

Honesty is the best Policy – The Illusion of Precision

Why the GEV refuses to specify individual test values

With regard to the emission behaviour of building materials, GEV recommends that manufacturers refer to the emission classes according to the EMICODE system and advertise their products accordingly. This enables consumers and architects to properly assess and compare the emission behaviour of products.

For emission measurements, the results – even in authorised laboratories – vary by 20 to 50%¹, but this in fact reflects the current state of the art. Measurement data stated without any indication of error limits or even giving details to several decimal places (e.g. 85.34 µg/m³) are therefore dubious and suggest an accuracy that does not exist.

The GEV has therefore introduced classes to assess the emission behaviour of construction products. These classes of measured values were defined in such a way that they include and ‘buffer’ the unavoidable uncertainty of measurement results. This means that these classes allow products with very low emissions to be reliably distinguished from products whose emissions are not quite as low – despite the measurement inaccuracy of individual results.

The declaration of individual measured values as product characteristics is completely nonsensical and misleading and members of GEV are therefore prohibited from doing so, as expressly stated in the Trademark Constitution!

Sometimes customers ask manufacturers for test certificates or precise test values on the emissions of their products. If systems for assessing the sustainability of buildings or products require the specification of test values (e.g. DGNB), GEV recommends the indication of the values of the EMICODE classification class under which a product falls.

Why are emission measurements on construction products subject to such variations?

1. The emission test consists of several individual steps, from sampling to analysis to interpretation, during which the individual divergences add up and influence the measurement result.
2. Products are becoming more and more low-emission. The measured individual emissions are thus increasingly approaching the absolute detection limits of analytical technology. However, the smaller the absolute measurement value, the larger the relative measurement error will be for that value.
3. If several substances are just above the limit of determination (LOD) of 5 µg/m³, they are included in the total emission value (TVOC). If these values are below the LOD in a second measurement, they are no longer registered. Thus, small measurement differences within the typical range of variation can lead to large differences in the results.
4. The storage and ageing of a product has an influence on its emission behaviour.

For these reasons, GEV rejects product claims stating individual emission values. Such an approach is not serious and misleads the consumer about the true situation.

¹ Source: GEV interlaboratory comparison 2018