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Sustainability requirements for office and non-domestic furniture for indoor use

Edition 2017

Note: This Document is basis of the level certification.

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0 FOREWORD

This document has been developed by FEMB, the European Office Furniture Federation, using as a basis the American standard ANSI/BIFMA e3 together with the European criteria for the green public procurement and the specifications for the award of several voluntary Ecolabels.

Organisations that choose to assess their furniture products to this Standard can document their achievements by third-party verification of conformance.

Elements

This document is divided into four basic elements consisting of various prerequisites and requirements that are potentially available to organisations seeking product conformance to the Standard. The four basic elements are:

- materials;
- energy and atmosphere;
- human and ecosystem health; and
- social responsibility.

Prerequisites

Each element has one or more prerequisites that are required as the minimum performance against the Standard and applicants/products shall meet all prerequisites of the entire Standard in order to proceed. Once the prerequisite(s) are met, products may obtain additional points toward multiple levels of achievement in each element by meeting the specified performance requirements.

Credits

Beyond the prerequisites, there is no minimum number of credits from any of the four major elements required to demonstrate conformance to this document. The required credits can come from any of the four elements. If a legal requirement is stricter than the respective requirement of the Standard, the points for this credit will be awarded notwithstanding the status of a prerequisite.

Points

Each credit has one or more points that accumulate toward a level of conformance. In addition to a minimum number of total points required for each conformance level, there is also a minimum number of product related points for each level. See Annex 9 for a listing of product related credits and points. The maximum number of points is 94 and represents the maximum level of conformance that can be reached.

Levels of Conformance

Level 1 (basic): 32 to 44 total points; at least 5 of which are product related points; this is the basic level of conformance that can be reached.

Level 2 (intermediate): 45 to 62 total points; at least 11 of which are product related points; this is the intermediate level of conformance that can be reached.

Level 3 (advanced): 63 to 94 total points; at least 18 of which are product related points; this is the advanced level of conformance that can be reached.

Related Documents

The Standard is usable on its own for an overview of the requirements. For performing a full certification process all documents in the CAS Document Set have to be adhered: The Standard (this document), the CAS Requirements, the Brand Manual, the Guidance Manual, the Technical Documents normative and the Technical Documents informative.

1 SCOPE

This document provides a scheme for assessing the sustainability of furniture products by establishing measurable performance criteria that address environmental and social aspects throughout the supply chain.

It also provides requirements which have the aim of guaranteeing that products which have a reduced effect on the environment, have at the same time an equivalent performance to other products on the market.

This document has been conceived to be applied to office furniture, but its principles can be used to assess the sustainability of any kind of indoor furniture.

This document is not applicable to furniture designed to be used outdoor.

NOTE: This document does not cover compliance to all national or local regulations which are in force in the different countries where products can be manufactured or sold. Nevertheless all the applicable legal mandatory requirements shall always be considered as prerequisites by any product claiming compliance to this document.

2 NORMATIVE REFERENCES

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Number	Title
EN 717-1	Wood-based panels − Determination of formaldehyde release − Part 1: Formaldehyde emission by the chamber method
EN 1014-3	Wood preservatives − Creosote and creosoted timber − Methods of sampling and analysis − Part 3: Determination of the benzo(a)pyrene content of creosote
ISO 16000-3	Indoor air − Part 3: Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air − Active sampling method
ISO 16000-6	Indoor air − Part 5: Sampling strategy for volatile organic compounds (VOCs)
EN ISO 16000-9	Indoor air − Part 9: Determination of the emission of volatile organic compounds from building products and furnishing − Emission test chamber method (ISO 16000-9:2006)
EN ISO 16000-11	Indoor air − Part 11: Determination of the emission of volatile organic compounds from building products and furnishing − Sampling, storage of samples and preparation of test specimens (ISO 16000-11:2006)
EU 995/2010	Regulation (EU) No 995/2010 of the European Parliament and of the Council of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market relevance
ISO 11469	Plastics − Generic identification and marking of plastics products
ISO 14001	Environmental management systems − Requirements with guidance for use
ISO 14024	Environmental labels and declarations − Type I environmental labelling − Principles and procedures
ISO 14025	Environmental labels and declarations − Type III environmental declarations − Principles and procedures
ISO 14040	Environmental management − Life cycle assessment − Principles and framework

ISO 14044	Environmental management − Life cycle assessment − Requirements and guidelines
ISO 26000	Guidance on social responsibility
ISO 50001	Energy management systems − Requirements with guidance for use
BS OHSAS 18001	Occupational Health and Safety Management

3 DEFINITIONS

3.1 APPLICANT

Any natural or legal person which falls under the definition of "manufacturer" (3.15) and applies for one or more of its products to be certified against this FEMB Standard.

3.2 BIODEGRADABLE

Capable of decomposing under natural conditions.

3.3 CHEMICALS OF CONCERN

A chemical that makes a significant contribution to one or more of the following life cycle impact categories (Refer to Annex 1):

persistent, bioaccumulative, and toxic (PBT); and/or

reproductive toxicant; and/or

carcinogen; and/or

endocrine disruptor.

NOTE: see also 3.24 "Substance of Very High Concern - SVHC"

3.4 CHILD LABOUR

Exploitation of workers under the minimum legal age for employment in the country where the facility operates.

3.5 CRADLE-TO-GATE

A term used to describe the LCA boundary encompassing the life cycle stages of raw material extraction and conversion to a bulk form or a generic shape.

3.6 DESIGN FOR THE ENVIRONMENT (DFE)

The systematic integration of environmental attributes into the design of products and processes. There are three unique characteristics of DFE:

The entire life-cycle is considered;

Point of application is clearly in the product realization; and

Decisions are made using a set of values consistent with industrial ecology, integrative systems thinking or another framework.

3.7 ENVIRONMENTAL POLICY

A statement by the organisation, of its intentions and principles in relation to its overall

environmental performance, which provides a framework for action and for the setting of its environmental objectives and targets.

3.8 FORCED LABOUR

Compulsory prison or debt bondage labour. Lodging of deposits or identity papers by employers or outside recruiters for the purpose of restricting or preventing the individual from leaving employment.

3.9 GATE-TO-GATE

A term used to describe the product boundary encompassing the fabrication and assembly of business and institutional furniture. For purposes of the assessment, the entry gate is the receiving dock of the first facility where basic materials used in the manufacture of the furniture (e.g. steel, particleboard, fabric, laminate, etc.) begins the conversion to furniture components. The end gate is the shipping dock where the ready-to install furniture is transported for distribution to the end user. The gate-to-gate assessment will include transportation of intermediate materials and components between facilities where more than one physical location is included in the manufacturing process.

3.10 GREENHOUSE GAS (GHG)

Gases related to human activities that accelerate the greenhouse effect (as defined in Credit 6.10.1).

3.11 HAZARDOUS SUBSTANCES OR MIXTURES

A substance or a mixture fulfilling the criteria relating to physical hazards, health hazards or environmental hazards, laid down in Parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008 is hazardous and shall be classified in relation to the respective hazard classes provided for in that Annex.

Where, in Annex I, hazard classes are differentiated on the basis of the route of exposure or the nature of the effects, the substance or mixture shall be classified in accordance with such differentiation.

NOTE: This definition is taken from Regulation (EC) No 1272/2008, Article 3.

3.12 HAZARDOUS WASTE

Waste which displays one or more of the hazardous properties listed in Annex III of Directive 2008/98/EC.

3.13 HIGH RISK SUPPLIER

Suppliers are considered as high risk suppliers with regard to chapter 8.7 Supply Chain if any of the following circumstances are appropriate:

- Commercial high risk
  - applicant does a lot of business with the supplier
  - the supplier is the sole supplier and it would be difficult and time-consuming to replace
  - the supplier handles products bearing the applicant's name or trademark
- Risk of violating social and environmental issues
  - the supplier is located in a country where respect for human rights and labour standards is low or where the enforcement of environmental standards is similarly low
  - the supplier is used by sectors employing large numbers of low-paid workers and hazardous materials or scarce natural resources
  - the supplier employs migrant and/or seasonal workers

3.14 MAINTENANCE CHEMICAL

A chemical not directly used in the manufacturing of the product (e.g., forklift engine oil).

3.15 MANUFACTURER

„Manufacturer" means any natural or legal person who, irrespective of the selling technique used, and including selling to resellers and end consumers, manufactures or assembles ready-to-use furniture within the scope of the Standard under his own name or trademark, or has furniture designed or manufactured and markets it under his name or trademark. Organisations that sell furniture under a name or trademark that is not their legal name or trademark, are not manufacturers and cannot apply for certification.

3.16 POST-CONSUMER

Generated by households, or by commercial, industrial, and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes return of materials from the distribution chain.

3.17 POST-INDUSTRIAL (PRE-CONSUMER)

Diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

3.18 PROCESS CHEMICAL

Used in the direct manufacturing of the product and is not intended to be incorporated into the product as shipped (e.g. prep solvent prior to powder coat).

3.19 PRODUCT CHEMICAL

Incorporated in or on the product as shipped (e.g. wood finish).

3.20 RECOVERED MATERIAL

Waste materials and by-products that have been recovered or diverted from solid waste, but does not include materials and by-products generated from, and commonly reused within, an original manufacturing process.

3.21 RECYCLABLE

Capable of minimizing waste generation by recovering and reprocessing usable products that might otherwise become waste.

3.22 RECYCLE

To minimize waste generation by recovering and reprocessing usable products that might otherwise become waste (e.g., aluminium cans, paper and bottles, etc.).

3.23 RECYCLED-CONTENT MATERIALS

Materials that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (post-industrial) or after consumer use (post-consumer).

3.24 REMANUFACTURING

Restoring products to usable condition by replacing or repairing parts as needed.

3.25 RENEWABLE ENERGY

Energy from a source that is replenishable and replenished on some reasonable time scale. Potential renewable energy sources include, but are not limited to wind, solar, heat from the earth's interior, oceans, rivers, and biomass.

3.26 RENEWABLE MATERIAL

A material that is replenishable and replenished on some reasonable time scale. Renewable material sources include, but are not limited to wood, grass fibres, plant-based plastics, and bio-based fuels.

3.27 SUBSTANCE OF VERY HIGH CONCERN (SVHC)

Chemical substance (or part of a group of chemical substances) that has hazards with serious consequences and for which it has been proposed that the use within the European Union be subject to authorization under the REACH Regulation (Regulation (EC) No 1907/2006.)

Substances meeting these criteria may be placed on one or both of two lists that are defined in the REACH Regulation: the so called 'Candidate List' (see also annex 2) and the 'Annex XIV List'.

3.28 TYPE I ENVIRONMENTAL LABEL

Voluntary, multiple-criteria based, third party programme that awards a license which authorizes the use of environmental labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations (see ISO 14024).

4 ASSESSING CONFORMANCE, EVALUATION AND ASSESSMENT CRITERIA

4.1 GENERAL

In this Standard the scope of conformance is the product as it is distributed. This is necessary because potential purchasers of the product want a trustful information whether the distributed product satisfies the sustainability approach of this Standard or not. The purchaser is not able to differentiate between multiple places of production, which may be used for some products.

If the product is produced at different locations, then all credits that are based on "facility" or "organisation" characteristics (e.g. energy use, water use, health and safety management) shall be evaluated at each location. Prerequisites have to be fulfilled at each location. To calculate the total sum of points at the end of the assessment only the worst of these facilities (expressed in gained points with regard to the credits) can be taken into account.

The scope of assessment is gate-to-gate unless otherwise specified within individual credit language. The applicant shall clearly specify cut-off criteria for inclusion of inputs and outputs and the assumption on which the cut-off criteria are established in the scope of assessment. At least 80% of its total direct material spend for the product have to be covered, measured using actual annual spend data for a consecutive 12-month time period within the previous 2 years.

The intent of the Standard is to encourage reduction in environmental impact and credits are not awarded for operations that are within the gate-to-gate boundaries or within the individual credit language boundaries, but are excluded from the applicants' scope of assessment. Nor are credits awarded for the lack of an environmental impact where one had not previously existed.

