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**Basic environmental testing
procedures for electrotechnology**

**Part 0: Introduction and list of Parts
of AS 1099 and IEC 68**

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**Basic environmental testing
procedures for electrotechnology**

**Part 0: Introduction and list of Parts
of AS 1099 and IEC 68**

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PREFACE

This Standard was prepared by the Standards Australia Committee on Environmental Testing Procedures.

The objective of this Standard is to provide the electrotechnology industry with a complete list of international environmental test procedures published in IEC 68, *Environmental testing*, and to indicate where equivalent procedures are published in AS 1099, *Basic environmental testing procedures for electrotechnology*.

This Standard lists all Parts of AS 1099 issued and current at the date of publication of this Standard (see Clause 5 tabulation, column 3).

This Standard replaces the coversheet AS 1099, the inside cover sheet and AS 1099 Introduction (February 1980) and AS 1099 List of Methods (Fourth list—February 1982).

Attention is drawn to a compilation of test summaries, AS 1099.4, *Basic environmental testing procedures for electrotechnology*, Part 4: *Information for specification writers—Test summaries*.

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STANDARDS AUSTRALIA

Australian Standard

Basic environmental testing procedures for electrotechnology

Part 0: Introduction and list of Parts of AS 1099 and IEC 68

1 INTRODUCTION The AS 1099 series of Standards specifies standard testing procedures to assess the durability of electronic components and complete equipment under various conditions of use, transport and storage. The series is based on the IEC 68 series of Standards.

This Part of AS 1099 lists all current Parts of AS 1099; also all current Parts (and Sections of Parts) of IEC 68, indicating the relevant equivalent Parts of AS 1099. Where there is no equivalent Part of AS 1099, reference should be made to the IEC 68 Part.

2 LIST OF PARTS OF AS 1099 The Parts of AS 1099 are listed in Appendix A.

3 INDEX TO PARTS OF IEC 68 An index to the Parts of IEC 68 is provided in Appendix B.

4 REFERENCED DOCUMENTS The references to IEC Standards in the list of Parts of IEC 68 (see Clause 5) should be replaced, where appropriate, by references to the following Australian Standards:

<i>IEC Standard</i>		<i>Australian Standard</i>	
IEC		AS	
355	An appraisal of the problems of accelerated testing for atmospheric corrosion	1099	Basic environmental testing procedures for electrotechnology
		1099.3.7	Part 3.7: Background information—An appraisal of the problems of accelerated testing for atmospheric corrosion
529	Degrees of protection provided by enclosures (IP Code)	1939	Degrees of protection provided by enclosures for electrical equipment (IP Code)
653	General considerations on ultrasonic cleaning*	—	

* IEC Report

5 LIST OF PARTS OF IEC 68 AND RELATED PARTS OF AS 1099

IEC 68 Part (Year)	IEC 68 Part (Section) title and precis	AS 1099 Part— Year (see Appendix A), Comment
68 (—) (Main title)	Environmental testing IEC 68 is generally applicable to any electrotechnical product, including electronic components and equipment. Lays down standard testing procedures designed to assess durability under various conditions of use, transport and storage.	1099 (Main title)
68-1 (1988) Amdt 1 (1992)	Part 1: General and guidance (53 pp) Includes a series of methods of environmental test and their appropriate severities, and prescribes various atmospheric conditions for measurements and tests designed to assess the ability of specimens to perform under expected conditions of transportation, storage and all aspects of operational use. (3 pp) Adds: Absolute humidity ≤22 g/m³.	1099.1— 1989, identical, current
68-2 (—) (Part title)	Part 2: Tests This series of booklets describes the different testing procedures in detail. Each test is identified by a letter of the alphabet and is issued as a separate booklet.	1099.2 (Part title)
68-2-1 (1990) Amdt 1 (1993)	Tests A: Cold (43 pp) Deals with cold tests applicable both to non-heat-dissipating and heat-dissipating specimens. (1 page)	1099.2Aa, 2Ab and 2Ad— 1980 withdrawn (1994)
68-2-2 (1974) 68-2-2A (1976) Amdt 1 (1993)	Tests B: Dry heat (63 pp) Contains Test Ba: Dry heat for non-heat-dissipating specimen with sudden change of temperature; Test Bb: Dry heat for non-heat-dissipating specimen with gradual change of temperature; Test Bc: Dry heat for heat-dissipating specimen with sudden change of temperature; Test Bd: Dry heat for heat-dissipating specimen with gradual change of temperature. Supplement A (3 pp) Note: A 1987 reprint of 68-2-2 includes 68-2-2A. (1 page)	1099.2Ba, 2Bb, 2Bc, and 2Bd— 1980 withdrawn (1994)
68-2-3 (1969) Amdt 1 (1984)	Test Ca: Damp heat, steady state (9 pp) Continuous test at a steady temperature of 40°C and a relative humidity of 90-95%. Standard test duration from 4 to 56 days. For guidance see 68-2-28. (1 page) Note: A 1985 reprint of 68-2-3 includes Amdt 1.	1099.2.3— 1990, identical, current
68-2-4 (1960)	Test D: Accelerated damp heat This publication was withdrawn (1982).	1099.2Da— 1971 withdrawn (1994)

