JIS

JAPANESE INDUSTRIAL STANDARD

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# JIS C 0037 : 1997

## (IEC 68-2-51 : 1983)

# Basic environmental testing procedures Part 2 : Tests Tests Z/BFc : Combined dry heat/vibration (sinusoidal) tests for both heat-dissipating and non-heat-dissipating specimens

**The code number of this Standard changed from JIS C 0037 to the following from 20 March 2004.**

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## Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of International Trade and Industry through deliberations at Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law:

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In the event of any doubts arising as to the contents, the original JIS is to be the final authority.

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## Contents


| | | Page |
|---|---|---|
| Introduction | | 1 |
| 1 | Scope and object | 2 |
| 2 | General description | 3 |
| 3 | Description of test apparatus | 3 |
| 4 | Severities | 4 |
| 5 | Selection of temperature monitoring point and determination of monitoring temperature (applies to heat-dissipating specimens only) | 4 |
| 6 | Pre-conditioning | 5 |
| 7 | Initial measurements | 6 |
| 8 | Conditioning | 6 |
| 9 | Intermediate measurements | 7 |
| 10 | Recovery | 7 |
| 11 | Final measurements | 7 |
| 12 | Criteria of failure | 8 |
| 13 | Information required in the relevant specification | 8 |




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JAPANESE INDUSTRIAL STANDARD

JIS C 60068-2-51:1997
**(IEC 68-2-51 : 1983)**

# Basic environmental testing procedures
# Part 2: Tests — Tests Z/BFc: Combined dry heat/vibration (sinusoidal) tests for both heat-dissipating and non-heat-dissipating specimens

## Introduction

This Japanese Industrial Standard has been prepared based on the 1st edition issued in 1983 of **IEC 68-2-51** *Basic environmental testing procedures, Part 2: Tests, Tests Z/BFc: Combined dry heat/vibration (sinusoidal) tests for both heat-dissipating and non-heat-dissipating specimens* without changing the technical contents.

Furthermore, the matters that are indicated by underlines (dotted lines) do not appear in the original International Standard.

*i) General*

This Japanese Industrial Standard deals with combined dry heat/vibration (sinusoidal) tests applicable both to heat–dissipating and non–heat–dissipating specimens. It is basically a combination of Test Fc: Vibration (Sinusoidal) (**JIS C 0040**) and Tests B: Dry Heat (**JIS C 0021**).

The procedures are limited to the case of specimens which reach temperature stability during exposure to high temperature conditions.

*ii) Vibration*

The vibration test involved is basically equivalent to Test Fc. One or more of the endurance procedures of Test Fc may be applied. A vibration response investigation after endurance conditioning is not included in this combined test.

*iii) Temperature*

Temperature conditions for testing heat-dissipating specimens are intended to subject the specimen to thermal stresses in a manner equivalent to that in free air conditions.

Because of the difficulties in simulating the effect of free air conditions in a test chamber combined with a vibrator, forced air circulation is normally used for this test. Monitoring is made on the hottest surface point of the specimen. The monitoring point and the monitoring temperature are determined by subjecting the specimen to free air conditions with specified ambient temperature before conducting the test.

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*iv) Related standards*

The following standards are related to this Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards listed below.

IEC 68: *Basic environmental testing procedures*
Note: **IEC 68**: *Basic environmental testing procedures* was renamed, in 1988, **IEC 68**: *Environmental testing*.

JIS C 0010-1993 *Environmental testing Part 1: General and guidance*
Note: **IEC 68-1**: 1988 *Environmental testing Part 1: General and guidance* and Amendment No.1 (1992) are identical to **JIS C 0010**-1993.

JIS C 0021-1995 *Basic environmental testing procedures Part 2: Tests, Test B: Dry heat*
Note: **IEC 68-2-2**: 1974 *Environmental testing Part 2: Tests— Test B: Dry heat* and Amendment No.1 (1993) are identical to **JIS C 0021**-1995.

JIS C 0040-1995 *Basic environmental testing procedures Part 2: Tests, Test Fc and guidance: Vibration (sinusoidal)*
Note: **IEC 68-2-6**: 1982 *Environmental testing Part 2: Tests, Test Fc and guidance: Vibration (sinusoidal)* and Amendment No.1 (1983) and Amendment No.2 (1985) are identical to **JIS C 0040**-1995.

JIS C 0025-1988 *Basic environmental testing procedure Part 2: Tests, Test N: Change of temperature*
Note: **IEC 68-2-14**: 1984 *Environmental testing Part 2: Tests, Test N: Change of temperature* and Amendment No. 1 (1986) are equivalent to **JIS C 0025**-1988.

JIS C 0047-1995 *Basic environmental testing procedures Part 2: Tests, Mounting of components, equipment and other articles for dynamic tests including shock (Ea), bump (Eb), vibration (Fc and Fd) and steady-state acceleration (Ga) and guidance*
Note: **IEC 68-2-47**: 1982 *Environmental testing. Part 2: Tests, Mounting of components, equipment and other articles for dynamic tests including shock (Ea), bump (Eb), vibration (Fc and Fd) and steady-state acceleration (Ga) and guidance* is identical to **JIS C 0047**-1995.

JIS C 0095-1995 *Background information, Section One—Cold and dry heat tests*
Note: **IEC 68-3-1**: 1974 *Environmental testing. Part 3: Background information—Section One—Cold and dry heat tests and First Supplement* (1978) are identical to **JIS C 0095**-1995.

## 1. Scope and Object

This Standard applies to the combined dry heat/vibration (sinusoidal) tests applicable both to heat-dissipating and non-heat-dissipating specimens.

To provide a standard test procedure to determine the suitability of heat-dissipating and non-heat-dissipating components, equipment or other articles for use, storage and transportation under conditions of high temperature combined with vibration.

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