#).

Sampling methods for testing water quality levels are also included in the [AS/NZS 5667, Water quality Series](#). Contamination levels for waste water from mining sites can be determined by following the information included in [AS/NZS 5667.10:1998, Water quality – Sampling – Guidance on sampling of waste waters](#).

Air Sampling

Atmospheric contaminants that may be present at iron ore mine sites can be collected, analysed, interpreted and reported by following the gravimetric sampling methods included in:

- [AS 3580, Methods for sampling and analysis of ambient air Series](#) which provides information on automatic sampling methods using dust deposition gauges
- [AS 4323, Stationary source emissions Series](#) provides information on determining emissions from stacks and ducts
- [AS 3640-2009, Workplace atmospheres – Method for sampling and gravimetric determination of inhalable dust](#) provides information on acceptable levels of inhalable dusts
- [AS 2985-2009, Workplace atmospheres – Method for sampling and gravimetric determination of respirable dust](#) provides information on levels of respirable dusts

Air purifying respirators used to protect persons from exposure to airborne contaminants can be selected by following the information included in [AS/NZS 1715:2009, Selection, use and maintenance of respiratory protective equipment](#). Manufacturing requirements for respirators is included in [AS/NZS 1716:2012, Respiratory protective devices](#).



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Risk Management

Risk assessments can be completed by following the information that is included in [AS/NZS ISO 31000:2009, Risk management – Principles and guidelines](#). Commonly used risk management techniques (e.g. HAZOP and Fault Tree Analysis) are described in [HB 89:2012, Risk management – Guidelines on risk assessment techniques](#). This Standard also includes examples of risk management matrices that are based on the principles described in [AS/NZS ISO 31000:2009](#).

HAZOP techniques and Failure Mode Effects Analysis (FMEA) are commonly used to assess risks associated with different types of mining equipment. Information on these risk management strategies can be found in:

- HAZOP
 - [AS IEC 61822-2003 \(R2013\), Hazard and operability studies \(HAZOP studies\) - Application guide](#)

- [AS 4024.1301-2006, Safety of machinery – Risk assessment – Principles of risk assessment](#)
- [EN ISO 12100:2010, Safety of machinery – General principles for design - Risk assessment and risk reduction](#)
- FMEA for potential failures in systems
 - [AS IEC 60812-2008, Analysis techniques for system reliability – Procedure for failure mode and effects analysis \(FMEA\)](#)
 - [AS IEC 60300, Dependability management Series](#)

Corporate Governance

[AS 8000, Corporate Governance, and Fraud and corruption Series](#) specify a generic blueprint for the development and implementation of governance, code of conduct, whistleblower protection and fraud and corruption systems for a wide range of entities. These Standards are also available as [AS 8000 Premium \(Set\)-2004](#) and [AS 8000-2003 \(Set Includes 8000 - 8001 - 8002 - 8003 - 8004\)](#). [HB 254-2005, Governance, risk management and control assurance](#) summarizes strategies that can be used by organizations to implement different types of control plans designed to align risk management principles with principles of good governance.

Compliance Programs

Organizations can obtain information on strategies that can be used to prepare and implement different types of compliance programs by following the information included in [AS 3806-2006, Compliance programs](#).

Integrated Management

The [ChangeManager Pro GB 014 Series](#) provides a good overview for those requiring information on integrated management systems. Integrated management programs are commonly based on the information contained in:

- [AS/NZS ISO 9001, Quality management systems – Requirements](#)
- [AS/NZS ISO 14001:2004, Environmental management systems - Requirements with guidance for use](#)
- [AS/NZS 4801:2001, Occupational health and safety management systems - Specification with guidance for use](#)
- [SR OHSAS 18001:2007, Occupational Health and Safety Management Systems – Requirements](#)

Business Continuity

Information on business continuity is included in:

- [AS/NZS 5050:2010, Business continuity – Managing disruption-related risk](#)
- [ISO 22301:2012, Societal security – Business continuity management systems – Requirements](#)
- [ISO 22313:2012, Societal security – Business continuity management systems - Guidance](#)

Contracts

Information on our range of options covering Australian Standards Contracts is available from www.saiglobal.com/information/standards/licensing/contracts. In addition, if you require information on contractual terms as set out in a recognized Australian Standard® and only need to make minimal amendments in the annexures, you can refer to the [Contracts Catalog](#).



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Mine Surveying and Mining Plans

Mine Plans

Personnel responsible for preparing iron ore mines should follow the recommendations contained in [AS 4368-1996, Mine plans – Preparation and symbols](#). Information on scaling conventions, colours and symbols that should be used to prepare different types of mines (including iron ore mines) are also included in this Standard.

Site Investigations

Site investigations can be undertaken by following the information included in [AS 1726-1993, Geotechnical site investigations](#). Compaction tests for different types of soils can be determined by completing the types of laboratory and field tests that are included in the [AS 1289.5, Methods of testing soils for engineering purposes Series](#).

Technical Drawings

Dimensioning and tolerance conventions for different types of technical drawings are included in [HB 47-1993, Dimensioning and tolerancing to AS 1100.101-1992 and AS 1100.201-1992](#).

The information contained in [AS 1100.101-1992, Technical drawing – General principles](#) establishes basic principles of technical drawing practice, scaling conventions for drawings, tolerances, projections and abbreviations used with technical drawings.

Technical drawings can be prepared by following the conventions described in [AS ISO 128, Technical drawings - General principles of presentations Series](#).

Engineering Surveys

For information on good practices for the preparation of survey plans for different types of engineering works refer to [AS 1100.401-1984, Technical drawing – Engineering survey and engineering survey design drawing](#).

Architectural Drafting

Technical drawings and architectural plans can be prepared by following the recommendations and example drawings that are included in [AS 1100.301-2008, Technical drawing – Architectural drawing](#).

The information included in [AS/NZS 1102.111:1997, Graphical symbols for electrotechnical documentation – Architectural and topographical installation plans and diagrams](#) can be used to represent symbols for location diagrams, including guidance on architectural location diagrams for electrical services.

Structural Engineering

Information on conventions and practices used to represent steel, timber, concrete, masonry, earthworks and footings on drawings and plans are included in [AS/NZS 1100.501-2002, Technical drawing – Structural engineering drawing](#).

Mechanical Engineering

Requirements and recommendations for mechanical engineering practice can be found in [AS 1100.201-1992, Technical drawing – Mechanical engineering drawing](#). Diagrams depicting commonly used welding symbols, projection details for pipelines, and dimensional and tolerancing practices used to represent mechanical equipment are also included in this Standard.

Symbols used to represent conveyors used in mines are included in [AS 4368-1996, Mine plans - Preparation and symbols](#).

Electrical Equipment

All types of low and high voltage electrical equipment can be represented by following the principles and practices contained in [AS/NZS 1102, Graphical symbols for electrotechnical documentation Series](#).

Flowcharts and diagrams for circuits can be prepared by following the details described in [IEC 61082-1 Ed 2.0, Preparation of documents used in electrotechnology – Part 1: Rules](#).

Hydraulic and Pneumatic Equipment

Drawings for different types of pneumatic and hydraulic equipment are included in [AS 1100.1-2007, Graphical symbols for general engineering – Hydraulic and pneumatic systems](#).

Process and Control Instruments

The information contained in [IPC 2612-1:2010, Sectional Requirements For Electronic Diagramming Symbol Generation Methodology](#) can be used to represent symbols for different types of process and control instruments.

Location details for different types of analytical, process and control instruments can be represented by following the principles and practices included in [AS/NZS 1102.111:1997](#).

Welding and Non-Destructive Testing

Welds and welded joints can be described on drawings by following the principles and practices that are included in [AS 1101.3-2005, Graphical symbols for general engineering – Welding and non-destructive examination](#). Symbols and drawings used to represent different types of practices used to undertake non-destructive tests for equipment are also included in this Standard.

