

Workshop „Voluntary labelling systems for emissions from building materials“

CONTROLLING EMISSIONS FROM BUILDING MATERIALS IN GERMANY

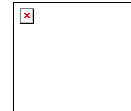
Federal and regional regulation and the role of voluntary labelling systems.

Helsinki, Finland June 16th, 2008

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Federal Environment Agency



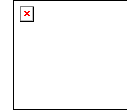
Outline of the presentation



- Assignment to consider health aspects from the Construction Products Directive (CPD)
- Implementation in building law: the German model building code for the 16 federal states
- AgBB assessment concept as an implementation tool for the building code
- Expectations for European harmonisation under the CPD / the future Construction Products Regulation
- AgBB criteria in the Blue Angel labelling

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CPD Essential Requirement No. 3 “Hygiene, health and the environment”

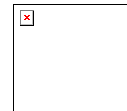


„The construction work must be designed and built in such a way that it will not be a threat to the hygiene or health of the occupants or neighbours, in particular as a result of any of the following:

- the giving-off of toxic gas,
- the presence of dangerous particles or gases in the air,
- the emission of dangerous radiation,
- pollution or poisoning of the water or soil,
- faulty elimination of waste water, smoke, solid or liquid wastes,
- the presence of damp in parts of the works or on surfaces within the works.“

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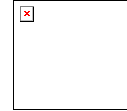
Performance approach in the CPD



- Before the CPD the DIN standards for building products followed a descriptive approach
- emission tests compatible with the performance approach
- AgBB criteria a welcome tool for building regulators: reliable health-related criteria applicable to all building products
- Health protection without arbitrary discrimination or disguised restriction of trade (Article 30 of the EC Treaty)

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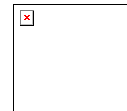
Implementation of the CPD in Germany: the Model Building Code



- “Works shall be arranged, erected, modified and maintained in such a way that public safety and order, in particular human life, **health** and natural resources, are not endangered.”
- “Construction products and designs may only be used, if the works they are built into, will satisfy the requirements laid down in or given on the basis of this Act.”
- AgBB criteria since 2005 linked to the Model Building Code: minimum requirements of the Building Code with regard to health protection in respect of VOC emissions in building interiors.
- Introduced and notified officially as part of the “Principles for the health assessment of construction products used in interiors” of the DIBt (Deutsches Institut für Bautechnik)

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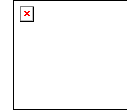
“Principles for the health assessment of construction products used in interiors” (1)



- Today applied mainly for elastic, textile and laminate floor coverings according to hEN 14041.
- Before new product groups are tested: product specific precisions necessary
- Capacity for new product groups limited
- Product groups considered for the future:
 - wood and parquet flooring,
 - floors for sport halls,
 - screed material and floor screeds,
 - coating materials and adhesives for floorings,
 - wall and ceiling finishes,
 - products for internal plastering based on organic polymer binders.

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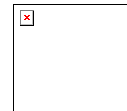
“Principles for the health assessment of construction products used in interiors” (2)



- general requirements applied to all products under national technical approval
 - exclusion criteria for e.g. carcinogenic substances
 - no emission tests
- Information on changes in the application area: Amendments of the List of Building Regulations
 - notified twice a year
 - requirements for European standards: List B, Part 1 and for European Technical Approvals: List B, Part 2
- Current situation envisaged as an interim solution → in future requirements directly in hEN and ETAs
- Classes expected for declaration of VOC emissions in the CE marking: similar to E1 and E2 for formaldehyde today
 - For example for Germany class “VOC 1” and for UK the option “NPD” (no performance determined)

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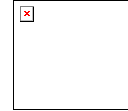
Towards declaration of VOC in CE marking: European activities



- CEN/TC 351: adjustment of the VOC test standard → validated test standard in two to three years
- VOC tests to be used bindingly in product standards first after the European Commission has added VOC into the standardisation mandates for products
- Commission’s expert group on dangerous substances (EGDS) prepares the mandate amendments
- Basis of amendments: notified regulations
- Similar requirements as in the German Building Code notified for example from Austria, Denmark, Finland and Sweden
- Regulatory product assessment system so far only in Germany
- Link between building level requirements and product requirements to be established → solution necessary for the future

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Proposal for a EU construction products regulation (CPR): VOC addressed

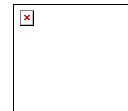


The construction works must be designed and built in such a way that they will not be a threat neither to the hygiene nor health of the occupants and neighbours, nor exert an exceedingly high impact over their entire life cycle to the environmental quality nor to the climate, during their construction, use and demolition, in particular as a result of any of the following:

- the giving-off of toxic gas;
- the emissions of dangerous substances, **volatile organic compounds (VOC)**, greenhouse gases or dangerous particles into indoor or out door air;
- the emission of dangerous radiation;
- the release of dangerous substances into drinking water, ground water, marine waters or soil;
- faulty discharge of waste water, emission of flue gases or faulty disposal of solid or liquid wastes;
- the presence of dampness in parts of the works or on surfaces within the works.

