AS/NZS 60695.11.3:2004
(IEC 60695-11-3 Ed. 2.0, IDT)

Australian/New Zealand Standard™

Fire hazard testing –

Part 11.3: Test flames – 500 W flames – Apparatus and confirmational test methods

STANDARDS AUSTRALIA

STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-002 - Safety of Household and Similar Electrical Appliances and Small Power Transformers. It was approved on behalf of the Council of Standards Australia on 20 August 2004 and by the Council of Standards New Zealand on 03 September 2004. It was published on 15 October 2004.

The following interests are represented on Committee EL-002

Australian Industry Group

Australian Retailers Association

Australian Electrical and Electronic Manufacturers Association

Business New Zealand

Consumer Electronic Suppliers Association, Australia

Consumers' Federation of Australia

Electrical regulatory authorities, Australia

Electrical Compliance Testing Association

Electrical consultants

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comment to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

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CONTENTS

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-002 - Safety of Household and Similar Electrical Appliances and Small Power Transformers to supersede AS/NZS 60695.11.3:2001 from the date of publication.

The objective of this Standard is provide guidance to manufacturers, designers testing laboratories and similar organizations on test methods to assess the fire hazard of electrotechnical products and for the resulting development of fire hazard testing as related directly to harm to people, animals or property.

Products as defined in this Standard relate to materials, components or complete end products.

This Standard will be of interest to organizations concerned with the avoidance of risk of fire associated with buildings.

This Standard forms the second edition of AS/NZS 60695.11.3, *Fire hazard testing* - Part 11.3: *Test flames – 500 W flames – Apparatus and confirmational test methods.*

This Standard is identical to and is reproduced from IEC/TS 60695-11-3 Ed. 2.0, *Fire hazard testing* - Part 11-3: *Test flames – 500 W flames – Apparatus and confirmational test methods.*

It is to be used in conjunction with AS/NZS 60695.1.1 and AS/NZS 60695.11.4.

The main changes with respect to the previous edition are described below:

– The introduction has been revised.
– Test methods B and D have been withdrawn. Test methods A and C have been retained with their original letter designation.
– Normative reference ISO 1337 has been withdrawn without a replacement by ISO/TC 26. The callout Cu-ETP UNS 11000 is the replacement for all references to ISO 1337. It is taken from ASTM B187-00 and describes high conductivity electrolytic copper.
– A new Annex H has been added which provides access to equipment manufacturers and suppliers.
– Alignment with other publications in the AS/NZS 60695-11 series has been made, where appropriate.

Clause 2 and the bibliography have been reformatted to indicate the Australia/New Zealand standard that is equivalent to the IEC standard or ISO standard to which normative reference is made.

As this Standard is reproduced from an International Standard, the following applies:

a) Its number does not appear on each page of text and its identity is shown on the cover and title page only.

b) In the source text "IEC 60695" should read "AS/NZS 60695".

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

INTRODUCTION

The best method for testing electrotechnical products with regard to fire hazard is to duplicate exactly the conditions occurring in practice. In most instances this is not possible. Accordingly, for practical reasons, the testing of electrotechnical products with regard to fire hazard is best conducted by simulating as closely as possible the actual effects occurring in practice.

This technical specification provides a general description of the apparatus required to produce two test flames and a general description of the principle of a calibration procedure to check that the flame produced meets the requirements. Detailed information for the confirmation of a test flame can be found in IEC 60695-11-40.

This technical specification provides:

a) guidance on the design and use of flame test methods to assess the effect on the test specimen of flames such as may arise from other ignited items in the vicinity, or from a fire in its early stages;

b) a general description of the apparatus required to produce the test flame;

c) a general description of the principle of a calibration procedure to check that the flame produced meets the requirements.

The detailed description of the apparatus needed to produce and verify the test flames is given in a series of sheets, of which this is one.

The status of the series, currently under study, is summarized as follows:

Test flame	**Type**	**Gas**	**Present status**	**Apparent overall height** mm
500 (A)	Pre-mixed	Methane	Method A of this technical specification	Approximately 125
500 (B)	(Withdrawn)			
500 (C)	Pre-mixed	Methane/ propane	Method C of this technical specification	Approximately 125
500 (D)	(Withdrawn)			
NOTE IEC 60695-11-2 describes the apparatus and confirmatory test method for a 1 000 W nominal test flame and IEC 60695-11-4 describes the apparatus and confirmatory test method for a 50 W nominal test flame.				

The aim of the work, initiated by ACOS, is to make available an appropriate (minimum) series of standardized test flames, covering a range of powers for the use of all committees needing test flames. Wherever possible these test flames have been based on existing types, but with improved specifications.

Methods A and C for producing the 500 W nominal test flame are described in this technical specification. Method A was published in 1994 and was based on existing hardware. Method C is based on non-adjustable hardware that has been specifically developed to produce a highly repeatable and stable test flame. All have been developed as a technical enhancement of previous technology.

Flame A, using only methane, makes use of a more tightly specified version of a burner that has been used in some countries for many years.

Flame C makes use of a more highly developed version of the burner used in method A and is capable of being produced using either methane or propane.

FIRE HAZARD TESTING –

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1 Scope

This technical specification provides detailed requirements for the production of a 500 W nominal, pre-mixed type test flame. The approximate overall height is 125 mm.

Two test flames are described: Method A may only be produced using methane whereas method C may be produced using either methane or propane.

One of the responsibilities of a technical committee is, wherever applicable, to make use of basic safety publications in the preparation of its publications.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

International Standard	Title	AU/NZ Standard
IEC 60584-1:1995	*Thermocouples – Part 1: Reference tables*	
IEC 60854-2:1982	*Thermocouples – Part 2: Tolerances*	
IEC 60695-4	*Fire hazard testing – Part 4: Terminology concerning fire tests*	AS/NZS 60695.4
IEC Guide 104:1997	*The preparation of safety publications and the use of basic safety publications and group safety publications*	
ISO/IEC Guide 51: 1999	*Safety aspects – Guidelines for their inclusion in standards*	
ISO/IEC 13943:2000	*Fire safety - Vocabulary*	
ASTM-B187	*Standard Specification for Copper, Bus Bar, Rod and Shapes and General Purpose Rod, Bar and Shapes*	