Electrical Equipment

The information contained in [AS/NZS 4836:2011, Safe working on or near low-voltage electrical installations and equipment](#) covers safety procedures that should be followed by personnel working on, or working near low voltage electrical equipment. Those working in close proximity to power lines should follow the information that is included in [Electricity Networks Association's \(ENA\) NENS, National guidelines Series](#).

Installations

Electrical equipment used in the mining industry can be installed by using the information in:

- Low Voltage Equipment
[AS/NZS 3007:2013, Electrical equipment in mines and quarries - Surface](#)

[installations and associated processing plant](#) which provides detailed information on requirements for electrical equipment installed at surface mines, quarrying mines, the surface of underground mines and associated processing plants. Low voltage equipment used for mining should also conform to the details that are included in [AS 60204.1-2005, Safety of machinery – Electrical equipment of machines – General requirements \(IEC60204-1, Ed. 5 \(FDIS\) MOD\)](#). General information on electrical safety requirements for different types of low voltage electrical equipment is available to purchasers of [AS/NZS 3820:2009, Essential safety requirements for electrical equipment](#).

- Low and High Voltage Equipment
[AS/NZS 3000:2007, Electrical installations \(known as the Australian/New Zealand Wiring Rules\)](#) and [AS/NZS 4871, Electrical equipment for mines and quarries Series](#). The [AS/NZS 4871 Series](#) includes detailed information on design, manufacturing and performance tests for low and high voltage equipment.
- High Voltage Equipment - Substations
[AS 2067-2008, Substations and high voltage installations exceeding 1 kV a.c](#)
- High Voltage Equipment - Overhead Power Lines
[AS/NZS 7000:2010, Overhead line design – Detailed procedures](#)
- Explosion Protected Electrical Equipment
[AS/NZS 60079.14:2009, Explosive atmospheres – Electrical installations design, selection and erection \(IEC 60079-14, Ed. 4.0\(2007\) MOD\)](#)

Testing, Reporting and Documenting Electrical Installations

Electrical and electronic equipment used for iron ore mining may be classified by electrical regulators as 'declared' or 'prescribed articles'. This equipment is required to be tested, or certified to Australian or Australian/New Zealand Standards before being imported, sold and used in Australia/New Zealand. A list of products and equipment classified as 'declared' or 'prescribed articles' are included in [AS/NZS 4417.2:2012, Regulatory compliance mark for electrical and electronic equipment - Specific requirements for particular regulatory applications](#).

Detailed information on Standards for 'declared' or 'prescribed articles' are included in the [Guide to Standards – Household Electrical Equipment](#).

Further information may be available from relevant State/Territory electrical safety regulators who are members of the Electrical Regulatory Authorities Council (ERAC). Refer to the [Regulators](#) section of this guide for more information.

Testing requirements for electrical installations completed in accordance with [AS/NZS 3000:2007](#) are included in [AS/NZS 3017:2007, Electrical installations – Verification guidelines](#). Documentation and reporting requirements for these types of installations are described in [AS/NZS 3019:2007, Electrical installations – Periodic verification](#).

Installations completed to the details described in [AS/NZS 60079.14:2009](#) can be tested by using the information included in [AS/NZS 60079.17, Explosive atmospheres - Electrical installations inspection and maintenance \(IEC 60079-17, Ed.4.0\(2007\) MOD\)](#).

Electrical safety tests for high voltage equipment used on different types of machinery for mining are included in [IEC 60204-11 Ed. 1.0, Safety of machinery - Electrical equipment of machines - Part 11: Requirements for HV equipment for voltages above 1 000 V a.c. or 1 500 V d.c. and not exceeding 36 kV](#).

Portable types of electrical equipment not located on construction sites should be tested and tagged by following the information that is included in [AS/NZS 3760:2010, In-service safety inspection and testing of electrical equipment](#).

Earthing and Protection Devices

Earthing requirements for low and high voltage equipment used for mining are described in [AS/NZS 3007:2013](#). This Standard also includes information on earthing requirements for electrical equipment.

Earth protection devices used with mining equipment should be tested to [AS/NZS 2081:2011, Electrical protection devices for mines and quarries](#).

Portable equipment used for earthing equipment should be tested to [IEC 61230 Ed. 2.0, Live working – Portable equipment for earthing or earthing and short-circuiting](#).

Electric Cables

Testing requirements for reeling, trailing and feeding cables used in iron ore mining are included in [AS/NZS 2802:2000, Electric cables – Reeling and trailing for mining and general use \(other than underground coal mining\)](#). Repairs for cables tested to this Standard can be undertaken by using the information included in [AS/NZS 1747:2003, Reeling, trailing and feeder cables used for mining – Repair, testing and fitting of accessories](#).

Underground cables not specifically used for mining can be tested to the [AS/NZS 5000, Electric cables - Polymeric insulated Series](#). Conduits used to protect underground cables should be tested to [AS/NZS 2053, Conduits and fittings for electrical installations Series](#).

Voltage fluctuation requirements for cables are included in [AS/NZS 3008.1.1:2009, Electrical installations - Selection of cables - Cables for alternating voltages up to and including 0.6/1 kV - Typical Australian installation conditions](#). Calculations used to determine voltage drop levels for cables operating at higher voltages are included in the [IEC 60287, Electric cables - Calculation of the current rating Series](#) and [60853, Calculation of the cyclic and emergency current rating of cables Series](#).

Electromagnetic Compatibility (Radio Interference)

Imported electrical equipment used in the mining industry is commonly certified to the [European \(CE\) Electromagnetic Compatibility Directive 2004/108/EC](#). The [Australian Communications and Media Authority \(ACMA\) C-Tick](#) is used to indicate the compliance of radiocommunications equipment, electrical and electronic equipment which meet Standards.

- Industrial, Scientific & Medical (ISM) equipment
[AS/NZS CISPR 11:2011, Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics - Limits and methods of measurement](#)
- Household and Related Types of Equipment
[AS/NZS CISPR 14.1:2013, Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Emission](#) and
[AS/NZS CISPR 14.2:2013, Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Immunity – Product family standard](#)
- Lighting Equipment
[AS/NZS CISPR 15:2011, Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment \(CISPR 15, Ed.7.2 \(2009\) MOD\)](#)

The ACMA recognises European Norm (EN), International Electrotechnical Commission (IEC), International Special Committee on Radio Interference (CISPR) and Australian/New Zealand Standards (AS/NZS), so it may be helpful to know that the Standards listed above are identical to or modified editions of European (EN) and International (IEC) Standards.

Electric Motors

Rotating electrical machines that are not designed to be used with rail and road vehicles, or motors that are not used in hazardous areas should be tested to [AS/NZS 1359, Rotating electrical machines - General requirements Series](#) and [AS 60034, Rotating electrical machines Series](#).

Motors used with rail or road vehicles (or in mine shafts) should be tested to either the [IEC 60349, Electric traction - Rotating electrical machines for rail and road vehicles Series](#) or [EN 60349, Electric Traction - Rotating Electrical Machines for Rail and Road Vehicles Series](#).

Generators (Transportable)

Transportable generators used on mine sites should be tested to [AS 2790-1989, Electricity generating sets – Transportable \(Up to 25kW\)](#). Electrical installation requirements for generators tested to this Standard are included in [AS/NZS 3010:2005, Electrical installations – Generating sets](#).

Ingress Protection

Electrical enclosures used with mining machinery should be protected against ingress of dust and water. Test methods for these types of enclosures are included in [AS 60529-2004, Degrees of protection provided by enclosures \(IP Code\)](#). Ingress protection levels for electrical equipment used with mining equipment are also described in [AS/NZS 3007:2013, Electrical equipment in mines and quarries - Surface installations and associated processing plant](#).

Lightning Protection

Lightning protection requirements for electrical equipment can be determined by using the information that is included in [AS/NZS 1768:2007, Lightning protection](#).

Lighting Equipment

Electrical safety tests for different types of lighting equipment not located in hazardous areas are described in [AS/NZS 60598, Luminaires Series](#). These Standards refer to tests that are included in [AS/NZS 60598.1:2003, Luminaires – General requirements and tests](#). Electrical wiring requirements for light fittings are described in [AS/NZS 3000:2007, Electrical installations \(known as the Australian/New Zealand Wiring Rules\)](#).

