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Guidelines for the verification of household appliances under energy labelling and eco design

Lignes directrices pour la vérification des appareils domestiques dans le cadre de l'écoconception

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TECHNICAL REPORT

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English Version

Guidelines for the verification of household appliances under energy labelling and eco design

Lignes directrices pour la vérification des appareils domestiques dans le cadre de l'écoconception

Richtlinien für die Verifizierung von Geräten für den Hausgebrauch im Hinblick auf Energiekennzeichnung und Ökodesign

This Technical Report was approved by CENELEC on 2018-03-26.

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

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European foreword

This document (CLC/TR 50674:2018) has been prepared by WG16 "*Uncertainty*" of CLC/TC 59X "*Performance of household and similar electrical appliances*".

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 is primarily for information. However, the reader should note that this Technical Report also includes some statements based directly on European eco-design and energy labelling regulations which are applicable for certain types of product at the time of writing.

This Technical Report has been developed from early experience of energy label and eco-design verification projects. It also draws on the experience of pilot projects such as the ATLETE (*Appliance Testing for Energy Label and Evaluation*) which were co-funded by the Intelligence Energy Europe Programme of the European Union. Two projects were carried out under this scheme: refrigerators (2009 to 2011) and washing machines (2012 to 2014). The projects were used to: check compliance with energy labelling and ecodesign regulations for these appliance types across the EU; improve the capacity of testing laboratories; and support cooperation among national Market Surveillance Authorities (MSAs) by demonstrating how verification projects could be undertaken.

Introduction

The European energy labelling scheme (and associated eco-design requirements) relies on performance declarations being made accurately by the suppliers of the labelled products. To ensure the integrity of the labelling scheme and to prevent abuse through overstated claims, it is a requirement of the regulations that the scheme is policed by the member states. Policing is conducted by MSAs. One of the more significant tools of the MSAs is the verification of energy label and eco-design claims. Energy labelling and eco-design regulations identify the specific claims that can be verified and the verification tolerances that should be applied. This Technical Report describes how a typical verification project can be carried out and gives specific detail on the subjects of model selection, laboratory selection and carrying out the testing procedure in two steps.

The objective of verification testing is to come to a clear and legally sound decision as to whether a product complies with the requirements given in a Regulation or if the declarations made by the supplier are incorrect.

This Technical Report is intended to be a supporting tool valid at EU/EEA level and Country level for MSAs dealing with compliance and verification issues. It aims to help optimize the available resources and increase the effectiveness of MSAs engaging in the verification process.

1 Scope

This Technical Report provides guidance for the verification testing of household and similar electrical appliances according to the Commission Regulations implementing Ecodesign Directive 2009/125/EC and Commission Delegated Regulations supplementing Energy Labelling Directive 2010/30/EU. It is also due to be suitable for succeeding documents.

This Technical Report might also be applicable to other types of energy related product and parts of it might also be applicable for the verification of product claims in schemes outside the European Union.

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.

CLC/TR 50619, *Guidance on how to conduct Round Robin Tests*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

3.1
supplier
manufacturer or its authorised representative in the EU or the importer who places or puts into service the product on the EU market

3.2
compliant
meets a requirement or number of requirements specified in energy labelling or eco design regulations having taken into account the applicable verification tolerances

Note 1 to entry: Verification tolerances are only applicable when values determined in tests conducted by an MSA are compared to values declared by the supplier.

3.3
non-compliant
fails to meets a requirement or number of requirements specified in energy labelling or eco design regulations, having taken into account the applicable verification tolerances

Note 1 to entry: Verification tolerances are only applicable when values determined in tests conducted by an MSA are compared to values declared by the supplier.

4 Procedure for appliance verification

4.1 Overview

When conducting a verification project it is important to consider all the tasks and carry them out in a logical and methodical order. A typical verification project should comprise of the following tasks:

- scope definition;
- test laboratory selection;

- model selection;
- desk research;
- sample purchase;
- testing;
- feedback;
- further testing if necessary;
- publication of the project outcome.

These tasks are described in more detail in the following subclauses.

4.2 Scope definition

Time and money will inevitably limit the number of models that can be verified, so it is important to focus on the achievable targets. Considerations at this stage could include limiting the extent of the project in one or more of the following ways:

- geographical area to be covered;
- types of retail outlet for example, high street or internet;
- type of appliance for example, vented or condenser tumble dryer;
- appliance price range;
- appliance size for example, rated capacity;
- appliance claimed energy efficiency for example, only A+ and above;
- which claims are to be verified.

