

AgBB / DIBt - German restrictions for VOC emissions

Germany published restrictions for VOC emissions from floor coverings, parquet coatings, adhesives and some more products. This is the first step in an attempt to limit the emissions of volatile organic chemicals (VOC) from any construction product

The background to this is the EU directive on construction products requiring that no construction product should cause any harm to the occupants of a building. As the EU did not specifically detail this requirement, national regulations may interpret this differently. A German task force of public health authorities, the AgBB, presented an approach for implementing this part of the EU directive. The AgBB used and updated an earlier project on assessment of emissions from carpets (ECA no. 18).

The requirements comprise limitations to emissions after a test piece was stored in a test chamber for 3 days and 28 days. The 3 days test is representative of a building renovation case with early re-occupancy and prohibits excessively high initial VOC emissions and the presence of carcinogens. The 28 days test is representative of long-term emissions. For detailed requirements, please see overleaf.

The AgBB also aimed at establishing limits for intensive odours. However, this was postponed because no reliable odour test method could be identified.

The AgBB approach describes the minimum requirements for VOC emissions, but some indoor air contamination still may occur. Low emission products may be additionally labelled with voluntary labels such as Blue Angel, GUT, EMICODE etc. German authorities are working on exporting this evaluation scheme into Europe-wide regulations on construction products.



For historical reasons, in the beginning this regulation only referred to floorings that needed a German registration after showing low inflammability. Now all floorings sold in Europe have to carry a CE mark in showing compliance with their respective EN standard. But for being installed in Germany, several products have to fulfil supplementary requirements on VOC emissions ("Ü mark"). This is administered by German DIBt agency (Deutsches Institut für Bautechnik) in Berlin.

When approaching a registration by DIBt the manufacturer must provide the chemical composition and test results for VOC emissions. Reports only from laboratories recognised by DIBt are accepted, such as Eurofins.

The DIBt recommends that details of the testing plan be defined in communication with DIBt. This may help in designing the test programme in the most efficient manner. Eurofins can support manufacturers already in this stage and help to establish communication with DIBt.

The AgBB approach sets limits for:

- Carcinogens after 3 and 28 days
- Total VOC after 3 and 28 days
- Total SVOC after 28 days
- Single VOC compounds with "LCI" limit values after 28 days.
- Single VOC compounds without such limit values after 28 days.

After provision of a test report with acceptable results, the product (or the product group) will be accepted for use in German rooms where people stay longer than merely for a transit period ("Aufenthaltsräume"). Typically all floor coverings are made for such rooms and will thus require DIBt acceptance. DIBt requires special reporting format and lower detection limit than original AgBB scheme which increases costs, relative to a normal AgBB test.

The registration is valid for five years during which an external assessment of the factory production control is performed by a ÜZ (monitoring and certification) body. Once a year factory production control of emission properties is subject to auditing, and a sample is taken for control VOC testing not by the manufacturer, but by an external assessor. This procedure is simplified to annual re-testing of product emissions, without external auditing, for a number of products.

Significant cost savings can be made if the control tests do not require a complete 28 days chamber test. Instead, a 3 days chamber test may be applied, or even the more simple thermal extraction test in a Microchamber be performed, and the result will be compared with the original sample that passed the DIBt criteria. While some products normally shall go through a 3 days pre-conditioning period, this may be waived and some costs be saved if emissions still are below the limit values. The design of the control tests is subject to negotiation with DIBt, and again Eurofins can support this communication.

If a manufacturer wants to show compliance with AgBB requirements without applying for registration at DIBt (e.g. the product is not regulated by DIBt, or is not sold in Germany) then Eurofins can modify the test such that you can show compliance (if given) by means of a clear test report and attestation.

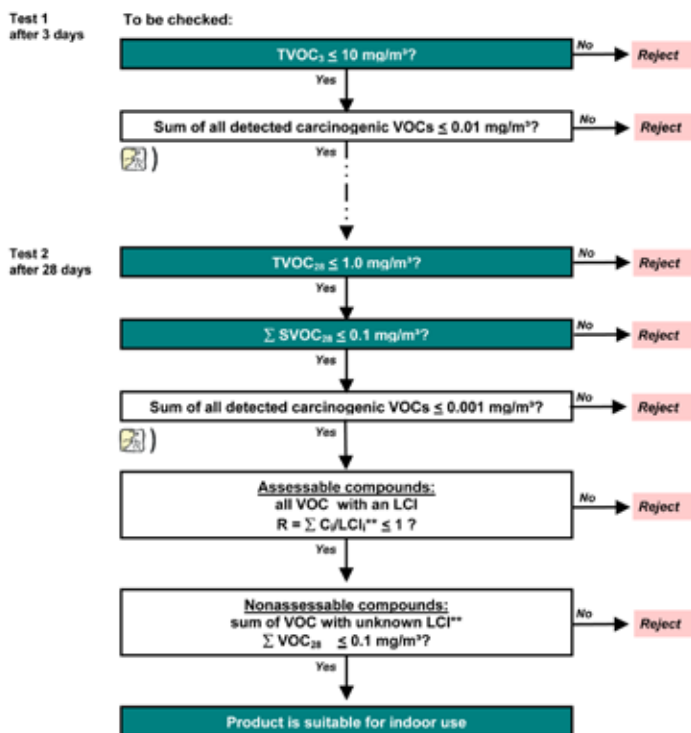
The AgBB test is similar to emission tests in other countries such as France and Finland, and to testing protocols for AFSSET, EMICODE, Blue Angel, GUT or Natureplus ecolabels.

Reports can also be produced for these other labels when the AgBB test is finalised, merely with some

separate calculations and small additional fee. For liquid products such procedure requires to skip the pre-conditioning period as this is not foreseen by the other rating schemes.

Eurofins is world market leader and has more than 20 years experience in delivering reliable VOC emission testing - and in setting up a test design for an optimised cost-benefit ratio. Eurofins can help with test reports meeting the requirements of many different countries and in many languages, and Eurofins can act as "ÜZ body" for auditing and certification. This may also include flammability evaluation if requested.

Fig. 1: FLOW CHART FOR THE EVALUATION OF VOC* AND SVOC*EMISSIONS FROM BUILDING PRODUCTS



Generally accepted methods for sensory tests expected to be performed at this stage have yet to be agreed upon.

* VOC, TVOC: Retention range C₆ - C₁₅, SVOC: Retention range C₁₅ - C₂₂
 ** LCI: Lowest Concentration of Interest (German: NIK)
 European Emission Test Standard prEN ISO 16000-9 to -11

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