Remote Control Equipment

Remote control equipment used on mine sites should follow the information included in [AS/NZS 4240.1:2009, Remote control systems for mining equipment - Design, construction, testing, installation and commissioning](#).

Specific requirements for remote control equipment used in underground mines are included in [AS/NZS 4240.2:2009, Remote control systems for mining equipment – Operation and maintenance for underground metaliferous mining](#).

Substations

Installation requirements for substations used in different areas (including mine sites) are included in [AS 2067-2008, Substations and high voltage installations exceeding 1 kV a.c.](#) Specific earthing requirements for substations are described in [ENA EG1-2006, Substation earthing guide](#).

Switchgear and Controlgear

Maintenance and safety requirements for switchgear rated up to 145 kV are included in [AS 2467-2008, Maintenance of electrical switchgear](#). Manufacturing requirements for high voltage

switchgear, controlgear and circuit-breakers are included in [AS 62271, High-voltage switchgear and controlgear Series](#). Low voltage types of switchgear supplied with mining equipment should be tested to [AS/NZS 3439.1:2002, Low-voltage switchgear and controlgear assemblies – Type-tested and partially type-tested assemblies](#).

Mechanical Equipment

[AS 3990-1993, Mechanical equipment – Steelwork](#) applies to the design, fabrication, erection, repair and alteration of steelwork associated with boilers and pressure vessels, lifts, cranes, mining equipment, gas and liquid petroleum piping systems, bulk handling equipment and the like, in accordance with the working stress design method.

Mechanical engineering drawing conventions and drafting practices are described in [AS 1100.201-1992, Mechanical engineering drawing](#). This Standard also provides information on surface texture and welding, and the simplified representation of pipelines and details on springs, gears, splines, rolling element bearings, seals and knurling.

Bolts, Screws and Fasteners

Dimensions and mechanical properties for different types of fasteners are described in:

- [AS 1110, Technical drawing Series](#)
- [AS 1111, ISO metric hexagon bolts and screws Series](#)
- [AS 1112, ISO metric hexagon nuts Series](#)
- [AS/NZS 4291, Mechanical properties of fasteners made of carbon steel and alloy steel Series](#)

High strength bolts and screws used on structures should be tested to [AS/NZS 1252:1996, High strength bolts with associated nuts and washers for structural engineering](#).

Flanges

Requirements and information on different types of flanges are included in:

- [AS 2129-2000, Flanges for pipes, valves and fittings](#)
- [AS/NZS 4087:2011, Metallic flanges for waterworks purposes](#)
- [AS/NZS 4331, Metallic flanges Series](#)

Mechanical Drives

Mechanical drives used with different types of mining equipment should be tested to [AS 2784-2002, Endless wedge belt and V-belt drives](#).

For information on conveyors, refer to the [Plant Equipment - Conveyors](#) section of this guide.

Shafts

Shafts used with mining equipment should be tested to [AS 1403-2004, Design of rotating steel shafts](#). Limits and fits for shafts can be determined by using the information included in [AS 1654.1-1995, ISO system of limits and fits - Bases of tolerances, deviations and fits](#) and [AS 1654.2-1995, ISO system of limits and fits - Tables of standard tolerance grades and limit deviations for holes and shafts](#).

For information on winding suspension equipment, refer to the [Plant Equipment - Winding Suspension \(Shaft Equipment\)](#) section of this guide.

Valves and Fittings

Valves and fittings used with pressure vessels should be tested to [AS 1271-2003, Safety valves, other valves, liquid level gauges and other fittings for boilers and pressure vessels](#).

For more information on pressure vessels, refer to the [Smelting Plants - High Risk Pressure Vessels](#) section of this guide.

Plant Equipment

Electrical, diesel and battery powered plant equipment used on iron ore mining sites should be tested to [AS/NZS 4871, Electrical equipment for mines and quarries Series](#). Electrical installation safety requirements for plant equipment should follow the information found in the [Electrical Equipment - Installations](#) section of this guide.

Fixed ladders, walkways and steps used with plant equipment (excluding earth-moving machinery) should be designed and tested to meet the requirements in [AS 1657-1992, Fixed platforms, walkways, stairways and ladders – Design, construction and installation](#). Ladders and steps used on earth-moving machinery should be designed and tested to meet the requirements in [AS 3868-1991, Earth-moving machinery – Design guide for access systems](#).

Guarding requirements for plant equipment are included in the [AS 4024, Safety of machinery Series](#). For more information on this topic refer to the [Machinery Safety - Guarding and Risk Assessment](#) section of this guide.

Owners and operators of plant equipment should ensure equipment has adequate interior lighting. This information can be found in [EN 1837-1999, Safety of machinery – Integral lighting of machines](#).

Winding Suspension (Shaft Equipment)

Guidelines for the design, construction and testing of shaft equipment for mine-winding conveyance systems is included in [AS 3785, Underground mining - Shaft equipment Series](#). These Standards are also available as [AS 3785 Set-2007](#).

Essential guidelines for the design, construction, testing and maintenance of suspension equipment for shaft mine-winding conveyance systems are included in [AS 3637, Underground mining - Winding suspension equipment Series](#). These Standards are also available as [AS 3637 Set-2007](#).

Non-destructive tests and methods for assessing damage levels on wire ropes used with winding suspension equipment are included in [AS/NZS 4812:2003, Non-destructive examination and discard criteria for wire ropes in mine winding systems](#).

Charpy V notch tests for these types of steels are included in [AS 1544.2-2003, Methods for impact tests on metals – Charpy V notch](#).

Conveyors

Design, Safety and Manufacturing

[AS 1755-2000, Conveyors – Safety requirements](#) provides information on design and safety requirements for conveyors that may be used on iron ore mining sites.

Belt Drives

Belt drives supplied with conveyors should be tested to:

- [AS 1332-2000, Conveyor belting – Textile reinforced](#)
- [AS 1333-1994, Conveyor belting of elastomeric and steel cord construction](#)
- [AS 1334, Methods of testing conveyor and elevator belting Series](#)
- [AS 2784-2002, Endless wedge belt and V-belt drives](#)

Conveyor belts used in situations where explosive atmospheres may be present can be tested to [AS 4606-2012, Grade S fire resistant and antistatic requirements for conveyor belting and conveyor accessories](#).

Chains, Ropes and Pulleys

[AS 3751-2005, Underground mining – Slope haulage - Couplings, drawbars, and safety chains](#) specifies requirements for couplings, drawbars, and safety chains that connect slope haulage conveyances in underground mines.

Cranes

Safety and Operations

Cranes should be operated and maintained by using the information included in [AS 2550, Cranes, hoists and winches - Safe use Series](#). These Standards are also available as [AS 2550 Set-2011](#). Major inspection requirements for cranes are described in [AS 2550.1-2011, Cranes, hoists and winches – Safe use – General requirements](#). Personnel responsible for undertaking the tasks described in this Standard should ensure they have access to the information on hoisting and mechanical categories for cranes which is included in [AS 1418.1-2002, Cranes, hoists and winches – General requirements](#).

Personnel using cranes in the mining industry should also be aware of the information contained in either [IEC 60204-32 Ed 2.0, Safety of machinery – Electrical equipment of machines – Part 32: Requirements for hoisting machines](#) or [EN 60204-32:2008, Safety of machinery – Electrical equipment of machines – Part 32: Requirements for Hoisting Machines](#).

Manufacturing and Design

Manufacturing and design requirements for different categories of cranes are included in [AS 1418, Cranes, hoists and winches Series](#). These Standards are also available as [AS/NZS 1418 Set:2013](#). General requirements for cranes including the design of cranes by the traditional working stress method and also limit states method is included in [AS 1418.1-2002](#).

