AS/NZS 60695.11.4:2004
(IEC 60695-11-4 Ed. 2.0, IDT)

Australian/New Zealand Standard™

Fire hazard testing –

Part 11.4: Test flames – 50 W flame – Apparatus and confirmational test method

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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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 60695.11.4:2001 from the date of publication.

The objective of this Standard is to detail the apparatus and confirmational tests for a method to provide a small-scale laboratory screening procedure that allows manufacturers and designers to pre-select materials based on the relative burning behaviour of specimens made from non-metallic materials using a small flame ignition source of 50 W nominal power.

This Standard forms the second edition of AS/NZS 60695.11.4, *Fire hazard testing* - Part 11.4: *Test flames – 50 W flames – Apparatus and confirmational test method.*

This Standard is identical to and is reproduced from IEC/TS 60695-11-4 Ed. 2.0 *Fire hazard testing* - Part 11-4: *Test flames - 50 W flames – Apparatus and confirmational test method*.

This Standard is to be used in conjunction with AS/NZS 60695-1-1 and AS/NZS 60695-11-3.

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

– The introduction has been revised.

– Test methods B and C have been withdrawn. Test method A has been retained with its 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– Normative reference ISO 1337 has been withdrawn without a replacement by ISO/TC 26.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.

Where relevant the normative references and the bibliography are reformatted to indicate the Australia/New Zealand standard that is equivalent to the IEC standard or ISO standard to which 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 a test flame 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 a flame test method 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 this series of test flames, currently under study, is summarized as follows:

Nominal power of the flame W	**Type**	**Gas**	**Present status**	**Apparent overall height** mm
50 (A)	Pre-mixed	Methane	Method A of this technical specification	Approximately 20
50 (B)	(Withdrawn)			
50 (C)	(Withdrawn)			
NOTE IEC 60695-11-2 describes the apparatus and confirmatory test method for a 1 000 W nominal test flame and IEC 60695-11-3 describes the apparatus and confirmatory test method for a 500 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.

Method A as described in Clause 4 produces the 50 W nominal test flame using a single gas supply tube, a needle valve to adjust the gas back pressure, a flowmeter to adjust the gas flow rate and adjustable air ports on the burner tube. This method has been developed as a technical enhancement of previous technology.

Flame A as described in Clause 4 is produced by methane and makes use of a more tightly specified version of a burner that has been used in some countries for many years.

FIRE HAZARD TESTING –

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1 Scope

This technical specification provides detailed requirements for the production of a 50 W nominal, pre-mixed type test flame. The approximate overall height is 20 mm.

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 60584-2:1982	*Thermocouples – Part 2: Tolerances*	
IEC 60695-4:1993	*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*	

3 Terms and definitions

For the purpose of this document, the terms and definitions given in ISO/IEC 13943 and IEC 60695-4, as well as the following definition, apply.