

WORK HEALTH AND SAFETY (MINES AND PETROLEUM SITES) REGULATION 2022

Registration of Explosive-Powered Tools Design Order 2022

I, **Garvin Burns**, Chief Inspector, with the delegated authority of the Secretary, Regional NSW, pursuant to section 187(5) of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2022, make the following Order.

Dated this 29th day of August 2022

Garvin Burns
Chief Inspector
Regional NSW

1. Name of Order

This Order is the *Registration of Explosive-Powered Tools Design Order 2022*.

2. Commencement

This Order commences on the day it is published in the NSW Government Gazette.

3. Interpretation

In this Order:

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

4. Revocation

The *Registration of Explosive-Powered Tools Design Order 2018* published in the NSW Government Gazette No.134 of 7 December 2018 at pages 9255-9256 is revoked.

5. Design requirements

5.1. Except as provided in paragraphs 5.2 and 5.3, 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.
- (e) without limiting 5.1(a) – (d) 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.

5.2. Where a design does not fully comply with the requirements in paragraph 5.1(a) – (e), the designer must specify the published technical standards or the engineering principles used to identify controls, in accordance with the hierarchy of risk control measures in Part 3.1 of the Work Health and Safety Regulation 2017, that have been incorporated in the design to achieve at least an equivalent level of safety as the requirements of paragraphs 5.1(a) – (e).

5.3. If the design of an explosive-powered tool that is registered under Part 5.3 of the Work Health and Safety Regulation 2017 is altered and the alteration may affect health or safety:

- (a) the altered parts of an explosive-powered tool must be designed to comply with the design requirements in paragraphs 5.1— 5.2 of this Order.
- (b) an assessment must be undertaken, and documented, by the designer to assess the impact that the design alteration has on unaltered parts of the explosive-powered tool.
- (c) where the assessment undertaken in paragraph 5.3(b) shows there has been a reduction in the effectiveness of existing control measures of any other parts of the explosive-powered tool, that is, there has been a detrimental effect on health and safety caused by the alteration, these parts must comply with the design requirements in paragraphs 5.1— 5.2 of this Order.
- (d) any parts of the explosive-powered tool which are not affected by the alteration must continue to comply with the design requirements of the design order that was in effect on the date that the registration for the design of the explosive-powered tool was granted.

6. Testing and performance requirements

6.1. General:

Except as provided in paragraph 6.2, all explosive-powered tools, including its associated range of explosive charges and fasteners as intended for use in underground coal mines, must be tested to determine if the explosive-powered tool is likely to ignite an explosive atmosphere.

6.2. Test method:

- (a) all explosive-powered tools must be tested as follows:
 - (i) 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,
 - (ii) 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,
 - (iii) testing is to be performed at maximum and minimum power selections, using short and long fasteners firing into a range of target materials,
 - (iv) testing is to be performed with a range of expected target materials including industry brick, concrete and steel plate,
 - (v) where applicable, the tool is to be tested with supplied extension trigger assembly fitted and with magazine.
- (b) testing must be repeated at least five times for each combination to be able to demonstrate the repeatability of the results.
- (c) testing must be repeated to simulate all reasonably foreseeable operating conditions of the explosive-powered tool.

6.3. If the design of an explosive-powered tool that is registered under Part 5.3 of the Work Health and Safety Regulation 2017 is altered, and the alteration may affect health or safety, the altered parts of the explosive-powered tool, including those parts that may have been redesigned due to detrimental effects identified in the assessment undertaken in paragraph 5.3(2) above, must be tested and meet the performance requirements in paragraphs 6.2(a) – (c) of this Order.

6.4. Any parts of the explosive-powered tool which are not affected by the alteration must continue to comply with the performance requirements of the design order that was in effect on the date that the registration for the design of the explosive-powered tool was granted.

7. Test facility

7.1. The test facility used for testing the explosive-powered tool must be a test facility which is independent of the designer, manufacturer or supplier.

7.2. The test facility must have test equipment with calibration traceable to the International System of Units (SI) by reference to national measurement

standards, quality processes and work methods for performing the specific tests described in the standards referred to in this Order. This must be demonstrated through:

- (a) accreditation by the National Association of Testing Authorities (NATA); or
- (b) where demonstrated to the regulator that a NATA-accredited facility is not available,
 - (i) through accreditation by an organisation that is a signatory to the ILAC MRA (International Laboratory Accreditation Cooperation Mutual Recognition Arrangement); or
 - (ii) a suitably qualified and experienced testing facility along with past test experience with explosive-powered tools, which has been independently audited within the last 2 years.

8. Determination of applications for registration of design made before commencement of this Order

If an application for the registration of design of an explosive-powered tool made in accordance with clause 250 of the Work Health and Safety Regulation 2017 to which the standards specified in the *Registration of Explosive-Powered Tools Design Order 2018* applies is made before the commencement of this Order, and the application has not been finally determined before that commencement, the application is to be determined as if this Order had not commenced.