Loading requirements can be determined by using the engineering methods described in [AS/NZS 1170, Structural design actions Series](#). Cranes can also be designed by using the methods outlined in:

- Limit State Design
[AS 4100-1998, Steel structures](#)
- Allowable Stress Design Standard
[AS 3990-1993, Mechanical equipment – Steelwork](#)

Lifting Devices

Attachments used with cranes (e.g. spreader bars or magnetic lifters) should be designed and tested to the information included in [AS 4991-2004, Lifting devices](#).

Non-calibrated short-link chains used with cranes should be tested to [AS 2321-2006, Short-link chain for lifting purposes](#).

Manufacturing information for hooks and shackles used with cranes is included in:

- [AS 2741-2002, Shackles](#)
- [AS 3777-2008, Shank hooks and large eye hooks – Maximum 60 t](#)

Rigging Screws

Information on rigging screws and turnbuckles is included in [AS 2319-2001, Rigging screws and turnbuckles](#).

Ropes

Wire ropes used with cranes can be selected by using the information that is included in [AS 1418.1-2002, Cranes, hoists and winches – General requirements](#). Information on methods used to select these ropes is also included in [AS 2759-2004, Steel wire rope - Use, operation and maintenance](#). Manufacturing Standards for these types of ropes are described in [AS 3569-2010, Steel wire ropes – Product specification](#).

Requirements for wire-rope grips for non-lifting applications that are used with steel-wire ropes having a diameter of not less than 8 mm is included in [AS 2076-1996, Wire-rope grips for non-lifting applications](#). This Standard also covers information on testing wire-rope grips for non-lifting applications.

Fibre ropes used with cranes can be tested to [AS 4142, Fibre ropes Series](#).

Swivels

Requirements for manufacture, marking and testing of swivels for hoists is included in [AS 2318-2006, Swivels for lifting applications](#).

Roof Supporting Equipment

Hydraulic systems designed to support roofs of underground mines should be designed and manufactured to the requirements described in:

- [EN 1804-1:2002, Machines for underground mines – Safety requirements for hydraulic powered roof supports – Part 1: Support units and general requirements](#)
- [EN 1804-2:2002, Machines for underground mines – Safety requirements for hydraulic powered roof supports – Part 2: Power set legs and rams](#)
- [EN 1804-3:2006, Machines for underground mines – Safety requirements for hydraulic powered roof supports – Part 3: Hydraulic control systems](#)

Shoring and Trench Lining Equipment

[AS 5047-2005, Hydraulic shoring and trench lining equipment](#) provides information on structural design and construction requirements for shoring and trenching equipment manufactured from steel and aluminium materials.

Design requirements for steel shoring and trench lining manufactured from prefabricated components are described in [AS 4744.1-2000, Steel shoring and trench lining – Design](#). Structural design requirements for assemblies not using hydraulic rams can be determined by using the engineering methods described in [AS 4100-1998, Steel structures](#).

Underground Mobile Equipment and Rail Locomotives

Fire safety requirements for mobile equipment used in underground iron ore mines can be determined by using the information in [AS 5062-2006, Fire protection for mobile and transportable equipment](#).

Detailed information on design, manufacturing and safety requirements for machines used for underground mining (including rail locomotives) is included in [EN 1889-1:2011, Machines for underground mines – Mobile machines working underground – Safety – Part 1: Rubber tyred vehicles](#) and [EN 1889-2:2003, Machines for underground mines – Mobile machines working underground – Safety – Part 2: Rail locomotives](#).

Moderate-low Risk Pressure Vessels (Serially Produced)

For information on the design of smaller types of pressure vessels (also known as serially produced pressure vessels) refer to [AS 2971-2007, Serially produced pressure vessels](#).

[AS 4297-1995, Underground mining – Stationary air compressors](#) specifies rules for the safe design, construction, installation and operation of stationary and ski-mounted air compressors. This Standard also includes information on potential health risks that may occur when these types of compressors are not operated in a correct manner.

General information on design and manufacturing requirements for low risk types of pressure equipment are described in [AS 2971-2007](#) and [AS 1210-2010](#).

Diesel Equipment

Diesel equipment used in underground mines are required to be supplied with flameproof enclosures. Information on manufacturing requirements for flameproof enclosures is included in [AS/NZS 60079.1:2007, Explosive atmospheres – Equipment protection by flameproof enclosures ‘d’](#).

Flameproof equipment can be selected and installed by using the information contained in either:

- [AS/NZS 2381.2:2006, Electrical equipment for explosive atmospheres - Selection, installation and maintenance - Flameproof enclosure ‘d’](#)
- [AS/NZS 60079.14:2009, Explosive atmospheres - Electrical installations design, selection and erection \(IEC 60079-14, Ed. 4.0\(2007\) MOD\)](#)

Earth-Moving Machinery

Earth-moving machinery used on mining sites is commonly certified to the types of Standards that are included in the [EU Machinery Directive 2006/42](#). This Directive is used to arrange CE certification for different types of machinery.

There are a number of Standards for different parts of earth-moving machinery:

- Safety requirements
[EN 474, Earth-moving Machinery – Safety Series](#)
- Protective Structures
Roll-over protective structures used with earth-moving machinery should be tested to meet the requirements outlined in [AS 2294.1-1997, Earth-moving machinery – Protective structures – General](#). Laboratory tests for these types of structures is included in [ISO 3471:2008, Earth-moving machinery - Roll-over protective structures - Laboratory tests and performance requirements](#). Imported earth-moving machinery may also be tested to [EN ISO 3471:2008](#). Laboratory tests for Falling-Object Protective Structures (FOPS) are included in [EN ISO 3449:2008](#),

Earth-moving machinery – Falling-object Protective Structures – Laboratory Tests and Performance Requirements

- Accessing Machinery
[AS 3868-1991, Earth-moving machinery – Design guide for access systems](#)
- Brakes
[AS 2958.1-1995, Earth-moving machinery – Saefy – Wheeled machines – Brakes](#) and [AS 2958.3-1992, Earth-moving machinery – Saefy – Roller compactors – Brake systems](#)
- Extra - Low-Voltage Wiring
[AS 4242-1994, Earth-moving machinery and ancillary equipment for use in mines – Electrical wiring systems at extra-low voltage](#)
- Wheels, Rims, Tyres – Repair Process
[AS 4457.1-2007, Earth-moving machinery – Off-the-road wheels, rims and tyres – Maintenance and repair – Wheel assemblies and rim assemblies](#) and [AS 4457.2-2008, Earth-moving machinery - Off-the-road wheels, rims and tyres - Maintenance and repair - Tyres](#)
- Ergonomics
[EN ISO 3411:2007, Earth-moving machinery – Physical dimensions of Operators and Minimum Operator Space Envelope](#)
- Steering
Steering requirements for rubber-tyred earth-moving machinery are described in [EN 12643:1998, Earth-moving machinery – Rubber-tyred Machines – Steering Requirements](#)
- Mobile Demolition Machinery
Safety requirements for different types of mobile demolition machinery are included in [CEN TS 13778:2004, Mobile Demolition Machinery – Safety Requirements](#)

Industrial Trucks (Fork Lifts)

Different types of industrial trucks (also known as fork lifts) are described in the [AS 2359, Powered industrial trucks Series](#).

[AS 4983-2010, Gas fuel systems for forklifts and industrial engines](#) specifies requirements for liquefied petroleum gas (LP Gas) and compressed natural gas (CNG) fuel systems for engines mounted on industrial equipment, either for the propulsion of the equipment or for driving some auxiliary function, e.g. a mixer or a pump. This Standard provides requirements for the design and construction of component parts, their installation in equipment, testing, commissioning and periodic inspection.