The scope of conformance can also be defined based on product options or characteristics. For example, wood/veneer options could be included while laminate/non-wood options are excluded, or vice versa.

4.2 REPRESENTATIVE (WORST-CASE) SAMPLE SELECTION

For manufacturers wishing to demonstrate compliance for a specific product(s), only that product shall be evaluated.

A manufacturer may demonstrate compliance of a broad set of products by using the results from a limited number of representative models. A range, series or category of products with varying characteristics may be grouped together for evaluation purposes if the products can be expected to perform similarly during evaluation (e.g., having the same general construction, materials, and manufacturing processes). Evaluation models shall be selected from the group based on those that can be expected to have the highest propensity for environmental impact. A case-by-case product line analysis by the manufacturer in consultation with the Certification Body is required, taking into consideration any special attributes, materials, methods of manufacture/construction, etc.

4.3 BASELINE AND NORMALIZATION VALUES

The baseline and normalization values selected for each credit shall be used consistently throughout the certification period for each credit. The baseline may only be recalculated as defined below.

4.3.1 Baseline Values

For the purposes of this Standard, calculating a baseline shall be established by one of the following methods:

1) The average of any 36 consecutive months within the previous 72-month period.

2) Select a single year as the base year for which data are available. In no case shall the baseline year be set prior to 2005 or more than 10 years prior to the performance year under evaluation.

3) Use first FEMB sustainability standard baseline calculated as the fixed standard.

A baseline shall be recalculated when a 10% or greater change has occurred in the inventory based on one of the following:

1) Structural change (e.g., merger, acquisition, or divestiture, insourcing and outsourcing of activities) in the appropriate boundaries.

2) Change in calculation methodology or improvements in the accuracy of activity data that result in a significant impact on the base year data.

3) Discover of significant errors, or a number of cumulative errors, that are collectively significant.

A baseline shall not be recalculated when:

1) Closing and opening of facilities that did not exist in the baseline year.

2) Outsourcing/insourcing: For energy, outsourcing/insourcing does not require recalculation of the base year if the insourced or outsourced emissions were previously reported under scope 2 and/or scope 3 (i.e., they were already accounted for in the inventory). Insourced emissions that had already been accounted for in scope 3 emissions and reported would not trigger a recalculation. However, insourcing or outsourcing of activities producing emissions that were not accounted for in the original inventory or that were accounted for originally but are not scope 3 and not accounted for, do require recalculation of the baseline. For example insourcing/outsourcing of activity that shifts significant emissions between scope 1 to scope 3 when those scope 3 emissions are not reported as part of the users inventory does trigger a base year emissions recalculation.

3) Organic growth or decline; which refers to increase or decreases in production output, change in product mix, and closing or openings of facilities owned or controlled by the company.

4.3.2 Normalization Values

Applicants have flexibility in defining the unit of measure appropriate for each credit to demonstrate change over time.

4.4 FREQUENCY OF CONFORMITY ASSESSMENT

Products shall be revaluated if significant changes to materials, processes or the facility occur that affect the eligibility for any credit within the scope of conformance at the time of the change. Regardless, the frequency of conformity assessment shall not exceed three years, and the surveillance audit shall be performed one time in the three year cycle.

4.5 TESTING

All the tests mentioned in this Standard shall be carried out by test laboratories that are accredited according to ISO 17025 for the specific test.

4.6 ACCEPTANCE OF OTHER CERTIFICATES

Some of the credits in this Standard make reference to other certificates. Those certificates may be used by the certification body instead of their own evaluation when the certificates have been issued on a legal basis or are supported by legislation or are underlying an accreditation under EA and/or IAF recognition which covers the requirements contained in 6.2.2 and 7.4.5 of ISO 17065.

When a Certification Body (CB) relies on certificates other than their own, the CB is responsible to guarantee impartiality with regard to the issuer of the other certificate as is laid down in clause 4.2 of ISO 17065.

Furtheron the CB shall only rely on other certificates when they are issued by a laboratory accredited against ISO 17025, when the applied testing method is one of those named in the relevant credit in the Standard, and when the accreditation of the laboratory covers this method.

The full responsibility for the results of the evaluation against the requirements of this Standard remains at the certification body.

5 MATERIALS

5.1 WOOD AND WOOD-BASED MATERIALS

5.1.1 Prerequisite – Legally sourced timber

Wood specified in the product, other than recovered or reused wood, shall not contain endangered wood species, unless the trade of such wood conforms with the requirements of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Appendix I or II, and is harvested according to the applicable laws and regulations of the country of origin.

Verification:

Evidence that the wood used in the product, other than recovered or reused wood, has been legally harvested and traded or is FLEGT-licensed. Wood materials complying with the Regulation (EU) no. 995/2010 ("timber regulation") are deemed to satisfy this requirement.

5.1.2 Contaminants in Recycled wood – Basic level

The applicant can receive one point if the wood based materials which make up the product being assessed are produced using wood, chips or fibres which do not contain the substances listed in Annex 3 in quantities exceeding the limits in Annex 3.

Verification:

Test reports by accredited laboratories making use of the methods for determination laid down in Annex 3.

Points:

The applicant shall receive one point if he meets this requirement.

5.1.3 Sustainable forest management

NOTE: to get the points associated to this clause 5.1.3, the applicant does not necessarily need to have met the requirements of clause 5.1.2.

5.1.3.1 Basic level

In order to qualify for this point the product to be assessed shall contain at least 5 percent wood by weight.

The applicant shall be aware of the originating forest as well as the way in which the forest is managed for wood used in the manufacture of environmentally labelled furniture.

In order to earn a point in this credit, products must be manufactured from supplies of wood materials whose percentage of certified matter is:

- 70% (volume or mass) for solid wood (*)
- 50% (volume or mass) for wood-based panels (*)

(*): This percentage may be calculated using a moving average of supplies over a maximum period of 12 months.

Verification:

Certificates of chain of custody for the wood fibres issued by monitoring organisation according to Regulation (EU) No 995/2010 will be accepted as proof of compliance.

Points:

The applicant shall receive one point if it meets this requirement.

5.1.3.2 Advanced level

The supplies of the applicant must rely on an accredited forestry certification system for sustainable management of forests and traceability.

Note: At the time of Standard release PEFC meets this criteria.

Verification:

The applicant shall provide all relevant certificates.

Points:

One additional point is granted when this requirement is met.

5.2 PLASTIC PARTS

5.2.1 Prerequisite – Marking of plastic parts

All plastic parts ≥ 50g shall be marked for recycling according to ISO 11469. Parts greater than 50g in weight that would be adversely affected by a marking, such as for consumer acceptance and aesthetic reasons, may place the necessary recycling information in the user manual or similar literature. The same applies to parts which the supplier can demonstrate are technically impossible to mark, i.e. due to lack of space for labelling or to production method (e.g. extruded components).

Verification:

Applicants must provide a description of the plastic materials that are present and the quantities used, the way in which they are labelled and how they are attached to one another or to other materials. When the weight of the plastic component exceeds 50 g but is technically impossible to label, a declaration indicating the type of plastic will be required.

5.3 SURFACE COATING OF WOOD, PLASTIC AND/OR METAL PARTS

5.3.1 Prerequisite – Restrictions on chemicals

The requirements established in the following three indents apply to the products used for surface coating, as they are put on the market (e.g. in their cans, before their application on the finished product). These products shall:

- not be classified, according to Regulation (EC) No 1272/2008, as Carcinogenic, Mutagenic and/or Toxic for Reproduction (CMR) Category 1A or 1B (H340, H350, H 350i, H360, H360F, H360D, H360FD, H360Fd, H360Df)), Category 2 CMR (H341, H351, H361f, H361d, H361fd, H362), Category 1 aquatic toxicity (H400, H410), Category 1 and 2 acute toxicity (H300, H310, H330), Category 1 aspiration toxicity (H304), Category 1 Specific Target Organ Toxicity (STOT) (H370, H372), Category 1 Skin Sensitiser (H317), Category 2, 3 and 4 aquatic toxicity (H411, H412, H413), Category 3 acute toxicity (H301, H311, H331, EUH070), Category 2 STOT(H371, H373);
- not contain aziridine (permissible contamination limit <0.1%).
- When hexavalent chromium is being used, the applicant shall provide evidence that its storage, application/use and process outputs do not harm human and ecosystem health. This can be assumed, if the production process complies with existing European and national regulations on occupational health and safety and water and airborne emissions.

When the furniture being assessed is treated with products containing volatile organic compounds (VOC), the amount of organic solvent applied shall not exceed 35 g per m^2 of surface.

Verification:

Applicants shall present a list with all surface treatment and surface coating substances used for each material present in the furniture and their Material Safety Data Sheet demonstrating compliance with the above criteria.

5.4 ADHESIVES AND GLUES

5.4.1 Basic Level –VOC content

The applicant can earn a point when the VOC content of adhesives used in the assembly of furniture do not exceed 10% by weight in water based products and 30% by weight in solvent based products, in case the use of water based products is technically not possible.

Verification:

Applicants must present a list with all adhesives used in the assembly of furniture and their Safety Data Sheet where the amount of VOCs is displayed demonstrating compliance with the above criteria.

Points:

The applicant shall receive one point if it meets this requirement.

5.4.2 Advanced level – VOC content

The applicant can earn an additional point if the VOC content of adhesives used in the assembly of furniture does not exceed 10% by weight whatever is the kind of product used.

Verification:

As in 5.4.1.

Points:

The applicant shall receive one additional point if it meets this requirement.

5.5 TEXTILES AND LEATHER

5.5.1 Prerequisite – Restrictions on chemicals

Textiles and leather, when they are present in the finished product for more than 1% on weight, shall not contain the following substances in excess of the specified maximum content as specified in Annex 4:

- dyes classed as carcinogenic, mutagenic, toxic to reproduction or potentially sensitizing;
- azo dyes that may cleave to aromatic amines that are known to be cancerogenic;
- formaldehyde.

Verification:

Test reports by accredited laboratories making use of the methods for determination laid down in Annex 4.

5.5.2 Basic level

In order to earn points, the textiles and/or leathers in the furniture shall not exceed the specified maximum content of the following substances:

- formaldehyde in textiles which have direct contact to skin: 16 mg/kg
- formaldehyde in other textiles: 75 mg/kg

Verification:

Test reports by accredited laboratories making use of the methods for determination laid down in Annex 4.

Points:

The applicant shall receive two points if it meets either the requirements on textiles or the requirements on leather.

5.6 UPHOLSTERY MATERIALS

5.6.1 Prerequisite

Halogenated organic compounds, CFC and HCFC shall not be used as blowing, or auxiliary blowing agents, in the production of polyurethane foam.

Verification:

The applicant shall provide a declaration of non-use from the manufacturer of the foam.

5.6.2 Basic level

In order to earn points the product shall meet the requirements relevant to padding materials laid down in Annex 5.

Verification:

Test reports by accredited laboratories making use of the methods for determination laid down in Annex 5.

Points:

The applicant shall receive two points if it meets this requirement.

5.7 FLAME RETARDANTS

5.7.1 Prerequisite

Fire retardants that are explicitly included in the following lists or that contain more than 0.1% w/w of chemicals which are named in the following lists

- annex XVII of REACH, or
- annex XIV of REACH, or
- REACH candidate list for annex XIV

shall not be used.

The applicant shall use lists not older than one year at the date of filling in the application to the certification body or, when the last update of a list is older than one year, its latest available version.

Verification:

The applicant must supply:

- either a declaration testifying that no additive flame retardant has been used
- or in the event a flame retardant is used, confirm the flame retardants used and supply documentation (e.g. safety data sheets) and/or declarations vouching for their compliance with this criterion.

5.8 PHTHALATES

5.8.1 Prerequisite

Phthalates that are explicitly included in the following lists or that contain more than 0.1% w/w of chemicals which are named in the following lists

- Annex XVII of REACH, or
- Annex XIV of REACH, or
- REACH candidate list for annex XIV

shall not be used.

