



ANSI/BIFMA e3-2024

Furniture Sustainability Standard

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American National Standard For Office and Institutional Furnishings



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Suggestions for the improvement of this Standard are welcome. The suggestions should be sent to email@bifma.org or BIFMA, 678 Front Avenue NW, Suite 150, Grand Rapids, MI 49504. Suggestions will be reviewed by leaders of the BIFMA Sustainability Committee.

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Foreword¹

This standard was developed by the BIFMA e3 Furniture Sustainability Committee using the consensus process described by the American National Standards Institute.

BIFMA developed this standard in order to provide the marketplace with a meaningful way to assess sustainability initiatives in the office furniture industry and help to distinguish environmentally preferable business and institutional furniture. The Standard is designed to allow for multiple levels of achievement and provide an open alternative to proprietary protocols.

Assessment is based on primary data, secondary data and generally accepted reference sources. Manufacturing tolerances and batch-to-batch variation in material infeeds accrue to the final product, which may result in variation in individual criteria performance over time. For example, steel used in office furniture is generally accepted to be 25% recycled content; however, recycled content of steel can vary from 0% to 100% depending on the availability and quality of recycled content infeeds. While applicants strive for consistency, end users should be aware of potential variation in data collected due to batch-to-batch variation.

Achievement Methodology

This standard seeks to promote increasingly more sustainable products by promoting the selection of responsible materials and considering manufacturing and human resource processes. Given the challenge of prioritizing social and environmental factors and the lack of generally accepted metrics for comparison (e.g. comparing energy reduction to safety performance), stakeholders applied a “reasonableness test” to determine which criteria should be worth a higher tier of achievement via prerequisites for each tier.

For example:

- Criteria aligned with current regulations receive less emphasis and tiers are awarded only for supplemental actions.
- Criteria incentivizing development of standard industry data supporting a more comparative decision-making process are awarded higher tiers.
- Criteria engaging the entire supply chain in transparent collaboration and making reductions in negative environmental impacts are awarded the highest tier.

From this perspective, the “reasonableness test” always assumes that reducing environmental impact and promoting human and ecosystem benefit is good and building systems to achieve further reduction and more benefit is even better.

Changes in e3-2024

Structure

This version of the standard (the 6th ANSI version following e3-2010, e3-2011, e3-2012, e3-2014, and e3-2019) was developed in response to participant suggestions, stakeholder feedback, and industry recommendations, to provide additional guidance, enhance the educational value of the standard, and harmonize with stakeholder expectations. There are three primary sections of this version of the standard: “Environmental Impacts”, “Material Health Impacts” and “Social Impacts”. Each section addresses activities material to the industry. Criteria are assigned to each tier with alignment between sections to form a natural progression of achievement.

¹ The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI’s requirements for an ANS. Therefore, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the standard.

Summary

In addition to the specific changes noted above, many other minor modifications were made throughout the standard for consistency and clarity. These improvements were made to increase the furniture standard's alignment with other leading programs. That harmonization is intended to assure that the BIFMA sustainability standard is relevant in the marketplace, complimentary with specification systems, and recommended by leading purchasing professionals around the world.

Financial support for development and maintenance of this ANSI Standard is underwritten by the Business and Institutional Furniture Manufacturers Association (BIFMA), the owner of the standard and the Standards Development Organization (SDO).

BIFMA is the not-for-profit trade association for business and institutional furniture manufacturers. Since 1973, BIFMA has been the voice for the commercial furniture industry, serving member and non-member companies to promote meaningful, market-oriented improvements for all stakeholders. BIFMA sponsors the development of safety, performance and sustainability standards used across the furniture industry. The association educates the stakeholder community on the importance and proper use of these standards. BIFMA also provides industry statistics and forecasts to members and the public, and advocates for regulatory conditions that enhance value and foster innovation.

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1 Introduction

1.1 Purpose

The purpose of this voluntary standard is to establish performance criteria that address environmental and social aspects throughout the supply chain.

1.2 Scope

This standard provides measurable criteria for multiple tiers of sustainability achievement and/or performance.

This standard is applicable to all business and institutional furniture; this includes but is not limited to moveable walls, systems furniture, casegoods, tables, seating, and accessories. The standard is also applicable to assemblies and components manufactured by suppliers to furniture manufacturers. However, not all product categories can achieve higher tiers of conformance. If a new product category is in question, it shall be reviewed via the [criteria interpretation process](#).

Table 1: Product Category and Sub-Category List

Category	Subcategory	Description of products
Accessories	Screens Monitor Arms and CPU support	<i>Privacy screens, desktop screens, Products that support the computer assembly, monitor, CPU, laptop</i>
	Keyboard Trays Power and Data ports Lighting Paper Trays Presentation Products Components and Assemblies	<i>Marker/white boards</i>
Architectural Products	Relocatable Walls Pods	<i>Modular rooms Borders</i>
Casegoods/Storage	File Cabinets/Pedestals Storage	<i>Lateral, vertical, mobile peds Media cabinets, bookshelf, shelf/shelves, cabinet, wall Mount, mobile, hutch/hutches, armoires, wardrobes, credenza, tower, locker</i>

Category	Subcategory	Description of products
Desks/Tables	Desk Benching Multi Use	<i>Cafeteria/Café, classroom, conference, training, folding, HighTop, mobile, laptop</i>
	Height Adjustable Occasional	<i>Small end tables, coffee tables, cubes, side tables. Bistro tables. Typically, not standard height</i>
Seating	Classroom/Student Conference/ Executive Stool Guest/Side Lounge Patient Room Stacking Task Folding	<i>Tablet arm, classroom, educational</i> <i>Multi-Use</i> <i>Bench, recliner, ottoman</i> <i>Sofa, sleeper, bariatric</i> <i>Nesting</i> <i>Ergonomic, swivel</i> <i>Ganged</i>
Systems	Worksurfaces Panels/Workstation Overhead Storage	<i>Modular, component-based cubicles, desks, shelves, and storage designed to work together.</i>

2 Normative References

The following documents contain provisions that, through reference in this text, constitute provisions of this standard. At the time of publication, the indicated editions were valid. All standards are subject to revision, and parties are encouraged to investigate the possibility of applying the recent editions of the standards indicated below:

ANSI/BIFMA M7.1-2011 (R-2021). *Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components, and Seating*

