STN	Elektrické umývačky riadu pre domácnosť. Metódy merania funkčných vlastností.	STN EN 50242
		36 1060

Electric dishwashers for household use - Methods for measuring the performance

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/16

Obsahuje: EN 50242:2016, IEC 60436:2004, IEC 60436:2004/A1:2009, IEC 60436:2004/A2:2012

Oznámením tejto normy sa od 11.04.2018 ruší STN EN 50242 (36 1060) z októbra 2008

123691

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2016 Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

# EN 50242 EN 60436

July 2016

ICS 97.040.40

Supersedes EN 50242:2008 EN 60436:2008

English Version

## Electric dishwashers for household use -Methods for measuring the performance (IEC 60436:2004 , modified + A1:2009 , modified + A2:2012 , modified)

Lave-vaisselle électriques à usage domestique -Méthodes de mesure de l'aptitude à la fonction (IEC 60436:2004, modifiée + A1:2009, modifiée + A2:2012, modifiée) Elektrische Geschirrspüler für den Hausgebrauch -Messverfahren für Gebrauchseigenschaften (IEC 60436:2004, modifiziert + A1:2009, modifiziert + A2:2012, modifiziert)

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## European foreword

This document (EN 50242:2016 / EN 60436:2016) consists of the text of IEC 60436:2004, IEC 60436:2004/A1:2009 and IEC 60436:2004/A2:2012 prepared by SC 59A "Electric dishwashers" of IEC/TC 59 "Performance of household and similar electrical appliances", together with the common modifications prepared by CLC/TC 59X "Performance of household and similar electrical appliances".

The following dates are fixed:

•	latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2017-04-11

 latest date by which the national standards conflicting (dow) 2018-04-11 with this document have to be withdrawn

This document supersedes EN 50242:2008 / EN 60436:2008.

EN 50242:2016 / EN 60436:2016 includes the following significant technical changes with respect to EN 50242:2008 / EN 60436:2008:

- a) introduction of new combined cleaning and drying performance assessment (Clause 7);
- b) new data on expanded measurement uncertainty (Annex ZB);
- c) new Annexes ZZA, ZZB and ZZC.

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 60436:2004, IEC 60436:2004/A1:2009 and IEC 60436:2004/A2:2012 are prefixed "Z".

In this document, the common modifications to the International Standards are indicated in red.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with Regulations (EU) No 1059/2010, (EU) No 1016/2010 and (EC) No 1275/2008, see informative Annexes ZZA, ZZB and ZZC, which are integral parts of this document.

### **Endorsement notice**

The text of the International Standard IEC 60436:2004, IEC 60436:2004/A1:2009 and IEC 60436:2004/A2:2012 was approved by CENELEC as a European Standard with agreed common modifications.

#### COMMON MODIFICATIONS

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- Annex A (normative) Place settings and serving pieces (non-AHAM style load)
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- Annex M (informative) Adjusting water consumption in the reference dishwasher
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- Annex O (normative) Additional aspects of the energy consumption of dishwashers [based on 59D/343/CDV]
- Annex ZA (informative) Pictures of the soiled items
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Annex ZZA (informative) Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 1059/2010 aimed to be covered

Annex ZZB (informative) Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) No 1016/2010 aimed to be covered

Annex ZZC (informative) Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EC) No 1275/2008 aimed to be covered.

Bibliography

Figure 1 – Position of the glasses on the microwave turntable

Figure G.1 – Illustration chart 1: Location of the thermocouple on upper, intermediate and lower wire sheet

Figure G.2 – Illustration chart 2: The thermal cabinet filled with dishes (pictures of the soiled items: see Annex ZA)

Figure I.1 – Test enclosure for built-in dishwasher

Figure N.1 – Maximum water level at the end of programme

Figure N.2 – Reference machine [Type 2] loading plan

Figure O.Z1 – Measurement procedure for the low power modes (left on mode and off mode)

- Table 1 Evaluation to determine the drying index
- Table 2 Evaluation of cleaning tests
- Table 3 Evaluation to determine the cleaning index
- Table 4 Numerical Values of the *t*-factor for statistical calculations
- Table L.1 Detailed results for test machine(s) and reference machine

Table ZB.1 – Relative expanded uncertainty of measured values of this European Standard

Table ZD.1 – Test report template

Table ZZA.1 – Correspondence between this European Standard and Commission Delegated Regulation (EU) No 1059/2010 of 28 September 2010 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of household dishwashers [OJ L 314, 30.11.2010] and Commission's standardization request M/481

Table ZZB.1 – Correspondence between this European Standard and Commission Regulation (EU) No 1016/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household dishwashers [OJ L 293, 11.11.2010] and Commission's standardization request M/481

Table ZZC.1 – Correspondence between this European Standard and Commission Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode electric power consumption of electrical and electronic household and office equipment [OJ L 339, 18.12.2008] and Commission's standardization request M/481

## Introduction

**Replace** the existing introductions by the following:

This new edition of EN 50242 / EN 60436 has been developed based on the mandate M/481 to CEN, CENELEC and ETSI for standardisation in the field of household dishwashers, which relates to Directive 2009/125/EC of the European Parliament and of the Council and to Directive 2010/30/EU of the European Parliament and of the Council.

Mandate M/481, issued by the European Commission, includes the standardization task to develop measures in testing household dishwashers, which ensure "that the prospective harmonised standard(s) includes a procedure that avoids an appliance being programmed to recognize the test cycles, and reacting specifically to them, with the exclusion of test cycle recognition that is active only during the manufacturing of the appliance".

CLC/TC 59X/WG 2 has identified the deviating test conditions in the previous edition of this standard for the cleaning performance assessment (soiled test load), including relevant energy and water consumption measurements, and the drying performance assessment (unsoiled test load), excluding energy and water consumption measurements, to be the main potential source for an appliance being programmed to recognize the test cycle, and reacting specifically to them. Therefore, the Combined Cleaning and Drying evaluation (CCD) has been established to repeal former deviating test conditions, and to improve alignment with common real life household conditions.

This document submits all common modifications necessary for the application of IEC 60436:2004/A1:2009 and IEC 60436:2004/A2:2012 in Europe. Accordingly, it incorporates the changes made in EN 50242:2008/A11:2012 / EN 60436:2008/A11:2012.

In addition, this document submits modifications to Annex O "Additional aspects of the energy consumption of dishwashers" based on the FDIS draft of IEC 60436 4th Edition prepared by SC 59A "Electric dishwashers" of IEC/TC 59 "Performance of household and similar electrical appliances".

### 1 Scope

In the first sentence of the first paragraph, replace 'International Standard' by 'European Standard'.

### 2 Normative references

Add the following new references:

EN 50564:2011, *Electrical and electronic household and office equipment – Measurement of low power consumption* (IEC 62301:2011, modified)

EN ISO 80000-1:2013, Quantities and units – Part 1: General (ISO 80000-1:2009 + Cor 1:2011)

ISO 3310 series, Test sieves - Technical requirements and testing

*Modify* the referenced documents as follows:

EN 60350 series, Household electric cooking appliances (IEC 60350 series)

EN 60704-2-3, Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 2-3: Particular requirements for dishwashers (IEC 60704-2-3)

EN 60704-3, Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 3: Procedure for determining and verifying declared noise emission values (IEC 60704-3)

EN 60705, Household microwave ovens – Methods for measuring performance (IEC 60705)

EN 60734, Household electrical appliances – Performance – Hard water for testing (IEC 60734)

AHAM DW-1:2003, Performance testing methods for household electric dishwashers

# koniec náhľadu – text ďalej pokračuje v platenej verzii STN