The applicant shall use lists not older than one year at the date of filling in the application to the certification body or, when the last update of a list is older than one year, its latest available version.

Verification

The applicant must supply a declaration testifying that the product does not contain phthalates included in the above lists.

5.9 PACKAGING MATERIALS

5.9.1 Prerequisite

This requirement applies equally to finished product packaging and packaging for supplies or units which are included in its composition (supplier packaging).

In general, packaging must consist of readily recyclable material, and/or materials taken from renewable resources, or be a multi-use system.

All packaging materials shall be easily separable by hand into recyclable parts consisting of one material (e.g. cardboard, corrugated paper, paper, plastic, textile).

Verification:

The applicant shall provide a description of the packaging with a declaration of conformity to the above requirements. Returnable packaging (e.g. blankets) is deemed to satisfy this requirement.

5.9.2 Basic level

In order to earn a point the packaging shall be made of at least 60% w/w recycled material, if made of paper or cardboard, or at least 40% w/w recycled material, if made of plastics.

The use of combination composites, which has proved to be non-recyclable, is authorized if it concerns multi-rotation packaging and the manufacturer can prove they are reused.

Verification

The applicant shall provide a declaration concerning the percentage of recycled material used. This requirement is deemed to be satisfied for packaging carrying indications of a minimum recycled content in conformity with either EN ISO 14021 (for example with the circle of Moebius symbol

together with the corresponding percentage value of recycled material) or EN 14024 “Type I environmental labels”.

Points:

The applicant shall receive one point if it meets this requirement.

5.9.3 Advanced level

In order to receive on additional point, the packaging shall be made of at least 90% w/w recycled material, if made of paper or cardboard, or at least 60% w/w recycled material, if made of plastics.

The use of combination composites, which has proved to be non-recyclable, is authorized if it concerns multi-rotation packaging and the manufacturer can prove they are reused.

Verification

The applicant shall provide a declaration concerning the percentage of recycled material used. This requirement is deemed to be satisfied for packaging carrying indications of a minimum recycled content in conformity with either EN ISO 14021 (for example with the circle of Moebius symbol) or EN 14024 “Type I environmental labels”.

Points:

The applicant shall receive one additional point if it meets this requirement.

5.10 LIFE CYCLE ASSESSMENT

The organisation shall encourage use of Life Cycle Assessments (LCA) to inform product design and development, and to optimize materials choices. The organisation may complete an LCA for the furniture product being assessed. By fulfilling one of the three criteria below, the applicant can earn a maximum of four points in this credit, as detailed below.

5.10.1 Life Cycle Assessment (1)

The applicant shall receive two points if it provides evidence that the company has incorporated the life cycle assessment frame work into product design by applying the first two of the four LCA components in ISO 14040 and ISO 14044 (Goal & Scope Definition and Life Cycle Inventory). The LCA boundary must encompass extraction of raw materials through end of product life.

5.10.2 Life Cycle Assessment (2)

The applicant shall receive three points if it provides evidence that the company has completed an LCA utilizing all four components in ISO 14040 and ISO 14044. At a minimum, the impact categories must include:

- Global Warming Potential;
- Acidification potential;
- Photochemical ozone creation potential;
- Eutrophication potential.

5.10.3 Life Cycle Assessment (3)

The applicant shall receive four points if it demonstrates compliance to 5.10.2 and provides evidence that the company has completed an independent third-party review of its LCA.

5.11 EFFICIENT USE OF MATERIALS

The organisation shall reduce the quantity (mass) of raw materials used in the manufacture of products. Material efficiency is calculated for the materials comprising 80 percent of the weight of the products to be assessed. This credit is focused on the substantial conversion of raw material (e.g. sawing, routing, machining, forming, stamping, moulding, cutting, and sewing) and does not cover the extraction and initial processing of raw materials.

By fulfilling one of the two criteria below, the applicant can earn a maximum of two points in this credit, as detailed below.

5.11.1 Efficient Use of Materials (1)

The applicant shall receive one point if it demonstrates a Material Efficiency of 60%.

5.11.2 Efficient Use of Materials (2)

The applicant shall receive two points if it demonstrates a Material Efficiency of 70%.

Material Efficiency = [(Input Mass – Waste Mass)/ (Input Mass)] X 100%

Process aids and incidental consumables (e.g. gloves, sand paper) are not included in the calculation. Waste Mass includes materials sent to recycling.

5.12 RECYCLED CONTENT

The organisation shall increase the amount of recycled content material incorporated into products.

5.12.1 Basic level

The applicant shall receive one point if it incorporates recycled content materials into the product so that it constitutes at least 30% w/w of the total weight of the materials in the product.

Verification:

Technical documentation demonstrating that the requirement is met.

Points:

The applicant can receive one point if it meets this requirement.

5.12.2 Advanced level

The applicant shall receive one point if it incorporates recycled content materials into the product so that it constitutes at least 50% w/w of the total weight of the materials in the product.

Verification:

Technical documentation demonstrating that the requirement is met.

Points:

The applicant can receive two points if it meets this requirement.

5.13 EXTENDED PRODUCT RESPONSIBILITY

5.13.1 Design for Durability/Upgradeability

5.13.1.1 Prerequisite

The applicant shall maximize the useful life of the product to make it easy to refurbish and upgrade for multiple uses by the original or subsequent users. In order to accomplish this, the organisation shall adopt and publicize a policy stating that it will design and manufacture products that have a long useful life; can withstand repeated service, repair, and handling; and has standardized product parts and components available to facilitate maintenance, servicing, and reassembly. The organisation's policy may allow for the replacement of design components and reuse of functional components. The product to be assessed shall be covered by the policy.

This requires at least:

- a public commitment by the manufacturer to supply, for 5 years from the end of manufacture date of the range of products concerned, original replacement parts or elements which fulfil equivalent functions.

In addition to this, the product being assessed shall comply with the relevant durability requirements established by EN or ISO standards (see also clause 5.14 and annex 6).

Verification:

The applicant shall provide evidence that it meets this requirement.

5.13.1.2 Basic level

The applicant can obtain one point if they provide:

- A public commitment to supply, for 7 years from the end of manufacture date of the range of products concerned, original replacement parts or elements which fulfil equivalent functions;

Verification:

The applicant shall provide evidence that it meets this requirement.

Points:

The applicant can receive one point if it meets this requirement.

5.13.1.3 Advanced level

The applicant can obtain an additional point if they provide:

- A public commitment to supply, for 10 years from the end of manufacture date of the range of products concerned, original replacement parts or elements which fulfil equivalent functions.

Verification:

The applicant shall provide evidence that it meets this requirement.

Points:

The applicant can receive one point if it meets this requirement.

5.13.2 Design for Remanufacturing

5.13.2.1 Prerequisite

The applicant shall design products to ensure that they can be remanufactured. The products shall be designed to facilitate the replacement of components that are subject to wear or breakage, likely to go out of style, or likely to be upgraded.

Verification:

In order to meet this requirement, the organisation shall provide evidence that:

- Product disassembly instructions are publicly available;
- Disassembly is possible with standard tools and does not require special training (exceptions: gas lifts and electrical mechanisms).

5.13.3 Design for Recycling

5.13.3.1 Prerequisite

The organisation shall maximize the degree to which materials from the product, that cannot be reused or remanufactured, can be recycled into value-added products.

Verification:
In order to satisfy this requirement, the organisation shall provide evidence that:

- Product disassembly instructions are available;
- Disassembly is possible with standard tools and does not require special training (exceptions: gas lifts and electrical mechanisms) and;
- Product parts are labelled, or otherwise identified, to facilitate separation by material content, and identification of any materials that may require special handling.

5.13.4 Other Facilitation Efforts

5.13.4.1 Prerequisite – Information to the user

Consumer information shall be available providing at least the following basic information - if applicable:

- 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 year;
- Information about other materials (when their weight is > 3% of the total weight of the finished product);
- Information about assembly of the products;
- Information about disassembly for moving or later recycling purposes.

Verification:
The applicant shall provide evidence that the above information is available to the user.

5.13.4.2 Advanced level

By fulfilling one or both of the two criteria below, the applicant can earn points, as detailed below:

5.13.4.2.1 Research on Recovery Options

The applicant shall receive one point if it researches and publishes information on the highest value recovery opportunities for its legacy product lines that have been launched in the 10 years prior to the date of the version of the Standard being assessed against, and the materials that comprise them.

5.13.4.2.2 Buy-back/Take-back/Leasing

The applicant shall receive one point if it makes a buy-back or take-back programme part of its sales strategy for products it is selling or leasing. The applicant shall receive a second point upon providing proof of implementation. The applicant may involve a third party in the buyback/take-back programme. The applicant shall ensure that the programme is managed consistently with its own environmental programmes.

5.14 PRODUCT PERFORMANCE

5.14.1 Prerequisite

All products claiming compliance to this document shall meet the relevant EN / ISO standards establishing requirements for safety, strength, durability and dimensions of furniture and components. A list of relevant standards is given in Annex 6.

Verification:

Applicants shall provide appropriate test reports by accredited laboratories to demonstrate compliance with these standards.

5.15 SOLID WASTE MANAGEMENT

5.15.1 Prerequisite

NOTE: This document does not establish any voluntary prerequisite concerning solid waste management. Compliance with relevant national transpositions of Directive 2008/98/EC and with any national applicable regulations shall be considered as a prerequisite.

5.15.2 General

The applicant shall receive a maximum of 2 points based on its published and implemented solid waste diversion programme for landfill disposal (this credit does not apply to hazardous waste). Waste-to-energy is an acceptable form of landfill diversion.

5.15.2.1 Basic level – Organisation's 100% Diversion Goal

The applicant shall receive one point for a 100% percent diversion goal.

5.15.2.2 Advanced level – Achieving 95% Diversion (Product)

The applicant shall receive one point for achieving 95% diversion for the product to be assessed for solid waste generated from fabrication and assembly of product components. Not included is solid waste generated from process aids (for example: sandpaper, gloves, spray booth filters) and packaging. The scope of this credit is gate-to-gate.

5.16 WATER MANAGEMENT

5.16.1 Prerequisite

NOTE: This document does not establish any voluntary prerequisite concerning water management. Compliance with relevant national transpositions of Directive 2000/60/EC (Water Framework Directive) and with any national applicable regulations shall be considered as a prerequisite.

5.16.2 Water management credits

The intent of this section is to focus on process water only. Process water includes water used for pre-treatment (e.g., phosphating wash line), water-based adhesive processes, cooling water, water-jet cutting operations, and spray booth over-spray capture systems.

In order to qualify for water management credits, the applicant must prove that process water was used in the manufacturing of the product to be assessed, at any point in time during the past six years. The applicant must state whether the assessment is being completed for the applicants' own facilities, and/or facilities operated by a supplier (using process water for the product to be assessed).

5.16.2.1 Basic level - Water Inventory of Factory

The applicant shall receive one point if it establishes a baseline process water inventory to document water sources/withdrawals, uses, and discharges for the facility where the finished product is assembled or manufactured.

5.16.2.2 Intermediate level – Water Efficiency

The applicant shall receive one point if it implements programme(s) to maximize process water efficiency to reduce the burden on the water supply and local wastewater treatment systems for the facility where the finished product is assembled or manufactured. The organisation shall provide objective evidence that water efficiency improvement goals have been established for the facility within the past 6 years. Performance against the goals must be tracked. Absolute reductions in total water usage must be documented.

5.16.2.3 Advanced level – Wastewater Discharge

The applicant shall receive two points if it achieves zero net process water usage or wastewater discharge rates for the facility where the finished product is assembled or manufactured.

6 ENERGY AND ATMOSPHERE

6.1 PREREQUISITE

The leadership of the organisation shall develop and implement an energy policy that shall establish the organisation's overall direction in terms of its commitment to energy conservation and performance.

