

Basic Criteria for Award of the Environmental Label

Low-Emission Upholstered Furniture

RAL-UZ 117



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RAL gGmbH

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Specimen Contract

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Check List

1 Introduction

1.1 In co-operation with the Federal Minister for the Environment, Nature Conservation and Nuclear Safety, the Federal Environmental Agency and considering the results of expert hearings conducted by RAL gGmbH the Environmental Label Jury has set up these Basic Criteria for Award of the Environmental Label. RAL gGmbH, has been entrusted with the award of 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 for all products, provided that they comply with the requirements as specified hereinafter.

1.2 Upholstered furniture may cause environmental problems during their manufacture, use and disposal. That is why the requirements for award of the eco-label refer to the overall life of upholstered furniture. They refer to the manufacture of the products and the materials used during the manufacturing process, the period of actual use as well as to the disposal of used upholstered furniture and the packaging material used for the transportation of new furniture.

The Environmental Label for Upholstered Furniture may be awarded to furniture which - beyond the legal provisions -

- distinguishes itself by an environmentally compatible manufacture - this particularly applies to leather, textiles and upholstery materials,
- from the health point of view does not have an adverse impact on the living environment,
- does not contain any hazardous substances that might well impede recycling.

The use of timber from sustainable forestry and low-emission wood-based material will be supported.

2 Scope

These Basic Criteria apply to ready-to-use indoor upholstered furniture according to DIN 68880, which are not mainly - i.e. for more than 50 percent by volume - made from wood and/or wood-based materials (chipboards, coreboards, fibreboards, veneer-faced panels, each non-coated or coated) and consequently are to be allocated to the RAL-UZ 38 Environmental Label for „Low-emission wood products and wood-base products“.

3 Requirements

The Environmental Label shown on page 1 may be used for the marking of products under para. 2, provided that they comply with the following requirements:

3.1 Manufacture

3.1.1 Origin of the Wood

Solid wood, laminated wood, veneer and the wood used for the production of plywood shall not be taken from primeval forests (boreal and tropical primary forests). When buying timber the applicant undertakes to take wood from sustainable forestry into consideration.

Compliance Verification

The applicant indicates type and geographic origin of the timber used or presents certificates according to the FSC Criteria or equivalent certification systems (FSC = Forest Stewardship Council).

3.1.2 Formaldehyde in Wood-Based Materials

Wood-based materials marked with the RAL-UZ 76 Environmental Label may be used for the production of products under para. 2. Wood-based materials not marked with the Environmental Label according to RAL-UZ 76 must 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

The applicant shall name the manufacturer and the product name of wood-based materials carrying the Environmental Label according to RAL-UZ 76. For wood-based materials which do not yet carry the RAL-UZ 76 Environmental Label the applicant shall present a test certificate according to the test method for wood-based materials¹⁾.

3.1.3 General Substance Requirements

The materials used (leather, textiles, upholstery materials, coating materials, adhesives) must not contain any substances²⁾ as constituent parts which are:

1. listed as very toxic (T+) or toxic (T) in Annex I to Directive 67/548/EEC³⁾ or are classified and must be marked according to Section 4a, para. 3, GefStoffV⁴⁾, (Ordinance on Hazardous Substances) as very toxic (T+) or toxic (T);

¹⁾ Test Methods for Wood-Based Materials, Federal Health Bulletin 10/91 p. 488-489. Compliance can also be demonstrated by submission of a test certificate confirming the classification into emission class E1.

²⁾ Term as defined in Section 3, Para. 1, Publication of the Revised Version of the German Chemicals Act of 20 June 2002 as amended, last amended on October 31, 2006 (Federal Law Gazette I, p. 2407)

³⁾ Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances; Annex I: Official Journal of the European Communities and published in: Series of documents of the Federal Institute for Occupational Safety and Health - Regulations RW 23, „List of Hazardous Substances and Preparations under Annex 1 to Directive 67/548/EEC” (continuous publication)

⁴⁾ Gefahrstoffverordnung (Ordinance on Hazardous Substances) of 23 December 2004 (Federal Law Gazette I page 3758, as amended, last amended on March 6, 2007 (Federal Law Gazette I, page 261)

are classified as carcinogenic in accordance with EC Category Carc. Cat.1, or Carc.Cat.2 or mutagenic according to EC Category Mut.Cat.1, Mut.Cat.2 or toxic to reproduction according to EC Category Repr. Cat.1, Repr. Cat. 2;

2. classified in TRGS 905⁵⁾ as carcinogenic, mutagenic or reprotoxic substances;
3. classified in the MAK Value List⁶⁾ as:
 - cancerogenic working materials - Category 1 or 2;
 - germ-cell-mutagenic working materials - Category 1 or 2.