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Blue Angel – short Introduction



First eco-labelling scheme for products and services related to environmental and consumer protection in the world – 1978

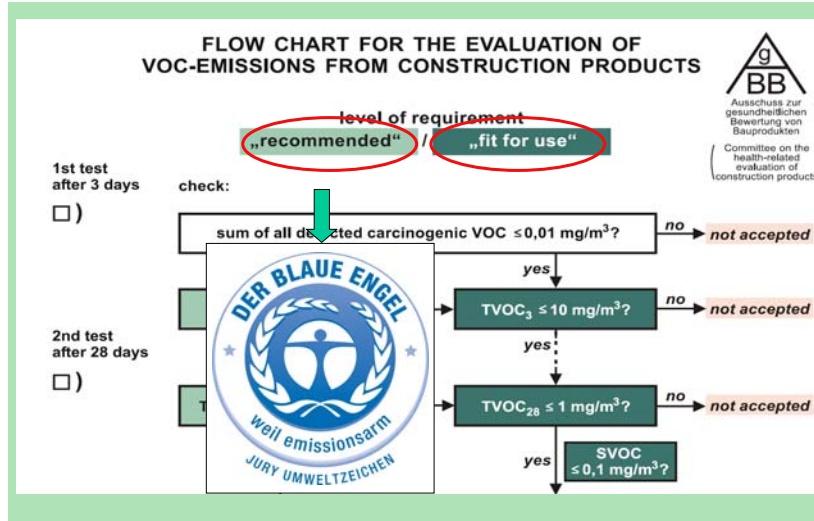
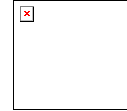
The Logo – a female figure with her arms spread – was adopted from the UNEP

← Main environmental characteristic of the labeled product

← Reference to the independent Eco-labelling Board

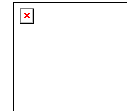
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First Version of the AgBB-Scheme 2001



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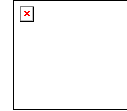
Blue Angel “Healthy Home“



RAL-UZ 12 a	Paints and Varnishes	Formulation Testing
RAL-UZ 38	Wood Products and Wood-based Products (furniture, panels, laminate floorings, parquet, linoleum)	Chamber Tests similar to AgBB, TVOC, SVOC, CMT
RAL-UZ 76	Wood-based Products	Chamber Tests
RAL-UZ 102	Wall Paints	In-Can Measurement
RAL-UZ 113	Floor-covering adhesives and other installation materials	AgBB
RAL-UZ 117	Upholstered Furniture	AgBB
RAL-UZ 119	Flexible Floor-covering	AgBB
RAL-UZ 120	Mattresses	AgBB
RAL-UZ 123	Sealants	AgBB

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Requirements for floor-covering adhesives

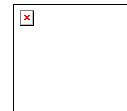


Substances	Day 3 in the test chamber		Day 28 in the test chamber	
	Blue Angel	AgBB scheme	Blue Angel ²	AgBB scheme
TVOC (C ₆ – C ₁₆)	≤ 1 mg/m ³	≤ 10 mg/m ³	≤ 0.1 mg/m ³	≤ 1.0 mg/m ³
TSVOC (>C ₁₆ – C ₂₂)	N/A	N/A	≤ 0.05 mg/m ³	≤ 0.1 mg/m ³
Carcinogens	≤ 0.01 mg/m ³ sum	≤ 0.01 mg/m ³ sum	≤ 0.001 mg/m ³ per indiv. value	≤ 0.001 mg/m ³ sum
Sum VOC without LCI (NIK)	N/A	N/A	≤ 0.04 mg/m ³	≤ 0.1 mg/m ³
R value	N/A	N/A	≤ 1	≤ 1

*The applicant shall submit test report according to BAM -Test Method, based on DIN EN ISO 16000-9 and DIN EN ISO 16000-10.
The area-specific air flow rate is q = 1.25 m³/m²h.*

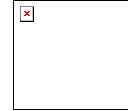
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Summary and conclusions



- Both regulatory and voluntary efforts to promote reliable information on VOC emissions needed
- Expectation from the harmonisation work under CPD: VOC covered in CE marking for building products for interiors
- Voluntary labels: more ambitious criteria possible
- Regulatory and voluntary approaches can complement and support each other
- One harmonised test should enable the assessment of both regulatory and voluntary criteria
- All EU member states can influence the harmonised test methods for the CPD/CPR through notified regulations

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Thank you for your attention!

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[http://www.umweltbundesamt.de/
building-products/index.htm](http://www.umweltbundesamt.de/building-products/index.htm)

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