

AS/NZS IEC 60456:2025
IEC 60456:2024



Australian/New Zealand Standard™

Washing machines for household use — Methods for measuring the performance

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AS/NZS IEC 60456:2025

This Joint Australian/New Zealand Standard™ was prepared by Joint Technical Committee EL-059, Dishwashers, Clothes Washers and Dryers. It was approved on behalf of Standards Australia's Standards Development and Accreditation Committee on 13 May 2025 and by the New Zealand Standards Approval Board on 04 June 2025.

This Standard was published on 27 June 2025.

The following are represented on Committee EL-059:

- Australian Industry Group
- Business New Zealand
- CHOICE
- Consumer Electronics Suppliers Association
- Consumers' Federation of Australia
- Department of Climate Change, Energy, the Environment and Water
- Electrical Compliance Testing Association of Australia
- Energy Efficiency & Conservation Authority of New Zealand
- National Association of Testing Authorities Australia

This Standard was issued for comment as DR AS/NZS IEC 60456:202

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ISBN: 978 1 76175 243 8

AS/NZS IEC 60456:2025

IEC 60456:2024

Australian/New Zealand Standard™

Washing machines for household use — Methods for measuring the performance

Originated as AS 2040-1977.

Jointly revised and redesignated AS/NZS 2040.1:1998.

Fifth edition 2021.

Jointly revised and redesignated as AS/NZS IEC 60456:2025.



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- (c) "can" means that something is possible.

Structure of Standards

A Standard always has the following parts:

- (i) The Preface states who developed the Standard, what the Standard is aiming to do, and how it relates to other documents.
- (ii) The Scope states what the Standard is about, what it covers and what it does not cover.
- (iii) The Normative references clause lists other documents that are referenced in the Standard as part of requirements.
- (iv) The Terms and definitions clause defines important terms to help with understanding the Standard.

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- (2) An informative appendix provides additional information or guidance. An informative appendix provides additional information or guidance. They usually do not contain requirements. If an informative appendix does contain requirements, the Standard will specify when those requirements apply.
- (3) A Bibliography lists documents referenced in the Standard but not as part of requirements.

Many Standards include notes. Notes provide recommendations and/or guidance only. They never contain requirements.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-059, Dishwashers, Clothes Washers and Dryers to supersede AS/NZS 2040.1:2021, *Performance of household electrical appliances — Clothes washing machines, Part 1: Methods for measuring performance, energy and water consumption*.

The objective of this document is to specify methods for measuring the performance of electric washing machines for household use, with or without heating devices, and utilizing cold and/or hot water supply, including those which specify the use of no detergent for normal use. It is also applicable to washing machines for communal use in blocks of flats or in laundrettes and to electrical household appliances for both washing and drying textiles (household washer-dryers) with respect only to their washing related functions. It also deals with electrical appliances for water extraction by centrifugal force (spin extractors).

The object is to state and define the performance characteristics of household washing machines, the washing related functions of washer-dryers and water extraction function of spin extractors, and to describe the test methods for measuring these characteristics.

This document does not apply to washing machines for commercial use such as in commercial laundries.

This document does not specify the acoustical noise measurement for household washing machines.

This document is not intended to be used for the comparative evaluation of detergents.

This document is identical to, and has been reproduced from, IEC 60456:2024, *Washing machines for household use — Methods for measuring the performance*.

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The following reference from Clause 2 of IEC 60456 has been adopted in Australia and New Zealand as a modified adoption:

IEC Standard	AS/NZS Standard
IEC 60335-2-7	AS/NZS 60335.2.7

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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IEC 60456 has been prepared by subcommittee 59D: Performance of household and similar electrical laundry appliances, of IEC technical committee 59: Performance of household and similar electrical appliances. It is an International Standard.

This sixth edition cancels and replaces the fifth edition published in 2010 and its Amendment 1:2022. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Title changed from previous edition to more accurately describe application: "Washing machines for household use - Methods for measuring the performance".
- b) Separation of the test method results from the number of test runs in a test series, with the independence of each test run or test series, allowing different test classes to be evaluated.
- c) Introduction of a new standard powder detergent IEC-P, that substitutes the standard powder detergent IEC-A* by replacing sodium perborate with sodium percarbonate, for a better correlation with market offerings and in line with health/safety recommendations. Introduction of the new standard liquid detergents IEC-L and of the new wool standard detergent IEC-W with associated dosage instructions.
- d) Introduction of new measurement and evaluation methods for:
 - i) wool cleaning performance,
 - ii) LAS rinsing performance,
 - iii) gentleness of action,
 - iv) low power mode consumption,
 - v) temperature inside the washload,
 - vi) intermittently recurring functions,
 - vii) cold water washing machines,
 - viii) replacing washing performance by cleaning performance.
- e) Addition of alternative ambient conditions for conditioning of the test load with associated correction factors.
- f) Extension of the description of the washing machine loading, up to and beyond 25 kg of cotton test load, and introduction of a new mixed polyester-cotton load.
- g) Addition of the necessary definitions, measurement, and calculation methods for the evaluation of multi-compartment washing machines.
- h) Relocation of supplementary information to the IEC free-access supporting documents dashboard: reference machine maintenance information, test materials supplier information, expanded uncertainty values and any other pertinent information for the general public.

The text of this International Standard is based on the following documents:

Draft	Report on voting
59D/518/FDIS	59D/525/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

Words in **bold** in the text are defined in [Clause 3](#).

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- reconfirmed,
- withdrawn, or
- revised.

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NOTES

Australian/New Zealand Standard™

Washing machines for household use — Methods for measuring the performance

1 Scope

This document specifies methods for measuring the performance of electric **washing machines** for household use, with or without heating devices, and utilising cold and/or hot water supply, including those which specify the use of no detergent for normal use. It is also applicable to **washing machines** for communal use in blocks of flats or in launderettes and to electrical household appliances for both washing and drying textiles (household **washer-dryers**) with respect only to their washing related functions. It also deals with electrical appliances for water extraction by centrifugal force (**spin extractors**).

NOTE 1 Household **washer-dryer** combined performance is assessed to IEC 62512.

NOTE 2 Household tumble dryer performance is assessed to IEC 61121.

The object is to state and define the performance characteristics of household **washing machines**, the washing related functions of **washer-dryers** and water extraction function of **spin extractors**, and to describe the test methods for measuring these characteristics.

This document does not apply to **washing machines** for commercial use such as in commercial laundries.

NOTE 3 The preparation of methods for measuring the performance of **washing machines** for commercial use is under evaluation.

This document does not specify the acoustical noise measurement for household **washing machines**.

NOTE 4 Acoustical noise measurements and evaluation for household **washing machines** are specified in IEC 60704-1, IEC 60704-2-4 and IEC 60704-3.

This document is not intended to be used for the comparative evaluation of detergents.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60027-1:1992, *Letters symbols to be used in electrical technology - Part 1: General*

IEC 60335-2-7, *Household and similar electrical appliances - Safety - Part 2-7: Particular requirements for washing machines*

IEC 60734, *Household electrical appliances - Performance - Water for testing*

IEC 62301, *Household electrical appliances - Measurement of standby power*

IEC 63474, *Electrical and electronic household and office equipment - Measurement of networked standby power consumption of edge equipment*

ISO 139:2005, *Textiles - Standard atmospheres for conditioning and testing*

ISO 139:2005/AMD1:2011

ISO/CIE 11664-2, *Colorimetry - Part 2: CIE standard illuminants*