Compliance Verification

The applicant proves compliance with the requirements of para. 3.1.3 by presentation of a statement of the suppliers in accordance with Annex 2 to the Contract according to RAL-UZ 117 and submits suppliers' product information in German and English.

3.1.4 Leather

3.1.4.1 Chrome Tanning

A chromium determination is to be carried out on leather where hexavalent chromium (Cr^{VI}) may not be detected (detection limit: 3 mg/kg).

Compliance Verification

The applicant submits a test report according to DINEN ISO 17075 (February 2008) stating that hexavalent chromium (Cr^{VI}) has not been detected.

3.1.4.2 Preservation

A chemical preservation of hides and tanned semi-finished leather products for transportation and storage purposes should be avoided wherever possible. If preservatives are used for the preservation of hides they must meet the requirements of para. 3.1.3, except for the requirement to be marked as toxic (T). Apart from that, only those preservatives may be used which come along with a determination method for leather and which in the BgVV List⁷⁾ are not classified as a strong contact allergen (Cat. A). In addition to this, preservatives must observe the maximum contents in leather listed in Annex 1.

Preservatives must also meet the requirements of para. 3.2.1.

A chemical preservation of the finished leather will be inadmissible.

Compliance Verification

⁵⁾ TRGS 905, List of carcinogenic, mutagenic or reprotoxic substances, as amended, last amended in July 2005

⁶⁾ MAK and BAT Value List, Senate Commission on the Testing of Health-Endangering Working Materials, as amended, last amended by Communication 43 (2007).

⁷⁾ Chemicals and contact allergies – An evaluating survey. Editor: D. Kayser and E. Schlede, Publishers: Urban und Vogel, Munich 2001

The applicant either presents a declaration from the leather supplier that proves in a complete survey (from slaughter to the finished leather) that the leather has not been chemically preserved or submits a declaration from the leather supplier naming the preservatives used, including evidence of the preservative content according to Annex 1. The test methods are described in Annex 1.

3.1.4.3 Dyes and Pigments

The dyes or pigments listed in Annex 2 may not be used.

Compliance Verification

The applicant presents declarations of his leather suppliers in accordance with Annex 3, which prove that these substances have not been used and presents evidence according to DIN 53316 and/or according to a test method mentioned in the “Öko-Tex Standard 200⁸⁾”.

3.1.5 Textiles

3.1.5.1 Dyes and Pigments

The dyes or pigments listed in Annex 2 may not be used.

Compliance Verification

The applicant presents declarations of his textile suppliers in accordance with Annex 3, which prove that these substances have not been used and presents evidence according to a test method mentioned in the “Öko-Tex Standard 200”.

3.1.5.2 Biocides

The requirements for pesticides of the „Öko-Tex Standard 100⁹⁾” must be observed for cover fabrics made of vegetable natural fibres, wool and other animal fibres.

Compliance Verification

The applicant presents the measurement results according to a test method mentioned in the „Öko-Tex Standard 200“ for a representative sample of cover fabrics selected in consultation with the testing institute.

⁸⁾ Öko-Tex Standard 200, Test Methods, Edition of January 2004

3.1.5.3 Alternative Compliance Verification

The requirements of paras. 3.1.5.1 and 3.1.5.2 will also be considered met if the textiles are marked with one of the following eco-labels or quality marks: Öko-Tex 100⁹⁾, EU eco-label for textiles¹⁰⁾, Quality Mark for natural Textiles¹¹⁾.

Compliance Verification

The applicant presents a corresponding certificate or contract which proves that the textiles are allowed to carry the named eco-label or quality mark.

3.1.6 Moth Proofing

Pyrethroids (Permethrin) are used as moth repellent in cover fabrics made of wool and other animal fibres. An effective **defence against moths** ranges between about 35 and 75 mg/kg, **against bugs** between about 75 and 100 mg/kg. Therefore, concentrations between 3 mg/kg and 35 mg/kg are to be considered as a contamination with no effect on the moth and consequently inadmissible. If permethrin concentrations between 35 mg/kg and 100 mg/kg are applied the manufacturer shall be liable to include the following sentence in the **Consumer Information**:

„Contains Permethrin to protect the product from Wool Pests“.

