

Australian/New Zealand Standard™

Fire Hazard Testing

Part 10.2: Abnormal heat—Ball pressure test



AS/NZS 60695.10.2:2004

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 18 March 2004 and on behalf of the Council of Standards New Zealand on 26 March 2004.

This Standard was published on 31 May 2004.

The following 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
Electricity Supply Association of Australia
Ministry of Consumer Affairs, New Zealand

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Joint Australian/New Zealand Standards can be found by visiting the Standards Australia Web Shop at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, many organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

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.

This Standard was issued in draft form for comment as DR 03942.

Australian/New Zealand Standard™

Fire Hazard Testing

Part 10.2: Abnormal heat—Ball pressure test

Originally issued as AS/NZS 4695.10.2:1997.
Revised and redesignated AS/NZS 60695.10.2:2002.
Second edition AS/NZS 60695.10.2:2004.
Reissued incorporating Amendment No. 1 (April 2006).

COPYRIGHT

© Standards Australia/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Jointly published by Standards Australia, GPO Box 476, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 6148 8

CONTENTS

PREFACE	3
1 Scope	4
2 Normative references	4
3 General description of the test	4
4 Test apparatus	5
5 Test specimens	5
6 Conditioning	6
7 Test procedure	6
8 Observations and measurements	6
9 Expression of test results	7
10 Information to be given in the relevant specification	7
Annex A (informative) Correlation between the ball pressure test and the Vicat test of ISO 306	10
Annex B (informative) Depth indentation method	11
Annex C (informative) Ball pressure test equipment manufacturers	12
Annex ZZ (informative) Variations to IEC 60695-11-2: 003 for application in Australia and New Zealand	14
Bibliography	13
Figure 1 – Loading device (example)	8
Figure 2 – Examples of matrix deformation during the ball pressure test	9

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 60695.10.2:2002 from the date of publication.

A1 | This Standard incorporates Amendment No. 1 (April 2006). The amendment is applicable from its date of publication. 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 guidance to manufacturers and designers, testing laboratories and similar organizations on the application of the ball pressure test for testing for resistance to heat of non-metallic materials in order to assess the fire hazard of electrotechnical products.

This Standard forms the second edition of AS/NZS 60695.10.2, *Fire hazard testing - Part 10.2: Abnormal heat - Ball pressure test*. It is a revision of AS/NZS 60695.10.2:2002 and it effects changes to the Title and clauses 1, 5, 6 and 7 and Figure 2 of that standard that were issued in draft form for comment as document DR 03942.

A1 | This Standard is identical to and contains the full text of IEC 60695-10-2:2003, *Fire hazard testing - Part 10.2: Abnormal heat – Ball pressure test*, including its corrigendum 1 (02-2006)

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.

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 'this International Standard' should read 'this Australian/New Zealand Standard' and "IEC" should read "AS/NZS"
- (c) A full point substitutes for a comma when referring to a decimal marker.

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

FIRE HAZARD TESTING –

Part 10.2: Abnormal heat – Ball pressure test

1 Scope

This part of IEC 60695 specifies the ball pressure test as a method for testing parts of non-metallic materials for resistance to heat.

It is applicable to electrotechnical equipment, its subassemblies and components, and to solid electrical insulating materials except ceramics.

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	Year	Title	AU/NZ Standard	Year
IEC 60216-4-1	1990	<i>Guide for the determination of thermal endurance properties of electrical insulating materials – Part 4-1: Ageing ovens – Section 1: Single-chamber ovens</i>		
IEC Guide 104	1977	<i>The preparation of safety publications and the use of basic safety publications and group safety publications</i>		
ISO 290	2001	<i>Rolling bearings – Balls – Dimensions and tolerances</i>		

3 General description of the test

With the test specimen at a temperature specified in the relevant specification, a specified downward force is applied through a steel ball and dimension d of the indentation is measured as described in 7.2.