

Australian/New Zealand Standard™

**Household and similar electrical  
appliances—Test code for the  
determination of airborne acoustical  
noise**

**Part 2.4: Particular requirements for  
washing machines and spin extractors**



#### **AS/NZS 60704.2.4:2009**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-015, Quality and Performance of Household Electrical Appliances. It was approved on behalf of the Council of Standards Australia on 11 February 2009 and on behalf of the Council of Standards New Zealand on 23 February 2009. This Standard was published on 22 April 2009.

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The following are represented on Committee EL-015:

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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-015, Quality and Performance of Household Electrical Appliances.

The objective of this Standard is to define the methods of determination of airborne acoustical noise emitted by washing machines. This Standard applies to single unit electric washing machines, the washing and spinning function of combined appliances for household and similar use, and to spin extractors.

This Standard is identical with, and has been reproduced from IEC 60704-2-4, Ed. 2.0 (2001), *Household and similar electrical appliances—Test code for the determination of airborne acoustical noise—Part 2-4: Particular requirements for washing machines and spin extractors*.

This Part 2.4 is intended to be used in conjunction with AS/NZS 60704.1, *Household and similar electrical appliances—Test code for the determination of airborne acoustical noise, Part 1: General requirements*.

The relevant text of Part 1 as amended by this publication, establishes the test code for washing machines and spin extractors.

This Part 2.4 supplements or modifies the corresponding clauses in AS/NZS 60704.1. When a particular clause of Part 1 is not mentioned in this Part 2.4, that clause is applicable as far as reasonable. Where this standard states ‘addition’, ‘modification’ or ‘replacement’, the relevant requirements, test specifications or explanatory matter in Part 1 should be adapted accordingly.

Clauses or figures that are additional to those in Part 1 are numbered starting from 101. Additional annexes are lettered AA, BB, etc.

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- (c) A full point should be substituted for a comma when referring to a decimal marker.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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## INTRODUCTION

The measuring conditions specified in this part of IEC 60704 provide for sufficient accuracy in determining the levels of noise emitted and comparing the results of measurements taken by different laboratories, whilst simulating as far as possible the practical use of washing machines and spin extractors.

The textile load is standardized on the basis of those used for measuring performance.

To avoid unsteadiness caused by foaming, the tests are carried out with unsoiled loads and without detergents or rinsing aids.

It is recommended to consider the determination of noise levels as part of a comprehensive testing procedure covering many aspects of properties and performance of washing machines and spin extractors.

Compared to the first edition (1989) of this Part 2-4, the second edition additionally considers the noise of water supply, drainage, prewash and intermediate rinse. Therefore the operating conditions during these operations need careful attention.

NOTE As stated in the introduction to IEC 60704-1, this test code concerns airborne noise only.

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**1 Scope and object**

This clause of Part 1 is applicable except as follows:

**1.1 Scope****1.1.1 General**

*Replacement:*

These particular requirements apply to single unit electric washing machines, the washing and spinning function of combined appliances for household and similar use, and to spin extractors.

Limitations for the use of this test code are given in 1.1.1 of IEC 60704-1.

NOTE For drying function, see IEC 60704-2-6.

**1.1.2 Types of noise**

*Replacement:*

ISO 3743-1, ISO 3743-2 and ISO 3744 can be used for measuring noise emitted by washing machines and spin extractors.

**1.1.3 Size of the source**

*Replacement:*

The method specified in ISO 3744 is applicable to noise sources of any size. When applying ISO 3743-1 and ISO 3743-2, care should be taken that the maximum size of the washing machine or spin extractor under test fulfils the requirements specified in 1.3 of ISO 3743-1 and ISO 3743-2.

**1.2 Object**

*Addition:*

Requirements for the declaration of noise emission values are not within the scope of this standard.

NOTE 3 For determining and verifying noise emission values declared in product specifications, see IEC 60704-3.