Concentrations above 100 mg/kg shall be inadmissible.

The following values must be observed in wool materials without a defence against wool pests: Permethrin < 3.0 mg/kg. The concentration of other detected pyrethroids must not exceed 1 mg/kg. If this threshold value is observed the manufacturer shall be liable to include the following sentence in the **Consumer Information**:

„Without Protection from Wool Pests.“

Compliance Verification

The manufacturer submits the determination of the total content in the material as well as the Consumer Information.

A material sample of about 1 – 5 g are weighed in an extraction thimble and sealed with a suitable glass wool or filter paper. The extraction thimble is extracted in a Soxhlet extractor for six hours using a 1:1 n-Hexan-Aceton mixture. The resulting extract is then concentrated in the rotary evaporator and filled up to a defined volume (about 5ml) with an extraction medium. The measurement is carried out on the GC-MS instrument operating in the SIM Mode. This method is used to detect permethrin, furemecycloxy, piperonyl butoxide, tetramethrin, cyfluthrin, cypermethrin, fenvalerate and deltamethrin.

⁹⁾ Öko-Tex Standard 100, General and Special Conditions, Edition of January/2004

¹⁰⁾ Commission Decision 2002/371/EC of 15 May 2002, *Official Journal of the European Communities* L 133 of 18 May 2002, p. 29.

¹¹⁾ International Natural Textile Association, reg.Assoc., Directive as of 20 January 2000

Determination limits: 0,1 – 1 mg/kg (depending on the compound and the weighed sample).

3.1.7 Upholstery

Notice: The following criteria will have to be met only if the respective share of upholstery materials adds up to more than 5 percent by volume of the total volume of the upholstered furniture.

3.1.7.1 Latex Foam

Chlorophenols, butadienes, nitrosamines and carbon disulphide must not be detectable in the latex foam or as an emission. Here, the following substance-specific limits apply:

- Chlorophenols (including salts and esters) < 1 mg/kg

Compliance Verification

The applicant presents a test report on a test carried out in accordance with the following procedure: Comminution of a 5 gram sample, extraction of the chlorophenol or the sodium/potassium salt and subsequent derivatization using acetic anhydride. Analysis by means of gas chromatography (GC), detection by use of a mass spectrometer or ECD.

- Butadienes < 1 mg/kg

Compliance Verification

The applicant presents a test report on a test carried out in accordance with the following procedure: Comminution and weighing of the sample. Sampling by use of a headspace sampler. Analysis by means of gas chromatography, detection by use of a flame ionization detector.

- N-nitrosamines (test chamber measurement) < 1 µg/m³

Compliance Verification

The applicant presents a test report on a test chamber measurement according to para. 3.2.1. The analysis of the N-nitrosamines shall be carried out according to the BGI 505-23 method (formerly: ZH 1/120.23) acknowledged by the German Federation of Institutions for Statutory Accident Insurance and Prevention (Hauptverband der Gewerblichen Berufsgenossenschaften - HVBG).

- Carbon Disulphide (test chamber measurement) < 20 µg/m³

Compliance Verification

The applicant presents a test report on a test chamber measurement according to para. 3.2.1. .

3.1.7.2 Polyurethane Foam (PUR)

The following requirements apply to organic tin and physical blowing agents in the polyurethane foam:

- Tin in the organic form (tin bonded to a carbon atom) shall not be used.

Compliance Verification

The applicant presents a corresponding declaration from his pre-suppliers.

A test will not be required. If however a test is done (e.g. for the purpose of control or supervision) the following test method shall be used: every method used to specifically determine an organic tin compound without checking the presence of inorganic tin compounds, such as tin octoate.

- partially fluorinated hydrocarbons (HFCs), perfluorinated hydrocarbons (PFCs), partially halogenated chlorofluorocarbons (H-CFC), chlorofluorocarbons (CFCs) or methylene chloride shall not be used as physical blowing agents or auxiliary blowing agents.

Compliance Verification

The applicant presents corresponding declarations from his pre-suppliers.

3.1.7.3 Coconut Fibres

The criteria applying to latex foam must be observed for rubber coated fibres.

Compliance Verification:

The applicant either declares that no rubber-coated coconut fibres have been used or submits the test reports listed above under the criteria for latex foam.

3.1.8 Coating Systems

(to be observed only if coated wood surfaces exist)

Coating systems are normally used to protect and design wood surfaces of upholstered furniture. Such coating systems include stains, primers, clear varnishes, top-coats, adhesives etc..