The policy shall:

- Be appropriate to the nature and scale of the organisation's activities, products, and services;
- Include a commitment to continual improvement;
- Include a commitment to comply with relevant local, state, regional or national regulations, and with other requirements to which the organisation subscribes;
- Provide the framework for setting and reviewing objectives and targets; and
- Be documented, implemented, and communicated.

The policy shall focus on the organisation's mission, vision, and core values. Specific local or regional conditions should be considered, as should the organisation's image and the views of other interested parties. Other interested parties may include employees, shareholders, customers, consumers, local communities, environmental groups, lenders, and regulators.

6.2 BUILDING ENERGY PERFORMANCE BASELINE

6.2.1 Building Energy Performance baseline (1)

The applicant shall receive one point if it conducts a building energy baseline from historical energy use data, for buildings directly associated with manufacturing and/or final assembly of the product being assessed. This would include all energy sources used such as electricity, natural gas, propane, etc.

6.2.2 Building Energy Performance baseline (2)

The applicant shall receive up to two additional points if it conforms to 6.2.1 and conducts a building energy baseline from historical energy use data for facilities such as warehouses, office building, showrooms, supply partner facilities (other than final assembly), that are associated with the product being assessed.

NOTE: one point for each facility, maximum of two points.

6.3 BUILDING ENERGY PERFORMANCE RATING

NOTE: The first edition of this document does not establish any requirement concerning the energy performance of buildings. Compliance with national transpositions of the Directive 2010/31/EU should be considered as a prerequisite. In addition Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC shall be considered (rating to be agreed).

6.4 BUILDING RATING SYSTEM CERTIFICATION

The applicant shall receive one point for each facility meeting the requirements for certification of an accredited building rating system programme.

NOTE: At the time of Standard release BREEAM and HQE meet this criteria.

NOTE: one point for each facility, maximum of two points.

6.5 ENERGY MANAGEMENT SYSTEM

The applicant shall receive two points if it documents conformance to ISO 50001 or to EMAS.

6.6 EMBODIED ENERGY

6.6.1 Cradle-to-Gate Analysis

The applicant shall receive one point for assessing the amount of embodied energy consumed for the materials used within the product. The assessment is to be completed using publicly available Life-Cycle Inventory (LCI) data that exist for each material.

6.6.2 Gate-to-Gate Analysis

The applicant shall receive one point for conducting a Life-Cycle Inventory (LCI) of the amount of energy associated with the processes used during manufacturing of the product.

6.6.3 Embodied Energy – 10% Reduction

The applicant shall receive one point for a 10% reduction from 6.6.1 or 6.6.2 of energy associated with raw material production (cradle-to-gate) or energy reduction with the processes used during manufacturing of the product (gate-to-gate).

6.7 FINISHED PRODUCT ENERGY CONSUMPTION

6.7.1 Prerequisite – Lighting Products

Lighting products shall meet the Commission Regulation (EU) No 1194/2012 on ecodesign requirements for directional lamps, light emitting diode lamps and related equipment and Regulation (EU) No 874/2012 on energy labelling of electrical lamps and luminaires.

6.7.2 Prerequisite – Standby energy consumption (for e.g. sit/stand tables)

The standby electrical consumption of any electrically powered products shall be ≤ 0.1W.

6.8 TRANSPORTATION

6.8.1 Inbound Transportation

The organisation shall earn one point if it develops, documents, and implements technologies and strategies that help carriers save fuel, reduce air pollution, and reduce emissions when receiving materials and components to the manufacturing facility and distributing between facilities(s).

6.8.2 Outbound Transportation

The organisation shall earn one point if it develops, documents, and implements technologies and strategies that help carriers save fuel, reduce air pollution, and reduce emissions when distributing finished goods.

6.9 ON-SITE AND OFF-SITE RENEWABLE ENERGY

The applicant may receive up to a maximum of four points for using increasing levels of on-site and off-site renewable energy renewable energy certificates to help reduce greenhouse gases and other environmental impacts associated with fossil fuel energy use. This may be accomplished by a combination of individual actions by the organisation or its suppliers for the sum of the points allocated to those individual actions.

6.9.1 Basic level

The applicant shall receive one point if it uses on-site renewable energy for 1% of its energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed.

OR

if it uses off-site renewable energy/certificates for 5% of its energy requirement for buildings directly associated with the manufacturing and/or final assembly of the product being assessed.

6.9.2 Intermediate level

The applicant shall receive an additional point if it uses on-site renewable energy for 2% of its energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed.

OR

If it uses off-site renewable energy/certificates for 10% of its energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed.

6.9.3 Advanced level (1)

The applicant shall receive an additional point if it uses on-site renewable energy for 4% of its energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed

OR

If it uses off-site renewable energy/certificates for 25% of its energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed.

6.9.4 Advanced level (2)

The applicant shall receive an additional point if it uses on-site renewable energy for 8% of its energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed.

OR

If it uses off-site renewable energy/certificates for 50% of its total energy requirement for buildings directly associated with manufacturing and/or final assembly of the product being assessed.

6.10 GREENHOUSE GAS

GHG emissions generated by the product throughout its life cycle must be assessed by applicants. The assessment must be carried out using a developed tool which complies with the ISO 14064 standard. The applicant shall provide the results, the data and the theories considered.

Method for verification: Environmental Product Declaration, Climate Declaration or equivalent including results from the lifecycle analysis conducted in accordance with ISO 14040-44 or ISO 14025 and information about the product's carbon footprint.

By fulfilling the following criteria, the applicant can earn up to six points in the Greenhouse Gases (GHG) section.

6.10.1 Greenhouse Gases Inventory Baseline

The applicant shall receive one point if it establishes a baseline for GHG emissions from such activities as energy use, industry processes, including all emissions sources of the six major GHGs below. Calculation of the baseline shall be based on the boundaries established by the applicant within the facility where manufacturing and/or final assembly of the product being assessed occurs.

- Carbon Dioxide (CO2)
- Methane (CH4)
- Nitrous Oxide (N2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur Hexafluoride (SF6)

6.10.2 Greenhouse Gas Reduction by 2% or 4%

The applicant shall receive an additional point if it conforms to 6.10.1 and reduces greenhouse emission inventory by 2% on an absolute basis, or 4% on a normalized basis, from the baseline for all emissions sources of the six previously listed GHGs.

6.10.3 Greenhouse Gas Reduction by 4% or 8%

The applicant shall receive an additional point if it conforms to 6.10.1 and reduces greenhouse emission inventory by 4% on an absolute basis, or 8% on a normalized basis, from the baseline for all emissions sources of the six previously listed GHGs.

6.10.4 Greenhouse Gas Reduction by 6% or 12%

The applicant shall receive an additional point if it conforms to 6.10.1 and reduces greenhouse emission inventory by 6% on an absolute basis, or 12% on a normalized basis, from the baseline for all emissions sources of the six previously listed GHGs.

6.10.5 Greenhouse Gas Voluntary Reporting Programme

The applicant shall receive two points if it participates in a voluntary GHG Reporting programme, where companies annually inventory and report their GHG emissions; and voluntary commitment to reducing their GHG emissions. A validated EMAS environmental statement is also acceptable.

7 HUMAN AND ECOSYSTEM HEALTH

7.1 PREREQUISITES

7.1.1 Demonstration of Compliance

The organisation shall screen all facilities for compliance with environmental and health and safety requirements of their products and processes. The organisation shall evaluate compliance with all applicable environmental and health and safety regulations that govern toxic and hazardous substance use and risk management associated with human and ecosystem health. The organisation or any representative of the organisation shall not have any human or ecosystem health related criminal violations within the previous three years. Any human or ecosystem health related criminal violation at an acquired company which preceded the date of acquisition shall not preclude an organisation from participating in this Standard.

7.1.2 Key Chemical, Risk, and Policies for the Environmental Management System (EMS)

The organisation shall adopt a policy statement. The policy statement shall be publicly available and communicated to all persons working for or on behalf of the organisation. In addition to the aforesaid topics, the organisation shall document the following:

- An environmental policy that includes commitments to prevention of pollution, continuous improvement and compliance with applicable regulations and other obligations;
- A chemical management policy that includes a statement of how the company assesses and reduces human and ecosystem health impacts; and
- Incorporation of life-cycle thinking into company policies.

7.2 EMAS, ISO 14001 OR EQUIVALENT

The applicant shall receive two points if it documents conformance with:

- EMAS or
- ISO 14001 or
- an environmental management system that contains the following elements for all facilities associated with the product being assessed:
    1. Environmental policy
    2. Environmental aspects
    3. Legal or other requirements
    4. Objectives and targets
    5. Implementation
    6. Management review

7.3 CHEMICAL MANAGEMENT PLAN (CMP) – FACILITY

The organisation shall establish a CMP to manage chemicals in products and processes. By fulfilling one of the following three criteria, the applicant can earn one point as detailed below.

- The applicant shall receive one point if it develops and implements a system for inventory tracking and control of process, product, and facility management chemicals that includes acquisition, use, storage, transportation, and final disposition; or
- The applicant shall receive one point if it demonstrates responsible and effective handling of chemicals in all way. This includes the knowledge of all chemicals, having all MSDS, having done a risk assessment for each chemical, having all containers properly labelled, having trained the employees regularly, having stored all chemicals according to the regulations, having minimized the amount of chemicals at the workplace, and actively trying to substitute chemicals on a yearly basis. This credit is considered as fulfilled if the Company is OHSAS 18001 or ISO 14001 certified or EMAS validated; or
- The applicant shall receive one point if it has documented and implemented an action plan for emergency planning and response. The action plan has to consider situations like releasing chemicals, fire and explosion. It has also to contain the responsibilities within these situations (e.g. for evacuation, for first and second firefighting) and documented escape routes and the availability of such plans everywhere in the facility. This credit is considered as fulfilled if the company has implemented measures according to Directive 2012/18/EU or its transposition in a Member State, or if the company is ISO 14001 certified or EMAS validated.

7.4 EFFECTS OF PRODUCT, PROCESS AND MAINTENANCE CHEMICALS

The organisation shall design safer products and processes by using design for the environment (DFE) protocol to identify and assess the human health and ecosystem health impacts of chemicals of concern by using reference lists in normative Annex 1. Evaluation may take place at the:

- Product level; and/or
- Process level; and/or
- Maintenance/operations level.

The intent of the identification and assessment process is for the product manufacturer to collect data from the supply chain. The chemical constituents are to be reported and referenced by Chemical Abstracts Service Registry Number (CASRN). Chemical constituents of metal alloys can be based on generic composition defined by appropriate standards organisations. No further review of wood and other natural fibres is required; however, products using these materials shall report added chemical constituents as defined below.

7.4.1 Product Level (Material Specification)

The organisation shall identify all chemical constituents of the materials incorporated into the product in its ready to install state, and shall assess them for human and ecosystem impact. This credit is intended to employ a tiered approach to obtain points under 7.4.1.1 or 7.4.1.2 or 7.4.1.3. A maximum of four product points shall only be achieved by fulfilling credit 7.4.1.3.

7.4.1.1 Basic Level

The applicant may earn one point if it identifies and assesses all MSDS reportable chemicals as defined by Regulation (EC) No 1907/2006 for materials that add up to 95% by weight of the final product.

Or

7.4.1.2 Intermediate Level

The applicant may earn three points if it identifies and assesses all chemicals of concern down to 100 parts per million, using the list from normative Annex 1, for materials that add up to 99% by weight of the final product.

Or

7.4.1.3 Advanced Level

The applicant may earn points if it identifies and assesses all chemical constituents down to 100 parts per million for materials that add up to (maximum total of 4 points for 7.4.1):

- 75% by weight of final product (2 points); or
- 90% by weight of product (3 points); or
- 99% by weight of product; (4 points).

