



BSI Standards Publication

Household and similar electric appliances – Methods for measuring the performance of tumble dryers intended for commercial use

National foreword

This British Standard is the UK implementation of EN 50594:2018. It supersedes PD CLC/TS 50594:2015, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee CPL/59/1, Dishwashers and washing machines.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2018
Published by BSI Standards Limited 2018

ISBN 978 0 580 95853 3

ICS 97.060

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2018.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50594

July 2018

ICS 97.060

Supersedes CLC/TS 50594:2015

English Version

**Household and similar electric appliances - Methods for
measuring the performance of tumble dryers intended for
commercial use**

Appareils électrodomestiques et analogues - Méthodes de
mesure de l'aptitude à la fonction pour les sèche-linge à
tambour à usage commercial

Elektrische Geräte für den Hausgebrauch und ähnliche
Zwecke - Verfahren zur Messung der
Gebrauchseigenschaften für Wäschetrockner für den
gewerblichen Gebrauch

This European Standard was approved by CENELEC on 2018-04-23. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	5
1 Scope.....	6
2 Normative references	6
3 Terms, definitions and symbols	6
3.1 Terms and definitions	6
3.2 List of symbols	8
4 Requirements	10
4.1 General.....	10
4.2 Rated capacity	11
4.3 Dimensions	11
5 Test conditions, materials, equipment and instrumentation.....	12
5.1 General.....	12
5.2 Ambient conditions	12
5.2.1 <i>Electricity supply</i>	12
5.2.2 <i>Water supply</i>	12
5.2.3 <i>Ambient temperature and humidity</i>	13
5.3 Test materials.....	13
5.3.1 <i>General</i>	13
5.3.2 <i>Test load</i>	13
5.3.3 <i>Detergent</i>	13
5.4 Equipment	13
5.4.1 <i>Equipment for normalization</i>	13
5.4.2 <i>Equipment for conditioning the test load</i>	14
5.4.3 <i>Equipment for wetting the test load prior to a test</i>	14
5.4.4 <i>Equipment for measurement</i>	14
5.5 Instrumentation and accuracy.....	15
6 Preparation for testing.....	15
6.1 General.....	15
6.2 Test specifications from manufacturers	15
6.3 Installation of the tumble dryer	16
6.4 Preparation of the tumble dryer for a test series.....	16
6.5 Preparation of the tumble dryer for a test run	16
6.5.1 <i>General</i>	16
6.5.2 <i>Preparation requirements for all heating alternatives except for heat pump equipped tumble dryers</i>	16
6.5.3 <i>Preparation requirements for heat pump equipped tumble dryers</i>	16
6.6 Preparation of test loads	17

6.6.1	<i>General</i>	17
6.6.2	<i>Pre-treatment of new test load items prior to use</i>	17
6.6.3	<i>Requirements regarding the age of test load items</i>	17
6.6.4	<i>Normalization of test load items</i>	17
6.6.5	<i>Conditioning of test load items</i>	18
6.6.6	<i>Test load composition</i>	18
6.6.7	<i>Wetting</i>	21
7	Performance measurements – General requirements	21
8	Tests for performance	22
8.1	<i>General</i>	22
8.2	<i>Test procedure for performance tests</i>	22
8.2.1	<i>Test conditions, materials and preparation for testing</i>	22
8.2.2	<i>Test programme</i>	22
8.2.3	<i>Test load</i>	23
8.2.4	<i>Test procedure</i>	23
8.2.5	<i>Validity of a test run</i>	23
8.2.6	<i>Validity of a test series</i>	23
8.3	<i>Measurements to determine water and energy consumption and cycle time</i>	24
8.3.1	<i>General</i>	24
8.3.2	<i>Procedure</i>	24
8.4	<i>Measurements to determine condensation efficiency</i>	24
8.4.1	<i>General</i>	24
8.4.2	<i>Procedure</i>	24
8.5	<i>Measurements to determine exhaust air volume</i>	25
8.6	<i>Performance measurement at maximum exhaust duct pressure</i>	25
8.7	<i>Measurement of the textile drying temperature</i>	25
9	Assessment of performance	25
9.1	<i>General</i>	25
9.2	<i>Final moisture content of the load</i>	25
9.3	<i>Total energy</i>	26
9.4	<i>Corrected energy</i>	26
9.5	<i>Corrected water consumption</i>	27
9.6	<i>Corrected cycle time</i>	27
9.7	<i>Condensation efficiency</i>	28
9.8	<i>Evaporation capacity</i>	28
9.9	<i>Exhaust air volume</i>	29
10	Data to be reported	29
Annex A (normative) Reference list		30
Annex B (normative) Exhaust ducts for tumble dryer testing		31
Annex C (informative) Flow diagrams		35
Annex D (normative) Test report – Data to be reported		36

Annex E (normative) Procedure to determine test load size where rated capacity is not declared	40
Annex F (normative) Flexible initial moisture content method	41
Annex G (normative) Performance testing of steam heated tumble dryers.....	43
Annex H (normative) Performance testing of gas heated tumble dryers	50
Annex I (informative) Measurement of exhaust air volume	53
Annex J (informative) Measurement of the textile drying temperature	54
Annex K (normative) Test procedure for a performance test of a cotton dry programme with full load at standard rating conditions.....	56
Annex L (normative) Reporting of key parameters.....	64
Bibliography.....	65

European foreword

This document (EN 50594:2018) has been 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) 2019-04-23
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2021-04-23

This document supersedes CLC/TS 50594:2015.

This document is based on portions of EN 61121:2013.

The procedures described in this European Standard are modified substantially compared to the procedures described in EN 61121. Therefore, results of tests according to this European Standard cannot and are bound not to be compared to results of similar procedures of EN 61121.

Significant technical differences from EN 61121 are:

- a) test procedures for tumble dryers of any size on the market;
- b) test procedure for measuring power consumption also for steam heated and gas heated tumble dryers;
- c) the introduction of a new type of test load;
- d) the introduction of a new initial moisture content level.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC 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.