eurofins | Consumer Product Testing

Specifications
Indoor Air Comfort USA

Version 1.0 | 2023

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Introduction

This document contains the specifications for certification and labelling of building materials and interior coatings with the labels Indoor Air Comfort USA.

This certification program is a quality tool for improving Indoor Air Quality, providing more security to consumer and to industry. The most efficient tool to ensure continuous low VOC emissions of a product is a combination of product testing, factory production control, and external surveillance of the emission relevant processes and parameters during production.

Therefore, Eurofins launched the "Indoor Air Comfort USA" certification scheme that ensures manufacturers, retailers and end-users that product quality in terms of emission of volatile organic substances meets the relevant legal and most voluntary requirements for the involved product groups.

The core value of the Indoor Air Comfort USA certification by Eurofins is:

- Indoor Air Comfort USA certification ensures that low product emission requirements are fulfilled and is a sign of the applicant’s focus on quality and contribution to a healthy indoor environment,
- Shows compliance with LEED v4 and LEED v4.1,
- Use of a low emission label for marketing purposes,
- Increasing public trust by low limit values and high control intensity (external surveillance and regular re-testing),
- Brand protection by establishing a management tool for monitoring and - if relevant - for reducing VOC emissions from certified products by external surveillance in combination with factory production control.

You can obtain the Indoor Air Comfort USA certification for your products upon application. After a successful emissions test there will be a contract as well an initial inspection before granting the certificate. Re-inspections and re-testing will follow afterwards.

Galten, September 2023

Table of Content

1 Scope and Application

This document contains specifications for building materials and decorative coatings with respect to certification and labelling with the labels Indoor Air Comfort USA.

The following materials are covered:

- Textile floorings,
- Resilient floorings,
- Wood-based floorings, decorative wooden panels,
- Thermal insulation,
- Suspended (acoustic) ceilings,
- Non wooden panels,
- Installation products,
- Sealants,
- Paints, varnishes, floor coatings for the interior,
- Resin based liquid applied floorings,
- Wall plaster,
- Wall papers and textile wall coverings.

2 Specifications

Classification of a product and issue of a certificate are based only on the results of emission testing and of the inspections at the manufacturing sites. The emission test is performed after 11, 12 and 14 days in a ventilated test chamber following CDPH/EHLB/ Standard Method V1.2.
Liquid applied products shall be tested for VOC content according to the current version of the South Coast Air Quality Management District (SCAQMD) Rule 1113 or 1168 and shall meet the product specific limit value.

3 Testing

3.1 Taking a Sample

Determination of emission behavior shall be performed on freshly produced material at the earliest point of time when the product is ready for dispatch or application - this date may include essential storage periods.

Sample selection and taking a sample of a product for testing shall be performed according to CDPH/EHLB/Standard Method V1.2 including requirements on sample age, transport and testing schedule. Samples taken shall be packaged airtight and be protected against contamination. A detailed documentation including sampling protocol shall follow the sample into the laboratory – templates will be supplied by Eurofins.

3.2 Emission testing

Test specimen preparation prior to testing shall be performed as specified for the respective product according to CDPH/EHLB/Standard Method V1.2. Multi-layer systems are built up such as the manufacturer specifies for use at the construction site, including the required intermediate drying periods. If the manufacturers prepare the test specimen, then at least the top layer shall be installed at the testing lab just before start of the test.

Emission testing shall be performed in a test chamber made of stainless steel as specified in CDPH/EHLB/Standard Method V1.2. The test specimens shall remain stored in the test chamber during the whole testing period and shall be removed only after final air sampling from test chamber. Air sampling shall be performed after 11, 12 and 14 days in test chamber using Tenax TA adsorption tubes for determination of VOC emissions, on DNPH impregnated silicagel adsorption tubes for determination of volatile aldehydes. Additionally, certain VOC with CREL, which cannot be determined by using Tenax TA, shall be sampled on charcoal tubes followed by HS-GC/MS analyses.

The analytical determination is performed as specified in CDPH/EHLB/Standard Method V1.2. Identification and individual quantification shall be performed for all appearing VOCs and SVOCs. Substances with a limit value are calibrated with their authentic calibration. Substances without a limit value are quantified in toluene equivalents. Calculation of TVOC shall be performed as specified in CDPH/EHLB/Standard Method V1.2.

All measured concentrations in the test chamber air are calculated to air concentrations in the reference rooms as defined in CDPH/EHLB/Standard Method V1.2.

3.3 Content testing

Liquid applied products shall be tested for VOC content according to below requirements. A separate test report shall be provided for each representative product.

