BLUE ANGEL

The German Ecolabel

Low-Emission Floor Coverings, Panels and Doors for Interiors made of Wood and Wood-Based Materials

DE-UZ 176

Basic Award Criteria

Edition January 2013

Version 4

The Environmental Label is supported by the following four institutions:

Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is the owner of the label. It regularly provides information on the decisions taken by the Environmental Label Jury.

Umwelt Bundesamt

The German Environmental Agency with its specialist department for "Ecodesign, Eco-Labelling and Environmentally friendly Procurement" acts as office of the Environmental Label Jury and develops the technical criteria of the Basic Criteria for Award of the Blue Angel.

Jury Umweltzeichen

The Environmental Label Jury is the independent, decision-making body for the Blue Angel and includes representatives from environmental and consumer associations, trade unions, industry, the trade, crafts, local authorities, academia, the media, churches, young people and the German federal states.

RAL gGmbH

The RAL gGmbH is the awarding body for the Environmental Label. It organises the process for developing the relevant award criteria in independent expert hearings – which involve all relevant interest groups.

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This document is a translation of a German original. In case of dispute, the original document should be taken as authoritative.

1 Introduction

1.1 Preface

In cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the German Environmental Agency and considering the results of the expert hearings conducted by RAL gGmbH, the Environmental Label Jury has set up these Basic Criteria for the Award of the Environmental Label. RAL gGmbH has been tasked with awarding the Environmental Label.
Upon application to RAL gGmbH and on the basis of a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH, the permission to use the Environmental Label may be granted to all products, provided that they comply with the requirements as specified hereinafter.
The product must comply with all the legal requirements in the country in which it is to be marketed. The applicant shall declare that the product meets this requirement.

1.2 Background

Floor Coverings, panels and interior door elements can have environmental impact throughout their entire life cycle. That is why the requirements for the Blue Angel eco-label cover not only the materials used in the production but also the period of use, the disposal as well as the packaging for product transportation.
And added to that, floor coverings and panels are designed to cover large interior areas and one or more interior doors are installed which is why the lowest possible emissions from these products will be of great benefit to the user from a health and environmental perspective. Here, the Blue Angel eco-label lends itself as a useful tool for labelling low-emission products. Also, a professional installation and, in the case of floor coverings, the use of low-emission adhesives and base coats (e.g. according to DE-UZ 113) play an important role in the protection of environment and health.

For evaluating the emissions from floor coverings, panels and interior door elements made of wood and wood-based materials the concept of these Basic Criteria has been developed along the lines of the evaluation scheme established by the "Ausschuss zur gesundheitlichen Bewertung von Bauprodukten" (Committee for Health-Related Evaluation of Building Products) - a federal and länder expert committee representing German environmental and health authorities.

Since emissions are often accompanied by odours which can also cause health problems the odour test is an important element in evaluating the individual products designed for interior use. The DIN ISO 16000-28 standard „Indoor Air - Determination of odour emissions from building products using test chambers" of March 2012 offers a measurement method. This standard describes the measurement of odours from building products in parallel with the measurements of volatile organic compounds (VOC) in test chambers. In the years to come, the standard will have to prove its worth to building products. With a view to such proving, low odour requirements and appropriate compliance verifications are expected to be included into the next version of these Basic Criteria. The present Basic Criteria recommend manufacturers to have odour tests carried out voluntarily.

1.3 Objectives of the Environmental Label

The Blue Angel eco-label for floor coverings, panels and interior door elements may be awarded to products primarily made of the renewable resource wood which - beyond the scope of the legal provisions -

- are manufactured in an environmentally friendly manner (this especially applies to coatings),
- from the health point of view have no negative impact on the living environment and
- do not contain any hazardous substances that may well impede recycling.

The Blue Angel eco-label promotes the use of wood from sustainable forestry and low-emission wood-based materials.

Therefore, following benefits for the environment and health are stated in the explanatory box:

2 Scope

These Basic Criteria apply to ready-to-use interior floor coverings with building authority approval as well as to panels and interior door elements. The products shall consist predominantly, i.e. by more than 60 percent by volume, of wood and/or wood-based materials (chipboards, coreboards, fibreboards, veneer-faced boards, each non-coated or coated).
The following floor coverings in particular may be awarded the Blue Angel eco-label:

- Parquets (multi-layer parquets, veneer floorings, painted surface floorings)
- Laminates
- Linoleum, cork and other materials on wood-based substrates.

These Basic Criteria do not apply to floor coverings made of plastic, rubber, linoleum and cork. These materials fall within the scope of the Basic Criteria DE-UZ 120 „Resilient Floor Coverings".