ANSI/BIFMA X7.1-2011 (R-2021). *Standard for Formaldehyde and TVOC Emissions of Low-emitting Office Furniture and Seating*

ASTM D6400-04. Standard Specification for Compostable Plastics

ASTM D6868-21. Standard Specification for Labeling of End Items that Incorporate Plastics and Polymers as Coatings or Additives with Paper and Other Substrates Designed to be Aerobically Composted in Municipal or Industrial Facilities

ASTM D996-16. Standard Terminology of Packaging and Distribution Environments

BIFMA PCR for Office Furniture Workspace Products: UNCPC 3814, Version 2

BIFMA PCR for Seating: UNCPC 3811, Version 4

BIFMA PCR for Tables: UNCPC 3812

BIFMA PCR for Storage: UNCPC 3812

California Department of Public Health (CDPH), *Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2-2017*

Cradle to Cradle Certified, Product Standard Version 4.1

Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA) Section 6

EPA Antimicrobial Pesticide Registration

European Union Registration, Evaluation, Authorisation and Restriction of Chemicals (EU REACH)

GHS - United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

GreenScreen® v1.4

ISO 14001. Environmental Management Systems – *Requirements with Guidance for Use*

ISO 14025. Environmental Labels and Declarations – *Type III Environmental Declaration – Principles and Procedures*

ISO 14040. Environmental Management – *Life Cycle Assessment – Principles and Framework*

ISO 14044. Environmental Management – *Life Cycle Assessment – Requirements and Guidelines*

ISO 45001. Occupational health and safety management systems — Requirements with guidance for use

ISO 50001. *Energy Management*

Living Building Challenge Red List

Science Based Targets Initiative (SBTi)

UK Registration, Evaluation, Authorisation and Restriction of Chemicals (UK REACH)

WELL Building Standard®. International WELL Building Institute pbc

World Resource Institute Greenhouse Gas Protocol. *A Corporate Accounting and Reporting Standard Revised Edition*

3 Definitions

air emissions: The presence of contaminants or pollutant substances in the air that interfere with human health or welfare, or produce other harmful environmental effects.

antimicrobials: An antimicrobial pesticide is intended to disinfect, sanitize, reduce, or mitigate growth or development of microbiological organisms or protect inanimate objects, industrial processes or systems, surfaces, water, or other chemical substances from contamination, fouling, or deterioration caused by bacteria, viruses, fungi, protozoa, algae, or slime. [Source EPA](#)

applicant: The organization that is assessing their products to the standard.

biodegradable: Capable of decomposing in the most common environment where the material is disposed of within three years through natural biological processes into nontoxic carbonaceous soil, water, carbon dioxide or methane.

bio-based materials: Materials or products that are made from renewable resources and contain at least part of biological materials (e.g. bamboo, cotton, soy, wood, wool). They can occur naturally, be synthesized, or be made through processes that use biomass.

chemical substance: A substance of fixed composition, characterized by its molecular structure(s), which typically has an associated CASRN (Chemical Abstract Substance Registration Number) and/or EINECS (European Inventory of Existing Commercial Chemical Substances) number.

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

compostable: Microbes in the environment can break down the material and use it as a food source, meeting an appropriate standard such as ASTM D6400 (for Compostable Plastics) or ASTM D6868 (for Compostable Packaging) or similar recognized Standards.

conformity assessments: Demonstration that specified requirements relating to a product, process, system, person, or body are fulfilled.

claims of conformance, first-party: Conformity assessment activity that is performed by the person or organization that provides the object.

claims of conformance, second-party: Conformity assessment activity that is performed by a person or organization that has a user or purchaser interest in the object.

claims of conformance, third-party: Conformity assessment activity that is performed by a person or body that is independent of the person or organization that provides the object, and of the user or purchaser interests in that object.

consensus-based: General agreement, characterized by the absence of sustained opposition to substantial issues by any important stakeholder group. Consensus should be the result of a process seeking to take into account the views of interested stakeholders, particularly those directly affected, and to reconcile any conflicting arguments. It need not imply unanimity.

cradle-to-gate: A term used to describe LCA boundaries encompassing the activities starting with the extraction of raw material from the earth (cradle), their transportation, refining into generic shape, processing, and fabrication activities until the furniture product is ready to leave the factory gate. This is synonymous with Modules A1-A3 outlined in BIFMA PCRs.

cradle-to-grave: A term used to describe LCA boundaries encompassing the entire life cycle of the product. This includes activities starting with the extraction of raw material from the earth (cradle), their transportation, refining into generic shape, processing, fabrication/assembly activities, transportation to the customer, use, and end of life of the product. This is synonymous with modules A1-A5, B1-B3, and C1-C4 outlined in BIFMA PCRs

criminal violation: An intentional and serious violation of laws and/or regulations by corporations or their representatives, which can result in significant harm or risk to the public. These offences are often punishable by significant fines, imprisonment, or probation.

design for the environment: Design for the Environment (DfE) is the systematic integration of environmental considerations into product and process design throughout the product's life-cycle.

ecosystem: The interacting system of a biological community and its non-living environmental surroundings.

environmental aspect: *An element of an organization's activities, products, or services that can interact with the environment.* Source ISO14001

environmental management system: The part of a company's overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining the environmental policy.

environmental policy: A statement by the organization 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.

final assembly location: The facility (or facilities) where the last product assembly operations occur. These assembly operations occur prior to distribution of the product. Packaging, picking, kitting operations, or assembly and installation operations occurring after the product has left the facility where final assembly takes place are not considered final assembly operations for the purposes of this standard.

financial control: *A consolidation approach that allows companies to report on 100% of emissions from operations where they have the majority of risk and benefit from the operation's financial performance.* Source WRI GHG Protocol

flame retardant: A chemical that is added to or reacted with a material to effectively retard flames. Chemicals used in the product to provide anti-drip function are not flame retardants if other chemicals are explicitly used for the purpose of flame retardancy.