Requirements for the design, manufacture, marking, operations and testing of powered industrial trucks (also known as fork lifts) and their attachments can be found in [AS 2359, Powered industrial trucks Series](#). Specifically, this Series covers the following areas:

- Manufacturing
[AS 2359.6-2013, Powered industrial trucks – Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks \(ISO 3691-1:2011, MOD\)](#)
- Operations and Safety
[AS 2359.2-2013, Powered industrial trucks – Operations](#)
- Fork arms
[AS 2359.14-2005, Powered industrial trucks – Fork arms – Technical characteristics and testing](#)

Tools

Electric Hand-held Tools

Electrical safety requirements for different types of hand-held tools are included in [AS/NZS 60745, Hand-held motor-operated electric tools - Safety Series](#). General information on manufacturing and safety requirements for different types of hand-held tools is included in [AS/NZS 60745.1:2009, Hand-held motor-operated electric tools – Safety – General requirements \(IEC 60745-1 Ed 4, MOD\)](#). Plugs used with these types of tools should be tested to [AS/NZS 3112:2011, Approval and test specification – Plugs and socket-outlets](#).

Explosive Actuated Fastening Tools

Different types of explosive actuated fastening tools can be selected, operated and maintained by using the information included in [AS/NZS 1873.1-2003, Powder-actuated \(PA\) hand-held fastening tools – Selection, operation and maintenance](#).

Further information on explosive actuated fastening tools is included in:

- [AS/NZS 1873.2:2003, Powder-actuated \(PA\) hand-held fastening tools – Design and construction](#)
- [AS/NZS 1873.3:2003, Powder-actuated \(PA\) hand-held fastening tools – Charges](#)
- [AS/NZS 1873.4:2003, Powder-actuated \(PA\) hand-held fastening tools – Fasteners](#)

Pneumatic Tools

General information on requirements for different types of pneumatic fluid powered systems can be determined by using the information included in [AS 2788-2002, Pneumatic fluid power – General requirements for systems \(ISO 4414:1998, MOD\)](#).

Manufacturing requirements for hand-held pneumatic and compressor-powered tools is included in [EN 11148, Hand-held Non-electric Power Tools - Safety Requirements Series](#). For information on safety requirements of machine tools refer to [EN 12717:2001, Safety of machine tools – Drilling machines](#).

Structural Design

Structural design requirements for different types of buildings and equipment can be determined using the engineering methods described in [AS/NZS 1170, Structural design actions Series](#).

Information on minimum requirements for the design, fabrication, erection, and modification of steelwork in structures in accordance with the limit states design method is included in [AS 4100-1998, Steel structures](#).

Welding and Fabrication

General information on welding procedures is included in [AS/NZS 1554.1:2011, Structural steel welding – Welding of steel structures](#). Other Standards in the [AS/NZS 1554, Structural steel welding Series](#) include welding qualification procedures for different grades of steel. These Standards are also available as [AS/NZS 1554 Set:2011](#).

Information on welding aluminium is included in [AS/NZS 1665:2004, Welding of aluminium structures](#). Welding requirements for pressure vessels are included in [AS/NZS 3992:1998, Pressure equipment – Welding and brazing qualification](#).

Fire safety requirements for those using different types of welding techniques can be determined by using the information included in [AS 1674.1-1997, Safety of welding and allied processes – Fire precautions](#). Electrical safety requirements for welders are included in [AS 1674.2-2007, Safety in welding and allied processes – Electrical](#). These Standards also available as [AS 1674 Set-2007](#).

Fabrication requirements for mining equipment manufactured from different grades of steel are included in [AS 4100-1998](#) and [AS/NZS 4600:2005, Cold-formed steel structures](#).

Welding Steels

Standards for case hardened, hot rolled and weldable steels commonly used to design and manufacture different types of mining equipment are:

- Case hardened steels
[AS 1444-2007, Wrought alloy steels - Standard, hardenability \(H\) series and hardened and tempered to designated mechanical properties](#)
- Hot-Rolled Steels
[AS/NZS 3678:2011, Structural steel – Hot-rolled plates, floorplates and slabs](#) and [AS/NZS 3679.1:2010, Structural steel – Hot-rolled bars and sections](#)
- Weldable Steels
[AS/NZS 3679.2:2010, Structural steel – Welded I sections](#)

Fire Protection

Essential Services Equipment

Maintenance requirements for different types of fire protection equipment are included in [AS 1851-2012, Routine service of fire protection systems and equipment](#).

Information on the requirements for fire protection equipment commonly used with mining infrastructure is included in:

- Fire Extinguishers
[AS 2444-2001, Portable fire extinguishers and fire blankets – Selection and location](#) and [AS/NZS 1850:2009, Portable fire extinguishers – Classification, rating and performance testing](#)
- Automatic Fire Detection Systems
[AS 1670.1-2004, Fire detection, warning, control and intercom systems – Systems design, installation and commissioning - Fire](#)
- Emergency Communication and Warning Systems (EWIS)
[AS 1670.4-2004, Fire detection, warning, control and intercom systems – System design, installation and commissioning – Sound systems and intercom systems for emergency purposes](#)
- Fire Hydrants
[AS 2419, Fire hydrant installations Series](#)
- Pumpsets
[AS 2941-2008, Fixed fire protection installations – Pumpset systems](#)
- Sprinklers
[AS 2118.1-2006, Automatic fire sprinkler systems – General requirements](#)
- Fire hose reels
[AS/NZS 1221:1997, Fire hose reels](#) and [AS 2441-2005, Installation of fire hose reels](#)

- Fire and smoke alarms
[AS 1670, Fire detection, warning, control and intercom systems Series](#) and [AS 3786-1993, Smoke alarms](#)

Machinery

Fire protection requirements for mobile and transportable equipment used in the mining industry are described in [AS 5062-2006, Fire protection for mobile and transportable equipment](#).

[EN 13478:2002, Safety of machinery – Fire prevention and protection](#) describes methods of identification of fire hazards resulting from machinery and the performance of a corresponding risk assessment.

Explosives

Storage requirements for explosives located on iron mine sites can be determined by using the information that is included in [AS 2187.2-2006, Explosives – Storage and use – Use of explosives](#).

Please refer to the [Guide to Standards – Dangerous Goods](#) for more information on Standards covering requirements for explosives.

Hazardous Areas and Equipment

“Hazardous areas” are classified as such when electrical equipment is stored, used or operated where there is possibility of explosion due to flammable gases, or combustible dusts being present.

Competency and training requirements for personnel working with explosion protected equipment are included in the [AS/NZS 4761.1:2008, Competencies for working with electrical equipment for hazardous areas \(EEHA\) - Competency Standards](#) and [AS/NZS 4761.2:2008, Competencies for working with electrical equipment for hazardous areas \(EEHA\) - Guide to assessing competency](#).

Explosion protection Standards for different types of explosion protected electrical equipment are listed in [AS/NZS 60079.14:2009, Explosive atmospheres - Electrical installations design, selection and erection \(IEC 60079-14, Ed. 4.0\(2007\) MOD\)](#).

Installation and Selection of Equipment

Electrical equipment located in areas where flammable gases and vapours may be present should be installed by using the information included in [AS/NZS 60079.14:2009](#). Further information on installation requirements can also be found in:

- Flameproof enclosures
[AS/NZS 2381.2:2006, Electrical equipment for explosive atmospheres – Selection, installation and maintenance – Flameproof enclosure ‘d’](#)
- Increased safety ‘e’
[AS 2381.6-1993, Electrical equipment for explosive atmospheres – Selection, installation and maintenance – Increased safety e](#)
- Intrinsic safety ‘i’
[AS 2381.7-1989, Electrical equipment for explosive atmospheres – Selection, installation and maintenance - Intrinsic safety i](#)

Testing requirements for installations completed to [AS/NZS 60079.14](#) are included in [AS/NZS 60079.17:2009, Explosive atmospheres – Electrical installations, inspection and maintenance \(IEC 60079-17, Ed.4.0\(2007\) MOD\)](#).

General information on marking, manufacturing and safety requirements for explosion protected equipment in areas where combustible dusts are present is included in [AS/NZS 61241.0:2005, Electrical apparatus for use in the presence of combustible dust – General requirements](#).