The Environmental Label Jury may include additional ready-to-use products made of wood and wood-based materials at the suggestion of the German Umweltbundesamt (Federal Environmental Agency).

Compliance Verification

The manufacturers of floor coverings shall submit the official notification of building authority approval.

3 Requirements

The Blue Angel eco-label shown on page 1 may be used for the labelling of products under paragraph 2, provided that they meet the requirements set forth hereinafter:

3.1 Manufacture

3.1.1 Requirements for the Wood

3.1.1.1 Origin of the Wood

It shall be ensured that all processed wood comes from legal sources. Moreover, at least 50 percent of the wood or 50 percent of the primary raw materials for wood-based materials shall be sourced from sustainable forests which are managed in a verifiably economically viable, environmentally sound and socially responsible way.

Compliance Verification

The applicant shall declare compliance with the legal source requirement according to Regulation (EU) 995/2010[1].
Compliance with the requirement for using wood from sustainable forestry can be verified in the following ways:

- *If the applicant itself is certified according to the FSC or PEFC criteria for a chain of custody (CoC) the applicant shall present the relevant certificate. In such case no further evidence will be required.*
- *If the applicant is not certified the applicant shall submit appropriate certificates of its raw material supplier. RAL accepts certificates from the Forest Stewardship Council (FSC) and PEFC (Programme for the Endorsement of Forest Certification Schemes) certifying sustainable forestry and a chain of custody (CoC). The applicant shall submit a record of the wood used specifying the percentage of certified wood used (Annex 2 to the Contract pursuant to DE-UZ 176).*
- *The applicant shall submit other appropriate compliance verifications according to Appendix A (Annex 3 to the Contract pursuant to DE-UZ 176). The appendix may be extended at the request of and after review by the German Umweltbundesamt (Federal Environmental Agency). The applicant shall submit a record of the wood used specifying the percentage of certified wood used (Annex 2 to the Contract pursuant to DE-UZ 176).*

3.1.1.2 Formaldehyde in Wood-Based Materials

Products under paragraph 2 may be manufactured using DE-UZ 76-ecolabelled wood-based materials. If the wood-based materials used have not been awarded the DE-UZ 76 Blue Angel eco-label they shall not exceed in their raw state, i.e. prior to machining or coating, a formaldehyde steady state concentration of 0.1 ppm in the test chamber.

Compliance Verification

For DE-UZ 76 eco-labelled wood-based materials, the applicant shall indicate manufacturer and product designation. For not-yet DE-UZ 76-ecolabelled wood-based materials, the applicant shall present a test report according to the test method for wood-based materials[2].

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[1] OJ L 295, of 12 November 2010

3.1.2 General Substance Requirements for Coating Systems

Coating systems are usually applied to the products under paragraph 2 to protect and design the product surfaces. Such coating systems include, for example, stains, primers, clear varnishes, topcoats, foils, decorative papers, adhesives.

The coating systems shall not contain as constituent elements (i.e. substances that remain in the final product where they perform a certain function) any substances[3] classified as:

a) carcinogenic in categories 1 or 2 according to Table 3.2 or categories 1A and 1B according to Table 3.1 of Annex VI to Regulation (EC) No1272/2008[4]
b) mutagenic in categories 1 or 2 according to Table 3.2 or categories 1A and 1B according to Table 3.1 of Annex VI to Regulation (EC) No1272/2008
c) reprotoxic in categories 1 or 2 according to Table 3.2 or categories 1A and 1B according to Table 3.1 of Annex VI to Regulation (EC) No1272/2008
d) being of very high concern for other reasons and which have been included in the list (so-called candidate list[5]) set up in accordance with REACH, Article 59, paragraph 1.

The following shall be exempt from these rules:

- Process-related, technically unavoidable impurities falling below the classification thresholds for mixtures.
- Monomers or additives which turn into polymers during the manufacture of plastics or are chemically (covalently) bound to the plastic if their residual concentrations are below the classification thresholds for mixtures.

Compliance Verification

The applicant shall verify compliance with the requirements by submitting a declaration from the coating materials manufacturer (Annex 4 to the Contract pursuant to DE-UZ 176) as well as the Technical Data Sheets and Material Safety Data Sheets.

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2 Test Method for Wood-Based Materials, Federal Health Bulletin 10/91 p. 488-489. Compliance can also be verified by submitting a test certificate confirming the classification as E1 materials.

3 Formaldehyde shall be exempt from these general requirements. These Basic Criteria list specific requirements to be met by this substance.

