



JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS C 0030 : 1995
(IEC 68-2-40 : 1976)

**Environmental testing
Part 2 : Tests, Test Z/AM :
Combined cold/low
air pressure tests**

The code number of this Standard
changed from JIS C 0030 to the
following from 20 March 2004.

JIS C 60068-2-40:1995

ICS 19.080; 19.040

Descriptors : electrical equipment, electrical components, electronic equipment and components, environmental testing, low-pressure tests, cold tests

Reference number : JIS C 0030 : 1995 (E)

Foreword

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

Date of Establishment: 1990-01-01

Date of Revision: 1995-06-01

Date of Public Notice in Official Gazette: 1995-06-01

Investigated by: Japanese Industrial Standards Committee
Divisional Council on Electronics

JIS C 0030:1995, First English edition published in 1999-11

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

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

© JSA 1999

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

Printed in Japan

Contents

	Page
1 Scope and introduction	1
1.1 Scope and general	1
1.2 Low air pressure	1
1.3 Temperature	1
1.4 Normative references	2
2 Object	2
3 General description	2
4 Description of test apparatus	3
4.1 Test chamber	3
4.2 Mounting	3
5 Severities	3
5.1 General	3
5.2 Preferred combinations of temperature, air pressure and duration	3
6 Preconditioning	3
7 Initial measurements	3
8 Conditioning	3
8.1 General	4
8.2 Procedure for heat-dissipating specimen without artificial cooling of the specimen and for non-heat-dissipating specimen	4
8.3 Precautions when testing specimens with artificial cooling	5
9 Intermediate measurements	5
10 Recovery	5
11 Final measurements	5
12 Information to be given in the relevant specification	5

Environmental testing Part 2 : Tests, Test Z/AM : Combined cold/low air pressure tests

Foreword as Japanese Industrial Standard

This Japanese Industrial Standard has been prepared based on the 1st edition issued in 1976 of **IEC 68-2-40 Basic environmental testing procedure. Part 2: Tests, Test Z/AM: Combined cold/low air pressure tests** and Amendment 1 (1983) without changing the technical contents and the structural style of the original standard. But, Amendment is incorporated.

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

1 Scope and introduction

1.1 Scope and general This Japanese Industrial Standard deals with combined cold (with gradual or rapid change of temperature) and low air pressure tests for both heat-dissipating and non-heat-dissipating specimens (see Sub-clauses 8.2.2 and 8.2.8).

The object of the test is to determine the ability of components or equipment or other articles to be stored and used under a simultaneous combination of low temperature and low air pressure.

This combined test should normally be used only if the effects of combined environments will not be revealed by subjecting the specimen to single environments. The procedures given in this Standard are limited to the case of specimens which achieve temperature stability during the test procedure.

In the case of testing heat-dissipating specimens, this procedure applies only to the testing of one specimen at a time.

1.2 Low air pressure The test procedure applies to air pressure down to about 1 kPa (10 mbar). At air pressures below 1 kPa (10 mbar), phenomena not taken into account in the design of this test procedure become important.

The relationship between altitude, pressure and temperature has not been indicated in this Standard. Such data should be obtained from special Standards.

1.3 Temperature

1.3.1 The guidance given in the introduction 2 and 3 of **JIS C 0020 : 1995**, Tests A: Cold, for the application of tests for non-heat-dissipating specimens versus tests for heat-dissipating specimens shall apply.

Remarks : Non-heat-dissipating specimens are defined as in 4 of **JIS 0010 : 1993 General and guidance**. The measurement of hottest spot temperature must not be made at low pressure.