Architectural coatings shall be tested according to the requirements of the current version of the South Coast Air Quality Management District (SCAQMD) Rule 1113 and shall meet the product specific limit value.

Adhesives and sealants shall be tested according to the requirements of the current version of the South Coast Air Quality Management District (SCAQMD) Rule 1168 and shall meet the product specific limit value.

Methylene chloride and perchloroethylene may not be intentionally added to liquid applied products. Statement of product compliance must be made by the manufacturer.

4 Evaluation - Indoor Air Comfort USA

Indoor Air Comfort USA specification requires emission testing according to CDPH/EHLB/ Standard Method V1.2 and the results shall not exceed the following limit values:

Table 1: Limit values Indoor Air Comfort USA – emission testing

Indoor Air Comfort USA	After 14 days	Unit
TVOC	150	µg/m³
TSVOC	100	µg/m³
Formaldehyde	9	µg/m³
Total Aldehydes	40	µg/m³
4-Phenylcyclohexene	6	µg/m³
Any individual carcinogens (Category 1A and 1B)	1	µg/m³
Individual VOC	½ CREL	

Indoor Air Comfort USA specification requires content testing for liquid applied products according to the South Coast Air Quality Management District (SCAQMD) Rule 1113 or 1168 and the product shall meet the following product specific limit values:

Table 2: Limit values Indoor Air Comfort USA – content testing

Indoor Air Comfort USA	Applicable test method and limit values as defined in
Architectural coatings	SCAQMD Rule 1113
Adhesives	SCAQMD Rule 1168
Sealants	SCAQMD Rule 1168

5 Certification Contract

A contract is signed by the manufacturer and certification body including scope and content of certification.

6 Inspection / Requirements for Factory Production Control

An approved inspector shall inspect the production processes on-site and the Factory Production Control (FPC) as far as relevant for the emission of volatile organic compounds from the finished product.

During the inspection, samples of products for emissions testing shall be taken (except during an initial inspection, which is done directly after an initial testing), in accordance with the product specific requirements for sampling.

An inspection report will be compiled containing all findings, recommendations and non-conformities.

The manufacturer shall establish, document and maintain a Factory Production Control (FPC) system to ensure that the subsequent products placed on the market conform to the characteristics of the tested worst case products. The FPC system shall consist of procedures, regular internal inspections and tests and/or assessments and the use of the results to control raw materials or components, equipment, the production process and the finished products.
All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic manner in the form of written policies and procedures.
This production control system documentation shall ensure a common understanding of the Indoor Air Comfort USA Specification and shall enable continuous compliance of the certified products with the Indoor Air Comfort USA limit values.
Factory Production Control therefore brings together operational techniques and all measures allowing continuity and control of the conformity of the product with the Indoor Air Comfort USA specifications. Its implementation may be achieved by controls and tests on raw materials, processes and finished products as well as by regular controls of measuring and manufacturing equipment, and by making use of the results thus obtained.

6.1 General Requirements

A Quality Management System (QM System) shall be implemented; including written procedures covering below topics. A history of changes of the procedures shall be available.
The QM System could be a self-defined system or follow the requirements of the ISO 9001 standard.
An ISO 9001 certification is helpful, but not required; external QM reports could be reviewed during an Indoor Air Comfort USA inspection.
Quality and production related outsourced processes shall be announced to Eurofins including valid proof of monitoring suppliers.
Changes in certified products, product groups, relevant raw materials or composition of products shall be announced to Eurofins immediately. The manufacturer shall establish a procedure to inform Eurofins in case of such changes.

6.2 Assignment of Responsibilities / Staff

The manufacturer shall appoint a person responsible for Factory Production Control (FPC). This responsibility shall be documented.
Training plans for new and existing employees, especially regarding quality-related topics, shall be established and respected. Establishing a skill matrix and/or a competence matrix is recommended.

6.3 Data Storage

A written procedure describing data storage shall be established. Quality and production data and documents shall be stored for minimum 7 years.

6.4 Complaints

A system for registration and handling of complaints shall be available including a written procedure about complaint handling. The manufacturer shall have the possibility to generate overviews of complaints for a certain time period and shall define complaint categories including a separate category for emission/odor. Emission and odor related complaints will be reviewed during the Indoor Air Comfort USA inspection including related established preventive and corrective actions.

6.5 Control of Raw Materials

The specifications for all incoming raw materials shall be documented; including an inspection plan for ensuring their conformity with the certified product range.
In determining the checks required, consideration shall be given to the control exercised by the supplier and the documented evidence of conformity. The manufacturer shall ensure, that it is not possible to use non-conforming raw materials in certified products and shall define how to treat non-conforming raw materials.
Changes of raw materials for certified products as well as changes of raw material suppliers shall be announced to Eurofins immediately. The manufacturer shall establish a procedure to inform Eurofins in case of such changes.