3.1.8.1 Liquid Coating Systems

The coating materials used in liquid coating systems must not exceed a maximum VOC content of 420 g/l. Exempted are small parts with a share of less than 5 percent by volume of the total. This requirement shall be considered fulfilled irrespective of the VOC content of the individual coating material if it is proved that - considering the quantity of the coating material used - the VOC content for the entire coating system does not exceed 420 g/l.

Exempted are painting plants equipped with a waste gas purification system satisfying the requirements of Directive 1999/13/EC (VOC Directive)¹²⁾, TA Luft¹³⁾ or the 31st Bundesimmissionsschutzverordnung (Federal Immission Control Ordinance) BImSchV¹⁴⁾.

3.1.8.2 Special Substance Requirements for Liquid Coating Systems

The liquid coating systems meet the requirements of para. 3 of the VdL-Richtlinie Holzlackssysteme (VdL Directive on Wood Paint Systems).¹⁵⁾

Compliance Verification:

The applicant proves compliance with the requirements of paras. 3.1.8.1 to 3.1.8.2 by presentation of a declaration from the coating materials manufacturer according to Annex 4 and presents the Technical Data Sheets as well as the Product Safety Data Sheets according to EC Directive 91/155/EEC¹⁶⁾ in German or English.

3.2 Use

3.2.1 Indoor Air Quality

The products under para. 2 must not exceed the following emission values in the test chamber by analogy with the „health risk assessment process for emissions of volatile organic compounds (VOC) from building products” developed by the Committee for Health-Related Evaluation of Building Products:¹⁷⁾

¹²⁾ Council Directive 1999/13/EC of 11 March 1999 on the limitation of emissions of volatile organic compounds (VOC Directive)

¹³⁾ Technische Anleitung zur Reinhaltung der Luft -TA Luft-, (Technical Instructions on Air Quality Control) of 27 February 1998.

¹⁴⁾ 31. BImSchV, 31st Federal Immission Control Ordinance establishing limits for the emissions of volatile organic compounds that may result from the use of organic solvents in certain plants (Official Law Gazette I No. 44, page 2180 ff.)

¹⁵⁾ Directive on the Declaration of Wood Paint Systems, VdL-RL 02 (2nd Revision), Association of the Paint Industry, reg. assoc., May 2001

¹⁶⁾ Commission Directive (91/155/EEC) of 5 March 1991 defining and laying down the detailed arrangements for a specific information system relating to dangerous preparations in implementation of Article 10 of Council Directive 88/379/EEC

¹⁷⁾ The requirements for VOC emissions are aimed at limiting the contribution of upholstered furniture to the VOC content of the indoor air to 300 µg/m³ after 28 days in an average-sized living room with an air change of 0.5/h.

a) the following applies to a textile-covered armchair:

Substance	3rd Day		Final Value (28th Day)	
	Test Chamber Concentration	Product-specific emission rate per armchair ¹⁸⁾	Test Chamber Concentration	
Formaldehyde		≤ 240 µg/h	≤ 60 µg/m ³ (0.05 ppm)	
Other aldehydes ¹⁹⁾ (total)		≤ 240 µg/h	≤ 60 µg/m ³	
Total organic compounds within the retention range C ₆ – C ₁₆ (TVOC)	-	≤ 1800 µg/h	≤ 450 µg/m ³	
Total organic compounds within the retention range > C ₁₆ – C ₂₂ (TSVOC)	-	≤ 320 µg/h	≤ 80 µg/m ³	
C-substances ²⁰⁾	≤ 10 µg/m ³ <u>total</u>		≤ 1 µg/m ³ <u>per single value</u>	
Total VOC without LCI ²¹⁾²²⁾			≤ 40 µg/m ³ ²³⁾	
R-Value ²²⁾	-		≤ 1 ²³⁾	

¹⁸⁾ The surface of an armchair is not a good basis for calculating the load (time consuming and very inaccurate calculations). That is why the emissions of an armchair are measured in the test chamber at an air flow rate of 4.0 m³/h. Consequently, to calculate the product-specific emission rate the test chamber concentration is multiplied by the air flow rate of 4.0 m³/h.

¹⁹⁾ Other aldehydes which may be measured by using a BAM test method, (Method for the measurement of emissions of formaldehyde and other volatile compounds). Aldehydes can also be measured by use of the DNPH method (dinitrophenylhydrazine = DNPH) (DIN ISO 16000-3).

