

EMICODE

A quality label for low emission adhesives and more construction products

Low emission products with the EMICODE EC1 label dominate the German market for flooring adhesives and have gained importance in several other countries in Europe, such as Austria and Italy. More and more products have been added to the EMICODE program over time.

See overleaf for the meaning of the term "low emission" in EMICODE context and more details.

The end user of solvent-free adhesives, primers, fillers, and sealants, low VOC parquet coatings, and other such products can obtain information from the EMICODE label whether long-term emissions can be expected. The label will also provide a guarantee that no carcinogenic compounds are released.

Assignment of EMICODE class is managed by the manufacturer in own responsibility. On application, the Association for the Control of Emissions in Products for Flooring Installation, Adhesives and Construction Products (GEV) will grant a license to use the EMICODE label on the basis of a chamber emissions test and will also control its correct use.

There are three emission classes:

- EMICODE EC 2
low emission
- EMICODE EC 1
very low emission
- EMICODE EC 1 PLUS
very low emission PLUS

An R behind the EC class indicates that the product requires special attention for occupational safety during application, or it releases very volatile organic compounds by reaction during binding.



Solvent-free adhesives, fillers and primers, as well as low VOC coatings, may release volatile organic compounds over a long period of time. Therefore the information on VOC content, as required for LEED (USA) and for European Decopaint Directive, does not tell you anything about intensity and duration of the emissions into indoor air. This applies to tests and calculations that are known as EPA method 24, SCAQMD rule 1113 or 1168, SCAQMD method 304, ASTM D2369, GS-11.

In the emission test, the product is applied to a glass plate which is placed in a test chamber made of stainless steel and flushed with very clean air. The chamber is adjusted to represent medium Mid-European conditions:

- 23°C
- 50 % relative humidity
- ½ air exchange per hour
- 0.4 m²/m³ sample in test chamber

The outlet air of the chamber is checked for emissions. After storage during 3 days and 28 days emissions are measured, then calculated to the "European Reference Room" (CEN TC 351) and evaluated against these classes:

EMICODE specifications for parquet coatings go for a pre-conditioning period of 3 days for initial drying before start of test, and then 3 + 28 days test duration with slightly different limit values.

Eurofins Product Testing A/S is the world-wide market leader for testing VOC emissions from products, experienced with such testing since more than 20 years.

µg/m ³ (upper values)	EC 1 PLUS	EC 1	EC 2
TVOC after 3 days	750	1000	3000
TVOC after 28 days	60	100	300
TSVOC after 28 days	40	50	100
R value based on German AgBB LCI (NIK) after 28 days	1	-	-
Sum of non-assessable VOC (without NIK or non identified)	40	-	-
Formaldehyde after 3 days	50	50	50
Acetaldehyde after 3 days	50	50	50
Sum of form- and acetaldehyde	0.05 ppm	0.05 ppm	0.05 ppm
Sum of C1/C2 VOCs after 3 days	10	10	10
Any C1/C2 VOC after 28 days	1	1	1

The test results of the Danish laboratory are accepted by the GEV (EMICODE) and many more labels world-wide.

Eurofins delivers more than 80% of all EMICODE tests to industry all over Europe. Eurofins is accepted by other labels and can provide combined testing in one run of e.g. EMICODE, M1 (Finland), AFSSET (France), French VOC regulation, and Section 1350 in California, thus saving

significant costs by comparison with the separate performance of these tests.

The analytical procedures used by Eurofins for emission testing are accredited by the Danish accreditation body DANAK according to ISO 17025. This accreditation is valid world-wide by mutual recognition system ILAC. A sophisticated QA system ensures highest reliability of test results.



<http://www.product-testing.eurofins.com/emicode-en.aspx>

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