Regulations normally include an annex which specifies which parameters should be tested for verification. These annexes were substantially revised in 2017 [10] [11]. A verification project may include any single parameter or a selection of parameters or all of them. The verification itself should include the following:

- checking the values declared in the technical documentation against the values measured in tests conducted by the supplier;
- checking the declared values against the energy labelling and eco design requirements;
- checking that any required product information published by the supplier is not more favourable than the declared values;
- checking the declared values against values determined by testing a sample of the model.

Decisions on the scope of the project may be guided by various forms of market intelligence including the reports and activities of other MSAs and commercial market data agencies.

4.3 Test laboratory selection

A laboratory must be selected which has the capability to make the required tests on the appliance. It is important that the laboratory can demonstrate an acceptable level of quality and competence. The process of selecting a laboratory can be lengthy so it is worth starting early to ensure the verification

project is not delayed at the testing stage. A detailed procedure for recruiting a test laboratory is given in Clause 7.

4.4 Model selection

Having scoped the project, the models to be tested need to be selected. Three methods of model selection are described in Clause 6. Each selection method has its own merits according to the particular circumstances of the market sector being investigated.

It is important to be aware that suppliers often have a number of models with different model identifiers that are in fact equivalent in terms of performance and energy label claims. Such models can usually be identified in the technical file. See 4.5. It should also be noted that equivalent models may be sold under a variety of different brand names.

4.5 Desk research

Appliance suppliers are legally obliged to maintain a technical file containing all the evidence they have compiled to support the energy label and eco-design claims on their products. Suppliers are also legally obliged to provide copies of the technical file to MSAs on request.

Examination of the technical file can reveal non-compliant products in some cases without the need to conduct any laboratory tests. As an example, the supplier may be found to be using an energy label that claims a better energy class than the results of its test data can support. This would indicate a failure without any further work being necessary. (See also 4.2.)

The technical files can also be used to confirm which models are claimed to be equivalent in terms of energy label claims.

4.6 Sample purchase

Having selected the models to be tested, samples of those models need to be acquired for testing. It is important that samples are not obtained directly from the supplier so as to avoid the possibility of a 'golden' sample being tested.

Samples should be obtained in the same way as the consumer would purchase them. It is helpful to record the details of any energy label or ecodesign information displayed at the point of sale - this includes online trading.

A decision has to be made as to whether one sample or four samples should be purchased. Where the verification procedure involves testing one sample and then testing three more samples if the first sample fails, (known as the two step procedure - see Clause 5) it can be useful to purchase all four samples at the outset. This avoids the possibility that the verification process is stalled after the first test because further samples of the model are no longer available. This advantage must be weighed against the cost of buying samples which turn out not to be needed.

Every sample purchased may potentially become the subject of a legal case. For this reason it is essential that all samples are marked with a unique identifier as soon as they are acquired. They must also always be stored in secure locations and a documented chain of custody must be kept. For example, if a sample is passed to a laboratory for testing, documentation must show who passed the sample to whom and at what time and on what day. This can be used to prove that all data generated by the verification project can be ascribed to the particular sample in question.

4.7 Testing

The purchased samples are tested in the appointed laboratory according to the test procedure called up by the relevant regulation. Verification testing is normally performed in a two-step process, the details of which are described in Clause 5.

4.8 Feedback

It is recommended that the MSA maintains good communications with the supplier throughout the verification process. For example it can save time and money if the supplier can confirm that a sample

is not faulty prior to testing. Also, if the model is clearly failing after Step 1 of the testing process, the supplier may agree to take action at that stage, avoiding the need for Step 2 testing.

On completion of Step 2, if the model has failed, the results of the testing are sent to the supplier in the form of a full test report. If the supplier accepts the results then remedial actions need to be considered which may include one or more of the following: withdrawal of the model from the market, modification of the model, the award of compensation to consumers who have bought the model, compensation for the impact on the environment by contribution to a carbon reduction programme. If the supplier does not accept the test results, legal action may be necessary.

4.9 Further testing if necessary

If the supplier of a failed model agrees to carry out modifications to improve the performance of the model, it is recommended that the MSA purchases a sample of the modified model and carries out testing to determine the effectiveness of the modification. The supplier may agree to pay the cost of the additional tests.