Zoning Equipment

For information on the classification of areas where explosion protected electrical equipment are located refer to [AS/NZS 60079.10.1:2009, Explosive atmospheres – Classification of areas – Explosive gas atmospheres \(IEC 60079-10-1, Ed.1.0\(2008\) MOD\)](#).

Properties for gases and vapours are included in [AS/NZS 60079.20.1:2012, Explosive atmospheres – Material characteristics for gas and vapour classification – Test methods and data](#).

Information on the zoning of areas where electrical equipment is located and combustible dusts may be present is included in [AS/NZS 61241.14-2005, Electrical apparatus for use in the presence of combustible dust – Selection and installation \(IEC 61241-14, Ed.1.0\(2004\) MOD\)](#) and [AS/NZS 60079.10.2:2011, Explosive atmospheres – Classification of areas – Combustible dust atmospheres](#).

Repairing Equipment

Repairing explosion protected equipment can be followed according to the information in [AS/NZS 3800:2012, Electrical equipment for explosive atmospheres – Repair and overhaul. IEC 60079-19 Ed 3.0, Explosive atmospheres – Part 19: Equipment repair, overhaul and reclamation](#) also contains similar information.

Plugs

Explosion-protected three-phase restrained plugs and receptacles used in areas where explosive atmospheres may be present should be tested to [AS/NZS 1299:2009, Electrical equipment for mines and quarries - Explosion-protected three-phase restrained plugs and receptacles for working voltages up to and including 3.3 kV](#).

Noise Management

Information on the declaration of noise emission values, acoustics data to be presented in technical documents and methods for verifying noise emission declaration is included in [ISO 4871:1996, Acoustics – Declaration and verification of noise emission values of machinery and equipment](#).

Compressors and Pumps

Information on noise management of compressors and pumps can be found in:

- [ISO 2151:2004, Acoustics – Noise test code for compressors and vacuum pumps – Engineering method \(Grade 2\)](#)
- [ISO 4412, Hydraulic fluid power - Test code for determination of airborne noise levels Series](#)
- [ISO 20361:2007, Liquid pumps and pump units, Noise test code – Grades 2 and 3 of accuracy](#)
- [ISO 16902-1:2003, Hydraulic fluid power – Test code for the determination of sound power levels of pumps using sound intensity techniques. Engineering method – Part 1: Pumps](#)

Earth-moving Machinery

Earth-moving machinery can be managed in terms of noise levels according to:

- [ISO 6393:2008, Earth-moving machinery – Determination of sound power level – Stationary test conditions](#)
- [ISO 6394:2008, Earth-moving machinery – Determination of emission sound pressure level at operator’s position – Stationary test conditions](#)
- [ISO 6395:2008, Earth-moving machinery – Determination of sound power level – Dynamic test conditions](#)
- [ISO 6396:2008, Earth-moving machinery – Determination of emission sound pressure level at operator’s position – Dynamic test conditions](#)

Hand-Held Tools

Test methods for the measurement, determination and declaration of the noise emission from hand-held non-electric power tools is included in [ISO 15744:2002, Hand-held non-electric power tools - Noise measurement code - Engineering method \(grade 2\)](#). This Standard prescribes the loading and working conditions under which can be determined by:

- the noise emission, under specified load conditions, expressed as the sound power level; and
- the emission sound pressure level at the work station under specified load conditions

Industrial Trucks

Methods for determining the sound pressure level at the operator's position and the sound power level of industrial and rough terrain trucks are included in [EN 12053-2001, Safety of industrial trucks – Test methods for measuring noise emissions](#).

Internal Combustion Engines

Managing noise levels for internal combustion engines is included in:

- [ISO 3046-1:2002, Reciprocating internal combustion engines – Performance – Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods – Additional requirements for engines for general use](#)
- [ISO 13332:2000, Reciprocating internal combustion engines – Test code for the measurement of structure-borne noise emitted from high-speed and medium-speed reciprocating internal combustion engines measured at the engine feet](#)

Motors

[AS 60034.9-2009, Rotating electrical machines – Noise limits](#) specifies requirements for noise limits and sound levels for rotating electrical machines.

Vibration Measurement

Hand-held Machinery

Vibration levels for hand-held machinery can be determined by following the information included in:

- [ISO/TS 15694:2004, Mechanical vibration and shock – Measurement and evaluation of single shocks transmitted from hand-held and hand-guided machines to the hand-arm system](#)
- [ISO 20643:2005, Mechanical vibration – Hand-held and hand-guided machinery – Principles for evaluation of vibration emission](#)
- [ISO 28927, Hand-held portable power tools - Test methods for evaluation of vibration emission Series](#)
- [ISO 8662-1:1988 Hand-held portable power tools – Measurement of vibrations at the handle - Part 1: General](#)
- [ISO 8662-11:1999, Hand-held portable power tools – Measurement of vibrations at the handle - Part 11: Fastener driving tools](#)

Earth-Moving Machinery

Methods for measuring and evaluating the effectiveness of the seat suspension in reducing the vertical whole-body vibration transmitted to the operator of earth-moving machines is included in [ISO 7096:2000, Earth-moving machinery – Laboratory evaluation of operator seat vibration](#).

Mining Infrastructure

Mining Accommodation

Information on building and construction Standards associated with accommodation for mining sites can be found in the [Guide to Standards – Building and Construction](#).

Bridges

Structural design requirements for bridges can be determined by using the information contained in [AS 5100, Bridge design Series](#). These Standards are also available as [AS 5100 Set-2007](#). These bridge design Standards also reference the engineering methods described in the [AS/NZS 1170, Structural design actions Series](#).

Electricity Generation and Transmission

In instances where high voltage switchgear, controlgear and motors are used for underground iron ore mining, safety guidelines are included in [HB 242-2007, High voltage mining equipment for use underground](#).

Risks can be assessed by reviewing information contained in [Electricity Networks Association \(ENA\) NENS, National guidelines Series](#).

Overhead power lines can be designed and constructed by following the details that are included in [AS/NZS 7000:2010, Overhead line design – Detailed procedures](#).

Structural design requirements for utility (power) poles manufactured from steel, timber or concrete can be determined by using the information included in [AS/NZS 4676:2000, Structural design requirements for utility service poles](#).

Information on manufacturing and design requirements for steel, timber and concrete poles is included in:

- Steel Poles
[AS/NZS 4677:2010, Steel utility services poles](#)
- Concrete Poles
[AS/NZS 4065:2010, Concrete utility services poles](#)

- Timber Poles
[AS 3818.11-2009, Timber – Heavy structural products – Visually graded – Utility poles](#)

Gas Transmssion and Installations

Gas transmission pipelines should be designed, tested, operated, maintained and welded by using the information that is included in the [AS 2885, Pipelines – Gas and liquid petroleum Series](#).

Gas distribution networks that are not connected to the consumer mains, don't convey LP gases or liquids, can be operated by following the information included in [AS/NZS 4645, Gas distribution networks Series](#).

Information on the installation of all types of gases (excluding LP gases) is included in [AS/NZS 5601.1:2013, Gas installations – General installations](#). This Standard is also included in [AS/NZS 5601 Set:2013, Gas installations Set](#).

Requirements for the location, design, construction, commissioning and operation of installations for the storage and handling of LP Gas is included in [AS/NZS 1596:2008, The storage and handling of LP gas](#).

Pipelines and Water Supply Systems

Pipelines conveying different types of fluids can be identified by following the colours and marking information included in [AS 1345-1995, Identification of the contents of pipes, conduits and ducts](#). Conduits used with underground pipes, ducts and cables should be manufactured by following the information in [AS/NZS 2053, Conduits and fittings for electrical installations Series](#).

Information on recommended drawing conventions for pipelines are included in [AS 4368-1996, Mine plans - Preparation and symbols](#) and [ISO 6412, Technical drawing - Simplified representation of pipelines Series](#).

Structural design and manufacturing requirements for different types of buried metal pipes can be determined by following the information included in [AS/NZS 2041, Buried corrugated metal structures Series](#).