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

gate-to-gate: For product criteria, the first gate in gate-to-gate is the receiving dock of the facility where raw materials begin the conversion to furniture components (e.g. steel, particle board, fabric, laminate, etc.). The second gate in gate-to-gate is the final point of manufacturing and/or assembly. This includes packaging of the product. This is synonymous with Module A3 outlined in BIFMA PCRs.

global warming potential: An index that attempts to integrate the overall climate impacts of a specific action by relating the impact of emissions of one ton of a gas (methane, nitrous oxide, and any high GWP gases, such as chlorofluorocarbons) compared to the emission of an equivalent mass of carbon dioxide for a 100-year timescale. GWP is reported in CO₂ equivalents with higher values representing longer lifetimes in the atmosphere.

greenhouse gas (GHG): Climate forcing materials including, but not limited to gases related to human activities that accelerate the greenhouse effect (as defined in 6.5.3).

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

greenhouse gas handprinting: The process of quantifying and assessing an organization's positive impact on reducing or mitigating greenhouse gas (GHG) emissions. It is the opposite of carbon footprinting, which measures the total amount of greenhouse gases emitted directly or indirectly by an individual, organization, event, or product.

GHG Carbon Footprint: *The total amount of greenhouse gases that are emitted into the atmosphere each year by a person, family, building, organization, or company. A person's carbon footprint includes greenhouse gas emissions from fuel that an individual burns directly, such as by heating a home or riding in a car. It also includes greenhouse gases that come from producing the goods or services that the individual uses, including emissions from power plants that make electricity, factories that make products, and landfills where trash gets sent.* Source: [EPA Climate Change Terms](#)

homogeneous material: One material of uniform composition throughout or a material consisting of a combination of materials that cannot be mechanically disjoined into different materials, meaning that the materials cannot be separated by mechanical actions. Coatings and finishes such as plating, powder coats, enamels, etc., are considered unique homogeneous materials.

inbound packaging: Refers to the materials involved in receiving goods from suppliers or other sources into a business's inventory or distribution center. It involves unpacking, inspecting, and organizing incoming goods for storage or further processing. Types of materials can include boxes, crates, pallets, or containers, as well as protective measures like padding, cushioning, or securing items like straps or shrink wrap.

life cycle: The total impact of a system, function, product, or service from the extraction of raw materials through its end-of-life management.

life cycle assessment (LCA): A tool for the systematic evaluation of the environmental aspects of a product or service system through all stages of its life cycle consistent with ISO 14040. An analytical tool to implement life cycle thinking, inclusive of both product and process. A LCA is generally quantitative and requires that the results be normalized to a functional unit.

life cycle inventory (LCI): A process of quantifying energy and raw material requirements, atmospheric emissions, waterborne emissions, solid wastes, and other releases for the entire life cycle of a product, process, or activity.

life cycle thinking: A conceptual approach that addresses environmental problems from a whole-systems or holistic perspective. The essential difference from a LCA is that the results are not normalized to a functional unit, and the results may be expressed qualitatively or quantitatively.

maintenance and operations chemicals: Chemicals not used in the direct manufacturing of the product including but not limited to the following:

- All chemicals associated with equipment used to produce / fabricate products
- Chemicals associated with the area for manufacturing / assembly / fabrication of products:
 - Floor cleaning, marking, painting, coating, etc.
 - Cleaning of manufacturing / assembly equipment
 - Painting of interior walls
 - Other chemicals not defined in “Out of Scope”
- Out of scope processes/chemical usage:
 - Grounds keeping
 - Upkeep of the exterior of the manufacturing facility
 - Restroom / breakroom areas (cleaning aids)
 - Personnel areas (non-manufacturing related offices / workstation areas)

multi-attribute standard: A type of standard or ecolabel that captures life-cycle and social impacts of a product. This differs from “single-attribute standards” for claims based solely on a single characteristic or property of a product.

organo-halogen: A class of chemicals that includes any chemical containing one or more halogen elements bonded to a carbon.

organizational boundary: The organizational boundary is defined as the authority to introduce and implement operating policies and practices within a business operation. This may or may not include product design and materials and process specification. For organizational criteria, gate-to-gate is defined as consumption and impacts occurring within the organizational boundaries. Organizational criteria are achieved based on the percentage of operations within the boundary achieving the intent of the criteria. Organizational boundary implies operational control.

operational control: See organizational boundary

ortho-phthalates: Synthetic chemical esters of benzenedicarboxylic acid consisting of two carboxy groups at ortho positions.

outbound packaging: Refers to preparing goods for shipment in a manner that ensures they reach their destination safely and in good condition. It involves selecting packaging materials that provide adequate protection during transit and labeling packages with relevant information for handling and identification. Types of materials can include boxes, crates, pallets, or containers, as well as protective measures like padding, cushioning, or securing items like straps or shrink wrap.

packaging: A container providing a means of marketing, protection, or handling of a product and shall include a unit package, an intermediate package, and a shipping/transport container as defined in American Society for Testing and Materials (ASTM D996-16). “Package” shall also mean and include such unsealed receptacles as carrying cases, crates, cups, pails, rigid foil, and other trays, wrappers, and wrapping films, bags, and tubs.

performance period: The applicant will declare 12 consecutive months within the last 24 months as the performance period. Once defined, the organization shall maintain consistency of the performance period for evaluations. A newly occupied facility may use less than 12 months for comparison until a full 12 months is available.

per- and polyfluoroalkyl substances (PFAS): Any chemical substance or mixture containing a chemical substance that structurally contains at least one of the following three sub-structures:

- $R-(CF_2)-CF(R')R''$, where both the CF_2 and CF moieties are saturated carbons.
- $R-CF_2OCF_2-R'$, where R and R' can either be F , O , or saturated carbons.
- $CF_3C(CF_3)R'R''$, where R' and R'' can either be F or saturated carbons.

Note: This definition applies to all criteria except criteria 7.4.4.

plastic: A polymeric material that has the capability of being molded or shaped, usually by the application of heat and pressure.

policy: A policy is a statement by the organization of its intentions and principles, which provides a framework for action and for the setting objectives and targets. The policy shall be available as documented information, communicated within the organization, relevant, timely, and appropriate. Applicants shall not be required to develop a separate policy for the purposes of achieving this prerequisite as long as the requirements listed above are addressed.

polymer: A substance that has a molecular structure consisting chiefly or entirely of a large number of similar units bonded together, e.g., many synthetic organic materials used as plastics and resins.

