

FRAMEWORK FOR TESTING THE PERFORMANCE OF ALL-PURPOSE CLEANERS, WINDOW CLEANERS AND SANITARY CLEANERS

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The performance test can be either a laboratory test or a consumer test. In addition to the performance test, it is the responsibility of the applicant to ensure that the cleaner is safe to use on the intended surface(s). The conditions for both types of test are described in the following sections.

1. Laboratory tests

The aim of the laboratory test is to confirm that the test product cleans as well as or better than a comparative reference. All products should be tested in their pure form and the recommended dosage for normal soil or normal use.

General framework requirements

- The test product and the reference product shall be of the same product category.
- All purpose cleaners, even those to also be used in dilute form, e.g. for floor cleaning, should in the lab be tested in their pure form. This is the way they are used on tough soils in the consumers home, and in this way also relevant discrimination between products can be obtained in the lab.
- For all-purpose cleaners and window cleaners the reference product may be either a market-leading product or a generic formulation.
- For sanitary cleaners (toilet and bathroom cleaners) the reference detergent shall be the one prescribed at the IKW webpage: http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-WC-Reiniger-Englisch.pdf. The reference detergent is applicable for acidic toilet cleaners and bathroom cleaners, in the latter case provided that the pH is reduced to 3.5.
- If a market-leading reference product is used (all-purpose cleaners and window cleaners), it shall be one of the three or four products with the highest sales volume on the market in a region, where the eco-labelled product is to be marketed. Furthermore, the market-leading reference product must be approved by the competent body, and the trade name must be available to the public.
- If a generic reference product is used (all-purpose cleaners and window cleaners), it must have a composition which is representative for the products on the market. Furthermore, the generic reference product must be approved by the competent body and the exact formulation must be publicly available free of charge.
- The dosages used shall be the recommended dosage for normal soil or normal use. If no recommended dosage is stated for the reference product, the same dosage must be used for

both the test product and the reference product.

- If a dosage interval is given, the lowest recommended dosage must be used in the test.
- The soil mixture must be relevant for the use of the product, homogeneous and, if prepared artificially, based on well-described substances. Enough soil for the whole test must be prepared in a single batch.
- For all-purpose cleaners, only fat-removing effects shall be documented.
- The primary cleaning function of window cleaners is to remove 'easy-to-remove' fatty soil (fatty fingerprints) and particulate matter. As a result, the very stubborn fatty soil that is used for all purpose cleaners in the IKW test is not relevant and should not be used for these cleaners. As leaving a clean and stripe-less surface is also one of the main performance aspects of window cleaners, the method for stripe-less drying as described in the IKW method for all purpose cleaners could be used for window cleaners. Here the window cleaner under test should be as good as a market leading product and better than water of a defined hardness.
- Sanitary cleaners include bathroom cleaners, toilet cleaners and kitchen cleaners. For bathroom cleaners, both limesoap and limescale removal shall be documented. For acidic toilet cleaners, only limescale removal shall be documented. For kitchen cleaners fat removing effects shall be documented.
- The washing procedure must reflect realistic use conditions and can be manual or by machinery.

Testing requirements

- The assessment of cleanliness must include testing and comparison of the test product with a reference product.
- Each product must be tested in at least five repetitions (see documentation requirements).
- The quantity of soil applied to tiles or another substrate must be the same for each tile or substrate-part, weighed in grams to one decimal point.
- The order of testing of the products shall be randomised.
- The test must be capable of generating results that provide a measure of the cleaning performance according to the product tested. Cleaning performance can be measured visually, photometrically (e.g. measuring reflectance), gravimetrically or by means of another relevant method. The method of measurement, including a possible scoring system, must be decided in advance.

Documentation requirements

A detailed test report shall be submitted to the competent body, including information on:

- The dosages used for the test product and the reference product.
- Common application area(s) for the test and the reference product.
- Justification of the choice of the reference product with respect to its position on the market and its function when using a reference from the market.

- Type(s) of surface(s) used in the test and their relevance.
- Description of the soil mixture used in the test, together with an argumentation for its relevance in relation to the testing of cleaning performance.
- Description of the procedures for soiling, washing and measurement of cleaning performance.
- Calculation and statistical comparison procedures.
- All raw data used in the testing and calculations.
- For the test product to be considered to have fulfilled the performance requirements its results must be positive in 100 % of the repetitions. If the result is less than 100 % positive, five new repetitions must be performed. Of these 10 repetitions, 80 % must be positive. In case lime scale removal is tested for an acidic toilet cleaner versus the above specified reference product, a positive outcome of the test is associated with a performance that reaches at least 70% of that of the reference cleaner.
- As an alternative the applicant may use statistical methods and demonstrate with a one-sided 95 % confidence range that the test product is as good as or better than the reference product.

Note on tests

The IKW-test 'Recommendation for the quality assessment of acidic toilet cleaners (SÖFW-Journal, 126, 11, pp. 50-56, 2000) may be used to confirm the performance requirements for acidic toilet cleaners . When testing bathroom cleaners according to the above IKW method, the IKW reference cleaner for toilet cleaners can be used as a reference product, provided the the pH of the reference is adjusted to 3.5.

The IKW test 'Recommendations for the quality assessment of bathroom cleaners', SÖFW Journal, **129** (2003) 42-48. may be used to confirm performance requirements for bathroom cleaners.

The IKW test 'Recommendation for the Quality Assessment of the Product Performance of All Purpose Cleaners', SÖFW Journal, **130** (2005) 54-66. may be used to confirm performance requirements for all purpose cleaners.

2. Consumer tests

The aim of the consumer test is to show whether the test product cleans as good as or better than a comparative reference product.

General framework requirements

- For testing of consumer products, responses must be received from a minimum of 80 persons, randomly selected in the sales region and normally using the reference product.
- For testing of professional products, responses must be received from at least five professional users, randomly selected in the sales region and normally using the reference

product.

- The test product and the reference product should be of the same product category.
- The dosages used must be the dose recommended by the manufacturer.
- The test must be performed on the type(s) of surface relevant in relation to the recommendations on the label.
- The test period must allow for at least five uses of the test product.

Testing requirements

- Effectiveness of the product under test must be assessed on the ability of the product to remove soil and leave a clean surface.
- The test persons must reply to the question ‘How effective do you consider the test product to be compared to the product you normally use?’— or equivalent. At least three possibilities for a response must be available, e.g. ‘poorer’, ‘as good as’ and ‘better’.
- At least 80 % of the test persons must assess the product to be ‘as good as’ or ‘better’ than the reference product.

Documentation requirements

A detailed test report must be submitted to the competent body, including information/documentation on:

- The selection of the test persons.
- The information provided by the test persons and a summary describing how the testing was performed.
- The type of surface(s) the product was tested on.
- Calculation and documentation showing that at least 80 % of the test persons assess the product to be as good as or better than the reference product.
- For each test person, the following information must be available, e.g. in the form of answers to a questionnaire:
 - The dosage used by the test person
 - The name of the reference product
 - A statement declaring that the product has been tested at least five times
 - The result of the comparison of the test product and the reference product.