



NSAI
Standards

Irish Standard Recommendation
S.R. CLC/TS 50677:2019

Clothes washing machines and washer-dryers for household and similar use - Method for the determination of rinsing effectiveness by measurement of the surfactant content at textile materials

S.R. CLC/TS 50677:2019

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

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TECHNICAL SPECIFICATION

CLC/TS 50677

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English Version

Clothes washing machines and washer-dryers for household and similar use - Method for the determination of rinsing effectiveness by measurement of the surfactant content at textile materials

Machines à laver le linge et machines à laver et à sécher pour usages domestiques et analogues - Méthode pour la détermination de l'efficacité de rinçage par la mesure de la teneur en tensioactifs des matières textiles

Waschmaschinen und Wäschetrockner für den Hausgebrauch und ähnliche Zwecke - Verfahren zur Bestimmung der Spülwirkung durch Messung des Tensidgehalts an Textilien

This Technical Specification was approved by CENELEC on 2018-12-31.

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Europäisches Komitee für Elektrotechnische Normung

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Contents

Page

European foreword.....	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Symbols and abbreviated terms	6
4.1 The variables for Rinse Effectiveness calculations are defined as:	6
4.2 Symbols relating to Annex A.....	7
5 Requirements	7
6 Test method	8
6.1 Equipment and materials.....	8
6.1.1 Climate chamber.....	8
6.1.2 Ultraviolet (UV) spectrophotometer.....	8
6.1.3 Quartz cuvette.....	8
6.1.4 Cuvette rack	8
6.1.5 Orbital shaker.....	8
6.1.6 Scale for weighing detergent and samples	8
6.1.7 Weigh bowl.....	9
6.1.8 Volumetric flask.....	9
6.1.9 Graduated cylinder, 100 ml	9
6.1.10 Magnetic stirrer	9
6.1.11 Magnetic stir bar	9
6.1.12 Pipette	9
6.1.13 Disposable glass pipettes (e.g. Pasteur pipettes).....	9
6.1.14 Pipette bulbs, 2 ml or greater	9
6.1.15 Sample bottle with cap (for test swatch extraction)	9
6.1.16 Laboratory wipes	9
6.1.17 Distilled water	9
6.1.18 Squirt bottle.....	10
6.1.19 Funnel	10
6.1.20 Reference detergent A* base powder.....	10
6.2 Preparation of equipment	10
6.2.1 UV spectrophotometer check.....	10
6.2.2 Cleanliness.....	10
6.2.3 Cuvette filling and cleaning.....	10
6.2.4 Checking the quality of the distilled water	10
6.2.5 Cuvette matching.....	13
6.3 Procedure	13
6.3.1 Detergent concentration curve	13
6.3.2 Test run procedure	14
6.3.3 Acquiring samples.....	14
6.3.4 UV Absorbance Measurements.....	15
6.4 Expression of results	16
6.4.1 Rinsing Effectiveness	16
6.4.2 Rinse Evenness	18
7 Data to be reported.....	18
Annex A (normative) Procedure for Determining Detergent Concentration Curve.....	19

A.1	General approach	19
A.2	IEC-A* base detergent sampling.....	19
A.3	Distilled Water.....	19
A.4	Preparation of Stock 1 solution (IEC-A* base powder detergent)	19
A.4.1	Sample Weighing.....	19
A.4.2	Mix the Sample	19
A.4.3	Stock 1 Calculation.....	20
A.5	Preparation of Stock 2.....	20
A.5.1	Mix the Sample	20
A.5.2	Stock 2 Calculation	20
A.6	Preparation of Working Standards	21
A.6.1	Mix the Solutions.....	21
A.6.2	Working Standard Calculations	21
A.7	Measure the Absorbance of the Working Standard Solutions	22
A.8	Calculations	23
A.8.1	Initial Treatment of the Data	23
A.8.2	Single sample data (per detergent sample).....	23
A.8.3	Combined sample data (all detergent samples).....	23
Annex B (normative)	IEC-A* base powder detergent sampling.....	24
B.1	Purpose	24
B.2	Devices and Materials	24
B.3	Sampling procedure.....	24
Annex C (informative)	Acquiring samples using a dispenser	28
C.1	General	28
C.2	Calibration of the dispenser	28
C.2.1	General	28
C.2.2	Priming	28
C.2.3	Setting the volume	28
C.2.4	Calibration:.....	28
C.2.5	Calculation:	29
C.3	Acquiring samples (with dispenser).....	29
Annex D (informative)	Quartz cuvette and glassware cleaning and handling.....	30
D.1	Purpose	30
D.2	Cuvettes.....	30
D.3	General Cleaning	30
D.4	Periodic Glass Cleaning	31
D.4.1	General	31
D.4.2	Standard Glassware Cleaning Solutions	31

CLC/TS 50677:2019 (E)

Annex E (informative) Uncertainty of the test method	32
Annex F (informative) Reduction of the test effort	33
Annex G (normative) Test report – Data to be recorded	34
G.1 General	34
G.2 Data for test washing machine.....	34
G.3 Data, parameters and results for the test series	35
G.4 Example of calibration data collection (including calculation)	36
G.5 Example of data collection for measurement.....	38
Bibliography	39

European foreword

This document (CLC/TS 50677:2019) has been prepared by CLC/TC 59X "Performance of household and similar electrical appliances".

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CLC/TS 50677:2019 (E)

1 Scope

This Technical Specification provides a method for the evaluation of the rinsing effectiveness of household clothes washing machines, washer dryers and commercial washing machines. The amount of residual linear alkylbenzene sulfonate surfactant (LAS) extracted from the unstained test swatches of the strips used in the washing performance test is determined. This is accomplished by measuring the ultraviolet (UV) light absorbance at the wavelength particular to LAS, a key ingredient of the detergent.

Assuming a fixed linear relationship between LAS amount and quantity of detergent mixture and using a concentration versus absorbance curve developed as part of this procedure, the absorbance values are then converted into detergent concentrations, which together with the test solution mass data, yields detergent quantities. This assumption is done, because in the frame of this test it is not possible to determine the exact amount of LAS involved, even in the concentration curves, but only the amount of detergent used.

On the textiles, this linear relationship is not given, but it is nevertheless used to express the amount of LAS as determined by UV light absorbance measurements in terms of a detergent amount.

Using a concentration versus absorbance curve developed as part of this procedure, the absorbance values can then be converted into detergent concentrations, which together with the test solution mass data, yields detergent quantities.

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.

EN 60456:2016, *Clothes washing machines for household use — Methods for measuring the performance (IEC 60456)*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Symbols and abbreviated terms

4.1 The variables for Rinse Effectiveness calculations are defined as:

Asp_a	average absorbance
$Asp_{avg,j}$	average net absorbance of the sample j ¹⁾
Asp_i	net absorbance for specimen i ¹⁾
$Asp_{i,223}$	absorbance reading at 223 nm for specimen i ¹⁾
$Asp_{i,330}$	absorbance reading at 330 nm for specimen i ¹⁾
Asp_m	peak absorbance at wavelength m ¹⁾

¹⁾ Care shall be taken in the calculations of Clause 6, as these variables are depending on additional parameters, e.g. index of the sample, swatch or test run.

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