7.4.2 Process Level (Process Chemicals)

The applicant shall receive one point if it identifies and assesses process chemicals of concern based on MSDS information using Annex 1 for at least three manufacturing processes associated with the manufacture of the product, within the gate-to-gate assessment (either by the organisation itself or its supply chain), and assesses them for human and ecosystem impact, and exposure during application consistent with applicable hazard assessment requirements. Manufacturing processes do not cover the extraction and initial processing of raw materials. If there are only one or two manufacturing processes then all process chemical constituents must be identified and assessed**.**

7.4.3 Maintenance/Operations Level

The applicant shall receive one point if it identifies and assesses chemicals of concern based on MSDS information using Annex 1 for 50% (by purchase amount) of all maintenance and operating chemicals not directly used in the manufacture of the product, and assesses them for human and ecosystem impact. This credit applies at the facility where manufacturing or final assembly occurs.

7.4.4 Chemical Reduction Strategy

The applicant shall receive one point if it develops a strategy to improve public and environmental health by reducing the use of materials and processes with significant life cycle impacts. The strategy shall be based on the findings of 7.4.1, 7.4.2, and 7.4.3. Significance shall be based on quantity of chemical used, relative impact, applicable impact categories, likelihood of impact, and feasibility.

7.5 REDUCTION/ELIMINATION OF CHEMICALS OF CONCERN

The organisation shall minimize the impact on human and ecosystem health of chemicals used in or associated with production of furniture.

7.5.1 Elimination from Products

The organisation shall document that the product does not contain chemicals of concern, as listed in Annex 1 in the following classifications above 100 mg/kg. The applicant shall receive two points for each classification that is shown not to be present above 100 mg/kg (maximum eight points available):

- persistent, bioaccumulative, and toxic (PBT); and
- reproductive toxicant; and
- carcinogen; and
- endocrine disruptor.

7.5.2 Reduction or Elimination from Processes

If compliance with credit 7.4.2 is achieved, the applicant can earn additional points by reducing or eliminating chemicals of concern based on MSDS information using Annex 1.

Alternatively, chemicals identified in addition to those using MSDS information that contribute to one or more of the impact categories listed below can also earn points for reduction or elimination.

1. Persistent, bioaccumulative, or toxic (PBT)
2. Reproductive toxicant
3. A carcinogen
4. An endocrine disruptor (ED)
5. Acidification
6. Aquatic Toxicity
7. Eutrophication
8. Global Warming
9. Photochemical Smog Formation
10. Stratospheric Ozone Depletion
11. Terrestrial Toxicity.

NOTE: An informative reference for Acidification, Aquatic Toxicity, Eutrophication, Global Warming, Photochemical Smog Formation, Stratospheric Ozone Depletion, or Terrestrial Toxicity impact chemicals is available in the guidance document.

The applicant can earn points by fulfilling the criteria below but shall not receive more than four total points for 7.5.2 regardless of how many criteria it fulfils beyond this limit.

7.5.2.1 Percentage reduction

On initial certification, the applicant shall receive:

- One point for demonstrating a 5 – 9% reduction on an absolute basis, or a 10 - 19% reduction, on a normalized basis, in chemical(s) in one or more of the above categories;

  Or

- Two points for demonstrating a 10 – 15% reduction on an absolute basis, or 20 - 29% reduction, on a normalized basis, in chemical(s) in one or more of the above categories;

  Or

- Three points for demonstrating a 16 – 19% reduction on an absolute basis, or 30 - 39% reduction, on a normalized basis, in chemical(s) in one or more of the above categories;

  Or

- Four points for demonstrating a reduction of 20% or more, on an absolute basis, or 40% or more, on a normalized basis, in chemical(s) in one or more of the above categories; or the elimination of chemicals in one or more of the above categories.

On re-certification, the applicant shall earn points in this category by demonstrating further reductions in increments of 5% (on an absolute basis), or 10% on a normalized basis, by showing the levels of reduction detailed above in a different set of chemicals without an increase in the former set of chemicals.

7.5.2.2 Maximum concentration

An applicant can earn points if it documents that the processes used to manufacture the product do not contain any chemical of concern (see Annex 1) at a concentration greater than 0.1% in one or more of the listed classifications. The applicant shall receive one point for each of the classifications in 7.5.2 (1-4) that is shown to be absent above this concentration.

A chemical is relevant to 7.5.2 if it is present and/or released at any stage of the processing of the final product. Presence or release during processing may be intentional or unintentional; direct or indirect (e. g., intentionally added chemicals, or background levels). For the purposes of 7.5.2, a chemical of concern shall be considered successfully phased out if the presence or release of the chemical in the process is below 0.1%. Where reduction is achieved by substitution, there shall be no net increase of chemicals from any of the above categories.

7.5.3 Reductions from Maintenance and Operations level

If compliance with credit 7.4.3 is achieved, the applicant can earn additional points by reducing and/or eliminating chemicals of concern based on MSDS information using Annex 1.

Alternatively, chemicals identified in addition to those using MSDS information that contribute to the impact categories listed below in numbers 5 through 11 can also earn points for reduction and/or elimination.

1. Persistent, bioaccumulative, or toxic (PBT); and/or
2. Reproductive toxicant; and/or
3. A carcinogen; and/or
4. An endocrine disruptor (ED); and/or

(For 1-4, see Annex 1)

5. Acidification;
6. Aquatic Toxicity;
7. Eutrophication;
8. Global Warming;
9. Photochemical Smog Formation;
10. Stratospheric Ozone Depletion; or
11. Terrestrial Toxicity.

On initial certification, the applicant shall receive:

- One point for demonstrating a 20% reduction or more, on an absolute basis, or 40% or more on a normalized basis, in chemical(s) in one or more of the above categories; or eliminating chemical(s) in one or more of the above categories.

On re-certification, the applicant shall earn a point earned in this category by demonstrating further reductions in increments of 10%, on an absolute basis, or 20% on a normalized basis, by showing the levels of reduction detailed above in a different set of chemicals without an increase in the former set.

This credit applies at the facility where manufacturing or final assembly occurs.

7.5.4 Reduction of Hazardous Wastes and Air Emissions

The scope of these credits shall include:

- Finishing (e.g. plating, coating, gluing, associated cleaning/degreasing and assembly) of the product and components.

And

- Fabrication (e.g. welding, casting, forming, moulding, associated cleaning/degreasing) of the product components.
- Finishing and fabrication operations for small components (e.g. fasteners, screws, washers, glides, labels), that combined comprise up to a total of 5% of the product by weight may be excluded. Processes such as the extraction and initial processing (including rolling, smelting) of raw materials is excluded from the scope of this credit. The applicant must include finishing and fabricating wherever it occurs. The applicant must state whether the assessment is being completed for the applicants own facilities and/or for facilities operated by a supplier (doing finishing or fabrication operations for the product to be assessed).

7.5.4.1 Hazardous Waste

The applicant shall receive one point for the facility where finishing and assembly is done if it:

- reduces the amount of hazardous waste generated by at least 10% on an absolute basis over the baseline period.

OR

- reduces the amount of hazardous waste generated by at least 20% on a normalized basis over the baseline period.

OR

- has less than 2 tons of hazardous waste per year (all hazardous waste added together regardless of the kind of waste).

The applicant shall receive one point for fabrication if it:

- reduces the amount of hazardous waste generated by at least 10% on an absolute basis over the baseline period.

OR

- reduces the amount of hazardous waste generated by at least 20% on a normalized basis over the baseline period.

OR

- has less than 2 tons of hazardous waste per year (all hazardous waste added together regardless of the kind of waste).

If there is only one facility, and the amount of hazardous waste is below 2 tons per year, than the applicant will earn two points.

7.5.4.2 Air Emissions

NOTE: The first edition of this document does not establish any requirement concerning air emissions. Compliance with European and national legislation shall be considered as a prerequisite.

7.6 LOW EMITTING FURNITURE

7.6.1 Formaldehyde emissions from wood based materials

7.6.1.1 Prerequisite

Wood based panels shall meet the requirements for class E1 established by EN 13986 Annex B.

Verification:

Testing shall be carried out according to one of the following test methods:

- EN 717-1;
- EN ISO 16 000-3

The applicant shall provide evidence that all panels used are of class E1 or better.

7.6.1.2 Advanced level

Formaldehyde emissions from each type of panel used for the product shall not exceed the limit values laid down in Annex 7.

Verification:

Test reports by accredited laboratories making use of the methods for determination laid down in Annex 7.

Points:

The applicant shall receive two points if it satisfies this requirement.

7.6.2 VOC emissions from the finished product/component

VOC emissions from finished furniture product / component shall not exceed the limit values laid down in Annex 8.

Verification:

Test reports by accredited laboratories making use of the methods for determination laid down Annex 8.

Points:

The applicant shall receive four points if it satisfies this requirement.

8 SOCIAL RESPONSIBILITY

8.1 PREREQUISITES

8.1.1 Employee Health and Safety Management

The organisation shall ensure employee health and safety by establishing management processes that will detect, avoid, or respond to actual and potential threats to the health and safety of personnel.

The processes shall include the following components:

- Identification of the local and national health and safety laws applicable to the facility;
- Appointment of a management representative with defined responsibilities;
- An employee health and safety policy;
- Documented procedures for the management of the system including a corrective action process that addresses regulatory compliance and actual and potential threats to employee health and safety;
- Establishment and maintenance of employee health and safety metrics;
- Health and safety training available for employees; and
- Regular evaluation of compliance to applicable health and safety laws, as well as internal procedures and requirements.

Alternatively, an organisation that is BS OHSAS 18001 certified meets this prerequisite.

8.1.2 Labour and Human Rights

The organisation shall protect and respect the rights of human resources at the local, national, and global levels by ensuring that forced or involuntary labour is not used or supported in any form, that employment is voluntary, and that child labour is not used or supported in any form.

The Organisation shall provide official commitments, codes or policies that cover these issues. Verification also occurs during the in-person audit by the certifying body.

8.2 POLICY ON SOCIAL RESPONSIBILITY

One point is available if the organisation adopts a publicly available documented policy (or policies) on social responsibility that, at minimum, addresses:

- Fair hiring practices;
- Education for applicable employees in this subject area;
- Corporate ethics;
- Receipt of gifts;
- Insider trading.

8.3 EXTERNAL HEALTH AND SAFETY MANAGEMENT STANDARD

One point is available if the organisation enhances productivity and employee welfare by implementing policies and procedures that go beyond the requirements of 8.1.1 by conforming to the requirements of a publicly available external health and safety management system standard.

Among other options, an organisation that is BS OHSAS 18001 certified meets this requirement.

8.4 INCLUSIVENESS

One point is available if the organisation promotes inclusiveness in the workforce, in management, and corporate governance bodies while recognizing the unique local norms, which exist in different countries around the world. The organisation shall develop and implement an inclusiveness policy that includes the following components:

- Identification of and compliance to the local and national inclusiveness rules and regulations applicable to the facility;
- Documented procedures for the management of the system;
- Establishment of appropriate feedback mechanisms;
- A corrective action process;
- Establishment and maintenance of employee inclusiveness metrics and internal performance tracking and reporting;
- Inclusiveness education available for employees; and
- Regular evaluation of compliance to applicable inclusiveness rules and regulations, as well as internal procedures and requirements.

Items above could for instance include employee opinion surveys, employee suggestion systems, works councils, and employee meetings.

8.5 ENGAGE IN COMMUNITY OUTREACH AND INVOLVEMENT

One point is available if the organisation demonstrates good corporate citizenship to benefit the communities in which it operates. It shall demonstrate at least two volunteer efforts and/or financial contributions supporting community projects within each 12-month period.

8.6 SOCIAL RESPONSIBILITY REPORTING

The organisation shall promote transparency through public reporting of social responsibility activities and results. Wherever possible, it shall use widely accepted metrics to evaluate the effects of these policies and activities on the company's stakeholders. By fulfilling one or both of the following requirements, the applicant can earn up to three points, as detailed below.

8.6.1 Basic Level

The applicant may earn one point if it publishes a public social responsibility report that, at minimum, addresses:

- Employee Health and Safety Management;
- Labour and Human Rights Management;
- Inclusiveness;
- Community Outreach and Involvement.