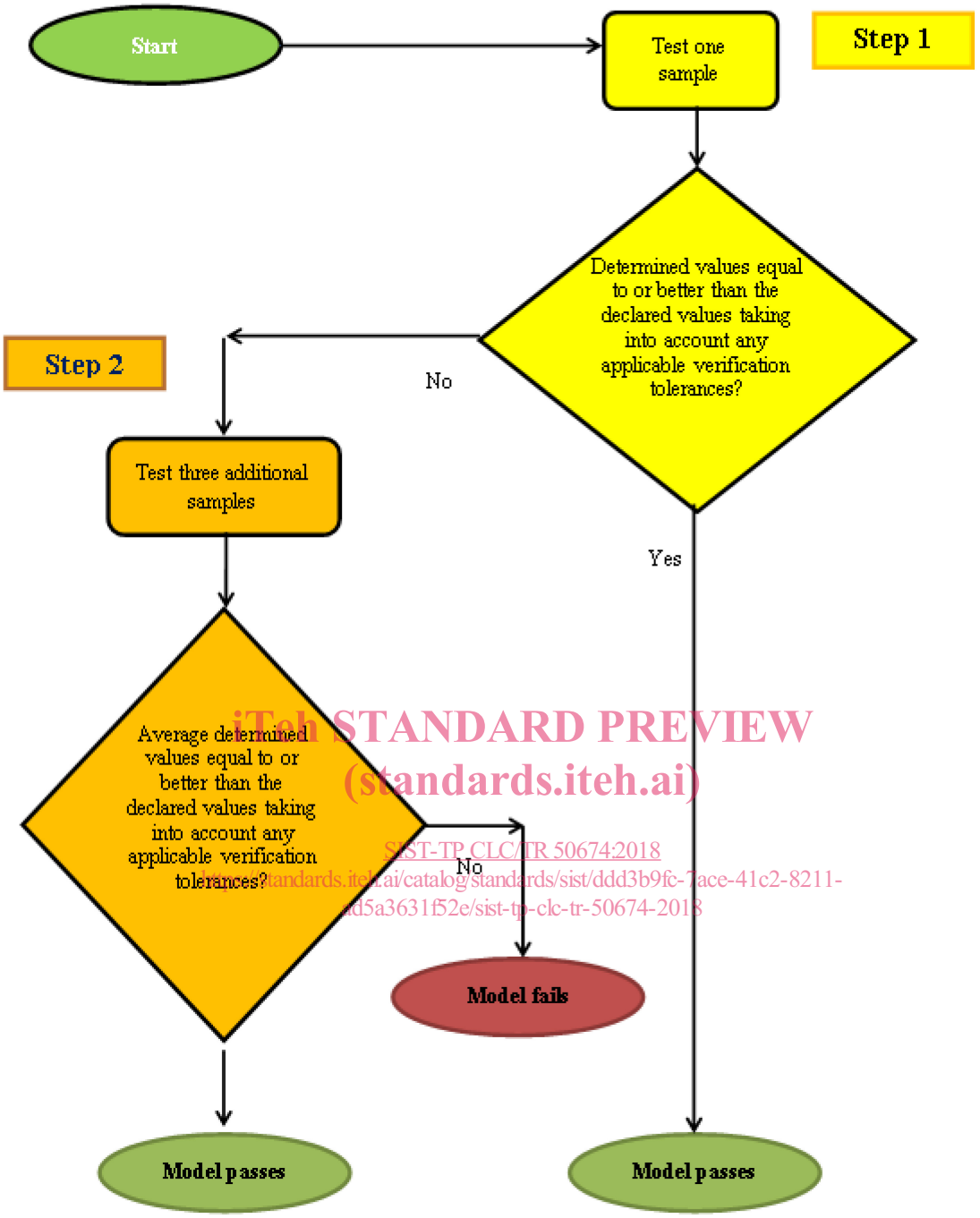
4.10 Publication of the project outcome

It is important that the results of verification projects are disseminated as quickly and widely as possible. For example, results could be forwarded to the Information and Communication System for pan-European Market Surveillance (ICSMS) at https://webgate.ec.europa.eu/icsms . Publicity is a valuable tool for enforcement. It is also helpful for other MSAs running parallel verification programmes. Publication will help them to avoid unnecessary duplication of effort and help them to target those models / sectors having the worst track record.

5 The verification procedure stages

5.1 Regulations

The verification procedure described in this Technical Report follows the two-step process established in the energy labelling implementing Directives supplementing Directive 92/75/EEC. Similar procedures are described in the current Commission delegated regulations supplementing Directive 2010/30/EU on energy labelling and Commission regulation implementing directive 2009/125/EC on ecodesign. The procedure is presented in Figure 1.



NOTE 1 The verification tolerances set out in the regulations relate only to the verification of the measured parameters by Member State authorities and shall not be used by the supplier as an allowed tolerance to establish the values in the technical documentation.

NOTE 2 Determined values are the values of relevant parameters as measured in testing by the MSA and the values calculated from these measurements.

NOTE 3 Average means arithmetical mean.

NOTE 4 Some products covered by the energy labelling and / or eco design regulations have a verification procedure that is different to the one described here.

Figure 1 — Two stage verification process