

INTERNATIONAL STANDARD

Electric shavers for household use - Evaluation of user experience and user satisfaction

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Electric shavers for household use -
Evaluation of user experience and user satisfaction**

FOREWORD

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IEC 61254 has been prepared by subcommittee 59L: Small household appliances, of IEC technical committee 59: Performance of household and similar electrical appliances. It is an International Standard.

This second edition cancels and replaces the first edition published in 1993. This edition constitutes a technical revision.

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

- a) change in standard title and scope (Title and Clause 1);
- b) addition of the definition of user experience and user satisfaction (3.5, 3.6);
- c) modification of the list of evaluations (Clause 4);
- d) introduction of evaluation of user satisfaction for a particular electric shaver (Clause 6);

- e) removal of testing measurement in objective way, such as measuring methods for dimensions, operation time and gravimetric analysis of the difference in closeness of shave;
- f) modification of questionnaires in Annex A.

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

Draft	Report on voting
59L/290/CDV	59L/302/RVC

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.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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1 Scope

This document applies to men's **electric shavers** (3.1) and their **trimmers** (3.4) for household use.

This document deals with the methods for evaluating **user experience** (3.5) and **user satisfaction** (3.6), in a subjective way, for men's **electric shavers** (3.1) and their **trimmers** (3.4) with a rated voltage not greater than 250 V.

This document does not specify safety or performance requirements.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

3.1 electric shaver

appliance that uses electric energy to drive shaving head for shaving

3.2 rotary electric shaver

electric shaver (3.1) with round shaving head(s) and usually rotating cutters

3.3 vibratory electric shaver

electric shaver (3.1) with linear shaving head(s) and usually vibrating cutters

3.4 trimmer

accessory that is incorporated into the **electric shaver** (3.1) and used to groom particular facial hair

Note 1 to entry: Examples of particular facial hair are moustache, beard or side whiskers, etc.

3.5 user experience

person's perceptions and responses resulting from the use of a product

[SOURCE: ISO 9241-210:2019, 3.15, modified - In the definition, "user" has been changed to "person", "that result from the use and/or anticipated use of a system, product or service" has been changed to "resulting from the use of a product" and Notes to entry have been deleted.]

3.6**user satisfaction**

extent to which the user's physical, cognitive and emotional responses that result from the use of a system, product or service meet the user's needs and expectations

Note 1 to entry: Satisfaction includes the extent to which the user experience that results from actual use meets the user's needs and expectations.

Note 2 to entry: Anticipated use can influence satisfaction with actual use.

[SOURCE: ISO 9241-210:2019, 3.10, modified – "user" has been added to the term.]

4 List of evaluations

Depending on the appliance, the following evaluations shall be carried out, as appropriate:

4.1 User experience (3.5) for comparing different **electric shavers**.

4.2 User satisfaction (3.6) for a particular **electric shaver**:

- **user satisfaction (3.6)** with regard to performances and features of a particular **electric shaver (3.1)**;
- **user satisfaction (3.6)** with regard to overall aspects of a particular **electric shaver (3.1)**.

5 Evaluation of user experience (3.5) for comparing different electric shavers**5.1 Composition of the test panels**

Each panel is to be composed so that it is reasonably representative of the adult male population of the country in which the test is performed, with particular attention being paid to hair density, rate of beard growth, toughness of the beard, sensitivity towards skin irritation, and the time taken to shave.

Each panel tester shall have no pains or injuries on the face and have no allergic skin.

Each panel tester shall be the potential user and have a positive attitude towards the functions and not be influenced by preconceived ideas.

The test panel is divided into subpanels with equal size. Each subpanel represents one of the two basic **electric shaver (3.1)** systems:

- **rotary electric shaver (3.2)** testers;
- **vibratory electric shaver (3.3)** testers.

For statistical reasons, the number of testers in each of the above subpanels should be at least 12.

NOTE 1 Whereas some deviation of the test panel composition from the real situation in a country will not have a noticeable influence on the results, it is essential that subpanels have comparable compositions.

NOTE 2 Test can be conducted when there's only one type of **electric shaver (3.1)**. For example, evaluation among three **rotary electric shavers (3.2)** with different brands or models or three **vibratory electric shavers (3.3)** with different brands or models.

NOTE 3 A subpanel composed of testers who use wet shavers (razor blades) can be considered when necessary.

5.2 Test duration and test procedure

5.2.1 Test duration

The test duration depends on the number of types/modes of **electric shavers** (3.1) and testers but generally includes an introduction period and a test period.

The test period is preceded by a two week introduction period in which the testers familiarize themselves with the other shaving system, i.e. **rotary electric shaver** (3.2) users shave with **vibratory electric shavers** (3.3), and **vibratory electric shaver** (3.3) users shave with **rotary electric shavers** (3.2).

The test period for each **electric shaver** (3.1), which should start within a week after the introduction period, has three shaving days. On the first day of each test period, the tester uses his own shaver (see scheme A in Annex D).

If a small number of **electric shaver** (3.1) models are to be tested, the test period of three days for each **electric shaver** (3.1) can be extended to six days. On day 7, the tester uses his own shaver (see scheme B in Annex D).

For testers with a low density of beard hairs or light beards, each test day may be preceded by a non-shaving day (see scheme C in Annex D).

5.2.2 Test procedure

Day 1:

On the first shaving day, each tester shaves with his own shaver, which is used as a reference. Questionnaire 1 in Annex A shall be completed immediately after shaving.

NOTE 1 Questionnaire 1 is not included in the final analysis. It allows for the test institute to characterize the test panels, particularly with respect to the average level of judgment scores.

Day 2 and day 3:

On the second and third shaving days, the tester shaves with one of the test shavers. On both days, the tester shall record the shaving time with a stopwatch, and immediately after shaving fills in Questionnaire 2 in Annex A relating to shaving time, cleanness, and skin irritation.

NOTE 2 Possible variations in the testing scheme are given in Annex D.

5.2.3 Handling, convenience and storage, etc.

For each test period, the handling, convenience, storage, etc. of the tested shaver are assessed and Questionnaire 3 in Annex A shall be completed on the last day of the test period.

The test is continued until each tester has tested each shaver once.

Instructions for the testers are given in Annex B.

5.3 Distribution of electric shavers

The **electric shavers** (3.1) are distributed so that each tester:

- shaves with each shaver in turn;
- uses each shaver an equal number of times.