8.6.2 Advanced Level

The applicant shall receive additional two points if it publishes a social responsibility report that covers at minimum the following topics from ISO 26000:

- the core subject “Organization”;
- 3 of the remaining core subjects;
- and within each of the taken core subjects 40% of the issues

The social responsibility report can also be part of a more comprehensive report that includes environmental or economic elements.

Different publicly available reports can be accepted if they together cover the requirements above.

8.7 SUPPLY CHAIN

The organisation shall encourage continuous improvement in the supply chain particularly to social responsibility. By fulfilling the following criteria, the applicant may earn up to four points, as detailed below.

8.7.1 Basic Level

The applicant shall earn one point if it establishes a documented supplier assessment tool (which may be a self-assessment tool) containing social responsibility criteria for its suppliers. At a minimum, the assessment tool shall contain criteria in the following categories:

- Child labour
- Forced labour
- Health and safety
- Discrimination
- Discipline/harassment
- Working hours
- Compensation
- Corruption
- Bribery

8.7.2 Advanced Level

8.7.2.1 Implementation of Supplier Self-Assessment Tool

The applicant shall earn two additional points if it conforms to 8.7.1 and provides completed responses to the assessment tool from suppliers comprising at least 80% of its total direct material spend for all products, measured using actual annual spend data for a consecutive 12-month time period within the previous 2 years.

For suppliers that are part of the "80% of total direct material spend" that act as brokers, distributors, inventory management providers, etc. and do not manufacture and/or assemble the components/products purchased by the organisation, the assessment tool responses shall be obtained from their suppliers who do manufacture and/or assemble the components/products.

8.7.2.2 Supplier Code of Conduct

The applicant shall earn one additional point if it conforms to 8.7.2.1 and develops a Supplier Code of Conduct. At least, the Code of Conduct shall address the following criteria:

– Child labour

– Forced labour

– Health and safety

– Discrimination

– Discipline/harassment

– Working hours

– Compensation

– Corruption

– Bribery

The Code of Conduct shall be signed by suppliers comprising at least 80% of the applicants' total material spend which shall include its high risk suppliers. This shall be measured using actual annual spend data for a consecutive 12-month time period within the previous 2 years.

NOTE - The applicant who qualifies for one additional point in this section (8.7.2.2) automatically has earned the two points in 8.7.2.1 and the one point in 8.7.1.

8.8 EXCELLENCE IN SOCIAL RESPONSIBILITY

In this section, the applicant shall may earn one point for being recognized by a variety of sources for excellence in social responsibility. The intent of this section is to award outstanding performance that has been recognized by an entity external to the applicant's organisation. One point may be awarded as described below.

8.8.1 Recognition of Excellence

The applicant shall earn one point if it can provide three examples showing excellence in social responsibility performance. The recognition of excellence shall have occurred within the previous 12 month period and relate directly to the topics described in Section 8, Social Responsibility.

Annex 1 – Chemicals of Concern List

Chemicals of Concern are all substances which fall under one or more of the following classifications

- carcinogenic category 1A and 1B (H350)
- carcinogenic category 2 (H351)
- reproductive toxicity category 1A and 1B (H360)
- reproductive toxicity category 2 (H361)
- may cause harm to breast-fed children (H362)
- hazardous to the aquatic environment – acute hazard category 1 (H400)
- hazardous to the aquatic environment – chronic hazard category 1 (H410)
- substances which are listed in Annex XVII of REACH
- substances which are listed in the Annex to German Chemikalienverbotsverordnung

Note 1: The H-phrases make reference to the European GHS / CLP-System which is laid down in Regulation (EC) No 1272/2008.

Note 2: Because of the difficulty of identifying and grouping endocrine disruptors they are excluded at this time. When the European Commission publishes a classification system as intended, then FEMB will reconsider their listing in Annex 1.

Note 3: The detailed list of chemicals as stated in the ANSI/BIFMA e3 Standard is hereby replaced.

Annex 2 – Candidate List of Substances of Very High Concern for Authorization (published in accordance with Article 59 (10) of the REACH regulation).

The updated candidate list of SVHC can be found here: http://echa.europa.eu/candidate-list-table

Annex 3 – Contaminants in recycled wood (to 5.1.2)

The following table shows the limit values and the values for measurement uncertainty for contaminants in recycled wood.

Group of substances: Heavy Metals		
Substance	**Limit ± measurement uncertainty value (mg/kg)**	**Testing Methods**
As (Arsenic)	25 ± 3.3	DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS DIN ISO 20280, ET-AAS und Hydrid AAS
Cd (Cadmium)	50 ± 8.4	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Cr (Chromium)	25 ± 4.0	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Cu (Copper)	40 ± 5.4	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Hg (Mercury)	25 ± 2.1	DIN EN 1483, AAS, AFS DIN ISO 16772, Kaltdampf-AAS oder Kaltdampf-AFS
Pb (Lead)	90 ± 14.4	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Fluorine	100 ± 12.3	DIN EN 212

Group of substances: Heavy Metals		
Substance	**Limit ± measurement uncertainty value (mg/kg)**	**Testing Methods**
Chlorine	1000 ± 86	DIN EN 212
Pentachlorphenol (PCP)	5 ± 0.5	DIN ISO 10382 or DIN ISO 14154, GC-ECD, GC-MS
Tar oils (Benzo(a)pyrene)	0.5 ± 0.01	DIN EN 1014-3

Annex 4 – Textiles and Leather (to 5.5.1 and 5.5.2)

This annex regulates substances of content in textiles and leather. If the product consists of textile parts, leather parts, or both of them, than this annex is mandatory for each of any textile and each of any leather part in the product. The limit values always refer to the weight of the textile and leather part as they are in the product.

A4.1 Requirements for dyes which are classed as carcinogenic, mutagenic, toxic to reproduction or potentially be sensitising

The following table shows the list of dyes which shall not be present at levels higher than the value of 50 mg/kg ± 2.5 mg/kg measurement uncertainty for each individual substance.

Group of substances: Dyes that are carcinogenic, mutagenic, toxic to reproduction or potentially sensitizing		
Substance	**CAS-No**	**Testing Methods**
C.I. Acid Red 26	3761-53-3	For azo dyes: Textiles: EN 14362-1, EN 14362-3 Leather: EN 17234 All other dyes: DIN 54231
C.I. Basic Red 9	569-61-9	
C.I. Basic Violet 14	632-99-5	
C.I. Direct Black 38	1937-37-7	
C.I. Direct Blue 6	2602-46-2	
C.I. Direct Red 28	573-58-0	
C.I. Disperse Blue 1	2475-45-8	
C.I. Disperse Blue 3	2475-46-9	
C.I. Disperse Blue 7	3179-90-6	
C.I. Disperse Blue 26	3860-63-7	
C.I. Disperse Blue 35	12222-75-2	
C.I. Disperse Blue 102	12222-97-8	
C.I. Disperse Blue 106	12223-01-7	
C.I. Disperse Blue 124	61951-51-7	
C.I. Disperse Brown 1	12236-00-9	

Group of substances: Dyes that are carcinogenic, mutagenic, toxic to reproduction or potentially sensitizing		
Substance	**CAS-No**	**Testing Methods**
C.I. Disperse Orange 1	2581-69-3	see page above
C.I. Disperse Orange 3	730-40-5	
C.I. Disperse Orange 11	82-28-0	
C.I. Disperse Orange 37/76	13301-61-6	
C.I. Disperse Red 1	2872-52-8	
C.I. Disperse Red 11	2872-48-2	
C.I. Disperse Red 17	3179-89-3	
C.I. Disperse Yellow 1	119-15-3	
C.I. Disperse Yellow 3	2832-40-8	
C.I. Disperse Yellow 9	6373-73-5	
C.I. Disperse Yellow 39	12236-29-2	
C.I. Disperse Yellow 49	54824-37-2	

A4.2 Requirements for carcinogenic arylamines

The following table shows the list of carcinogenic arylamines, which shall not be present at levels higher than 30 mg/kg ± 4.5 mg/kg measurement uncertainty for each individual substance.

Note for explanation: Appendix III of Commission Decision (EU) 2016/1332 [EU Ecolabel for furniture] contains 24 carcinogenic arylamines which are named in the following table. Entry 43 of Annex XVII of the REACH Regulation contains all these carcinogenic arylamines exempt two substances: 2,4-Xylidine (CAS: 95-68-1) and 2,6-Xylidine (CAS: 87-62-7). As REACH Annex XVII uses also alternative names for the substances, the reference to the CAS number should be preferred.

Group of substances: carcinogenic arylamines		
Substance	**CAS-No**	**Testing Methods**
4-aminodiphenyl	92-67-1	Textiles: EN 14362-1, EN 14362-3 Leather: EN 17234
Benzidine	92-87-5	
4-chloro-o-toluidine	95-69-2	
2-naphtylamine	91-59-8	
o-amino-azotoluene	97-56-3	
2-amino-4-nitrotoluene	99-55-8	
4-chloroaniline	106-47-8	
2,4-diaminoanisol	615-05-4	
4,4‘-diaminodiphenylmethane	101-77-9	
3,3‘-dichlorobenzidine	91-94-1	
3,3‘-dimethoxybenzidine	119-90-4	
3,3‘-dimethyl-4,4‘-diaminodiphenylmethane	838-88-0	
4,4‘-oxydianiline	101-80-4	
4,4‘-thiodianiline	139-65-1	
o-toluidine	95-53-4	
2,4-diaminotoluene	95-80-7	

Group of substances: carcinogenic arylamines		
Substance	**CAS-No**	**Testing Methods**
2,4,5-trimethylaniline	137-17-7	see page above
4-aminoazobenzene	60-09-3	
o-anisidine	90-04-0	
2,4-Xylidine	95-68-1	
2,6-Xylidine	87-62-7	
p-cresidine	120-71-8	
3,3‘-dimethylbenzidine	119-93-7	
4,4'-methylene-bis-(2-chloro-aniline)	101-14-4	

A4.3 Requirement for formaldehyde in 5.5.1

The limit for formaldehyde is 300 mg/kg.

Substance: Formaldehyde		
Substance	**Limit ± measurement uncertainty value (mg/kg)**	**Testing Methods**
Formaldehyde	300 ± 7.5	EN ISO 14184-1

A4.4 Requirement for formaldehyde in 5.5.2

The limit for formaldehyde depends whether there is direct contact to skin or not.

Substance: Formaldehyde		
Substance	**Limit ± measurement uncertainty value (mg/kg)**	**Testing Methods**
Formaldehyde in parts with direct contact to skin	16 ± 2.4	EN ISO 14184-1
Formaldehyde in parts with no direct contact to skin	75 ± 1.9	EN ISO 14184-1

Annex 5 – Upholstery Materials (to 5.6.1 and 5.6.2)

A5.1 Requirements for latex foam

The following tables show the limit values for restricted substances in latex foam.

