

Australian/New Zealand Standard™

Fire hazard testing

Part 10: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires—Section 2: Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test

AS/NZS 60695.10.2:2002

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 22 April 2002 and by the Council of Standards New Zealand on 21 March 2002. It was published on 13 May 2002.

The following interests are represented on Committee EL/2

Association of Certification Bodies
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Canterbury Manufacturers Association New Zealand
Consumer Electronic Suppliers Association, Australia
Electrical regulatory authorities, Australia
Electrical test laboratories
Electrical consultants
Electricity Supply Association of Australia
Institution of Engineers Australia
Metal Trades Industries 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, all 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 Standards may also be withdrawn.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 site 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, both 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 comment to the Chief Executive of either Standards Australia International or Standards New Zealand at the address shown on the back cover.

AS/NZS 60695.10.2:2002
(IEC 60695-10-2:1995, IDT)

Australian/New Zealand Standard™

Fire hazard testing

Part 10: Guidance and test methods
for the minimization of the effects of
abnormal heat on electrotechnical
products involved in fires –
Section 2: Method for testing
products made from non-metallic
materials for resistance to heat using
the ball pressure test
(IEC 60695-10-2:1995, IDT)

Originated as AS/NZS 4695.10.2:1997

Revised and redesignated AS/NZS 60695.10.2:2002

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

Published jointly by Standards Australia International Ltd
GPO Box 5420, Sydney, NSW 2001 Australia, and
Standards New Zealand
Private Bag 2439, Wellington 6020, New Zealand

ISBN 0 7337 4639 X

CONTENTS

PREFACE	3
1 Scope	4
2 Normative references	4
3 General description of the test.....	4
4 Description of the test apparatus	5
5 Test specimens	5
6 Conditioning	5
7 Test procedure	5
8 Observations and measurements.....	6
9 Expression of test results	6
10 Information to be given in the relevant specification.....	6
Annex A (informative) Correlation between the ball pressure test and the Vicat test of ISO 306	9
Annex B (informative) Depth indentation method	10
Bibliography.....	11
Figure 1 - Ball pressure apparatus (examples).....	7
Figure 2 – Examples of material deformation during the ball pressure test.....	8

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 4695.10.2:1997 from the date of publication.

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 first edition of AS/NZS 60695.10.2, *Fire hazard testing - Part 10: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires – Section 2: Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test*. It is a revision of AS/NZS 4695.10.2:1997 and it effects changes to clauses 1, 5, 6 and 7 and Figure 2 of that Standard that were issued in draft form for comment as document DR 01959.

This Standard is identical to and contains the full text of IEC 60695-10-2:1995, *Fire hazard testing - Part 10: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires – Section 2: Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test*, including its amendment number 1.

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 '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.

AUSTRALIA/NEW ZEALAND STANDARD

FIRE HAZARD TESTING –

Part 10: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires – Section 2: Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test

1 Scope

This section of IEC 60695-10 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 sub-assemblies and components, and to solid electrical insulating materials except ceramics.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this section of IEC 60695-10. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 60695-10 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid international standards.

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: Ageing ovens - Section 1: Single-chamber ovens</i>		
ISO 3290	1975	<i>Rolling bearings - Bearing parts - Balls for rolling bearings</i>		

3 General description of the test

With the specimen at a temperature determined in the relevant specification, a specified force is applied through a spherical-shaped ball and the diameter of the indentation is measured.