AS EN 50069—2013
EN 50069:1991
EN 50069:1991/A1:1993
EN 50069:1991/Cor.1:2007
(Incorporating Amendment No. 1)

Australian Standard®

Welded composite enclosures of cast and wrought aluminium alloys for gas-filled high-voltage switchgear and controlgear

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- Australian British Chamber of Commerce
- Australian Industry Group
- Energy Australia
- Energy Networks Association
- Engineers Australia
- University of New South Wales

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear.

This Standard incorporates Amendment No. 1 (September 2013). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to provide the requirements for the design, construction, testing, inspection and certification of gas-filled enclosures for use specifically in high-voltage switchgear and controlgear, or for associate gas-filled equipment.

This Standard is identical with and has been reproduced from EN 50069:1991, *Welded composite enclosures of cast and wrought aluminum alloys for gas-filled high-voltage switchgear and controlgear* and its Amendment 1 (1993) and Corrigendum (2007), which are added at the end of the source text.

As this Standard is reproduced from a European Standard, the following applies:

(a) The European Standard number appears only on the cover.

(b) A full point substitutes for a comma when referring to a decimal marker.

(c) EN Annex A is addressed to EN member nations and should be deleted.

The references to European and International Standards should be replaced by references to the following Australian or Australian/New Zealand Standards:

Reference to European and International Standard		*Australian or Australian/New Zealand Standard*	
ISO		AS/NZS ISO	
6213	Welding; Items to be considered to ensure quality in welding structures	3834 series	Quality requirements for welding—Fusion welding of metallic materials
9000	Guidelines for selection and use of the standards on quality management, quality system elements and quality assurance	9000	Quality management systems—Fundamentals and vocabulary
EN		AS EN	
50052	Cast aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear	50052	Cast aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear
50064	Wrought aluminium and aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear	50064	Wrought aluminium and aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear
HD		AS	
3585 (IEC 517)	Gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above	62271 62271.203	High-voltage switchgear and controlgear Part 203: Gas-insulated metal-enclosed switchgear for rated voltages above 52 kV

Only European and international references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

FOREWORD

At the request of CENELEC technical committee TC 17C, the text of the draft EN 50069 prepared by TC 17C, was submitted to the Unique Acceptance Procedure (UAP).

The text of the draft was approved by all CENELEC members with the exception of Austria and Sweden as EN 50069 on 5 March 1990.

The following dates were fixed:

- latest date of publication of an identical national standard	**(dop)**	**1991-06-01**
- latest date of withdrawal of conflicting national standards	**(dow)**	**1991-06-01**

For products which have complied with the relevant national standard before 1991-06-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1996-06-01.

This document forms a supplement to EN 50 062 (1986): "Cast aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear" and EN 50 064 (1989): "Wrought aluminium and aluminium alloy enclosures for gas-filled high-voltage switchgear and controlgear", concerning welded enclosures for the same type of switchgear and controlgear but composed of parts made of cast and wrought aluminium alloys. It is based on the general specifications given in HD 358 S2 (IEC 517 (1986) ed 2) which are however not sufficient to satisfy the conditions for the service allowance of pressurized high-voltage switchgear and controlgear.

These specifications are appropriate for pressurized switchgear enclosures allowing an economic production without sacrificing aspects of safety. For unusual shapes dictated by electrical conditions they permit the verification of sound design by proof tests instead of calculations. Nevertheless this European Standard makes use of many internationally well acknowledged calculation rules and the Technical Committee will in addition pursue the progress in standardization in CEN/TC 121 and ISO/TC 44 on welding and allied processes.

For the time being reference can only be made to published international standards as far as they are appropriate for the purpose of production of enclosures to be used in gas-filled switchgear and controlgear.

The present EN has been established as an international specification for the design, construction, testing, inspection and certification of pressurized enclosures used in high-voltage switchgear and controlgear. This standard follows to that extent also Article 2 of the Directive 76/767/EEC.

The European Standard contains one informative annex:
"National Deviations"

List of standards referred to in this standard:

HD 358 S2 (IEC 517 (1986) ed 2)	Gas-insulated metal-enclosed switchgear for rated voltages of 72,5 kV and above.
ISO 6213:1983	Welding; Items to be considered to ensure quality in welding structures.
ISO 9000:1987	Guidelines for selection and use of the standards on quality management, quality system elements and quality assurance.
ISO/IEC Guide 2: 1986	General terms and their definitions concerning standardization and related activities.
ISO 6520:1982	Classification of imperfections in metallic fusion welds, with explanations.
ISO 3134:1985	Light metals and their alloys; Terms and definitions.

C O N T E N T S

AUSTRALIAN STANDARD

Welded composite enclosures of cast and wrought aluminium alloys for gas-filled high-voltage switchgear and controlgear

1. Introduction

This standard covers the requirements for the design, construction, testing, inspection and certification of gas-filled enclosures for use specifically in high-voltage switchgear and controlgear, or for associated gas-filled equipment. Special consideration is given to these enclosures for the following reasons:

(a) The enclosures usually form the containment of electrical equipment, thus their shape is determined by electrical rather than mechanical considerations.

(b) The enclosures are installed in restricted access areas and the equipment is operated by experts and instructed persons only.

(c) As the thorough drying of the inert, non corrosive gas-filling medium is fundamental to the satisfactory operation of the electrical equipment it is periodically checked. For this reason, no internal corrosion allowance is required on the wall thickness of these enclo-