4 Regulation (EC) No1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No1907/2006, Annex VI Harmonized classification and labelling for certain hazardous substances, Part 3: Harmonized classification and labelling. (short: GHS Regulation). http://www.reach-info.de/ghs_verordnung.htm, as amended.
The GHS Regulation (Global Harmonization System), that has come into force on January 20, 2009, replaces the old Directives 67/548/EEC and 1999/45/EC. According to the said regulation, substances are classified, labelled and packed until December 1, 2010 according to Directive 67/548/EEC (Dangerous Substances Directive) while mixtures are classified, labelled and packed until June 1, 2015 according to Directive 1999/45/EC (Dangerous Preparations Directive). Notwithstanding this, substances and preparations may be classified, labelled and packed according to the provisions of the GHS Regulation already before December 1, 2010 or June 1, 2015, respectively. In such case, the provisions of Dangerous Substances Directive or Dangerous Preparations Directive shall not be applicable.

5 Link to the Candidate List of Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH):
http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

3.1.3 Emissions from the Coating Systems

Operators of installations for the coating of products under para. 2 shall limit the emissions of volatile organic compounds in accordance with the requirements of the 31st Bundesimmissionsschutzverordnung (BImSchV) (Federal Immission Control Ordinance)[6] (Solvent or VOC Ordinance) or the European VOC Directive[7] by using low-emission coating systems or exhaust gas purification systems.

Compliance Verification:

The applicant shall declare compliance with the requirements in Annex 1 to the Contract pursuant to DE-UZ 176.

3.2 Use

3.2.1 Indoor Air Quality

The products under para. 2 shall not exceed the emission values listed in Table 1 measured in the test chamber in accordance with Part II of the "Grundsätze des DIBt zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen" (DIBt Principles for health assessment of building products used in interiors) based on the „health risk assessment process for emissions of volatile organic compounds (VOC and SVOC) from building products" developed by the Ausschuss zur gesundheitlichen Bewertung von Bauprodukten (AgBB) (Committee for Health-Related Evaluation of Building Products)[8] . Ammonia-treated wood shall undergo an additional test.

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[6] 31st Ordinance on the Implementation of the Federal Immission Control Act (Ordinance on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain installations) of August 21, 2001 (Federal Law Gazette I p. 2180), last amended by Article 2 of the Ordinance of 20 December 2010 (Federal Law Gazette I p. 2194), as amended.

[7] Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations, as amended.

[8] AgBB-Bewertungsschema (Evaluation Scheme of the Committee for Health-related Evaluation of Building Products) May 2010. Published on the homepage of the German Umweltbundesamt (Federal Environmental Agency): http://www.umweltbundesamt.de/produkte/bauprodukte/dokumente/AgBB-Bewertungsschema_2010.pdf, as amended.

Table 1: Emission Requirements

Compound or Substance	3rd Day	Final Value[9] (28th day)
Total organic compounds within the retention range of C_6 to C_{16} (TVOC)	< 3 mg/m³	< 0.3 mg/m³
Total organic compounds within the retention range of > C_{16} to C_{22} (TSVOC)	-	< 0.1 mg/m³
Carcinogenic substances[10]	< 10 µg/m³ **total**	< 1 µg/m³ **per single value**
Total VOC without LCI[11]	-	< 0.1 mg/m³
R value[12]	-	< 1
Formaldehyde	-	< 0.05 ppm
Ammonia[13]		0.1 mg/m³

The test may be stopped from day 7 after loading if the required final values of day 28 are reached prematurely and if, compared with the measurement of day 3, no rise has been observed in the concentration of any of the detected substances.

Compliance Verification

The applicant shall submit a test report according to Part II of the "Grundsätze des DIBt zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen" (DIBt Principles for health assessment of building products used in interiors)[14] based on DIN EN ISO 16000-9[15] confirming compliance with this requirement. The test report shall be prepared by a testing laboratory accredited for this test by BAM. (Appendix B to the Basic Criteria DE-UZ 38).

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[9] The following area-specific air-flow rate **q** shall be used: a) foor coverings: q = 1.25 m³/(m²h), b) panels q = 0.5 m³/(m²h), c) doors q = 2.0 m³/(m²h).

[10] Substances classified according to para., No. 3.1.2a).

[11] LCI = Lowest Concentration of Interest; cf. AgBB evaluation scheme (footnote 7)

[12] R = total of all quotients (C_i / LCI_i) < 1 (where C_i = substance concentration in the chamber air, LCI_i = LCI value of the substance), cf. AgBB evaluation scheme (footnote 15)

[13] An ammonia measurement shall only be required for wood that has been treated with ammonia. The final value required for ammonia corresponds to the odour threshold.

