

Australian/New Zealand Standard™

**Electrical protection devices for mines
and quarries**



AS/NZS 2081:2011

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-023, Electrical Equipment in Mines and Quarries. It was approved on behalf of the Council of Standards Australia on 23 September 2011 and on behalf of the Council of Standards New Zealand on 23 September 2011. This Standard was published on 4 November 2011.

The following are represented on Committee EL-023:

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Australian Coal Association
Australian Industry Group
Consult Australia
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Department of Mines & Petroleum (WA)
Department of Trade and Investment, Regional Infrastructure and Services, NSW
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AS/NZS 2081:2011

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Electrical protection devices for mines and quarries

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Previous editions, and first New Zealand editions, in part as AS/NZS 2081,
Parts 1 to 5 (2002).
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-023, Electrical Equipment in Mines and Quarries, to supersede Parts 1 to 5 of AS/NZS 2081 (2002), *Electrical equipment for coal and shale mines—Electrical protection devices*.

This Standard specifies the performance requirements for protection devices intended for use with electrical supply networks utilizing earth fault current limitation techniques (IT networks). These protection devices include the following:

- (a) Earth fault current limiting devices.
- (b) Earth continuity protection devices.
- (c) Earth fault protection devices.
- (d) Earth fault lockout protection devices.
- (e) NER integrity protection devices.
- (f) Frozen contact protection devices.

Prospective touch voltage versus operating time characteristics are referenced to facilitate the key objectives of this Standard.

This edition of the Standard differs from the previous editions in the following significant ways:

- (a) All parts have been combined into a single document.
- (b) Clarification of the Scope to indicate that the Standard is applicable to both above and below ground mines and quarries.
- (c) The addition of NER integrity protection devices.
- (d) The addition of frozen contact protection devices.
- (e) The inclusion of references to specific prospective touch voltage versus operating time characteristics that form the basis of the protection strategies implemented by the equipment covered by this Standard.
- (f) The addition of prescribed levels of immunity to conducted common mode signals and electromagnetic interference for protection devices containing active circuits.
- (g) The addition of requirements for vibration, shock and bump immunity.
- (h) Clarification of requirements for conformal coatings in lieu of environmental testing.
- (i) The revision of typical system electrical diagrams showing the application of the various protection systems detailed in this Standard.
- (j) The inclusion of partial discharge and impulse testing.

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

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