AS 1099.2.7—1990
IEC 68-2-7(1983)

Australian Standard®

Basic environmental testing procedures for electrotechnology

Part 2: Tests
1099.2.7: Test Ga—Acceleration, steady state

This Australian Standard was prepared by Committee ET/5, Environmental Testing Procedures. It was approved on behalf of the Council of Standards Australia on 6 December 1989 and published on 4 June 1990.

The following interests are represented on Committee:

Aerospace Technologies of Australia

Confederation of Australian Industry

Department of Administrative Services—Australian Construction Services

Department of Defence

Electricity Supply Association of Australia

National Association of Testing Authorities

Society of Automotive Engineers, Australasia

Telecom Australia

University of New South Wales

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

AS 1099.2.7—1990

Australian Standard®

Basic environmental testing procedures for electrotechnology

Part 2: Tests
1099.2.7: Test Ga—Acceleration, steady state

First published as AS 1099.2Ga—1971.
Revised and redesignated AS 1099.2.7—1990.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 6085 1

PREFACE

This Standard was prepared by the Standards Australia Committee on Environmental Testing Procedures to supersede AS 1099.2Ga—1971 *Test Ga, Acceleration, steady state.* This edition is identical with and reproduced from IEC 68-2-7 as amended by AMDT No 1(1986).

The object of the Standard is to prove the structural suitability and the satisfactory performance of components, equipment and other electrotechnical products, when subjected to forces produced by steady acceleration in an environment other than gravity such as occurs in moving vehicles, rotating equipment or projectiles and to provide a test of structural integrity for certain electrical and electronic components.

For the purpose of this Australian Standard the IEC Publication used herein should be modified as follows:

Reference to International Standards		*Appropriate Australian Standard*	
IEC		AS	
68	Basic environmental testing procedures	1099	Basic environmental testing procedures for electrotechnology
68-1	Part 1: General and guidance	1099.1	Part 1: General
68-2	Part 2: Tests	1099.2	Part 2: Tests
721	Classification of environmental conditions	—	

© Copyright – STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

STANDARDS AUSTRALIA

Australian Standard

Basic Environmental Testing Procedures For Electrotechnology

Part 2: Tests
1099.2.7: Test Ga—Acceleration, steady state

This Standard shall be read in conjunction with AS 1099.1: General

1. Object

To prove the structural suitability and the satisfactory performance of components, equipment and other electrotechnical products, hereinafter referred to as "specimens", when subjected to forces produced by steady acceleration environments (other than gravity) such as occur in moving vehicles, especially flying vehicles, rotating parts and projectiles, and to provide a test of structural integrity for certain components.

2. General

Equipment, components and other electrotechnical products intended to be installed in moving bodies will be subjected to forces caused by steady accelerations. Naturally, such an environment is most pronounced in flying vehicles and rotating machinery, although in certain conditions accelerations in land vehicles may be of significant magnitude.

In general, the accelerations encountered in service have different values along each of the major axes of the moving body, and, in addition, usually have different values in the opposite senses of each axis.

If the attitude of the specimen is not fixed with regard to the moving body, then the relevant specification should prescribe a level, which may be applied along each of the major axes and senses of the specimen, having taken into account the maximum accelerations in different axes of the moving body.

This standard is to be used in conjunction with IEC Publication 68-1: Basic Environmental Testing Procedures, Part 1: General and Guidance.

3. Conditions for testing

3.1 *Characteristics of the test apparatus*

3.1.1 *General*

Acceleration conditions are applied by means of a centrifuge where the acceleration is directed towards the centre of the rotating system. In certain special cases, however, the specimen may be sensitive to gyroscopic couples, and it may only be possible to perform the test by using a machine capable of applying linear acceleration, in which case the relevant specification shall state this requirement.

3.1.2 *Tangential acceleration*

When increasing the rotational speed of a centrifuge from zero to the value necessary to achieve the specified acceleration, or when decreasing back to zero, the machine shall be so controlled that the specimen is not subjected to a value of tangential acceleration greater than 10% of the specified acceleration.

 COPYRIGHT