²⁰⁾ C-Substances = cancerogenic substances, pursuant to EU Classification Cat. K1 and K2 as well as TRGS 905

²¹⁾ including non-identifiable substances

²²⁾ LCI - Lowest Concentration of Interest cf. "Health risk assessment process for emissions of volatile organic compounds (VOC) from building products", Homepage of the Umweltbundesamt (Federal Environmental Agency, <http://www.umweltdaten.de/down-d/voc.pdf>)

²³⁾ During the first term of the Basic Criteria the total VOC without LCI and the R-value are determined by the testing laboratories and indicated in the test report but even if the limits are exceeded this will not result in a refusal. The hearing on the revision of these Basic Criteria will decide on the adoption of these data taking the results into consideration.

b) the following applies to leather:

Substance	3rd Day	Final Value (28th Day)
Formaldehyde		60 µg/m ³ (0.05 ppm)
Other aldehydes ¹⁹⁾ (Total)		60 µg/m ³
Total organic compounds within the retention range C ₆ – C ₁₆ (TVOC)	-	≤ 450 µg/m ³
Total organic compounds within the retention range > C ₁₆ – C ₂₂ (TSVOC)	-	≤ 80 µg/m ³
C-substances ²⁰⁾	≤ 10 µg/m ³ <u>total</u>	≤ 1 µg/m ³ <u>per single value</u>
Total VOC without LCI ²¹⁾²²⁾		≤ 60 µg/m ³ ²³⁾
R-Value ²²⁾	-	≤ 1 ²³⁾

The test may be stopped prematurely (but not before the 7th day after charging) if on each of four consecutive measurement days the admissible emission values are not exceeded and if during this period none of the substances to be detected shows a rise in concentration.

Compliance Verification

The applicant submits a test report pursuant to the BAM Test Method²⁴⁾ (Method for the detection of emissions of formaldehyde and other volatile compounds) based on the Standards ENV 13419-1 and ENV 13419-2²⁵⁾ issued by a testing institute recognized for this test by BAM (Bundesanstalt für Materialforschung und Prüfung (Federal Institution for Material Research and Testing) (Annex 3 to the Basic Criteria RAL-UZ 117) which confirms compliance with this requirement.

Notwithstanding the above-cited BAM Test Method, for the testing of upholstered furniture one textile-covered armchair of a certain series of armchairs²⁶⁾ which does not differ from the other models of the series with regard to the materials used (frame, expanded plastics, adhesives, cover fabrics etc.) is tested as a whole body under the following conditions in a test chamber:

- *Air flow rate for an armchair (regardless of the size of chamber and armchair): 4 m³/h*
- *Chamber size: about 2 – 10 m³ and about four times the size of the armchair(s).*

²⁴⁾ Official Journal of BAM - Bundesanstalt für Materialforschung und -prüfung (Federal Institution for Material Research and Testing), vol. 29, 1999, p.234-250

²⁵⁾ 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 - as well as Part 10: Determination of the emission of volatile organic compounds from building products and furnishing - Emission test cell method.

²⁶⁾ If a series of upholstered furniture consists of leather-covered models only, the whole-body-testing shall be done with a so-called white upholstered furniture (complete upholstered furniture without leather cover).

The other parameters (temperature, air humidity, air velocity) correspond to the BAM Method.

Due to their high emission relevance leathers are subjected to a separate emission test. For this purpose, the testing laboratory selects representative samples in coordination with the upholstered furniture manufacturer and the tannery which guarantees compliance with the requirements for the respective series. Small test chambers (e.g. 20 litres) or emission test cells are suited for the testing of leather components. Leather is tested rear to rear in test chambers. In doing so, it must be guaranteed that the surface-specific flow rate of 1.5 m³/m²h is maintained over the whole testing period (28 days).

3.2.2 Packaging

If possible, upholstered furniture is to be packed in a way allowing post-manufacture outgassing of volatile materials.

Compliance Verification

The applicant presents a description of the packaging system and states that the packaging system is so designed as to allow the out gassing of volatile components or gives the reason why such packaging cannot be used.

3.2.3 Serviceability

Upholstered furniture must be up to the usual quality standards regarding serviceability (e.g. safety, abrasion resistance, tensile strength, light fastness, rub fastness, deformation by compression according to current ISO/EN/DIN Standards).

Compliance Verification

The applicant declares compliance with the requirement.

3.2.4 Wearing Parts

Functionally compatible replacements shall be guaranteed for a period of at least five years for those parts contained in upholstered furniture which are subject to wear, e.g. hinges and table leaves.

