

AS 60068.2.81—2004  
IEC 60068-2-81:2003

AS 60068.2.81

Australian Standard™

**Environmental testing**

**Part 2.81: Tests—Test Ei: Shock—Shock  
response spectrum synthesis**

This Australian Standard was prepared by Committee EL-026, Protective Enclosures and Environmental Testing for Electrical/Electronic Equipment. It was approved on behalf of the Council of Standards Australia on 3 May 2004 and published on 1 June 2004.

---

The following are represented on Committee EL-026:

Australian Chamber of Commerce and Industry  
Australian Electrical and Electronic Manufacturer's Association  
Electrical Compliance Testing Association  
Electrical Regulatory Authorities Council  
Energy Supply Association of Australia  
Testing Interests (Australia)

---

### **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 Standards may also be withdrawn.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 Standards can be found by visiting the Standards Web Shop at [www.standards.com.au](http://www.standards.com.au) and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.org.au](mailto:mail@standards.org.au), or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

---

AS 60068.2.81—2004

Australian Standard™

## **Environmental testing**

### **Part 2.81: Tests—Test Ei: Shock—Shock response spectrum synthesis**

First published as AS 60068.2.81—2004.

#### **COPYRIGHT**

© Standards Australia International

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 by Standards Australia International Ltd  
GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6011 2

## PREFACE

This Standard was prepared by the Standards Australia Committee EL-026, Protective Enclosures and Environmental Testing for Electrical/Electronic Equipment

The objective of this Standard is to provide the electrotechnology industry with a complete set of environmental test procedures published as a series under AS 60068 *Environmental testing*. This Standard is Part 2.81 of that series.

This Standard is identical with, and has been reproduced from, IEC 60068-2-81:2003, *Environmental testing – Part 2-81: Tests—Test Ei: Shock—Shock response spectrum synthesis*.

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 only on the cover and title page.
- (b) In the source text ‘this international standard’ should read ‘this Australian Standard’.
- (c) A full point should be substituted for a comma when referring to a decimal marker.
- (d) Any French text on figures should be ignored.

In this Standard, the following print types are used:

- requirements proper: in arial type;
- *test specifications: in italic type;*
- explanatory matter: in smaller arial type.

Any international Standard referenced should be replaced by an equivalent Australian Standard when one is available. The availability of equivalent Australian Standards can be determined either from the Standards Australia catalogue or from the Standards Australia website ([www.standards.com.au](http://www.standards.com.au)).

# CONTENTS

	<i>Page</i>
1 Scope .....	1
2 Normative references .....	1
3 Terms and definitions .....	1
4 Requirements for test apparatus .....	5
4.1 Basic motion .....	5
4.2 Cross-motion .....	6
4.3 Signal tolerance .....	6
4.4 Measuring system .....	6
5 Requirements for testing .....	6
5.1 Test control .....	6
5.2 Tolerances on SRS .....	7
5.3 Calculation of test SRS .....	7
5.4 Algorithms for calculation of SRS .....	8
5.5 Test frequency range .....	8
5.6 Mounting .....	8
6 Severities .....	8
6.1 Required SRS .....	9
6.2 Duration of the synthesized time-history .....	9
6.3 Number of repetitions .....	9
6.4 Test frequency range .....	9
6.5 Number of high peaks in a calculated response time-history of a single-degree-of-freedom system .....	9
7 Preconditioning .....	10
8 Initial measurements .....	10
9 Testing .....	10
9.1 General .....	10
9.2 Vibration response investigation .....	10
9.3 Synthesis of the test time-history .....	11
9.4 Testing with synthesized test time-histories .....	12
10 Intermediate measurements .....	13
11 Recovery .....	13
12 Final measurements .....	13
13 Information to be given in the relevant specification .....	13
14 Information to be given in the test report .....	14
Annex A (informative) Test time history – General background information .....	19
Annex B (informative) Parameters for use in synthesizing a test time-history .....	22
Annex C (informative) How to synthesize a test time-history .....	26
Annex D (informative) Recommended frequency ranges for test SRS .....	29

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-