Water supply systems on iron ore mining sites can be managed by using the information in the [AS/NZS 3500, Plumbing and drainage Series](#). These Standards are also available as [AS/NZS 3500 Set \(Parts 0-4\):2003](#) and [AS/NZS 3500 Set \(Parts 0-5\):2013](#).

Railway Engineering

The [AS/RISSB Railway Rolling Stock Series](#) provides detailed information on requirements for different types of rolling stock:

- Driving cabs
- Lighting rolling stock visibility
- Event recorder
- Drawgear
- Emergency equipment
- Access and egress
- Body structural requirements
- Suspension
- Wheel sets
- Axles and axle bearings
- Wheels
- Signalling detection interface

Australian railway engineering Standards are also included in the [AS 1085, Railway track material Series](#).

Smelting Plants

Smelting and forging plants are used to process iron ore when it has been extracted and transported.

Unfired pressure vessels, heat exchangers, boilers and furnaces are the most commonly used types of plant equipment used for smelting iron ore. Valves and fittings used with this type of equipment should be tested to [AS 1271-2003, Safety valves, other valves, liquid level gauges, and other fittings for boilers and unfired pressure vessels](#).

High Risk Pressure Vessels (Unfired)

Information on the design of larger types of pressure vessels/equipment (such as unfired pressure vessels) is included in [AS 1210-2010, Pressure vessels](#). Design verification requirements for high risk types of pressure vessels can be found in [AS 3920.1-1993, Assurance of product quality – Pressure equipment manufacture](#).

[AS 3990-1993, Mechanical equipment – Steelwork](#) applies to the design, fabrication, erection, repair and alteration of steelwork associated with boilers and pressure vessels.

Welding and brazing requirements for pressure vessels are described in [AS/NZS 3992:1998, Pressure equipment – Welding and brazing qualification](#).

High risk pressure vessels are typically boilers, heat exchangers, gas fired appliances and industrial furnaces. These types of pressure vessels used in smelting plants should be registered by contacting the relevant regulators. Refer to the [Regulators](#) section of this guide for more information.

Pressure equipment used in smelting plants is required to conform according to the following Standards:

- Hazard Levels and Risk Assessments
[AS 4343-2005, Pressure equipment – Hazard levels](#)
- Design Requirements
[AS 1210-2010](#) and [AS 3920.1-1993](#)
- Operational Requirements
[AS 3873-2001, Pressure equipment – Operation and maintenance](#)
- Materials/Manufacture
[AS 4458-1997, Pressure equipment – Manufacture](#)
- Non-Destructive Tests/Visual Tests, Examination
[AS 4037-1999, Pressure equipment - Examination and testing](#)

Material specifications and manufacturing requirements for unfired pressure vessels are described in [AS 4458-1997, Pressure equipment – Manufacture](#).

In-service inspection requirements for high risk types of pressure vessels are described in [AS/NZS 3788:2006, Pressure equipment – In-service inspection](#).

Non-destructive tests for pressure vessels can be undertaken by using the information in [AS 4037-1999, Pressure equipment – Examination and testing](#).

For specific information about different pressure vessels, refer to:

- Boilers
[AS 1228-2006, Pressure equipment – Boilers](#) and [AS 2593-2004, Boilers – Safety management and supervision systems](#)
- Heat Exchangers
[AS 3857-1999, Heat exchangers – Tubeplates – Methods of design](#)
- Gas Fired Appliances
[AS 3814-2009, Industrial and commercial gas-fired appliances](#)
- Industrial Furnaces
[AS 1375-1985, Industrial fuel-fired appliances \(known as the SAA Industrial Fuel-Fired Appliances Code\)](#)

Iron and Steel Processing (Forging) Plants

Machinery safety requirements for equipment typically found in iron and steel processing plants can be found in:

- [EN 14656:2006, Safety of machinery – Safety requirements for extrusion presses for steel and non-ferrous metals](#)
- [EN 14673:2006, Safety of machinery – Safety requirements for hydraulically powered open die hot forging presses for the forging of steel and non-ferrous metals](#)
- [EN 14753:2007, Safety of machinery – Safety requirements for machinery and equipment for continuous casting of steel](#)
- [EN 15093:2008, Safety of machinery – Safety requirements for hot flat rolling mills](#)
- [EN 15094:2008, Safety of machinery – Safety requirements for cold flat rolling mills](#)
- [EN 15949:2012, Safety of machinery – Safety requirements for bar mills, structural steel mills and wire rod mills](#)

For more information about safety of machinery Standards, refer to the [Workplace Health and Safety - Machinery Safety](#) section of this guide.

Sampling and Manufacturing Iron Ores

Sampling and analytical methods for different types of irons and steels are included in [AS/NZS 1050, Methods for the analysis of iron and steel Series](#). There are also a number of [ISO](#) and [ASTM](#) sampling methods for iron ore.

[ATS 5621-2012, Iron ores – Rapid moisture determination](#) includes information on radiant and conduction heating methods that can measure moisture content levels for iron ores.

Information on manufacturing requirements for cast irons can be found in:

- [AS 1830-2007, Grey cast iron](#)
- [AS 1831-2007, Ductile cast iron](#)
- [AS 1832-2007, Malleable cast iron](#)
- [AS 2027-2007, Abrasive-resistant cast irons](#)
- [AS 5049-2002, Cast iron – Designation of microstructure of graphite](#)
- [AS 5052-2007, Compacted \(vernicular\) graphite cast irons – Classification](#)

- [AS 5054-2007, Austenitic spheroidal graphite cast irons Classification](#)

Storing and Transporting Dangerous Goods

Off-shore containers with capacities not exceeding 25,000kg should be manufactured, tested and inspected to the requirements specified in [AS EN 12079, Offshore containers and associated lifting sets Series](#).

Manufacturing requirements and dimensional requirements for conventional (Series 1) freight containers are described in [AS 3711, Freight containers Series](#).

Personnel responsible for arranging the transportation of dangerous goods by sea can use the information included in [AS 3846-2005, The handling and transport of dangerous cargoes in port areas](#). This Standard sets out requirements and recommendations for the handling and transport of dangerous cargoes in port areas, including facilities, berths and operations.

Mixed classes of dangerous goods should be stored by following the information contained in [AS/NZS 3833:2007, The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers](#).

[HB 76, Dangerous Goods - Initial Emergency Response Guide](#) includes information on UN numbers and emergency procedures for the types of dangerous goods listed in the [Australian Dangerous Goods Code \(ADG\)](#).



The Australian Dangerous Goods Code (ADG7) references many Australian Standards, which represent good practice, as defined by industry experts. By complying with these Standards, your transport activity will be deemed-to-satisfy the relevant section of the Code's performance requirements. The [ADG7 + Referenced Standards](#) Service provides you with online access to the most recent Code and its referenced Australian and ISO Standards (via hyperlinks).

More comprehensive information on the storage and handling of different classes of dangerous goods is included in the [Guide to Standards - Dangerous Goods](#).

Demonstrating Compliance to Building Standards

Generally, there are three methods available to persons and organizations in the building industry wishing to demonstrate compliance to building Standards. These methods are summarized below.

Method 1 – Commissioning Assessments from Suitably Competent Persons

Suitably competent persons, organizations, industry bodies, industry associations and companies can be engaged to independently assess work undertaken in the building industry. This method of assessment should be used to demonstrate compliance to manufacturing Standards.

Method 2 - Type Testing (ISO Type 1 Scheme)

This is a commonly applied method that involves the commissioning of an independent and relevant accredited test report of a sample product, prepared by an accredited test facility that is then reviewed for compliance requirements of relevant Standards. The result of the process is often referred to as a 'Type Test Certificate' that may provide the user, or stakeholder with an enhanced level of confidence in a manufacturer's or suppliers claim of compliance.

Method 3 – Third Party Product Certification (ISO Type 5 Schemes)

Organizations and personnel wishing to provide a higher level of confidence to stakeholders in their claims of compliance, may wish to engage the services of an independent third party. A third party service can offer testing of an initial sample of a product, undertake an audit of the manufacturer's facilities, followed by ongoing batch and surveillance tests of products and audits at regular intervals. More detailed information on product certification schemes is included in [HB 18.67-2005, Conformity assessment – Fundamentals of product certification](#).

