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LOW VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES

Part 1—GENERAL REQUIREMENTS

This Australian Standard was prepared by Committee EL/6, Industrial Switchgear and Controlgear. It was approved on behalf of the Council of the Standards Association of Australia on 22 December 1987 and published on 7 March 1988.

The following interests are represented on Committee EL/6:

Australian-British Chamber of Commerce

Australian Electrical and Electronic Manufacturers Association

Bureau of Steel Manufacturers of Australia

Department of Defence

Electrical Contractors Associations of Australia

Electricity Supply Association of Australia

Independant Electrical Switchboard Manufacturers Association Ltd

Institution of Engineers, Australia

Metropolitan Water Sewerage and Drainage Board (Sydney)

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AUSTRALIAN STANDARD

LOW VOLTAGE SWITCHGEAR AND CONTROLGEAR ASSEMBLIES

Part 1 GENERAL REQUIREMENTS

AS 1136.1—1988

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PREFACE

This Standard was prepared by the Association's Committee on Industrial Switchgear and Controlgear to supersede AS 1136—1980, *Switchgear and controlgear assemblies for voltages up to 1000 V a.c.*

It is based on the 1985 edition of IEC 439-1, *Low-voltage switchgear and controlgear assemblies, Part 1: Requirements for type-tested and partially type-tested assemblies,* and acknowledgement is made of the assistance received from this source. Further Standards in this series are under consideration to cover particular requirements for assemblies to which unskilled persons may have access for their use and assemblies for construction sites.

In this Standard a type-tested low-voltage switchgear and controlgear assembly is referred to by the abbreviation TTA. Similarly a partially type-tested assembly is referred to by the abbreviation PTTA. When both a TTA and a PTTA are being referred to, the word 'assembly' (or 'assemblies') is used. The Standard defines what is meant by an assembly, a TTA and a PTTA.

This Standard differs significantly from IEC 439-1 and this is indicated both in Appendix L and by a rule in the margin against the clause or part thereof affected. Some important differences are as follows:

(a) The manufacturer of an assembly is responsible for the correct selection and installation of components having regard to their conditions of use within the assembly including any necessary derating. Appendix J has been added concerning the selections of components.

(b) Minimum inpulse withstand voltages and minimum creepage distances are specified.

(c) The typical forms of segregation have been extended to cover a number of variations frequently encountered.

(d) Appendix B lists items subject to agreement between the purchaser and the manufacturer.

(e) Appendix D is included to give guidance for the design of assemblies intended to provide increased security against the occurrence of or the effects of internal arcing faults.

(f) Appendix E is included for the verification of the performance of assemblies designed in accordance with the guidelines set out in Appendix D. It specifies standard test conditions with the arc initiated by the connection of fuse wire at selected terminals or connections on the load side of the protective device within each compartment tested and insulation may be removed for this purpose. It also provides for special internal arcing fault tests, which may be required.

(g) Tests carried out on assemblies to Appendix E of previous editions of AS 1136 are recognized as meeting either the standard test or a special test to Appendix E of this Standard.

(h) Appendix F is included to show the types of system earthing for which assemblies may need to be designed.

(i) Alternative test method for Test Duties 1 and 2 is given in Appendix K.

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