Compliance Verification

The applicant declares compliance with the requirement.

3.3 Recycling and Disposal

With regard to recycling and disposal neither material protection agents (fungicides, insecticides, flame-retardants) nor halogenated organic compounds (e.g. chloro-organic carriers in textiles, chlorinated paraffins in leather oil) may be added to upholstered furniture, including the materials used for the manufacture (leather, textiles, foams, wood-based materials, adhesives etc). Exempted are fungicides exclusively used for pot preservation of aqueous coatings and adhesives, preservatives for transport preservation of hides and tanned semi-finished products (see para. 3.1.4.2),

moth proofing of textiles made of animal fibres (see para. 3.1.6), adhesives based on aqueous dispersions and flame retardants using inorganic ammonium phosphates (diammonium phosphate, ammonium polyphosphate etc.), boron compounds (boric acid, borates) or other dehydrating minerals (aluminium trihydrate or the like) for flame retarding purposes.

Compliance Verification

The applicant declares compliance with the requirement and presents the corresponding declarations of his pre-suppliers.

3.4 Consumer Information

Upholstered furniture must be accompanied by the following consumer information providing at least the following basic information, possibly in conjunction with other information:

- Information about wearing parts and their repair or exchange, and, if applicable, about a repair service, stating that functionally compatible replacement parts will be available for a period of at least 5 years;
- Information about type and origin of the predominant wood in accordance with para. 3.1.1;
- Information about other materials (> 3 weight percent);
- Information about the tanning process / tanning material, including retanning (e.g. chrome tanning, vegetable tanning)
- Information about assembly or laying of the products, if applicable;
- Information about disassembly for moving, if applicable;
- Information about the product's wearing resistance (fields of use and, if applicable, material test results, product-specific properties, change caused by product use);
- Cleaning and Care Instructions.

Compliance Verification

The applicant presents the consumer information.

3.5 Advertisement Messages

Advertisements should not include any information, such as „tested for its biological living quality“ or those which play down risks in terms of Article 23, para. 4 of Directive 67/548/EEC, as for example „non-toxic“, „non-harmful“.

Compliance Verification

The applicant declares compliance with the requirement.

4 Applicants and Parties Involved

4.1 Manufacturers of products according to para. 2 shall be eligible for application.

4.2 Parties involved in the award process

- RAL gGmbH to award the Blue Angel Eco-Label,
- the federal state where applicant's production site is located,
- Umweltbundesamt (Federal Environmental Agency) which, after signing of the contract, receives all data and documents submitted in application for the *Blue Angel* in order to be able to proceed with the development of the Basic Award Criteria.

4.3 The compliance verifications submitted by the applicant will be treated confidentially.

5 Use of the Environmental Label

5.1 The terms governing the use of the Environmental Label by the applicant are stipulated by a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH.

5.2 Within the scope of such contract the applicant undertakes to comply with the requirements under paragraph 3 as long as he makes use of the Environmental Label. RAL shall be informed of considerable changes in the materials used (e.g. leather, textiles, foams). In such cases, the applicant may be required to submit new compliance verifications.

5.3 Contracts on the Use of the Environmental Label are concluded to fix the terms for the labelling of products under paragraph 2. Such contracts shall run until December 31, 2016.

They shall be extended by periods of one year each, unless terminated in writing by March 31, 2016 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.

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

5.5 The Contract on the Use of the Environmental Label shall give the following particulars:

5.5.1 Applicant (Manufacturer)

5.5.2 Brand/trade name, product designation

5.5.3 Distributor (label user, i.e. the marketing organization according to para. 5.4).

Appendix 1 to the Basic Criteria RAL-UZ 117

The following limit values apply to preservatives used in leather for transportation and storage protection (maximum value I):

- *4-chloro-3-methylphenol* < 300 mg/kg
- *n-octyl isothiazolinone* < 100 mg/kg
- *o-phenylphenol* < 500 mg/kg
- *2-(thiocyanomethylthio) benzothiazole* < 500 mg/kg

An additional emission test will be required if the maximum value I is exceeded. If the emission test determines that the test chamber concentrations indicated²⁷ are not reached the following maximum values shall apply (maximum value II):

	<u>Maximum Value II</u>	<u>Test Chamber Concentration</u>
• <i>4-chloro-3-methylphenol</i>	< 600 mg/kg	< 12 µg/m ³
• <i>n-octyl isothiazolinone</i>	< 250 mg/kg	< 1 µg/m ³
• <i>o-phenylphenol</i>	< 1000 mg/kg	< 23 µg/m ³

