AS/NZS 60695.11.5:2005
IEC 60695-11-5 Ed 1.0, IDT

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Australian/New Zealand Standard™

Fire hazard testing

Part 11.5: Test flames—Needle-flame test method—Apparatus, confirmatory test arrangement and guidance (IEC 60695-11-5 Ed 1.0, IDT)

STANDARDS Australia

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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 16 September 2005 and on behalf of the Council of Standards New Zealand on 16 September 2005.
This Standard was published on 25 November 2005.

The following are represented on Committee EL-002:

Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Retailers Association
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Electrical Consultants
Electrical Compliance Testing Association, Australia
Electrical Regulatory Authorities, Australia
Electrical Test Laboratories
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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 comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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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.

This first edition of AS/NZS 60695.11.5 cancels and replaces AS/NZS 4695.2.2, issued in 1996 two years from the date of publication. It also constitutes a technical revision.

The structure of this standard remains essentially the same with some major new changes and concepts added:

– The scope has been broadened to allow this test method to also simulate the effects of small flames from outside the equipment.
– A new concept has been added which allows the burner to be moved during the test to avoid dripping material from falling onto the tip of the burner tube.
– The burner tube material is now a referenced source.
– The reference for the copper block material has changed – the ISO publication (ISO 1337) has been withdrawn with no replacement. A new callout is now used.
– Informative Annex B and a bibliography have been added.

The objective of this Standard is to provide general requirements for a needle-flame test to allow manufacturers and designers, testing laboratories and similar organizations, to assess fire hazard of electrotechnical products by using a simulation technique.

This Standard is identical to and is reproduced from IEC 60695-11-5 Ed 1 *Test flames – Needle flame test method – Apparatus, confirmatory test arrangement and guidance*

Annex A and Annex B 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

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.

Parts of electrotechnical equipment which might be exposed to excessive thermal stress due to electric effects, the deterioration of which might impair the safety of the equipment, should not be unduly affected by heat and by fire generated within the equipment.

Parts of insulating material or of other combustible material which are liable to propagate flames inside the equipment may be ignited by flames produced by a failing component. Under certain conditions, for example a fault current flowing over a tracking path, overloading of components or parts and bad connections, flames may also occur; such flames may impinge upon combustible parts in the vicinity.

This part of IEC 60695 should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products, or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use.

This standard may involve hazardous materials, operations and equipment.

It does not purport to address all of the safety problems associated with its use.

It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

FIRE HAZARD TESTING –

Part 11.5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance

1 Scope

This part of IEC 60695 specifies a needle-flame test to simulate the effect of a small flame which may result from fault conditions, in order to assess by a simulation technique the fire hazard.

It is applicable to electrotechnical equipment, its sub-assemblies and components and to solid electrical insulating materials or other combustible materials.

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.

Standard	Year	Title	AU/NZ Standard	Year
ISO/IEC 13943	2000	*Fire safety – Vocabulary*		
ISO 4046-4	2002	*Paper, board, pulps and related terms – Vocabulary – Part 4: Paper and board grades and converted products*		
ASTM-B187		*Standard specification for copper, bus bar, rod, and shapes and general purpose rod, bar, and shapes*		

3 Terms and definitions

For the purposes of this document, the terms and definitions of ISO/IEC 13943 apply.