6.6 Production Process Control

All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure that use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures, the records shall be retained for the period defined in the manufacturer's FPC procedures. Major repairs of production equipment, which might have an impact on product quality, shall be documented.
In order to manufacture products, which conform to the Indoor Air Comfort USA Certification requirements, the manufacturer shall control and monitor production processes and shall perform inspections and tests as described in their production control system documentation within the QM System. Changes and deviations of production parameters within running production shall be documented including information on responsible
person and reason.
Product recipe/construction and composition parameters shall be defined and documented

including tolerances and a history of changes of recipes.

6.7 Testing / Inspection of Finished Products

The manufacturer shall establish testing procedures to ensure and document consistency of manufactured products and shall define tolerances for production processes and finished products.
This ensures that the composition and by that the emission properties of each finished product remains the same as that subject to initial and annual emission testing within the Indoor Air Comfort USA Certification.
Testing shall be of a type and a frequency to be defined and documented by the manufacturer and appropriate to ensure consistent compliance with the Indoor Air Comfort USA requirements. Type of tests are depending on the type of product and shall be relevant for product emission properties like for example organic content (including VOC), thickness, density or viscosity. Tests shall be performed with suitable test equipment and suitable precision.
Test results shall be appropriately documented and traceable. It is recommended to make sure that those results are cleared by the FPC responsible.
The manufacturer shall have written procedures which specify how non-conforming products shall be dealt with. Any such events shall be recorded as they occur. The testing status of the product shall be identified by means which clearly indicate the conformity or non-conformity of the product with regards to the tests performed. The manufacturer shall ensure, that it is not possible to deliver non-conforming certified products.

6.8 Test Equipment / Calibration / FPC

Test equipment shall be calibrated and/or checked against equipment or standard materials traceable to relevant internationally or nationally recognized reference standards in accordance with a calibration plan. Calibration procedures shall be defined in the QM System including minimum frequencies of calibration. Precision of test equipment and calibration shall be suitable in relation to defined tolerances.

6.9 Traceability / Marking / Documentation

It is the manufacturer's, or the manufacturer's agent’s, responsibility to keep full records of individual products or product batches, including their related manufacturing details and characteristics and to keep records of to whom these products or batches were first sold. Best practice would be a traceability from batch of finished product back through production to batches of used raw materials.

The manufacturer shall ensure that only certified products are labelled with the Indoor Air Comfort USA logo.

7 Certification

The certification is the final step in the application procedure for the Indoor Air Comfort US label.

This final step consists of an evaluation of the available documents such as the test report of the laboratory and the inspection report. The certification report combines the inspection report and the analytical test report(s) of the tested sample(s). The certification report is an essential element of the certification of the product(s).

All emission test results are checked for compliance. Based on all available facts the final decision on granting a certificate is made.

If the emission test results are not in compliance with the required specifications, then a laboratory test report will be issued, but a certificate cannot be granted.

Validity of a certificate is 5 years from the date of issue if the regular re-inspection and re-testing (see point 9) do not show critical non-conformities.

8 Repetition of testing and inspections

To maintain certification, repetition of product emission testing and inspection of production facilities is required on an annual basis. In case of long time certified products and production sites, inspections and re-testing can be performed on a biannual basis. The scope of inspection and of retesting shall be the same as for the primary inspection.

If a product is no longer in compliance with the required specifications after the re-test, then this will be treated as a non-conformity. The Certification Body will define a period until this non-conformity needs to be solved including elimination of the emissive source and further re-testing.

9 Transfer of the Certification to a Private Label Customer

Companies manufacturing Indoor Air Comfort USA certified products have the possibility to transfer the Indoor Air Comfort USA Certification to their Private Label Customers. The product(s) sold to the Private Label Company must be identical to the Indoor Air Comfort USA certified product in its (their) composition and way of manufacturing. Both Private Label Company and the Original Manufacturer shall sign a declaration of consent and conformity. A separate certification contract is signed by the Private Label Company and Certification Body including scope and content of certification.

Private Label Indoor Air Comfort USA Certificates receive their exclusive numbering, thus assuring that a traceability to the Original Manufacturer is not possible by the market actors. Private Label Indoor Air Comfort USA Certificates need to be renewed yearly and have a validity of 14 months.

10 Use of the Label

After successful first certification, the Indoor Air Comfort USA label can be used by the customer as discrete label.

