Preparation of Samples and Test Pieces for Emission Testing

Samples shall be provided to the laboratory shortly after production in the smallest available commercial package, or as cutouts packed first in aluminium foil and then in odourless PE or PP foil.

It is essential that the selected sample is representative of the product line. For the test and the report the following information is required:

- Manufacturer.
- Specific name of the product.
- Date of production and batch number.
- Date of sampling / dispatch.
- Safety Data Sheet if available.
- Type of wrapping / packing and which foils have been used, if any.
- Any manufacturers' recommendations on application amount and technique, such as mixing ratio e.g. with water, or dry residue.

The test pieces are made from these samples in accordance with ISO 16000-11 and similar standards, depending on the purpose of the test. Normally our test pieces measure 21.8 cm x 21.8 cm, as well as some excess area in case that back and edges are covered.

The loading factor (m^2/m^3), which is the area of the test specimen per volume of the chamber, is adjusted to the ratio of the dimensions and the volume of air in a model room.

- The testing standard ISO 16000-9 defines a model room with a floor area for A= 7 m^2 or 12 m^2 and a height of 2.5 m.
- The air volume in that model room is defined as: V = 17.4 m^3 or 30 m^3.
- The loading factor then is 0.4 m^2/m^3 (for all floor covered) or 1.4 or 1.0 m^2/m^3 (for all walls painted).

- The resulting area specific flow rate with ½ air exchange per hour then is 1.25 m^3/m^2h for a floor covering.
- These calculations can be derived with other parameters if desired, e.g. for the European reference room.

Air sampling for emission testing is performed in various manners for the different labels. In each case, air samples from the outlet of the test chambers are drawn through adsorption tubes. These are then analysed by thermal desorption and gas chromatography / mass spectroscopy for volatile organic compounds (VOC) and by solvent desorption / HPLC / UV for aldehydes.

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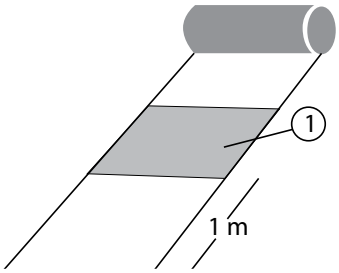
More details

Boards, panels, parquet, laminate:
Tiles and boards should be sent to the laboratory in their original packaging. Otherwise 0.5 m² should be cut out (but not from the end of a plate or stack), wrapped twice with aluminium foil and then with odourless PE or PP foil. The sample is unpacked at the lab and a test piece is cut out and placed in the test chamber (normally with the back and edges covered).

Products in rolls such as resilient floor coverings:
A section of 0.5 m² (not from the end of the roll, see compartment 1 in graph below), should be cut out, wrapped twice with aluminium foil and then with odourless PE or PP foil and sent to the lab. After unpacking, a test piece of the sample will be cut out and placed in the test chamber (normally with back and edges covered). Adhesive tapes should be sent in their original packaging. Tapes are fixed on a glass plate.



Paints and Coatings:
A commercially available can or at least 500 g should be sent, together with any instructions for preparation and the Safety Data Sheet. The application amount may be calculated from dry film and dry residue if the density of the original paint is known – otherwise a density of 1.0 is assumed. The coating is applied by a trowel allowing application of a uniform and well defined film. The applied wet and dry film thickness is controlled by weighing the test specimen.

Adhesives:
A commercially available can or at least 500 g should be sent, together with any instructions for preparation. For flooring installation adhesives: the lab will apply 250 - 350 g/m² on to a glass plate and structure the surface with a notched trowel ”B1”. For EMICODE and RAL UZ 113 the results are standardised by calculation to a loading of 300 g/m².

Fillers, cement mortars:
A commercially available bag or preferably a sample of at least 500 g should be sent, along with the mixing ratio with water or any other instructions. The lab will make a 3 mm thick test piece with uniform surface on a glass plate.

Primers for flooring adhesives:
A commercially available can or at least 500 g should be sent, together with any instructions, and the dry residue in case of dispersion based products. For EMICODE, water-based dispersion primers are adjusted to 10% solids, then 100 ± 1 g/m² are applied to a glass plate with a smooth base and a brim. For EMICODE and RAL UZ 113, results are standardised by calculation to a loading of 100 g/m².

Furniture:
An item of furniture as it will reach the end-user should be sent. The lab will assemble the furniture if the whole item is to be placed in a mid-test chamber. When a small chamber test is required, a representative sample of the furniture is cut out and open edges that would not normally be exposed to the air when in actual use will be covered.

Cleaners:
A commercially available can or at least 500 g should be sent, together with instructions for application. A suitable amount will be applied into a Microchamber for testing shortly after application.

Air Fresheners:
At least 2 or preferably 3 test pieces should be sent, together with instructions on use during the test.

Testing laboratory:

Eurofins Product Testing A/S
- Smedeskovvej 38, 8464 Galten, Denmark, Phone +45 7022 4276

Eurofins Air Toxics, Inc.
- 180 Blue Ravine Road, Ste. B, Folsom, CA 95630, USA, Phone +1-800-985-5955

Contact our offices in
China (Shanghai, Shenzhen) - Denmark - France - Germany - Hong Kong - Italy - Netherlands - Thailand - UK - USA

via our common email address

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