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

ppm: parts per million.

pre-consumer (also called post-industrial): Diverted from the waste stream during the manufacturing process. Excluded is the 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.

primary data: Plant specific, refers to specific, directly collected or observed data related to the system being studied. This includes data obtained from measurements, direct observations, or first-hand reports at the process or facility level that are specific to the product or system under assessment.

product category rule (PCR): The set of requirements that determine how specific product types shall be assessed in life cycle assessments (LCA) and reporting their findings through Environmental Product Declarations (EPD).

product group: A collection of product lines that have similar characteristics such as use and materials.

product line: A collection of styles of the same product.

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

publicly available: Information disclosed on a website, company report, social responsibility report or available upon request.

public disclosure: Information or data that is readily accessible and available to all interested individuals and institutions. The information or data shall be written and posted on a public and unrestricted website. Information or data available upon request is not considered public disclosure.

recyclable: Capable of being collected, separated, or otherwise recovered from the waste stream through an established recycling program.

recyclability: Refers to the capability of a material or product to be collected, sorted, processed, and used as a raw material in the production of new materials or products through recycling processes. It involves

both the technical feasibility of recycling a material and the existence of established infrastructure and processes to facilitate its recycling.

recycle: Recovering and reprocessing usable products that might otherwise become waste.

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.

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 fibers, plant-based plastics, and bio-based fuels.

representative materials: Materials that make up the selected representative typical product, per product category.

representative model: Worst-case product/condition/configuration shall be representative of all models or units of the type tested. If the "worst-case condition" is not readily evident, a case-by-case product line analysis by the manufacturer in consultation with the certification body may be necessary, taking into consideration any special attributes, methods of construction, materials, and/or design features, etc.

representative product: A worst-case product/condition/configuration shall be representative of all models or units of the type tested. If the "worst-case condition" is not readily evident, a case-by-case product line analysis by the manufacturer in consultation with the designated testing facility may be necessary, taking into consideration any special attributes, methods of construction, materials, and/or design features, etc. Instruction documents and other literature provided by the manufacturer will be helpful in determining which products and/or product configurations that are implicitly or explicitly recommended by the manufacturer when determining compliance; it is expected that any and all configurations recommended by the manufacturer will be able to meet the acceptance levels of this standard. Note: Multiple product types/styles may need to be evaluated for worst-case conditions.

reusable packaging: Packaging that has been designed for multiple trips or rotations and extended life.

secondary data: *Data indirectly determined through measurement, estimation, or calculation and not based on specific original source measurements. This can include data that is originally developed using primary data sources but is further aggregated to represent average processes or products. Source: EPA's A Vision and Plan to Improve Secondary Life Cycle Assessment Data Used in Environmental Product Declarations (August 2024), Appendix F.*

social responsibility (or equity): The identification of issues, the development of standards, and the implementation of programs that address corporate responsibility for the ethical treatment of employees, communities, and other stakeholders.

solid waste: Any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities.

stakeholders: People who are (or might be) affected by any action taken by an organization. Examples are: customers, owners, employees, associates, partners, contractors, suppliers, related people or located nearby.

supplemental materials: Materials, outside of representative materials, that make up the products, options, and configurations of the full portfolio of products within the product category and subcategories declared by the applicant.

sustainability standard: A standard that is a set of environmental and social impact criteria for a product, service, or company.

textile family: A group of fabrics or textiles that share similar characteristics, composition, or production methods. These fabrics are often categorized together for the purpose of evaluating and certifying their sustainability, durability, and environmental impact.

transformed: The first manufacturing step that converts a bulk material into becoming a furniture product. It is typically a significant alteration or modification of a material or component that changes its fundamental nature, properties, or form for use in furniture production.

value chain: All stages of a product or process, including material sourcing, production, consumption and disposal/recycling processes.

waste: Unwanted materials left over from a manufacturing process, or refuse from places of human or animal habitation.

4 Assessing Conformance, Evaluation, and Assessment Criteria

Applicants that choose to assess their products to this standard can make first-party, second-party, or third-party verified claims of conformance. Applicants can show continuous improvement by moving products to higher tiers of conformance.

The applicant organization shall define the scope of conformance for each product and all possible options and/or configurations. The scope shall be publicly communicated via a product certificate and the scorecard may be disclosed. A product that is manufactured in one location can be included, while the same product manufactured in another location could be excluded.

The scope of the assessment is gate-to-gate unless otherwise specified within individual criteria. The applicant shall clearly specify cut-off criteria (noted in Sections 6 and 7) for inclusion of inputs and outputs.

The intent of the standard is to encourage transparency and reduction in impacts. Criteria are based on measuring, reducing, and disclosing human and ecosystem impacts.

4.1 Sections

This standard is divided into three sections consisting of criteria that are required to demonstrate conformance to the standard. The three sections are:

- Environmental impacts
- Material health impacts
- Social impacts

4.2 Criteria

Products must meet each of the criteria required for the tier of conformance desired. The requirements for each tier of conformance are successive and build on one another. For example, to reach Tier 2, the applicant must conform to both Tier 1 and Tier 2 criteria. There are no alternative pathways to reach each tier of conformance. Each subsection may not include requirements for each tier of conformance.

4.3 Tiers of Conformance

Tier	e3 Conformance*	3 rd Party Certified**	Requirements
1	Bronze	LEVEL® 1	Tier 1 criteria
2	Silver	LEVEL® 2	Tier 1 and 2 criteria
3	Gold	LEVEL® 3	Tier 1, 2, and 3 criteria
4	Platinum	LEVEL® 4	Tier 1, 2, 3, and 4 criteria

See Annex A for a summary of requirements per Tier.

*Note: a declaration of conformance to e3 using Bronze, Silver, Gold, Platinum indicates a 1st, 2nd, or 3rd party conformity assessment.

**Note: LEVEL® Certification can only be promoted if the applicant has received certification from an independent, approved third-party certification body.

4.4 Summary of Requirements

Requirements for each tier are based on progressive achievement for each section. The graphic below provides a general approach the standard takes to rewarding activity at each tier. Annex A provides a normative overview of the requirements for each section. See each section and the scorecard for specific requirements and criteria.