IEC 68 Part (Year)	IEC 68 Part (Section) title and precis	AS 1099 Part—Year (see Appendix A), Comment
68-2-5 (1975)	Test Sa: Simulated solar radiation at ground level (11 pp) The object of this test is to determine the effects (thermal, mechanical, chemical, electrical, etc.) produced on equipment and components as a result of exposure to solar radiation under the conditions experienced at the surface of the earth. For guidance see 68-2-9.	1099.2Sa—1980, current
68-2-6 (1982)	Test Fc and guidance: Vibration (sinusoidal) (59 pp) The object of this test is to determine the ability of components and equipment to withstand a sinusoidal vibration over a given frequency or at discrete frequencies. The publication deals primarily with the methods of controlling the test at specified points, and gives, in detail, the testing procedure, frequency ranges, amplitudes and endurance times.	1099.2.6—1988, identical, current
Amdt 1 (1983)		
Amdt 2 (1985)	Note: A 1985 reprint of 68-2-6 includes Amdt 1 and Amdt 2.	
68-2-7 (1983)	Test Ga and guidance: Acceleration, steady state (23 pp) Applies to the structural suitability and the satisfactory performance of components and equipment when subjected to forces produced by steady acceleration.	1099.2.7—1988, identical, current
Amdt 1 (1986)	(5 pp)	
68-2-8 (1960)	Test H: Storage This publication has been withdrawn.	—
68-2-9 (1975)	Guidance for solar radiation testing (34 pp) Describes methods of simulation designed to examine the effect of solar radiation on equipment and components at the surface of the earth. To be used with 68-2-5, Test Sa.	1099.3.5—1980 withdrawn (1994)
Amdt 1 (1984)	(5 pp)	
Corrig (1989)	(1 page) Note: A 1990 reprint of 68-2-9 includes Amdt 1.	
68-2-10 (1988)	Test J and guidance: Mould growth (49pp)	1099.2.10—1989, identical, current
Corrig (1989)	(1 page) Replaces French text with English text.	
68-2-11 (1981)	Test Ka: Salt mist (11 pp) Compares the resistance to deterioration from salt mist of specimens of similar construction. Is useful for evaluating the quality and the uniformity of protective coatings.	1099.2Ka—1978 withdrawn (1994)
		See also AS 1099.3.7 (Clause 4 herein)
68-2-13 (1983)	Test M: Low air pressure (13 pp) Determines the ability of components, equipment or other articles to be stored, transported or used under low air pressure conditions.	1099.2.13—1990, identical, current

IEC 68 Part (Year)	IEC 68 Part (Section) title and precis	AS 1099 Part—Year (see Appendix A), Comment
68-2-14 (1984)	Test N: Change of temperature (29 pp) Determines the ability of components, equipment or other articles to withstand rapid changes of ambient temperature. The exposure times adequate to accomplish this will depend upon the nature of the specimen. For guidance see 68-2-33.	1099.2N—1973, 1099.2Na—1973, 1099.2Nb—1973, 1099.2Nc—1973, withdrawn (1994)
Amdt 1 (1986)	(3 pp)	
68-2-17 (1978)	Test Q: Sealing (71 pp) Contains Test Qa : Sealing of bushes, spindles and gaskets; Test Qc : Container sealing, gas leakage; Test Qd : Container sealing, seepage of filling liquid; Test Qf : Immersion; Test Qk : Sealing tracer gas method with mass spectrometer; Test Ql : Bomb pressure test. Gives guidance for Test Q : Sealing. (31 pp).	1099.2Q—1980, (all 6 sub-Parts) withdrawn (1994) 1099.3.6—1980, withdrawn (1994)
Amdt 4 (1991)	Incorporates Amdt 1(1985), Amdt 2(1987) and Amdt 3(1989).	
68-2-18 (1989)	Test R and guidance: Water (81 pp) Provides methods of tests applicable to electrotechnical products which, during transportation, storage or in service, may be subjected to falling drops, impacting water or immersion. See also IEC 529 wherein the second numeral of the IP Code relates to water protection.	—
Amdt 1 (1993)	(3 pp)	
Corrig (1993)	(1 page)	
68-2-20 (1979)	Test T: Soldering (52 pp) Describes the procedures of solderability tests applicable to wire and tag terminations (Ta) or to printed wiring boards (Tc); describes tests for resistance to soldering heat, applicable to components (Tb). For Test Ta see also 68-2-54, for Test Td see 68-2-58. For guidance see 68-2-44.	1099.2Ta, 2Tb, 2Tc—1980 withdrawn (1994)
Amdt 2 (1987)	(5 pp) Incorporates Amdt 1.	
68-2-21 (1983)	Test U: Robustness of terminations and integral mounting devices (36 pp) Applicable to all electrical and electronic components of which the terminations or integral mounting devices are liable to be submitted to stresses during normal assembly or handling operation. Comprises Tests Ua ₁ : tensile; Ua ₂ : thrust; Ub : bending; Uc : tension; Ud : torque.	1099.2U—1976 withdrawn (1994)
Amdt 2 (1991)	(15 pp) Incorporates Amdt 1(1985).	
Amdt 3 (1992)	(3 pp)	