

# VOC product emission testing

**LEED® - Section 01350 - Blue Angel® - EMICODE®**

Manufacturers need VOC emission testing for showing low emissions of VOC (volatile organic compounds) from their products into indoor air. This is requested by more and more clients. Most times, voluntary ecolabels and similar are used in responding to market demand. Eurofins is the world-wide largest provider of VOC emission chamber testing, serving industries in Europe, USA, Asia and more regions of this world.

In Europe, there are some ten different emission schemes, differentiated by country or by industry. Most well known are Blue Angel, EMICODE, GUT and M1. As Eurofins is approved test house for most of these labels, a manufacturer can order one test covering all relevant such specifications. Eurofins operates the pan-European product certification labels "Indoor Air Comfort®" and "Indoor Air Comfort Gold®" that combine this harmonized test with an auditing and certification procedure for ensuring on-going low VOC emissions. For details please see our website or our special flyer.



LEED, the US originated rating system for sustainable buildings, is requested by more and more building planners in the USA, but also in Europe and in the Gulf region. Copies of that rating system can be found in Italy, in the Gulf region, in Australia, and in some Asian regions. Slightly different approaches are in use in Europe, such as DGNB, BREEAM and HQE. LEED

Motivation for having LEED certification of a building can be to increase asset value, or to achieve better sales price or better rental price with sustainability as additional argument, or to promote public perception of the company operating a LEED certified building, or to promote environment and health. Procedure is to collect points for proper consideration of environmental aspects (e.g. saving of energy and of resources, recyclability, indoor air quality and more).



(Leadership in Energy and Environmental Design) Green Building Rating System was developed and is administered by the non profit organization U.S. Green Building Council (USGBC).



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## Building owners and planners

Eurofins can make contact with LEED Professionals that help building owners and planners through LEED certification process.

## Product Manufacturers

Eurofins can help manufacturers to deliver appropriate documentation for showing compliance of their products with specifications of LEED, EMICODE, Blue Angel and other labels. The basic procedure for LEED is:

- Manufacturer supplies documentation on LEED relevant product properties to its client.
- Building planner presents all documentation (including material documentation) to USGBC or an approved certification body.
- There final acceptance is given and respective points are awarded within process of certification of the building project.

No product can be LEED approved. If a product carries the logo of USGBC then this indicates nothing more than that the manufacturer is member of U.S. Green Building Council.

Eurofins Product Testing A/S offers testing for showing compliance of a product with LEED specifications. The qualification as test lab has been demonstrated for the USA by the fact that Eurofins Product Testing A/S is approved by Scientific Certification Services (SCS) for BIFMA, FloorScore and "Section 1350" VOC emission testing. No testing laboratory can be LEED approved. If a laboratory (such as Eurofins) shows the logo of USGBC then this indicates nothing more than that the laboratory is member of U.S. Green Building Council.

## LEED Indoor Environment related product specifications

LEED indoor environmental quality related product specifications are split up in several chapters. Fulfillment of the respective specification allows earning one point each within the process of LEED certification of a building project. With respect to indoor air quality, LEED 2009 is expanding both the scope of involved materials and alternative ways of showing compliance.

Sometimes, earlier LEED versions still are in use, e.g. LEED 2007 for schools.

Below you will find a summary of the most essential requirements for impact of products on Indoor Environmental Quality (IEQ), as laid down in the criteria for Commercial Interior. Other applications may have different specifications.

### IEQ credit 4.1: Adhesives, sealants

### IEQ credit 4.2: Paints, coatings

VOC content determination shall not exceed certain limits (in g/l), e.g. 50 g/l for carpet adhesives. If this shall be tested, then Eurofins can perform parallel testing for European Decopaint Directive (cheaper than separate testing for LEED and for Decopaint).

Use of low emission paint or coating may allow earning additional points under the "Innovation" ID credit 1, because not only VOC content is controlled, but also VOC emissions into indoor air. EMICODE EC1 products should easily apply for that.

LEED in Italy has different specifications. Adhesives and sealants shall comply with EMICODE EC1 criteria. Paints and coatings shall comply with EU Decopaint Directive Phase 2 limit values.

### IEQ credit 4.3: Flooring systems

#### Carpet systems:

CRI Green Label Plus testing and product requirements shall be met or exceeded. Often, CRI certificate is used for that, but it is not required. Eurofins can deliver such VOC emission testing.

#### Other flooring:

Shall be FloorScore certified. Certification is performed by SCS in California with Eurofins as one of the approved testing labs.

Alternative path of showing compliance: Californian "Section 01350" testing and product requirements shall be met or exceeded. Eurofins offers such testing.

### IEQ credit 4.4: Component Wood and Laminate Adhesives

These shall contain no added urea-formaldehyde adhesive, no testing required. Alternative possibility, if such adhesive is contained, is to fulfill specifications of EQ credit 4.5.

### IEQ credit 4.5: Systems furniture and seating

Several pathways of compliance are possible. Compliance with ANSI/BIFMA X7.1/ M7.1 standard can be shown, either just by testing, or by certification by SCS or by NSF International. Eurofins offers such tests and is approved by SCS as testing lab within BIFMA certification. Alternative pathways: Either Greenguard Indoor Air Quality Certified, or an independent testing lab shows compliance with limit values for TVOC, formaldehyde, total aldehydes, 4-PCH.

### IEQ credit 4.6: Wall elements

(not in LEED for commercial interior, but in LEED for retail)

Californian "Section 01350" testing and product requirements shall be met or exceeded. Eurofins offers such testing

### ID credit 10.1: Innovative design or innovative materials

Use of low VOC emission product where LEED does not specify low VOC emission as EQ credit can allow earning additional points under the "Innovation" ID credit 1, because it is an advantage for environmental quality if VOC emissions into indoor air are controlled. Any low VOC emission rating scheme might be referenced and used. First candidate would be Californian "Section 01350" testing and product requirements. Eurofins offers such testing.

## LEED 2012

Next version of LEED specifications is expected in 2012. Eurofins follows tightly development of Indoor Environmental Quality related credits, with an expert contributing to US GBC Technical Advisory group "Indoor Environmental Quality".

## Using synergies

If a manufacturer needs VOC emission testing for markets on both sides of the Atlantic, then Eurofins can help saving money by combining all required testing into one test setup. This service is unique in this world. No single other testing laboratory is approved for VOC emission chamber testing both for US purposes and for most European labels such as Blue Angel, EMICODE and M1, combining this with a world-wide valid ISO 17025 accreditation.

[www.eurofins.com/leed](http://www.eurofins.com/leed)

## Testing laboratory:

### Eurofins Product Testing A/S

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