The preservatives may not contain any of the following substances. Starting out from the analysis method and the detection limit of these substances this requirement shall be considered met if the following maximum values are not exceeded in the leather:

- *chlorophenols (including salts and esters)* < 1 mg/kg
- *bromophenols (including salts and esters)* < 1 mg/kg
- *methylene bis(thiocyanate) (MBT)* < 5 mg/kg

Additional limit values may be adopted into Annex 1 by the Umweltbundesamt (Federal Environmental Agency) in consultation with LGA Bayern (Regional Trade Institute - Bavaria) and the specialized leather institutes „Lederinstitut Gerberschule Reutlingen e.V.“ (LGR Reutlingen) (*Leather Institute German Tanners School, Reutlingen*) and Forschungsinstitut für Leder- und Kunstledertechnologie (FILK Freiberg) (*Institute of the Leather Industry, Material Testing and Research Institute*). In the same way, the limit values may be adapted to the state-of-the-art.

Analysis Methods:

The following test methods may be used to determine chlorophenols, bromophenols, 4-chloro-3-methylphenol and o-phenylphenol:

- A defined quantity of a comminuted leather sample is heated with 1 m KOH in a drying chamber. An aliquot of the extract is derivatized with acetic anhydride. The derivative is extracted with n-hexane and analyzed on a capillary gas chromatograph by means of MSD. Alternatively, the halogenated phenols can also be analysed by means of ECD.
- LFGB test method (Section 64) or similar test methods. (LFGB - Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch - Food, Consumer Goods and Feed Act).
- An accelerated extraction process followed by silylation (e.g. with N,O-bis(trimethylsilyl)trifluoroacetamide (BSTFA) and subsequent analysis by use of a capillary GC/MS.

N-octyl isothiazolinone and 2-(thiocyanomethylthio)benzothiazole (TCMTB) are determined using high-performance liquid chromatography (HPLC) and a UV detector. For the purpose of sample preparation, a defined quantity of the comminuted leather sample is extracted with methanol in a Soxhlet apparatus (or by means of an accelerated extraction process). After filtration through a membrane it is chromatographed using, for example, methanol/water/acetic acid 75/25/0.4. Alternatively, other suited eluents shall also be permissible.

Appendix 2 to the Basic Criteria RAL-UZ 117

Dyes and Pigments the use of which is not permitted under paras. 3.1.4.3 and 3.1.5.1:

Azo dyes, which potentially cleave one of the aromatic amines listed below (according to Directive 2002/61/EC):

4-aminobiphenyl	(92-67-1),
benzidine	(92-87-5),
4-chloro-o-toluidine	(95-69-2),
2-naphthylamine	(91-59-8),
o-aminoazotoluene	(97-56-3),
2-amino-4-nitrotoluene	(99-55-8),
p-chloroaniline	(106-47-8),
2,4-diaminoanisole	(615-05-4),
4,4'-diaminodiphenylmethane	(101-77-9),
3,3'-dichlorobenzidine	(91-94-1),
3,3'-dimethoxybenzidine	(119-90-4),
3,3'-dimethylbenzidine	(119-93-7),
3,3'-dimethyl-4,4'-diaminodiphenylmethane	(838-88-0),
p-cresidine	(120-71-8),
4,4'-methylene-bis-(2-chloroaniline)	(101-14-4),
4,4'-oxydianiline	(101-80-4),
4,4'-thiodianiline	(139-65-1),
o-toluidine	(95-53-4),
2,4-diaminotoluene	(95-80-7),
2,4,5-trimethylaniline	(137-17-7),
4-aminoazobenzene	(60-09-3),
o-anisidine	(90-04-0).

Dyes that are carcinogenic, mutagenic or toxic to reproduction (according to Commission Decision 2002/371/EC (Community ecolabel for textile products) and Öko-Tex Standard 100):

C.I. Basic Red 9	C.I. 42 500,
C.I. Disperse Blue 1	C.I. 64 500,
C.I. Acid Red 26	C.I. 16 150,
C.I. Basic Violet 14	C.I. 42 510,
C.I. Disperse Orange 11	C.I. 60 700,
C.I. Direct Black 38	C.I. 30 235,
C.I. Direct Blue 6	C.I. 22 610,
C.I. Direct Red 28	C.I. 22 120,
C.I. Disperse Yellow 3	C.I. 11 855.