[14] DIBt (Deutsches Institut für Bautechnik – German Institute for Building Technology, Grundsätze zur gesundheitlichen Bewertung von Bauprodukten in Innenräumen (Principles for health assessment of building products used in interiors) Teil II: Bewertungskonzepte für Spezielle Bauprodukte (Part II: Evaluation Concept for Special Building Products), as of October 2008, www.dibt.de/de/data/Aktuelles_Ref_II_4_6.pdf, as amended.

[15] DIN EN ISO 16000 – Indoor Air – Part 9: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test chamber method, 04/2008, as amended.

3.2.2 Odour Test (optional)

The measurement of the likewise significant odour properties/emissions is recommended for the entire term of these Basic Criteria (see para. 1.2). For guidance on evaluating the measurement results, reference is made to the research report "UBA Texts 35/2011"[16].

Compliance Verification

If applicable, the applicant shall submit a test report according to DIN ISO 16000-28.

3.2.3 Packaging

Where practicable, the products under para. 2 shall be packed for sale so as to allow post-manufacture outgassing of volatile elements.

Compliance Verification

The applicant shall submit a description of the packaging system and declare that the packaging system is so designed as to allow the outgassing of volatile components or give the reason why such packaging cannot be used.

3.2.4 Serviceability

The products under paragraph 2 shall meet the usual quality requirements for serviceability. The product shall meet the serviceability requirements of the relevant product standards and rules.
Interior door elements shall meet the requirements of RAL-GZ 426.

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1 to the Contract pursuant to DE-UZ 176.

3.3 Recycling and Disposal

3.3.1 Halogens

With a view to future recycling and disposal, no halogenated organic compounds may be used (e.g. as binders, flame retardants) in the manufacture of the products, including the materials used in the manufacture (wood-based materials, adhesives, coatings etc.).

Compliance Verification

The applicant shall declare compliance with the requirement in Annex 1 to the Contract pursuant to DE-UZ 176.

[16] „Sensorische Bewertung der Emissionen aus Bauprodukten – Integration in die Vergabegrundlagen für den Blauen Engel und das AgBB-Schema" (Sensory evaluation of emissions from building products – Integration into the Basic Criteria for the Blue Angel eco-label and the evaluation scheme of the Committee for Health-related Evaluation of Building Products), Project No. 37 07 62 300; http://www.umweltbundesamt.de/produkte/bauprodukte/schadstoffe-gerueche.htm

3.3.2 Flame Retardants

The following flame retardants may be used, if any: inorganic ammonium phosphates (diammonium phosphate, ammonium polyphosphate etc.), other dehydrating minerals (aluminium hydroxide or the like), or expandable graphite.

Compliance Verification

The applicant shall declare compliance with the requirement in Annex 1 to the Contract pursuant to DE-UZ 176.

3.3.3 Biocides

The use of biocides shall not be permitted. Biocides exclusively used for in-can preservation in aqueous coating materials and glues or flame retardants according to para. 3.3.2 shall be exempt from this requirement.

Compliance Verification

The applicant shall declare compliance with the requirement in Annex 1 to the Contract pursuant to DE-UZ 176.

3.4 Declaration and Consumer Information

The declaration on laminate floor coverings and/or their packagings shall meet the requirement of DIN EN 685[17]. Besides, the individual floor coverings shall meet the relevant product standards.
The declaration shall include, among other things:

- Identification of manufacturer or supplier company,
- Product name and material (indication of type and origin of the predominantly used wood according to para. 3.1.1 and indication of the other materials (content: > 3 weight percent),
- Colour/model and lot number, if applicable,
- Wear class (applies to laminate only),
- Tile dimensions as well as the area in square meters contained in one pack (does not apply to doors).

The product shall be accompanied by a short version of the following instructions and recommendations. Such information shall include a note about how the customer may obtain a more detailed version (e.g. upon request to the manufacturer, reference to the manufacturer's website).

- Installation instructions and recommendations for the use of low-emission adhesives, surfacers and fillers (for example, according to DE-UZ 113) as well as primers (for example, according to DE-UZ 12a) the use of which will not increase the indoor air concentration of pollutants by releasing formaldehyde and solvents etc. (only applies to floor coverings which are also designed for being glued),
- Cleaning and care instructions,
- Disposal instructions (e.g. return and recycling options),

[17] DIN EN 685 Resilient, textile and laminate floor coverings - Classification, 11/2007, as amended.

- Instructions for disassembly for moving and future material recycling (does not apply to doors),
- Information on the serviceability (fields of application and material test results, if applicable).

Compliance Verification

The applicant shall declare compliance with the requirement in Annex 1 to the Contract pursuant to DE-UZ 176 and submit the relevant product information (e.g. Technical Data Sheet).

