AS 3132—1991

Australian Standard®

Approval and test specification—Enclosures of insulating material for switchgear and controlgear

This Australian Standard was prepared by Committee EL/4, Electrical Accessories. It was approved on behalf of the Council of Standards Australia on 28 February 1991 and published on 15 April 1991.

The following interests are represented on Committee EL/4:

Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Department of Public Works, N.S.W.
Electrical Contractors Association of Australia
Electricity Supply Association of Australia
Plastics Industry Association
Railways of Australia Committee
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PREFACE

This Standard was prepared by the Standards Australia Committee on Electrical Accessories.

It is one of a series of Approval and Test Specifications issued by the organization. These Specifications are accompanied by a general Specification AS 3100, containing definitions and general requirements for electrical materials and equipment. The purpose of these Specifications is to outline conditions which must be met to secure approval for the sale and use of electrical equipment in Australia. Only safety matters and related conditions are covered.

This Specification was prepared at the request of Committee EL/1–Wiring Rules, and details requirements for enclosures of insulating material with a voltage rating of ≤1000 V ac or ≤1500 V dc —

(a) on which live parts may be mounted; or

(b) which is intended to enclose switchgear and controlgear assemblies having a rating of less than 100 A per phase and less than 10 kA fault withstand capacity; or

(c) associated with manufactured switchgear assemblies having a rating of less than 100 A per phase and less than 10 kA fault withstand capacity.

The tests specified are primarily based on AS 1795 *Sheets and boards for electrical purposes*, however, some requirements herein vary the AS 1795 requirements.

Standards Australia points out that this Specification does not purport to include all the necessary provisions of a contract.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard
Approval and test specification — Enclosures of insulating material for switchgear and controlgear

1 SCOPE The Specification details requirements for enclosures of insulating material with a voltage rating of ≤1000 V ac or ≤1500 V dc —

(a) on which live parts may be mounted; or

(b) which is intended to enclose switchgear and controlgear assemblies having a rating of less than 100 A per phase and less than 10 kA fault withstand capacity; or

(c) associated with manufactured switchgear assemblies having a rating of less than 100 A per phase and less than 10 kA fault withstand capacity.

This Specification does not apply to equipment (if any) mounted on the enclosure.

2 APPLICATION

2.1 General requirements of AS 3100 This Specification shall be read in conjunction with AS 3100 and the appropriate provisions of AS 3100 shall apply to the construction of enclosures and the insulation and safeguarding of parts which normally carry current.

2.2 Specific requirements of this Specification An enclosure shall be deemed to comply with this Specification only if it complies with all requirements of this Specification and passes the tests specified herein.

3 REFERENCED DOCUMENTS The documents below are referred to in this Specification.

STANDARDS

AS	
1795	Sheets and boards for electrical purposes
1795.1	Part 1: Classification and general requirements
1939	Classification of degrees of protection provided by enclosures for electrical equipment
2420	Fire test methods for solid insulating materials and non-metallic enclosures used in electrical equipment
3000	SAA Wiring rules

APPROVAL AND TEST SPECIFICATIONS

AS	
3100	Definitions and general requirements for electrical materials and equipment
3300	General requirements for household and similar electrical appliances

4 DEFINITIONS For the purpose of this Specification, the definitions in AS 3000 and those below apply.

4.1 Enclosure — cases, surrounds, or covers of insulating material intended to enclose switchgear and controlgear assemblies.

4.2 Insulating material — any non-metallic material which complies with this Specification.

4.3 Switchboard — an assembly of switchgear, with or without instruments, including a distribution board, but not including a control panel as defined in AS 3000.

5 DESIGN AND CONSTRUCTION

5.1 General Enclosures shall be designed and constructed so that any fire originating within is contained, and reliable mechanical protection to the cables or conductors contained in the enclosure is ensured.

Enclosures shall be capable of being installed in accordance with, and comply with the appropriate requirements of, AS 3000.

5.2 Surface condition The inside and outside surfaces of enclosures shall be reasonably free from burrs, flash and similar defects. In addition, any edges shall not be liable to damage the conductors or cables.

Compliance shall be checked by inspection. If necessary, the sample may be cut apart.

5.3 Mechanical strength Enclosures shall be of robust construction and adequate mechanical strength. Compliance is checked by Test No. 2 of Table 1.