Group of substances: Chlorophenols		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
mono- and di-chlorinated phenols (salts and esters)	1 ± 0.1	For clorophenols the applicant shall provide a report presenting the results of the following test procedure. 5 g of sample shall be milled and clorophenols shall be extracted in the form of phenol (PCP), sodium salt (SPP) or esters. The extracts shall be analysed by means of gas chromatography (GC). Detection shall be made with mass spectrometer or electron capture detector (ECD).
other chlorophenols	0.1 ± 0.01	

Group of substances: Heavy Metals		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
As (Arsenic)	0.5 ± 0.07	DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS DIN ISO 20280, ET-AAS und Hydrid AAS
Cd (Cadmium)	0.1 ± 0.02	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Co (Cobalt)	0.5 ± 0.06	DIN ISO 11047, AAS DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Cr (Chromium), total	1 ± 0.11	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Cu (Copper)	2 ± 0.24	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Pb (Lead)	0.5 ± 0.04	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Hg (Mercury)	0.02 ± 0.002	DIN EN 1483, AAS, AFS DIN ISO 16772, Kaltdampf-AAS oder Kaltdampf-AFS
Ni (Nickel)	1 ± 0.1	DIN ISO 11047, AAS DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS

Group of substances: Pesticides (only to be tested for foams composed of natural latex by at least 20% by weight)		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
Aldrin	0.04 ± 0.005	For pesticides the applicant shall provide a report presenting the results of the following test procedure. 2 g of sample is extracted in an ultrasonic bath with a hexane/ dichloromethane mixture (85/15). The extract is cleaned up by acetonitrile agitation or by adsorption chromatography over florisil. Measurement and quantification are determined by gas chromatography with detection on an electron capture detector or by coupled gas chromatography/mass spectrometry. The testing on pesticides is requested for latex foams with a content of at least 20% natural latex.
o,p-DDE	0.04 ± 0.005	
p,p-DDE	0.04 ± 0.005	
o,p-DDD	0.04 ± 0.005	
p,p-DDD	0.04 ± 0.005	
o,p-DDT	0.04 ± 0.005	
p,p-DDT	0.04 ± 0.005	
Diazinone	0.04 ± 0.005	
Dichlorfenthion	0.04 ± 0.005	
Dichlorvos	0.04 ± 0.005	
Dieldrin	0.04 ± 0.005	
Endrin	0.04 ± 0.005	
Heptachlor	0.04 ± 0.005	
Heptachlorepoxide	0.04 ± 0.005	
Hexachlorobenzene	0.04 ± 0.005	
Hexachlorocyclohexane	0.04 ± 0.005	
α-Hexachlorocyclohexane	0.04 ± 0.005	
β-Hexachlorocyclohexane	0.04 ± 0.005	
γ-Hexachlorocyclohexane (Lindane)	0.04 ± 0.005	

Group of substances: Pesticides (only to be tested for foams composed of natural latex by at least 20% by weight)		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
δ-Hexachlorocyclohexane	0.04 ± 0.005	see page above
Malathion	0.04 ± 0.005	
Methoxichlor	0.04 ± 0.005	
Mirex	0.04 ± 0.005	
Parathion-ethyl	0.04 ± 0.005	
Parathion-methyl	0.04 ± 0.005	

Group of substances: Other specific substances that are restricted		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
Butadiene	1 ± 0.14	For butadiene the applicant shall provide a report presenting the results of the following test procedure. Following milling and weighing of the latex foam, headspace sampling shall be performed. Butadiene content shall be determined by gas chromatography with detection by flame ionisation.

VOC emissions limits for latex foams after 24 hours in test chamber		
Substance	**Limit ± measurement uncertainty value (mg/m³)**	**Testing Methods**
1,1,1-trichlorethane	0.2 ± 0.032	ISO 16000 series CEN/TS 16516 Testing method laid down in Commission Decision 2016/1332 [EU Ecolabel for furniture], chapter 7.1(b)
4-Phenylcyclohexene	0.02 ± 0.0032	
Carbon Disulphide	0.02 ± 0.0032	
Formaldehyde	0.005 ± 0.0008	
Nitrosamines (NDMA, NDEA, NMEA, NDIPA. NDPA, NDBA, NPYR, NPIP, NMOR)	0.0005 ± 0.00008	
Styrene	0.01 ± 0.0016	
Tetrachlroethylene	0.15 ± 0.024	
Toluene	0.1 ± 0.016	
Trichlorethylene	0.05 ± 0.008	
Vinyl chloride	0.0001 ± 0.000016	
Vinyl cyclohexene	0.002 ± 0.00032	
Aromatic hydrocarbons (total)	0.3 ± 0.048	
VOCs (total)	0.5 ± 0.08	

A5.2 Requirements for polyurethane (PUR) foam

The following table shows the limit values for restricted substances in polyurethane foam.

Group of substances: Biocidal products		
Substance	**Restriction**	**Testing Methods**
Biocidal products	not added intentionally	For biocidal products, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from suppliers of the foam confirming that they have not been added intentionally to the foam formulation.

Group of substances: Flame retardants		
Substance	**Restriction**	**Testing Methods**
Flame retardants	not added intentionally, unless the exemptions below are applicable	For biocidal products, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from suppliers of the foam confirming that they have not been added intentionally to the foam formulation.

Exemptions to the rule “not added intentionally”:

The product must be intended to be used in applications in which it is required to meet fire protection requirements for ISO, EN, Member State or public sector procurement standards and regulations.

Antimon trioxide is only permitted when all of the following conditions are met:

1. The product must be intended to be used in applications in which it is required to meet fire protection requirements in ISO, EN, Member State or public sector procurement standards and regulations.

2. It is used as a synergist with textiles or coated fabrics.

3. Emissions to air in the workplace where the flame retardant is applied to the textile product shall meet an eight hour occupational exposure limit value of 0.50 mg/m³.

Group of substances: Heavy Metals		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
As (Arsenic)	0.2 ± 0.03	DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS DIN ISO 20280, ET-AAS und Hydrid AAS
Cd (Cadmium)	0.1 ± 0.01	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Co (Cobalt)	0.5 ± 0.06	
Cr (Chromium), total	1 ± 0.11	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Cr VI (Chromium VI)	0.01 ± 0.0013	

Cu (Copper)	2 ± 0.24	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Hg (Mercury)	0.02 ± 0.002	DIN EN 1483, AAS, AFS DIN ISO 16772, Kaltdampf-AAS oder Kaltdampf-AFS
Ni (Nickel)	1 ± 0.1	
Pb (Lead)	0.2 ± 0.03	DIN ISO 11047, AAS DIN EN ISO 11885, ICP-AES DIN ISO 22036, ICP-OES DIN EN ISO 17294-2, ICP-MS
Sb (Antimony)	0.5 ± 0.04	
Se (Selenium)	0.5 ± 0.06	

<table>
<tr><th colspan="3">Group of substances: Plasticizers</th></tr>
<tr><th>Substance</th><th>Limit ± measurement uncertainty value (ppm)</th><th>Testing Methods</th></tr>
<tr><td>(1) Dibutylphthalate (DBP)</td><td rowspan="6">0.1% ± 0.007 w/w (sum of all phthalates in furniture for children less than 3 years old)
0.1% ± 0.007 w/w sum of phthalates (1) – (4) for all other furniture</td><td rowspan="6">For the total amount of plasticizers the applicant shall provide a report presenting the results of the following test procedure. Extraction shall be performed using a validated method such as the subsonic extraction of 0.3 g of sample in a vial with 9 ml of t-Butylmethylether during 1 hour followed by the determination of phthalates by GC using a single ion monitoring mass selective detector (SIM Modus).</td></tr>
<tr><td>(2) Di-n-octylphthalate (DNOP)</td></tr>
<tr><td>(3) Di (2-ethylhexyl)-phthalate (DEHP, 117-81-7)(*)</td></tr>
<tr><td>(4) Butylbenzylphthalate (BBP, 85-68-7)(*)</td></tr>
<tr><td>(5) Di-iso-decylphthalate (DIDP, 26761-40-0)</td></tr>
<tr><td>(6) Di-iso-nonylphthalate (DINP, 28553-12-0)</td></tr>
<tr><td>ECHA Candidate List(**) phthalates</td><td>not added intentionally</td><td>For biocidal products, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from suppliers of the foam confirming that they have not been added intentionally to the foam formulation.</td></tr>
</table>

Group of substances: TDA and MDA		
Substance	**Limit ± measurement uncertainty value (ppm)**	**Testing Methods**
2,4 Toluenediamine (2,4-TDA, 95-80-7)	5.0 ± 0.3	For TDA and MDA the applicant shall provide a report presenting the results of the following test procedure. Extraction of a 0.5 g composite sample in a 5 ml syringe shall be performed with 2.5 ml of 1% aqueous acetic acid solution. The syringe is squeezed and the liquid returned to the syringe. After repeating this operation 20 times, the final extract is kept for analysis. A new 2.5 ml of 1% aqueous acetic acid is then added to the syringe and another 20 cycles repeated. After this, the extract is combined with the first extract and diluted to 10 ml in a volumetric flask with acetic acid. The extracts shall be analysed by high-performance liquid chromatography (HPLC-UV) or HPLC-MS. If HPLC-UV is performed and interference is suspected, reanalysis with high performance liquid chromatography–mass spectrometry (HPLC-MS) shall be performed.
4,4'-Diaminodiphenylmethane (4,4'-MDA, 101-77-9)	5.0 ± 0.4	

Group of substances: Tinorganic substances		
Substance	**Limit ± measurement uncertainty value (ppb)**	**Testing Methods**
Tributyltin (TBT)	50 ± 3	For tinorganic substances the applicant shall provide a report presenting the results of the following test procedure. A composite sample of 1-2 g weight shall be mixed with at least 30 ml of extracting agent during 1 hour in an ultrasonic bath at room temperature. The extracting agent shall be a mixture composed as it follows: 1 750 ml methanol + 300 ml acetic acid + 250 ml buffer (pH 4.5). The buffer shall be a solution of 164 g of sodium acetate in 1 200 ml of water and 165 ml acetic acid, to be diluted with water to a volume of 2 000 ml. After extraction the alkyl tin species shall be derivatised by adding 100 µl of sodium tetraethylborate in tetrahydrofuran (THF) (200 mg/ml THF). The derivative shall be extracted with n-hexane and the sample shall be submitted to a second extraction procedure. Both hexane extracts shall be combined and further used to determine the organotin compounds by gas chromatography with mass selective detection in SIM modus.
Dibutyltin (DBT)	100 ± 24	
Monobutyltin (MBT)	100 ± 18	
Tetrabutyltin (TeBT)	---	Value ± 6% if applicable
Monooctyltin (MOT)	---	Value ± 6% if applicable
Dioctyltin (DOT)	---	Value ± 6% if applicable
Tricyclohexyltin (TcyT)	---	Value ± 6% if applicable
Triphenyltin (TPhT)	---	Value ± 6% if applicable
Sum	500 ± 30	

Group of substances: Other specific substances that are restricted		
Substance	**Restriction**	**Testing Methods**
Chlorinated or brominated dioxins or furans	not added intentionally	For biocidal products, phthalates and other specific substances that are restricted the applicant shall provide a declaration supported by declarations from suppliers of the foam confirming that they have not been added intentionally to the foam formulation.
Chlorinated hydrocarbons: (1,1,2,2-Tetrachloroethane, Pentachloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethylene)		
Chlorinated phenols (PCP, TeCP, 87-86-5)		
Hexachlorocyclohexane (58-89-9)		
Monomethyldibromo–Diphenylmethane (99688-47-8)		
Nitrites		
Polybrominated Biphenyls (PBB, 59536-65-1)		
Pentabromodiphenyl Ether (PeBDE, 32534-81-9)		
Octabromodiphenyl Ether (OBDE, 32536-52-0)		
Polychlorinated Biphenyls (PCB, 1336-36-3)		
Polychlorinated Terphenyls (PCT, 61788-33-8)		
Tris(2,3-dibromopropyl) phosphate (TRIS, 126-72-7)		
Trimethylphosphate (512-56-1)		
Tris-(aziridinyl)-phosphinoxide (TEPA, 545-55-1)		

Group of substances: Other specific substances that are restricted		
Substance	**Restriction**	**Testing Methods**
Tris(2-chloroethyl)-phosphate (TCEP, 115-96-8)		see page above
Dimethyl methylphosphonate (DMMP, 756-79-6)		

VOC emissions limits for PUR foams after 72 hours in test chamber		
Substance	**Limit ± measurement uncertainty value (mg/m³)**	**Testing Methods**
Formaldehyde (50-00-0)	0.005 ± 0.0008	ISO 16000 series CEN/TS 16516 Testing method laid down in Commission Decision 2016/1332 [EU Ecolabel for furniture], chapter 7.2(b)
Toluene (108-88-3)	0.1 ± 0.016	
Styrene (100-42-5)	0.005 ± 0.0008	
Each detectable compound classified as categories C1A or C1B according to Regulation (EC) No 1272/2008	0.005 ± 0.0008	
Sum of all detectable compound classified as categories C1A or C1B according to Regulation (EC) No 1272/2008	0.04 ± 0.0064	
Aromatic hydrocarbons	0.5 ± 0.08	

VOC emissions limits for PUR foams after 72 hours in test chamber		
Substance	**Limit ± measurement uncertainty value (mg/m³)**	**Testing Methods**
VOCs (total)	0.5 ± 0.08	

A5.3 Requirements for other padding materials

Other materials may be permitted to be used as padding in furniture upholstery if the following conditions are met:

- General requirements for hazardous substances set out in criterion 2 are respected.
- Halogenated organic compounds are not used as blowing agents or as auxiliary blowing agents.
- Feathers or down are not be used as padding/filling material either alone or in blends.
- If the padding/filling material uses coconut fibre rubberised using latex, compliance with criterion 7.1(a) and 7.1(b) is demonstrated.