3.5 Advertising Messages

- Advertising messages shall not include any notes such as „no negative impact on the living environment" or those which would play down risks in terms of Article 23, para. 4 of Directive 67/548/EEC, as, for example, „non-toxic", „non-hazardous to health, free of …).
- Product designations including elements or designations, such as „organic" „eco" or the like, shall not be admissible.

Compliance Verification

The applicant shall declare compliance with the requirement in Annex 1 to the Contract pursuant to DE-UZ 176.

4 Applicants and Parties Involved

Manufacturers of final products according to Paragraph 2 shall be eligible for application.

Parties involved in the award process are:
- RAL gGmbH to award the Blue Angel Environmental Label,
- the federal state being home to the applicant's production site,
- Umweltbundesamt (German Environmental Agency) which after the signing of the contract receives all data and documents submitted in applications for the Blue Angel in order to be able to further develop the Basic Award Criteria.

5 Use of the Environmental Label

The use of the Environmental Label by the applicant is governed by a contract on the use of the Environmental Label concluded with RAL gGmbH.

Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the Environmental Label.

Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until December 31, 2021. They shall be extended by periods of one year each, unless terminated in writing by March 31, 2021 or March 31 of the respective year of extension.
After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

The applicant (manufacturer) shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organisations.

The Contract on the Use of the Environmental Label shall specify:

- Applicant (manufacturer)
- Brand/trade name, product description
- Distributor (label user), i.e. the above-mentioned marketing organisations.

Appendix A Wood Certification

1) Record of the wood used

Type of wood-based material[18]	Type of wood	Country/Region of origin of the wood	Volume	Sourced from certified sustainable forestry?	Verification of controlled wood[19]
			m³	☐ yes: % ☐ no *Certificate No:*	Annex No:
			m³	☐ yes: % ☐ no *Certificate No:*	Annex No:
			m³	☐ yes: % ☐ no *Certificate No:*	Annex No:
			m³	☐ yes: % ☐ no *Certificate No:*	Annex No:
			m³	☐ yes: % ☐ no *Certificate No:*	Annex No:
			m³	☐ yes: % ☐ no *Certificate No:*	Annex No:

[18] Solid-wood board, coreboard, oriented strand board (OSB), chipboard …
[19] Other compliance verification if no certificate available

2) Risk Assessment

Date	
Type of Wood	
Country and region of origin	
Name, address of the FSC and/or PEFC accredited certification body	

Annex No:

Category	Indicators	Sources of Information[20]	Justification	Risk Classification Indicator[21]	Risk Classification Category[22]
1. Forest regions where traditional or civil rights are violated[23]	UN Security Council ban on timber exports			please classify	please classify
	Trade in conflict timber			please classify	
	Child labour or violation of ILO Fundamental Principles			please classify	
	There are processes in place to recognise and respect the legal and customary rights of indigenous groups pertaining to ownership, use and management of land, territories and resources.			please classify	
	Suspected violation of ILO Convention 169 on indigenous peoples.			please classify	
2. High conservation value forests[24][25]	Threat to high conservation value forests by forestry activities.			please classify	please classify
	A system of protection is in place to ensure the survival of the high conservation value.			please classify	

[20] For examples, please see FSC Standard FSC-STD-40-005

[21] „Unspecified risk" is to be entered if no reliable information is available. In such case it shall be evidenced otherwise, if possible, that an indicator may be classified as „low risk".

[22] A category is to be classified as „unspecified risk" or „high risk" if at least one indicator has been classified „unspecified risk" or „high risk".

[23] All indicators must be classified as „low risk" in order to be able to classify the category as „low risk".

[24] Forests which as rare ecosystems have significant nature conservation value or serve as habitats for particularly rare species of plants or animals.

[25] One of the two indicators mentioned must be classified as low risk in order to be able to classify the category as low risk.

Category	Indicators	Sources of Information[20]	Justification	Risk Classification Indicator[21]	Risk Classification Category[22]
3. Natural forests converted to plantations or non-forest uses.	Net loss and significant rate of loss (> 0.5 %/year) of natural forests			please classify	please classify
4. Use of genetically modified trees (GMO)[26]	Commercial use of genetically modified trees in the country of origin.			please classify	please classify
	Licenses are required for the commercial use of genetically modified trees and there are no licenses for commercial use available.			please classify	
	The commercial use of genetically modified trees in the country of origin is prohibited.			please classify	

Certified:

Date / Signature of Certifying Person

[26] One of the three indicators mentioned must be classified as low risk in order to be able to classify the category as low risk.