The use of the Indoor Air Comfort USA label is governed by a valid certification contract concluded between the applicant and Eurofins. The Indoor Air Comfort USA certification includes regular inspection of the production site(s) and annual testing of the certified products.

The applicant is authorized to:

- disclose the obtained certification in its business papers, homepages, social media and other ways of correspondence referring to certified products;
- use the Indoor Air Comfort USA label on the product label and packaging of certified products;
- use the Indoor Air Comfort USA label on delivery, technical and marketing documents of certified products.

The applicant shall:

- make sure that the Indoor Air Comfort USA label is only used when referring to certified products;
- avoid giving the impression that non-certified products are certified as well;
- not transfer the right to use the Indoor Air Comfort USA label to another legal entity of the same corporation, unless this is agreed with Eurofins;
- not transfer the right to use the Indoor Air Comfort USA label to a private label customer; in case this is needed, a separate contract between Eurofins and the private label customer would be mandatory;
- ask Eurofins in case of doubt how to use the Indoor Air Comfort USA label.

By default, Eurofins will provide a coloured Indoor Air Comfort USA label version in different file formats. A black and white version is available upon request.

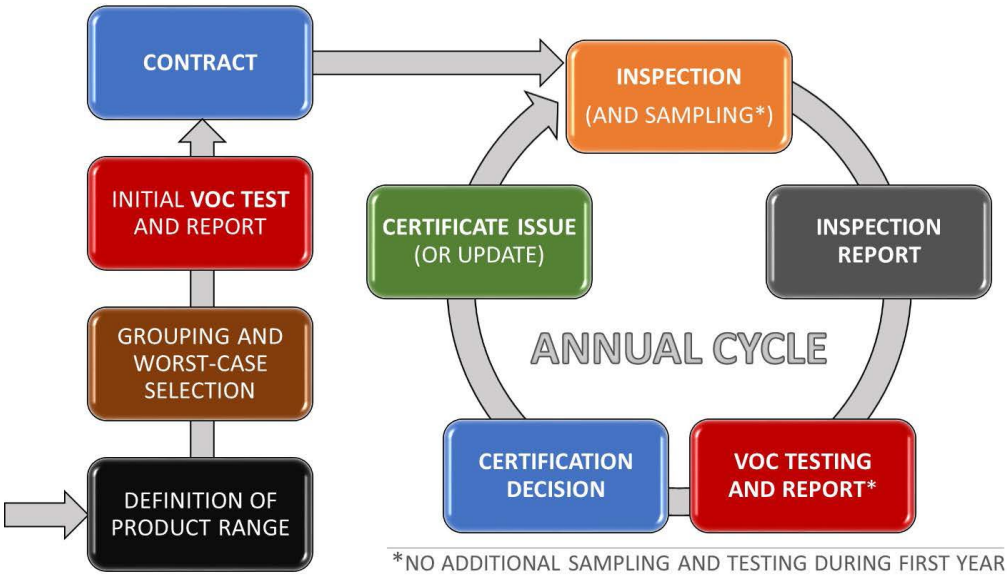
The applicant is entitled to use the Indoor Air Comfort USA label as mentioned above. The Indoor Air Comfort USA label shall:

- not be changed in terms of colour, shape, text or other appearance;
  only size can be adjusted if the proportions of the original label remain;

- have a legible font defining minimum size of the label;
- have an appropriate resolution with smooth and sharp lines and text;
- not be covered or partly covered by any other text or graphics.

11 Summary of the Procedure

- Definition of product range, grouping of products and selection of worst case product,
- Testing of worst case product in a ventilated test chamber,
- Reporting and evaluation of test results,
- Contract between manufacturer and certification body, including agreements on actions for maintaining low VOC emissions from labelled products, e.g. on details of production, factory production control, quality documentation,
- Initial inspection of relevant manufacturing site(s),
- Inspection report including the relevant documentation,
- Certification process, including evaluation of test and inspection reports, granting or denying the certificate according to the criteria,
- Periodic external inspections by Eurofins incl. survey of emission relevant elements of quality documentation,
- Periodic re-testing for ensuring reliability of claims on low emissions,
- Continuous monitoring and improvement of specifications, testing and inspection methodology.



12 Anti Bribery Policy

The position of Eurofins towards bribery is clearly described in the Eurofins Anti Bribery Policy:

“We are resolutely opposed to bribery and corruption regardless of its form.”

Eurofins is committed to conducting their business with honesty and integrity, and are therefore committed and adhere to a zero-tolerance approach towards any form of bribery and corruption.

The Eurofins Anti Bribery Policy in its current version is available under:

https://www.eurofins.com/about-us/corporate-sustainability/governance/eurofins-core-compliance-documents/

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