Assessment and verification: The applicant shall provide a declaration of compliance stating all following points:

- The nature of the padding/filling material used and any other blended materials;
- That the material does not contain any SVHCs or other hazardous substances that are not specifically derogated in Table 2.
- That halogenated organic compounds have not been used as blowing agents or as auxiliary blowing agents.
- That down or animal feathers have not been used in the filling/padding material, either alone or in blends.
- If coconut fibres have been rubberised with latex, then compliance with criterion A5.1 for restricted substances and VOC emissions shall be demonstrated.

Annex 6 − List of EN and ISO technical standards on requirements for dimensions, safety, strength and durability of office and non-domestic furniture (to 5.13.1.2)

Tables and desks	
EN 527-1	Office furniture –- Work tables and desks − Part 1: Dimensions
EN 527-2	Office furniture − Work tables and desks − Part 2: Mechanical safety requirements
EN 15372	Furniture − Strength, durability and safety − Requirements for non-domestic tables
Chairs	
EN 1335-1	Office furniture − Office work chair − Part 1: Dimensions − Determination of dimensions
EN 1335-2	Office furniture − Office work chair − Part 2: Safety requirements
CEN/TR 1335-4	Office furniture − Office work chair − Part 4: Clarifications to EN 1335-1:2000 (Dimensions)
EN 16139	Furniture − Strength, durability and safety − Requirements for non-domestic seating
EN 12727	Furniture - Ranked seating - Test methods and requirements for strength and durability
Office Screens	
EN 1023-1	Office furniture − Screens − Part 1: Dimensions
EN 1023-2	Office furniture − Screens − Part 2: Mechanical safety requirements
Storage Units	
EN 14073-2	Office furniture − Storage furniture − Part 2: Safety requirements
EN 14074	Office furniture − Tables and desks and storage furniture − Test methods for the determination of strength and durability of moving parts
EN 16121	Non-domestic storage furniture − Requirements for safety, strength, durability and stability
Others	
EN 13150	Workbenches for laboratories. Dimensions, safety requirements and test methods
EN 14727	Laboratory furniture − Storage units for laboratories − Requirements and test methods

Annex 7 – Formaldehyde (to 7.6.1.2)

7.1 Requirements for formaldehyde

The following tables show the limit values for restricted substances in wood-based panels.

<table>
<tr><th colspan="3">Group of substances: Formaldehyde</th></tr>
<tr><th>Substance</th><th>Limit ± measurement uncertainty value</th><th>Testing Methods</th></tr>
<tr><td rowspan="2">Formaldehyde</td><td>Wood-based panel:
Testing methods 1) to 4) in the right column:
1)
0.05 ± 0.005 ppm
0.062 ± 0.0062 mg/m³
2)
4 + 0.4mg/100 g
3)
1.75 ± 0.175 mg/m²h
4)
2.5 ± 0.25 mg/m²h</td><td rowspan="2">According to the definition provided in Annex B to EN 13986, a wood-based panel shall be classified as E1 if
1) emissions are equivalent to steady state concentrations of less than or equal to 0.1 ppm (0.124 mg/m³) of formaldehyde after 28 days of a chamber test carried out according to EN 717-1 or
2) that the formaldehyde content is determined to be less than or equal to 8 mg/100 g oven dry board when measured according to EN 120 or
3) that formaldehyde emission rates are less than or equal to 3.5 mg/m²h according to EN 717-2 or
4) less than or equal to 5.0 mg/m²h according to the same method but within 3 days after production

Wood-based panels shall not exceed 50% of these values.
Medium Density Fiberboard (MDF) shall not exceed 65% of these values</td></tr>
<tr><td>MDF:
Testing methods 1) to 4) in the right column:
1)
0.065 ± 0.0065 ppm
0.081 ± 0.0081 mg/m³
2)
4 + 0.4mg/100 g
3)
2.28 ± 0.228 mg/m²h
4)
3.25 ± 0.325 mg/m²h</td></tr>
</table>

Annex 8 – VOC (to 7.6.2)

A8.1 Requirements for VOC

The following table shows the limit values for restricted substances in the finished product / component.

Group of substances: VOC		
Substance	**Limit ± measurement uncertainty value (mg/m³)**	**Testing Methods**
TVOC (C6 – C16)	0.4 ± 0.064	ISO 16000-9, values determined after 28 days
TSVOC (C16 – C22)	0.1 ± 0.016	
Sum of all VOC without LCI	0.1 ± 0.016	

Annex 9 – Scorecard

ref.	Title	Possible points	Organis.	Facility	Product
5	MATERIALS	29			
5.1	Wood and wood-based materials				
5.1.1	Legally sourced timber	required			req.
5.1.2	Contaminants in recycled wood - Basic Level	1			1
5.1.3	Sustainable forest management				
5.1.3.1	Basic Level	1			1
5.1.3.2	Advanced level	1			1
5.2	Plastic parts				
5.2.1	Marking of plastic parts	required			req.
5.3	Surface coating of wood, plastic and/or metal parts				
5.3.1	Restrictions on chemicals	required			req.
5.4	Adhesives and glues				
5.4.1	Basic Level - VOC content	1			1
5.4.2	Advanced Level - VOC content	1			1
5.5	Textiles & leather				
5.5.1	Restrictions on chemicals	required			req.
5.5.2	Basic level	2			2
5.6	Upholstery materials				
5.6.1	Prerequisite	required			req.
5.6.2	Basic level	2			2
5.7	Flame retardants				
5.7.1	Prerequisite	required			req.
5.8	Phtalates	required			req.
5.9	Packaging materials				
5.9.1	Prerequisite	required			req.
5.9.2	Basic level	1			1
5.9.3	Advanced Level	1			1
5.10	Life cycle assessment				
5.10.1	Life cycle assessment (1)	2			2
5.10.2	Life cycle assessment (2)	1			1
5.10.3	Life cycle assessment (3)	1			1
5.11	Efficient use of materials				
5.11.1	Efficient use of materials (1)	1			1
5.11.2	Efficient use of materials (2)	1			1
5.12	Recycled content				
5.12.1	Basic level	1			1
5.12.2	Advanced level	1			1
5.13	Extended product responsibility				
5.13.1	Design for durability/upgadeability				
5.13.1.1	Prerequisite	required			req.

ref.	Title	Possible points	Organis.	Facility	Product
5.13.1.2	Basic level	1			1
5.13.1.3	Advanced Level	1			1
5.13.2	Design for remanufacturing				
5.13.2.1	Prerequisite	required			req.
5.13.3	Design for recycling				
5.13.3.1	Prerequisite	required			req.
5.13.4	Other facilitation efforts				
5.13.4.1	Prerequisite - Information to the user	required	req.		
5.13.4.2	Basic level				
5.13.4.2.1	Research on recovery options	1	1		
5.13.4.2.2	Buy-back/take-back/Leasing	1	1		
5.14	Product performance				
5.14.1	Prerequisite	required			req.
5.15	Solid waste management				
5.15.1	Prerequisite	required	req.		
5.15.2	General				
5.15.2.1	Basic level - 100% diversion goal	1	1		
5.15.2.2	Advanced level - Achieving 95% diversion	1	1		
5.16	Water management				
5.16.1	Prerequisite	required		req.	
5.16.2	Water management credits				
5.16.2.1	Basic level - Water inventory of factory	1		1	
5.16.2.2	Intermediate level - Water efficiency	1		1	
5.16.2.3	Advanced level - Wastewater discharge	2		2	
6	ENERGY AND ATMOSPHERE	22			
6.1	Prerequisite	required	req.		
6.2	Building energy performance baseline				
6.2.1	Building energy performance baseline (1)	1		1	
6.2.2	Building energy performance baseline (2)	2		2	
6.3	Building energy performance rating				
6.4	Building rating system certification	2		2	
6.5	Energy management system	2	2		
6.6	Embodied energy				
6.6.1	Cradle-to-cradle analysis	1			1
6.6.2	Gate-to-gate analysis	1			1
6.6.3	Embodied energy - 10% reduction	1			1
6.7	Finished product energy consumption				
6.7.1	Lighting products	required			req
6.7.2	Standby energy consumption (for e.g. sit/stand tables)	required			req
6.8	Transportation				
6.8.1	Inbound transportation	1			1

ref.	Title	Possible points	Organis.	Facility	Product
6.8.2	Outbound transportation	1			1
6.9	On-site and off-site renewable energy				
6.9.1	Basic level	1		1	
6.9.2	Intermediate level	1		1	
6.9.3	Advanced level (1)	1		1	
6.9.4	Advanced level (2)	1		1	
6.10	Greenhouse gases				
6.10.1	Greenhouse gases inventory baseline	1		1	
6.10.2	Greenhouse gases reduction by 2% or 4%	1		1	
6.10.3	Greenhouse gases reduction by 4% or 8%	1		1	
6.10.4	Greenhouse gases reduction by 6% or 12%	1		1	
6.10.5	Greenhouse gases voluntary reporting programme	2	2		
7	HUMAN AND ECOSYSTEM HEALTH	31			
7.1	Prerequisites				
7.1.1	Demonstration of compliance	required	req.		
7.1.2	Key chemical, risk and EMS policy	required	req.		
7.2	EMAS, ISO 14001 or equivalent	2		2	
7.3	Chemical management plan (CMP) - Facility	1		1	
7.4	Effects of product, process and maintenance chemicals				
7.4.1	Product level (material specification) (max.)	4			4
7.4.1.1	Basic level				
7.4.1.2	Intermediate level				
7.4.1.3	Advanced level				
7.4.2	Process Level (process chemicals)	1		1	
7.4.3	Maintenance/Operations level	1		1	
7.4.4	Chemical reduction strategy	1		1	
7.5	Reduction/elimination of chemicals of concern				
7.5.1	Elimination from products	8			8
7.5.2	Reduction or elimination from process	4		4	
7.5.2.1	Reduction or elimination from process (1)				
7.5.2.2	Reduction or elimination from process (2)				
7.5.3	Reduction from maintenance/operation	1		1	
7.5.4	Reduction of hazardous wastes and air emissions				
7.5.4.1	Hazardous waste	2		2	
7.5.4.2	Air emissions	required		req.	
7.6	Low emitting furniture				
7.6.1	Formaldehyde emissions from wood based materials				
7.6.1.1	Prerequisite	required			req.
7.6.1.2	Advanced level	2			2
7.6.2	VOC emissions from the finished product/component	4			4

ref.	Title	Possible points	Organis.	Facility	Product
8	SOCIAL RESPONSIBILITY	12			
8.1	Prerequisites				
8.1.1	Employee Health and safety management	required	req.		
8.1.2	Labour and human rights	required	req.		
8.2	Policy on social responsibility	1	1		
8.3	External health and safety management standard	1		1	
8.4	Inclusiveness	1		1	
8.5	Engage in community outreach and involvement	1	1		
8.6	Social responsibility reporting				
8.6.1	Basic level	1	1		
8.6.2	Advanced level	2	2		
8.7	Supply chain				
8.7.1	Basic level	1	1		
8.7.2	Advanced Level				
8.7.2.1	Implementation of supplier self-assessment tool	2	2		
8.7.2.2	Supplier Code of Conduct	1	1		
8.8	Excellence in social responsibility				
8.8.1	Recognition of excellence (non-building)	1	1		
	TOTAL	94			