

5 Design requirements

All conveyor belting used in underground coal mines must be designed to be fire resistant and antistatic. The designer must specify the published technical standards, or the engineering principles used to identify controls, in the order of the hierarchy of risk controls in Part 3.1 of the *Work Health and Safety Regulation 2017*, incorporated in the design.

6 Testing requirements

6.1 General

Conveyor belts must be type tested, and retested, in accordance with the requirements of clauses 5.2 and 5.3 'Type testing' and clause 6.3 'Retesting for type tests' of AS 4606-2012 *Grade S fire resistant and antistatic requirements for conveyor belting and conveyor accessories* (as amended from time to time).

6.2 Test Facility

- (1) Despite the requirements of clause 5.5 'Test facility' of AS 4606-2012, that the test facility used for type testing shall be a test facility unrelated to the organisation manufacturing or supplying the conveyor belt, the test facility shall either be:
 - (a) An independent facility in Australia that is accredited by the National Association of Testing Authorities (NATA) for performing the specific tests described in the standards referred to in this Order, or
 - (b) where a NATA-accredited laboratory is not available, a suitably qualified and experienced independent testing facility having regard to test equipment, equipment calibration, quality processes, work methods, past test experience and independent technical verification should be used.

6 Performance standards

- (1) Conveyor belts must comply with the requirements of Grade S conveyor belting as set out in AS 4606-2012.
- (2) Despite the performance requirements of clause 6.1.3 of AS 4606-2012, '*Ignitability and maximum surface temperature of belting subjected to friction (Drum friction test)*', conveyor belts for use in applications where they are too inflexible to wrap around the drum, need not comply with those requirements, provided:
 - (a) it can be demonstrated that it is not reasonably practicable to comply, and
 - (b) specify the published technical standards, or the engineering principles used to identify controls, in the order of the hierarchy of risk controls in Part 3.1 of the *Work Health and Safety Regulation 2017*, to protect from the risk of heating of the conveyor belt due to belt slip and/or friction between the conveyor belt and a metal object.

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WORK HEALTH AND SAFETY (MINES AND PETROLEUM SITES) REGULATION 2014

Registration of Explosive-Powered Tools Design Order 2018

I, Leigh Nicholls, Chief Inspector, with the delegated authority of the Secretary, Department of Planning and Environment in pursuance of clause 177(5) of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 ("the Regulation") make the following Order.

Dated this 4th day of December 2018.

Leigh Nicholls
Chief Inspector
Department of Planning and Environment

1 Name of Order

This Order is the Registration of Explosive-powered Tools Design Order 2018.

2 Commencement

This Order commences on 7 December 2018.

3 Interpretation

In this Order:

AS/NZS is a reference to Australian/New Zealand Standard

Chief Inspector is a person appointed under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013*.

Regulation means the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*.

4 Revocation

The *Registration of Explosive-Powered Design Order 2015* published in the NSW Government Gazette No 52 of 26 June 2015 at pages 1851-1852 is revoked.

5 Design requirement

- (1) All explosive-powered tools used in underground coal mines must be designed, in accordance with the following standards, as amended from time to time:
 - (a) AS/NZS 1873.1:2003 Powder-actuated (PA) hand-held fastening tools – Selection, operation and maintenance
 - (b) AS/NZS 1873.2:2003 Powder-actuated (PA) hand-held fastening tools – Design and construction
 - (c) AS/NZS 1873.3:2003 Powder-actuated (PA) hand-held fastening tools – Charges
 - (d) AS/NZS 1873.4:2003 Powder-actuated (PA) hand-held fastening tools – Fasteners
- (2) Without limiting 5 (1) above, all explosive-powered tools including its associated range of explosive charges and fasteners, must be designed such that the tool itself is not an effective ignition source of a methane-enriched atmosphere.
- (3) Where a design does not comply, in full or part, with the guidelines listed in paragraphs 5(1)(a)-(d), the designer must specify the published technical standards or the engineering principles used to identify controls, in the order of the hierarchy of risk controls in Part 3.1 of the Work Health and Safety Regulation 2017, incorporated in the design to achieve at least an equivalent level of safety as the design requirements in 5 (1) and 5 (2).

6 Testing requirements

6.1 General

The explosive-powered tool, including its associated range of explosive charges and fasteners as intended for use in the underground coal mine, must be tested to determine if the explosive-powered tool is likely to ignite an explosive atmosphere.

6.2 Test method

- (1) All explosive-powered tools must be tested as follows:
 - (a) the explosive-powered tool is to be placed in a small flameproof test chamber which is filled with a mixture of 7.5% volume ethylene in air,
 - (b) the tool is to be loaded with the range of relevant strip-mounted cartridges and range of relevant sized fasteners for which registration is sought,
 - (c) testing is to be performed at maximum and minimum power selections, using short and long fasteners firing into a range of target materials,
 - (d) testing is to be performed with a range of expected target materials including industry brick, concrete and steel plate,
 - (e) where applicable, the tool is to be tested with supplied extension trigger assembly fitted and with magazine.
- (2) Testing must be repeated at least five times for each combination to be able to demonstrate the repeatability of the results.
- (3) Testing must be repeated to simulate all reasonably foreseeable operating conditions of the explosive-powered tool.

6.3 Test facility

All testing must be carried out by:

- (a) a laboratory in Australia that is accredited by the National Association of Testing Authorities Australia (NATA) for performing the specific tests described in the standards referred to in this Order, or
- (b) where a NATA-accredited laboratory is not available, a suitably qualified and experienced independent facility having regard to test equipment, equipment calibration, quality processes, work methods, past test experience and independent technical verification should be used.

7 Performance standards

When the explosive-powered tool is fired in the test chamber, the surrounding ethylene environment must not ignite.

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