AS/NZS 60695.11.4:2001
IEC 60695-11-4:2000

Australian/New Zealand Standard™

Fire hazard testing

Part 11.4: Test flames—50 W flames—Apparatus and confirmational test methods

Standards Australia

STANDARDS NEW ZEALAND

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL/2 - Safety of household and similar electrical appliances and small power transformers. It was approved on behalf of the Council of Standards Australia on 2 October 2001 and on behalf of the Council of Standards New Zealand on 12 October 2001. It was published on 12 November 2001.

The following interests are represented on Committee EL/2:

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Consumer Electronic Suppliers Association, Australia
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AS/NZS 60695.11.4:2001
(IEC 60695-11-4:2000, IDT)

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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.

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 first edition of AS/NZS 60695.11.4, *Fire hazard testing* - Part 11.4: *Test flames – 50 W flames – Apparatus and confirmational test methods*

This Standard is identical to and is reproduced from IEC 60695-11-4:2000, *Fire hazard testing* - Part 11-4: *Test flames - 50 W flames – Apparatus and confirmational test methods*.

This Standard is to be used in conjunction with AS/NZS 60695.1.1.

Annexes A, B and C form an integral part of this standard.

Annexes D, E, F and G are for information only.

Clause 2 has 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.

The bibliography has been reformatted to indicate the Australia/New Zealand standard that is equivalent to the IEC standard or ISO standard to which an informative 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

This technical specification provides:

a) guidance on the design and use of flame test methods to assess the effect on the 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 indicated in this specification.

The status of this series of test flames, currently under study, is summarized in the following table:

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	circa 20
50 (B)	Pre-mixed	Methane/ propane	Method B of this technical specification	circa 20
50 (C)	Pre-mixed	Methane/ propane	Method C of this technical specification	circa 20
NOTE IEC 60695-2-4/1 describes a 1 000 W flame and IEC 60695-11-3 describes a 500 W flame apparatus and confirmational test method.				

The aim of the work, which was 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. All have been developed as a technical enhancement of previous technology (see IEC 60707).

Methods B and C as described in clauses 5 and 6 respectively, use two supply tubes, one for gas and the other for air; non-adjustable hardware has also been developed to improve the reproducibility and reduce operator involvement.

The three test flames are as follows:

- 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;
- flame B as described in clause 5, and flame C as described in clause 6, make use of more highly developed versions of the burner that is used in method A, and are capable of being produced with either methane or propane.

AUSTRALIA/NEW ZEALAND STANDARD

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, with an overall height of approximately 20 mm.

Three methods, A, B and C, are given: flame A is produced by methane; flames B and C are capable of being produced with 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 normative documents contain provisions which, through reference in this text, constitute provisions of this technical specification. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this technical specification are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC or ISO standard	Year	Title	AU/NZ standard	Year
IEC 60584-1	1995	*Thermocouples – Part 1: Reference tables*		
IEC 60584-2	1982	*Thermocouples – Part 2: Tolerances*		
IEC 60695-1-1	1995	*Fire hazard testing – Part 1: Guidance for assessing fire hazard of electrotechnical products – Section 1: General guidance*	AS/NZS 60695.1.1	2001
IEC 60695-2-4/0	1991	*Fire hazard testing – Part 2: Test methods – Section 4/sheet 0: Diffusion type and pre-mixed type flame test methods*		