Cidentical with IEC 68-2-6--1982 as amended by amendments no.1 - 1983 & no.2 -1985

Standards
Association of
Australia

Australian Standard®
1099.2.6—1988

BASIC ENVIRONMENTAL TESTING PROCEDURES FOR ELECTROTECHNOLOGY

Part 2—TESTS—
TEST Fc: VIBRATION (SINUSOIDAL)

This Australian Standard was prepared by Committee ET/5, Environmental Testing Procedures. It was approved on behalf of the Council of the Standards Association of Australia on 12 January 1988 and published on 9 May 1988.

The following interests are represented on Committee ET/5:

Aerospace Technologies of Australia

Confederation of Australian Industry

Department of Defence

Department of Housing and Construction

Electricity Supply Association of Australia

National Association of Testing Authorities

Society of Automotive Engineers—Australasia

Telecom Australia

The University of New South Wales

AUSTRALIAN STANDARD

BASIC ENVIRONMENTAL TESTING PROCEDURES FOR ELECTROTECHNOLOGY

Part 2 TESTS— TEST Fc: VIBRATION (SINUSOIDAL)

AS 1099.2.6—1988

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PREFACE

This Standard was prepared by the Association's Committee on Environmental Testing Procedures to supersede AS 1099.2Fc—1971, *Vibration (sinusoidal).*
This edition is identical with IEC 68-2-6(1982) Fifth Edition as amended by Amendments No 1 (1983) and No 2 (1985).

The object of the test is to determine the ability of electronic components and other items and equipment to withstand, during transportation or in service, a sinusoidal vibration over a given frequency range or at discrete frequencies. This is intended to simulate conditions involving vibration of a harmonic pattern such as may be generated by rotating, pulsating or oscillating forces such as occur in land vehicles, aircraft, ships and in space applications. The method of controlling the test at specified points, the testing procedure, frequency ranges, amplitudes and endurance durations are described and guidance on the test procedure given in Appendices A, B and C.

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

Terminology: The words 'Australian Standard' should replace the words International Standard wherever they appear.

Cross Reference: The references to International Standards should be replaced by references to the appropriate Australian Standards which apply at the time of publication of this Standard:

Reference to International Publication		*Appropriate Australian Standard*	
IEC 50(55):	*International electrotechnical vocabulary, Chapter 55, Telegraphy and telephony*	AS 1852(55)	*International electrotechnical vocabulary, Chapter 55, Telegraphy and telephony*
IEC 68	*Basic environmental testing procedures* *Part 1: General and guidance* *Part 2: Tests*	AS 1099	*Basic environmental testing procedures for electrotechnology* *Part 1: General* (AS 1099.1) *Part 2: Tests* (AS 1099.2)
IEC 68-2-47:	*Mounting of components, equipment and other articles including shock, bump, vibration and steady-state acceleration*	No Australian equivalent (in course of preparation 01/89)	
ISO 2041	*Vibration and shock—Vocabulary*	AS 2606	*Vibration and shock—Vocabulary*

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

BASIC ENVIRONMENTAL TESTING PROCEDURES FOR ELECTROTECHNOLOGY

PART 2: TESTS—TEST Fc: VIBRATION (SINUSOIDAL)

1. Object

To provide a standard procedure to determine the ability of components, equipment and other articles to withstand specified severities of sinusoidal vibration.

2. General description

The purpose of this test is to determine mechanical weakness and/or degradation in specified performance and to use the information, in conjunction with the relevant specification, to decide whether an equipment or component, hereinafter referred to as a specimen, is acceptable or not. It may be used, in some cases, to determine the structural integrity of specimens and/or to study their dynamic behaviour. Categorization of components can also be made on the basis of a selection from within the severities quoted in the test.

Whether a specimen has to function during vibration or merely to survive conditions of vibration will need to be stated in the relevant specification.

It is emphasized that vibration testing always demands a certain degree of engineering judgement, and both the supplier and purchaser should be fully aware of this fact.

The main part of this standard deals primarily with the methods of controlling the test at specified points, and gives, in detail, the testing procedure. The requirements for the vibration motion, choice of severities including frequency ranges, amplitudes and endurance times are also specified; these severities representing a rationalized series of parameters. The relevant specification writer is expected to choose the testing procedure and values appropriate to the specimen and its use.

Appendices A to C give general guidance and a selection of severities for components and for equipment. In addition, in order to assist users, information is given regarding the correlation between this standard and the previous fourth edition.