Potentially sensitising dyes (according to Commission Decision 2002/371/EC and Öko-Tex Standard 100):

C.I. Disperse Blue 3	C.I. 61 505,
C.I. Disperse Blue 7	C.I. 62 500,
C.I. Disperse Blue 26	C.I. 63 305,
C.I. Disperse Blue 35,	
C.I. Disperse Blue 102,	
C.I. Disperse Blue 106,	
C.I. Disperse Blue 124,	
C.I. Disperse Brown 1,	
C.I. Disperse Orange 1	C.I. 11 080,
C.I. Disperse Orange 3	C.I. 11 005,
C.I. Disperse Orange 37,	
C.I. Disperse Orange 76 (formerly: Orange 37)	
C.I. Disperse Red 1	C.I. 11 110,
C.I. Disperse Red 11	C.I. 62 015,
C.I. Disperse Red 17	C.I. 11 210,
C.I. Disperse Yellow 1	C.I. 10 345,
C.I. Disperse Yellow 3	C.I. 11 855,
C.I. Disperse Yellow 9	C.I. 10 375,
C.I. Disperse Yellow 39,	
C.I. Disperse Yellow 49.	

Heavy Metal-Containing Dyes

Dyes and pigments that contain cadmium, mercury, lead or nickel.

C O N T R A C T

No.

on the Award of the Environmental Label

RAL gGmbH, as label awarding agency, and the firm of
(Distributor/Manufacturer)

as applicant, conclude the following Contract on the Use
of the Environmental Label:

S P E C I M E N

1. Under the following conditions the applicant shall be entitled to use the Environmental Label for the labelling of the product/product group/project:

Low-Emission Upholstered Furniture

"(Brand/Trade Name - Product Designation)"

This shall not include the right to use the Environmental Label as part of a brand. Unless otherwise agreed, the Environmental Label shall only be used in the above given shape and colour. The entire inner surrounding text shall always be identical as regards size, form, thickness and colour of the letters and it shall be easy to read.

2. The Environmental Label according to para. 1 shall only be used for the above-mentioned product/product group/project.
3. If the Environmental Label is used for advertising purposes the applicant shall make sure that it is exclusively used in connection with the above-named product/product group/project for which the use of the Environmental Label has been granted and settled under this contract. The applicant shall be solely responsible for the way the label is used, above all, in advertising.
4. During the entire period of label use the product/product group/project to be labelled shall comply with all requirements and conditions for the use of the label as specified in the "Vergabegrundlage für Umweltzeichen RAL-UZ 117" (Basic Criteria for Award of the Environmental Label RAL-UZ 117), as amended. This shall also apply to the reproduction of the Environmental Label (including the surrounding text). Claims for damages against RAL gGmbH, especially on the grounds of third party objections to the applicant's use of the label and the accompanying advertising shall be ruled out.
5. If the "Basic Criteria for Award of the Environmental Label" provide for checks by third parties the applicant shall bear the costs accruing in connection therewith.
6. Should the applicant himself or third parties find out that the applicant does not comply with the conditions as

stipulated in paras. 2-5 he shall be liable to inform RAL gGmbH and stop the use of the Environmental Label until the conditions are complied with again. Should the applicant be incapable of restoring the state required for the use of the label immediately or should the applicant seriously offend against this contract RAL gGmbH may, if necessary, withdraw the Environmental Label and prohibit the applicant from using the label any longer. Claims for damages against RAL because of the withdrawal of the label shall be ruled out.

7. The Contract on the Use of the Environmental Label may be terminated for good reason. Examples of good reasons are:
 - unpaid contributions
 - substantiated risk of injury and death.In such case, applicant's continued use of the Environmental Label shall be prohibited. The applicant shall not be entitled to bring a claim for damages against RAL gGmbH (see above: paragraph 6, sentence 3).
8. The applicant undertakes to pay RAL gGmbH an amount according to the "Entgeltordnung für das Umweltzeichen" (Schedule of Contributions for the Environmental Label), as amended, for the period of use.
9. According to the Basic Criteria for Award of the Environmental Label RAL-UZ 117 this contract will run until December 31, **2016**. It shall be extended by periods of one year each, unless terminated in writing by March 31, **2016** or by 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 the products being still in the market.
10. Products/projects marked with the Environmental Label and the advertising for these products/projects may reach the consumer only when naming the firm of the (Applicant/Distributor)

Sankt Augustin, this day of

Date, Place

RAL gGmbH
Management

(Signature of authorized representative
and corporate seal)