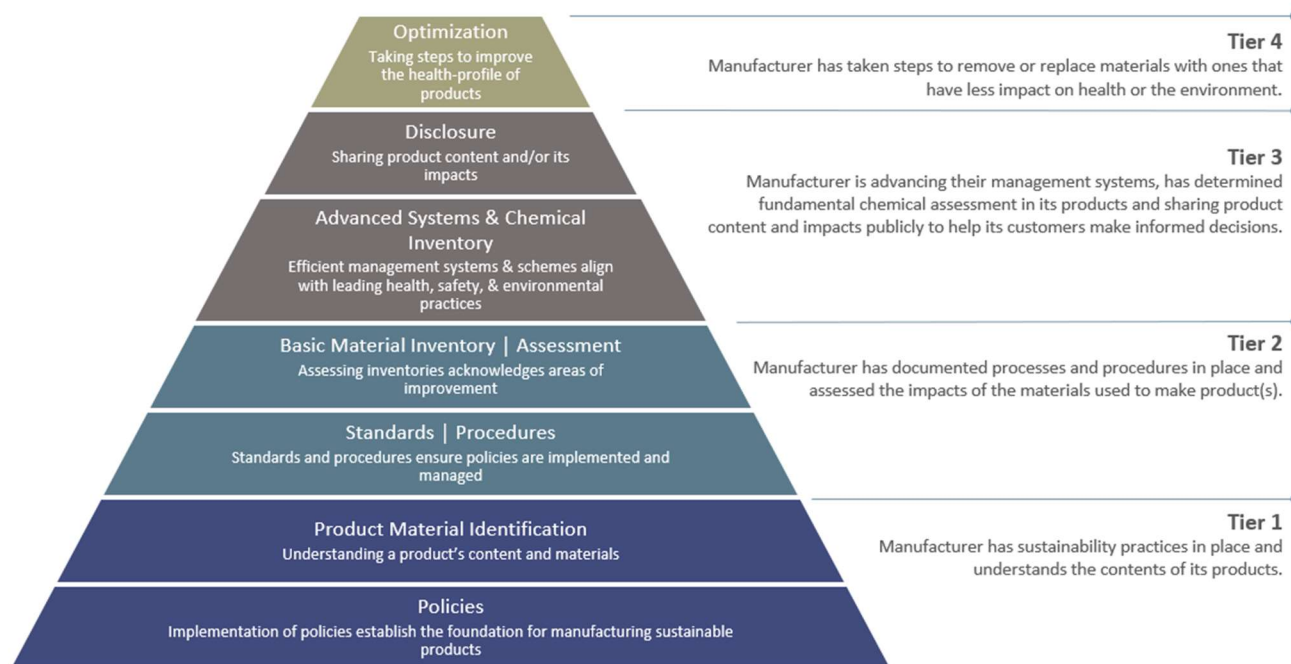


Figure 1: Achievement Progression

4.5 Facility Assessment Applicability

If a component or assembly of the product makes up 40% or more of the product by weight and is transformed outside the organizational boundary, an onsite assessment of the external supplier is required according to the criteria specified in this standard. Counterweight materials are excluded from the facility assessment, even if their total weight exceeds 40% of the assembly or product. An independent assessment of the product(s), as defined in section 4.9, must be carried out by the applicant.

For instance, if the applicant is seeking Tier 1 conformance, the supplier must undergo an audit covering all Tier 1 criteria relevant to the component, assembly, and/or products they supply. Similarly, applicants pursuing Tiers 2, 3, and 4, those suppliers must undergo audits tailored to their respective criteria. See scorecard (Annex A) for recommended criteria to assess at the facility.

This standard does not specify detailed requirements for supplier audits; it is the Applicant's responsibility to establish details and criteria appropriate for the Tier it is pursuing. The audit program should include the following components:

- A. **Supplier Identification:** The Applicant should identify the suppliers that constitute the specified percentage as defined above.
- B. **Supplier Selection:** The Applicant should establish criteria for the selection and evaluation of suppliers based on their ability to supply materials and products that meet specified Tier requirements. This includes evaluating the supplier's quality management system, regulatory compliance, and capability to meet product specifications.

- C. Supplier Audit. The Applicant should conduct supplier audits to verify suppliers conform to specified requirements. The purpose of these audits is to assess the supplier's quality management system, product conformity, process capability, and compliance with the standard's requirements. The Applicant has the option to perform these audits internally or enlist a third-party for assistance.
- D. Audit Frequency. The frequency of supplier audits should be determined based on the supplier's performance history, risk profile, and the criticality of the supplied product or service. High-risk suppliers or those supplying critical components may require more frequent audits compared to lower-risk suppliers.
- E. Audit Criteria. The audits conducted on suppliers should be based on the relevant Tier requirements specified in this standard. The criteria should also consider factors such as the suppliers' capability to meet specifications, their response to non-conformities through corrective actions, and any product changes that may impact meeting the established requirements.
- F. Audit Records. Applicants should maintain records of supplier audits, including audit findings, conclusions, and any actions taken in response to non-conformities identified during the audit. These records demonstrate compliance with the standards' requirements and provide evidence of effective supplier management.

4.6 Frequency of Conformity Assessment

Changes to products, materials, processes, facilities, or the organization shall be evaluated annually to determine if those changes affect the eligibility for any criteria within the scope of conformance. Regardless, the frequency of conformity assessment shall not exceed three years.

4.7 Compliance with Regulations

The applicant shall screen products and facilities for compliance with all applicable laws and regulations. The applicant 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 organization or any representative of the organization 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 that preceded the date of acquisition shall not preclude an organization from participating in this standard.

4.8 Inclusions and Exclusions

The applicant shall disclose specific inclusions and exclusions according to their desired scope of product assessment. Each section contains further language on inclusions and exclusions.

The following shall be included in the assessment:

- Hardware intended for finished appearances, e.g., drawer pulls, hinges, latches, and locks.
- Adhesives, paints, and stains shall be included in the assessment for Sections 6 and 7. For further details on exclusions and inclusions, see Sections 6 and 7.
- Electrical/Electronics components of products.

The following may be excluded from the assessment:

- Hardware intended for construction of the products. e.g., nuts, bolts, nails, and screws. The exclusion does not need to be disclosed.
- The manufacturer may exclude other materials such as tape, bushings, labels, and other materials composing less than 2% of the weight of the product.
 - Each individual excluded component shall comprise <0.1% by weight of the product.
 - The cumulative relative weight of excluded parts may not exceed 2% by weight of the product.

If a material is excluded from the product according to the exclusions above, the total weight shall remain the same. For example, if the representative product weighs 25.5 kg and 0.1 kg of tape is excluded, calculations shall remain 25.5 kg for the product weight within the standard.

