

Appendix 3 to the Basic Award Criteria RAL UZ 195

COWI II test method for determining toluene emissions from printed matter:

The sample is taken at room temperature using a 5 litre glass container with a leak-tight rubber stopper. Toluene is stripped out and collected on activated carbon. The activated carbon is then tested using gas chromatography with FID. The result is given in "mg toluene/kg of sample".

Materials and equipment:

- Test container (5 litre glass container)
 - Rubber stopper with two gas inlets
 - Pump for a low flow rate (1.5 litres/minute)
 - Activated carbon vials
 - Prepurified ambient air
 - Carbon disulfide, analysis quality
 - Gas chromatograph with FID
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1. Add the sample – ¼ of a brochure corresponding to 10-50 grammes – to the test container and attach the rubber stopper. Handle the sample quickly and carefully in order to minimise the evaporation of the toluene when preparing the sample.
 2. Attach the activated carbon vials to preliminarily clean the ambient air at the inlet.
 3. Connect the pump and another activated carbon vial to the outlet from the container.
 4. Channel preheated ambient air at a temperature of 23°C through the container at a volumetric flow rate of 1.5 l/min for a period of 60 minutes.
 5. Desorb the toluene from the activated carbon vials by adding 1.5 ml of carbon disulfide and shaking for 30 minutes.
 6. Analyse the extract using gas chromatography with FID.

The results are given in milligrams of toluene per kilogram of paper.

Typical measurement uncertainty: 5-10% (standard deviation)

Determination limit: 0.2 mg/kg