Australian Standard™

Safety in welding and allied processes

Part 2: Electrical

Standards Australia

This Australian Standard was prepared by Committee EL-019, Electrical Welding Plant. It was approved on behalf of the Council of Standards Australia on 28 March 2003 and published on 2 June 2003.

The following are represented on Committee EL-019:

Australian Chamber of Commerce and Industry

Australian Industry Group

Australian Manufacturing Workers Union

Welding Technology Institute of Australia

Additional interests participating in the preparation of this Standard:

Hunter Industry Electrical Safety Network, N.S.W.

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Part 2: Electrical

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-019, Electrical Welding Plant, to supersede AS 1674.2—1990.

The objective of this Standard is to provide a significant improvement in the safety of welding in hazardous environments, where, in recent years, there have been a number of deaths by electrocution.

The major change from the previous edition is the classification of welding environments according to risk of electrocution. Three types of environment are now described. This replaces references in the previous edition to normal environments and confined spaces. As well as a normal environment, an environment with an increased risk of electric shock is described, where the risk of the welder being in contact with the workpiece is high. This environment has been recognized in ISO Standards for many years, but is new to Australian practice. It was also felt necessary to include a category of environment where, because of perspiration or wetness, the risk of serious electric shock is high. Precautions to avoid electric shock are listed for each type of environment. In particular, maximum open circuit voltages are specified for each environment type.

In addition to the new classifications and a number of editorial revisions, the following technical changes are also included:

(a) The selection of a power source based upon the degree of protection offered by its casing (Clause 3.2.1).

(b) Descriptions of ISO markings for suitability for hazardous environments, degree of protection and internal insulation (Clause 3.2.2).

(c) The isolation switch described in the previous edition has been supplemented with other hazard-reducing devices, including voltage reduction devices and trigger switches (Clause 3.2.7).

(d) Descriptions of suitable cables for welding circuits with high-frequency or other arc-initiating equipment (Clause 3.2.8).

(e) Clarification of responsibilities for the installation and assembly of welding equipment (Clause 4.1).

(f) Recommendation on earthing the workpiece (Clause 4.3).

(g) Revision of descriptions of the risk of electrocution for common welding and allied processes (Appendix A).

(h) A description of how stray currents arise and their consequences (Paragraph A6).

(i) The description of how electric shocks are received during welding is clarified and amplified (Appendix B).

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

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