4.9 Product Grouping and Representative Model Selection

Unless otherwise stated in the criteria or section, a manufacturer may demonstrate conformance for:

- A single, specific product/model
- A product line; using the results from a representative model (“typical”) within that product line.
- A group of multiple product lines; using the results from a specific product within the same product category as defined in Table 2. A representative product shall be selected for each product group.
 - See Figure 2 outlining the process of selecting representative model(s) based on the number of product subgroups within a product line.

Products shall follow Product Category Rules (PCRs) for product grouping. If a PCR does not exist for a specific product or product grouping category, then the applicant shall follow only the guidelines in Section 4 and conform to appropriate ISO standards for LCA (Life Cycle Assessment) methodologies and documentation as required for Tier 3 and Tier 4 of Section 6.

Representative products and models shall be selected based on the highest sales (or anticipated sales) and meet the following:

- Must be a product that a customer can order.
- Must have the same intended function and perform similarly during evaluation (e.g., having the same general construction, materials, and manufacturing processes).

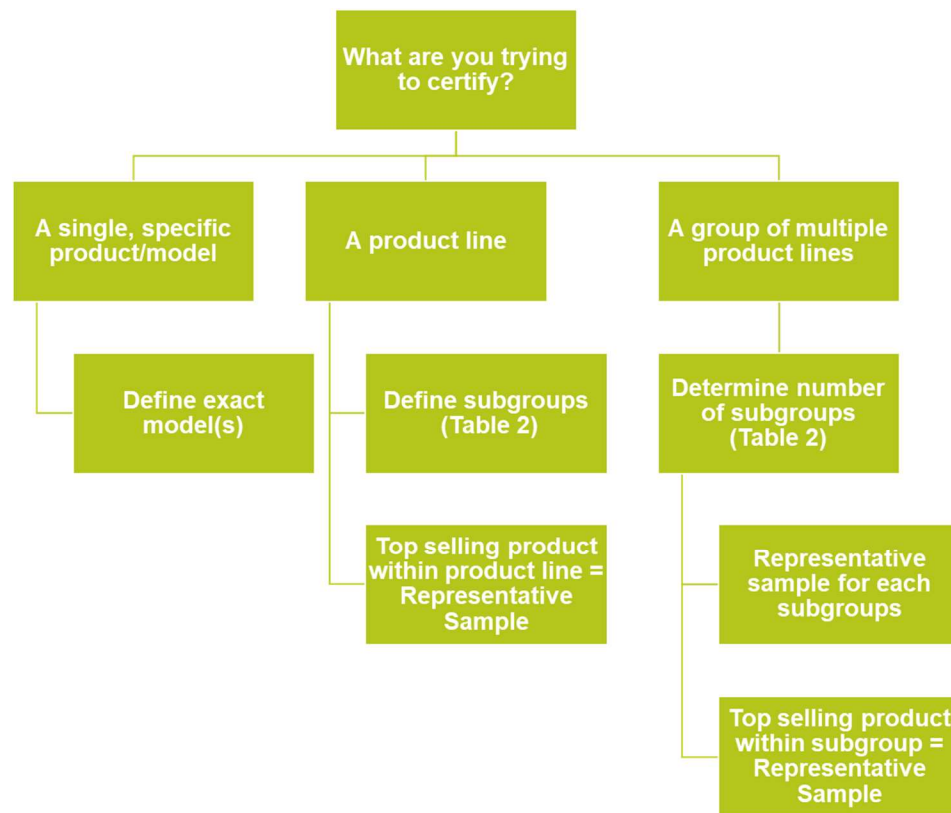


Figure 2: Product Grouping Decision Tree

Table 2: Summary of Model Selection by Tier

Tier 1 and Tier 2 (Product Group) Based on Sales \$ and % material by weight	Tier 3 and Tier 4
Accessories: Desk Accessories Visual Aid Boards Electronics and Lighting	Defined in Sections 6 and 7
Storage/Casegoods	Defined in Sections 6 and 7
Seating: Lounge Sleeper Guest/Side / Task / Executive / Conference Seating with Worksurface	Defined in Sections 6 and 7
Tables and Desks: Non-Height Adjustable Height-Adjustable Occasional/ Side Café/ Dining/ Coffee	Defined in Sections 6 and 7
Systems: Panels Benching/Desking	Defined in Sections 6 and 7
Systems: Borders/Tents Screens	Defined in Sections 6 and 7
Architectural/Modular Walls Pods/Phone Booths	Defined in Sections 6 and 7

Note: LEVEL® Certification can only be promoted if the applicant has received certification from an independent, approved third-party certification body.

5 Bill of Materials (BOM) Information

To comply with the product requirement in Section 6, the selection and documentation of the product or product grouping must follow these detailed steps:

1. Alignment with Product Categories

The product or product grouping must correspond to the defined product categories and subcategories in Section 4.9.

2. Bill of Materials (BOM) Documentation

- The BOM must be organized to reflect each assembly and component.
- General description: provide a general description for each component.
- Identification of Generic Substrate Material: Identify the base materials, such as nylon-6 or carbon steel.
- Identification of Surface Material Modification or Finish: Detail any modifications or finishes applied to the substrate material, like coating, anodization, or plating.
- Recycled Content: Document the recycled content of each material at the substrate material level.

3. Documentation of Supplemental Materials

Include any additional materials used for options and alternative configurations of the products(s) within the product category or subcategories. These supplemental materials should be documented in the BOM with the same level of detail as primary materials.

For Tier 3 and Tier 4 assessments these supplemental materials are part of the evaluation.

4. Options Not Included in the Inventory

It is not necessary to evaluate the entire range of options for the representative sample. However, the intent is that all products within a family group meet the requirements.

Clearly denote any options not included in the inventory and assessment during the certification process, and they will not be part of the conformance scope.

5. Textiles Materials Inventory

If the product or grouping includes textiles, the inventory must cover at least one selection of textiles from each family of textiles, e.g., a polyester yarn, nylon base, polyurethane, or vinyl.

Clearly denote any options not included in the inventory and assessment during the conformance process.

6. Public Disclosure of Exclusions

Certain materials can be excluded according to criteria in Section 4, but these exclusions must be publicly disclosed.

Additional Requirement for Re-assessment and Data - 3-year Conformance Period

Once the Inventory criteria are earned, they apply for 3-years. For assessment, the applicant must maintain these criteria when submitting a new inventory for the product category/subcategory.