SAI Global Product Certification Schemes

SAI Global Limited is the largest provider of third party product certification services in Asia Pacific, and is accredited against a broad range of Australian and International Standards, via its wholly owned subsidiary SAI Global Certification Services Pty Ltd.

The [Product Certification Services](#) Group offers a wide range of certification schemes tailored for dangerous goods.

StandardsMark™

StandardsMark™ is a [System 5 certification scheme](#) which is used to certify manufacturers of electrical equipment to specific product performance Standards. The '5 ticks' StandardsMark™ certification requirements are:

- Testing of sample products by independent accredited laboratories
- Verification of test reports
- Audit of the manufacturing site for initial and ongoing compliance

Electrical Type Test

[Electrical Type Test](#) certification is a [System 1 certification scheme](#). This scheme is recognized as an 'External Approval Scheme' by the Minister of Fair Trading NSW. Through this scheme manufacturers can demonstrate product safety compliance as required by the Electrical Product Regulators in Australia and New Zealand, and the minimum requirements are:

- Testing of product samples by independent accredited laboratories
- Assessment of test reports

IECEE CB Scheme

IECEE CB scheme is an International scheme for mutual recognition of product safety certification between participating countries. Developed by the Worldwide System for Conformity Testing and Certification of Electrical Equipment (IECEE), the CB scheme is the first truly international system for acceptance of test reports dealing with the safety of electrical and electronic products. The main objective is to facilitate trade by promoting harmonisation of the national Standards with international Standards and co-operation among product certifiers worldwide.

SAI Global is the accredited National Certification Body (NCB) for Australia and New Zealand. SAI Global also issues internationally recognized CB Certificates that exporters can use to gain local electrical approval in overseas countries.

CE Programs

CE Program for Low Voltage Directive (LVD) 2006/95/EC (ex-73/23/EEC) is offered for those selling their electrical equipment designed for use with a voltage rating of between 50 and 1000V ac and between 75 and 1500 V DC in the European Union. It seeks to ensure that electrical equipment with certain voltage limits provides a high level of protection to the European community.

CE Program for Electromagnetic Compatibility (EMC) Directive 2004/108/EC is offered to those selling their electrical and electronic appliances and equipment in the European Union. It seeks to ensure that electrical and electronic products do not cause excessive electromagnetic interference and are not overly affected by electromagnetic interference themselves. Please visit [CE Program](#) for more information.

Occupational Health and Safety (OH&S) Management Systems

The management of Occupational Health and Safety (OHS) risks is a minimum requirement in every workplace. An effective OHS Management System can help to establish the framework of compliance with the two fundamental elements of most OHS legislation:

- That employers provide and maintain a working environment that is safe and without risk
- That employees take reasonable care for the health and safety of themselves and others

Audit and certification through SAI Global is available for several well recognized Standards:

- [AS/NZS 4801](#)
- [OHSAS 18001](#)
- [SafetyMap](#)
- [InjuryMap](#)
- [National Audit Tool \(NAT\)](#)

Quality and Excellence in Health

The Excellence in Health Program offers certification against [ISO 9001:2008](#) incorporating the Core Standards for Safety & Quality in Healthcare (to be replaced by the National Safety & Quality Health Service Standards from July 2011), the compliance level.

Excellence in Health offers an additional layer of value for organisations that have reached Tier 1 – Quality in Health level: participation in the internationally recognised [Business Excellence Framework](#), which is exclusive to SAI Global.

ISO 14001 Environmental Management

An Environmental Management System is a framework, which can be integrated with existing business processes to effectively identify, measure, manage and control environmental impacts and hence environmental risks. An Environmental Management System also establishes the means for improving performance and moving towards environmental sustainability through best practice such as [ISO 14001](#).



Please contact the [Product Certification Services](#) Group if you require any further information on the above schemes.

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Online Resources

Since January 2013, most Australian jurisdictions have enacted the new harmonised WHS Act. Find out what this means with Sherriff's Work Health & Safety Law Guide.

www.saiglobal.com/WHs

Get anywhere, anytime access to information of which Australian Standards are referenced in which Australian Commonwealth, State and Territory legislation.

www.saiglobal.com/LexConnect

Do you need to be alerted of regulatory updates and understand how these changes are applicable to your business processes?

www.saiglobal.com/Compliance/products-and-services/regulatory-news/asiapac/safety-health-environment-compliance

Do you need online access to the National Construction Code 2013 and all the Australian Standards referenced within it?

www.saiglobal.com/NCC

Do you need online access to the Building Code of Australia 2013 and all the Australian Standards referenced within it?

www.saiglobal.com/BCA

Do you need online access to the Plumbing Code of Australia 2013 and all the Australian Standards referenced within it?

www.saiglobal.com/PCA

Do you need online access to the Australian Dangerous Goods Code and all the referenced Australian Standards?

www.saiglobal.com/ADGC

Do you need guidance on which Australian Standards or parts thereof are referred to in legislation?

www.saiglobal.com/Newsletters

Would you like to be notified when Standards relevant to you are updated, amended or newly released?

www.saiglobal.com/SW

Do you need online access to the full text of your own customised selection of Australian Standards as well as optional access to international Standards?

www.saiglobal.com/Select

Do you need to stay current on Australian Legislative, Regulatory and Compliance News?

www.saiglobal.com/compliance/regulatory-news/asiapac

Would you like to drive continued organizational success with results-focused training and professional development?

www.saiglobal.com/training

Regulators

Federal

Department of Resources, Energy and Tourism

Website: www.ret.gov.au

Safe Work Australia

Website: www.safeworkaustralia.gov.au

Western Australia

Department of Mines and Petroleum

Website: www.dmp.wa.gov.au

Department of Commerce - Worksafe

Website: www.commerce.wa.gov.au/WorkSafe/

Department of Commerce (Western Australia) - EnergySafety

Website: www.commerce.wa.gov.au/EnergySafety

New South Wales

Division of Resources and Energy, Minerals and Petroleum

Website: www.resources.nsw.gov.au

WorkCover Authority of NSW

Website: www.workcover.nsw.gov.au

Office of Environment & Heritage

Website: www.environment.nsw.gov.au

Workers Compensation Commission

Website: www.wcc.nsw.gov.au

Queensland

Department of Natural Resource and Mines

Website: www.dnrm.qld.gov.au

Department of Justice and Attorney-General – Workplace Health and Safety Queensland

Website: www.justice.qld.gov.au

Department of Justice and Attorney-General

Electrical Safety

Website: www.justice.qld.gov.au/fair-and-safe-work/electrical-safety

South Australia

Department of Manufacturing, Innovation, Trade, Resources and Energy

Website: www.dmitre.sa.gov.au

SafeWork SA

Website: www.safework.sa.gov.au

Office of the Technical Regulator (South Australia)

Website: www.technicalregulator.sa.gov.au

Victoria

Department of Environment and Primary Industries

Website: www.dpi.vic.gov.au

WorkSafe Victoria

Website: www.worksafe.vic.gov.au

Occupational Health and Safety Unit – OHS Reps at Work

Website: www.ohsrep.org.au

Energy Safe Victoria

Website: www.esv.vic.gov.au

Tasmania

Department of Infrastructure, Energy and Resources

Website: www.dier.tas.gov.au

Department of Justice – Workplace Standards Tasmania

Website: www.wst.tas.gov.au

Northern Territory

Department of Mines and Energy

Website: www.nt.gov.au/d/Minerals_Energy

NT WorkSafe

Website: www.worksafe.nt.gov.au

Electrical Safety

Website: www.worksafe.nt.gov.au/IndustrySectors/Pages/Electrical.aspx

Australian Capital Territory

Worksafe ACT

Website: worksafe.act.gov.au

Customer Service Contacts

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[Building Products Certification Services](#)

[Product Certification Key Documents](#)