Data requirements:

- Primary data must be provided for operations within the applicant's organizational boundary.
- Secondary data can be used for operations outside the organizational boundary if the applicant can show at least two good faith efforts to obtain primary data from the supplier.

These requirements ensure that the product or product grouping is comprehensively evaluated and documented in alignment with the sustainability conformance criteria set out in this standard.

6 Environmental Impacts

6.1 Environmental Policies and Programs

6.1.1 Energy and Environmental Policy (Tier 1)

The applicant organization shall develop and implement an energy and environmental policy that establishes the organization's overall commitment to energy conservation and environmental performance. The policy shall:

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

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

Applicants shall not be required to develop a separate energy or environmental management policy for the purposes of achieving this criteria as long as they highlight energy and environmental aspects, and the five elements listed above in their existing management systems or policies.

6.1.2 Design for the Environment Program (Tier 1)

The applicant organization shall implement a Design for the Environment (DfE) program consistent with the definition in Section 3. The criteria is met if a DfE program is implemented at the time of the assessment. The DfE program shall at a minimum, consider of the following elements:

- Renewable materials
- Recycled materials
- Recyclable (including material references for packaging disassembly)
- Biodegradable materials
- End-of-life for product and materials including repair and reuse
- Water management
- Energy efficiency
- Chemicals of concern

No requirements for Tiers 2, 3, and 4.

6.2 Product Safety and Performance

6.2.1 Product Safety and Performance Standards – Basic (Tier 2)

The applicant shall demonstrate conformance with the most recent version of the applicable ANSI/BIFMA Product Safety and Performance Standards, or equivalent international standard.

Current ANSI/BIFMA Product Safety and Performance Standards applicable to these criteria:

- ANSI/BIFMA X5.1 General Purpose Office Seating
- ANSI/BIFMA X5.4 Public and Lounge Seating
- ANSI/BIFMA X5.4.1 Large Occupant Public and Lounge Seating
- ANSI/BIFMA X5.5 Desk and Table Products
- ANSI/BIFMA X5.6 Panel Systems
- ANSI/BIFMA X5.9 Storage Units
- ANSI/BIFMA X5.11 General Purpose Large Occupant Office Chairs
- ANSI/BIFMA X6.1 Educational Seating
- ANSI/BIFMA X6.4 Occasional Use Seating
- ANSI/BIFMA X6.5 Home Office and Occasional Use Desk, Table and Storage Products

If there is not an applicable standard for the product performance to be assessed against, then the manufacturer must demonstrate that the product meets the minimum levels of safety, durability, and structural adequacy for market usage. This shall include product or product group testing and documentation of assessments made to support determination of safety for the product.

Examples of information that a manufacturer can provide in their submission packet to demonstrate compliance:

- A declaration letter and evaluation reports (or studies) from the manufacturer justifying their product/products meet the applicable safety and performance standard for BIFMA compliance, OR
- Declaration from the lab that conducted the testing outlining what products would be grouped within the report based on worst-case testing.

6.2.2 Product Safety and Performance Standards – Advanced (Tier 3)

The applicant shall confirm that the product or product grouping has been tested in an ISO 17025-accredited lab.

6.3 Circularity

The intent of the circularity criteria in this section is to incentivize and acknowledge efforts towards fostering circular economies. This entails not only reimagining the design and manufacturing processes but also necessitates collaboration across the entire value chain—from suppliers to consumers—to close the loop and minimize waste generation.

6.3.1 Extended Producer Responsibility Program (EPR) (Tier 1)

The applicant shall offer end-of-life management options as part of its marketing and/or sales strategy and have information on the program publicly available.

6.3.2 Extended Producer Responsibility Tracking (Tier 2)

The applicant must maintain a record of the circularity projects supported by their EPR program including at a minimum, the amount of waste diverted from landfill and incineration.

6.3.3 Recyclable Content - Circularity Alignment* (Tier 3)

The intent of this credit is to conduct a comprehensive assessment of the materials used in the product or product grouping to ensure they are not only suitable for their intended purpose, but also compatible with end-of-life recycling processes for potential reuse in other products.

The applicant shall submit a thorough report that compares evidence of whether a material is recyclable and its adherence to the recyclability definition in Section 3. The report shall contain the following components:

- Documented evidence confirming consumers' access to readily available recycling facilities for the specific materials used in the product, adhering to guidelines outlined by the Federal Trade Commission's (FTC) Green Guides or equivalent standards from various countries and regions worldwide.
- The identified recyclable materials can be disassembled using commonly available tools and processes, ensuring feasibility and effectiveness in recycling processes.

*Meeting the criteria does not constitute a claim to the market.

6.3.4 Extended Producer Responsibility Circularity Program (Tier 4)

The applicant shall demonstrate a program, in use and promoted, that accepts products or provides a service to promote sustainable product lifecycle management, i.e. focusing on refurbishment, repurposing, reuse, and/or recycling of the full product in scope of the assessment. The goal is to give furniture products, components, and materials an extended life or second life, thereby minimizing waste and reliance on virgin resources and creating a self-sustaining system where resources are continually recovered and reused within an existing and circular ecosystem rather than disposed.

Include one or more of the following strategies in the program that addresses full or partial circularity of furniture products being certified:

a) Furniture Take-Back for Refurbishment/Repurposing/Reuse

These programs typically involve manufacturers or their partner accepting old furniture from customers to be refurbished, repurposed, resold, and/or reused within an existing or new setting.

b) Furniture Take-Back for Recycling

This concept refers to a system where manufacturers break down furniture products at the end of their life cycle, to recycle their components and materials and to create new products using the same components and materials.

c) Leasing or Subscription Models:

This concept refers to customers paying for the use of furniture over time and return when no longer needed. This model encourages the manufacturer to take back the furniture at the end of its use, but it doesn't necessarily require a one-time return program for all customers.

6.4 Biobased Materials

Note: 6.4.1 is only applicable if the product or product grouping contains bio-based materials.

6.4.1 Biobased Materials Data Collection (Tier 3)

The applicant shall provide evidence reflecting that any bio-based materials that are 10% or more of the product or product grouping total weight conforms to a third-party certification program for environmentally and socially responsible management of raw material extraction, including but not limited to, chain of custody practices throughout the supply chain.

6.4.2 3rd Party Certified Biobased Materials (Tier 4)

The applicant shall have third-party certifications to support control effectiveness for responsible sourcing for the biobased material(s). If a third-party certification is not available, the applicant shall provide documented evidence of effectiveness controls for responsible sourcing.

6.5 Responsible Packaging

6.5.1 Responsible Packaging Product Inventory (Tier 1)

The applicant shall inventory all packaging and packaging component material types associated with outbound packaging. This includes all manufacturing facilities associated with final assembly and packaging under operational control of the applicant.

Packaging components such as closures (e.g., tape, staples, bands), ink labels, etc. may be included or excluded. Quantities of each type are not required to meet this criteria.

6.5.2 Responsible Packaging Inventory Assessment (Tier 2)

The applicant shall assess the 6.5.1 inventory by material type for environmental attributes, including:

- Recycled content (pre- and post-consumer),
- Recyclability,
- Biodegradability, and
- Single use.

6.5.3 Responsible Packaging Optimization Programs (Tier 3)

The applicant shall demonstrate a commitment to continuous improvement to minimize packaging environmental impacts (e.g. energy use; water use; waste generation; material efficiency) associated with product packaging. Examples may include, but are not limited to offering the end user;

- Blanket/no-wrap outbound packaging;
- Returnable cartons and/or other forms of reusable packaging.
- No single-use plastics
- Reducing materials of construction (weight and/or volume)

6.6 Responsible Use of Resources/Materials

The intent of this section is to assess an applicant's organizational commitment to the responsible use of materials and resources associated with the production, fabrication, assembly, and distribution of the product or product groups. In doing so, the applicant shall consider operations within the gate-to-gate boundaries of the product flow unless otherwise stated. See definition of gate-to-gate in Section 3 to align with the scope of the assessment.

6.6.1 Material Inventory (Tier 1)

The applicant shall provide a full bill of materials for the product or product grouping that shall include the material type and weight of each material listed. This list shall contain any orderable options associated with the product or product grouping that are to be considered for assessment.

6.6.2 Material Inventory and Assessment (Tier 2)

- **Recycled Content**
The applicant shall inventory % recycled content in the product or product groupings and associated options for all component materials. The use of industry averages is acceptable. Recycled content shall be classified as pre- or post-consumer recycled content.
- **Raw Materials**
The applicant shall calculate the material efficiency for the materials comprising no less than 90% of the weight of the material commodities used in the product group. The boundary for the criteria is gate-to-gate, as calculated below:

$$\text{Material efficiency} = (\text{Input mass} - \text{Waste mass}) / \text{Input mass} \times 100\%$$

For materials that are fabricated by the organization, the data shall be primary. Secondary data may be substituted for materials fabricated by suppliers and the applicant shall denote if data is primary or secondary. As noted in Sections 4.5 and 4.6, if 40% by weight of the product is transformed elsewhere, the material efficiency calculation will include both the subassembly manufacturer and the material efficiency within the operational control boundary.

Or

Meet criteria by completing an Environmental Product Declaration as outlined in Section 6.12.4.

Or

Meet criteria by completing a 3rd party verified LCA.

- **Waste**
The applicant shall inventory and assess solid waste generation, liquid industrial waste, hazardous waste, or any other waste generated. The scope of this criteria is all locations of manufacturing and/or final assembly under operational control of the organization. The assessment shall include the type of waste, amount of waste generated, and method of treatment/disposal (landfill, recycling, waste to energy, blended, regrind, etc.).
 - Process aids, incidental consumables (e.g., gloves, sandpaper), and regrind within the operational control boundary are not included in the calculation.
- **Water**
The applicant shall inventory and assess water use, including process, sanitary, non-contact cooling water, and irrigation. The scope of this criteria is all locations of manufacturing and/or final assembly.

If the applicant does not directly control the facility, then water usage shall be based on total water usage for the facility divided by the percentage of square footage for the site in which the applicant operates.

The assessment shall include:

- Water withdrawal (gallons or cubic feet)
- Wastewater discharges (gallons or cubic feet)

- Air

The applicant shall inventory and assess air emissions. The scope of this criteria is all locations of manufacturing and/or final assembly under operational control of the organization. At a minimum, the assessment shall include annual emissions by weight of:

- Carbon Monoxide (CO)
- Nitrogen Dioxide (NO₂)
- Particulate Matter (PM, PM₁₀, PM_{2.5})
- Sulphur Dioxide (SO₂)
- Volatile Organic Compounds (VOC)

NOTE: Carbon Dioxide and refrigerant emissions are excluded from this assessment if a CO₂e emissions inventory is included in an assessment of Greenhouse Gas emissions. Additionally, if an organization does not generate any air emissions, have water usage, or generate waste, and can document proof by inventorying processes associated with manufacturing and support operational functions, an inventory and assessment is not required.

6.6.3 Performance and Transparency (Tier 3)

The applicant shall publicly disclose an annual summary of the data required in 6.6.2, including:

- Materials

The applicant shall calculate the material efficiency for the materials comprising no less than 90% of the weight of the material commodities used in the product group using primary data only. The boundary for these criteria is gate-to-gate using the same calculation for 6.6.2.

- Waste

The applicant shall demonstrate 90% diversion from landfill and incineration without energy recovery 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). The scope of this criteria is operationally controlled processes relating to materials comprising no less than 90% of the weight of the product. Materials reused, such as pallets, material packaging, etc., are eligible to be counted as waste reduction and as part of the 90% diversion requirement.

NOTE — The criteria is also met if there is no solid waste generated by processes associated with manufacturing the product within the organizational control boundary as specified in Section 4 of this standard. Hazardous waste is excluded.

- Water

The applicant shall publicly disclose an annual summary of the data required in 6.6.2.

- Air

The applicant shall publicly disclose an annual summary of the data required in 6.6.2.

6.6.4 Advanced Performance (Tier 4)

- Materials

The applicant shall demonstrate a weighted average of 85% material efficiency for the materials comprising no less than 90% of the weight of the material commodities used in the product or product group.

- **Waste**
The applicant shall provide documented evidence from a third-party verifier which demonstrates at least 90% diversion from landfill and incineration without energy recovery, for at least 50% of manufacturing locations under operational control, if only one manufacturing location is under operational control, then that facility will be required to be verified.
- **Water Stewardship**
The applicant shall demonstrate good water stewardship in the communities and watersheds in which they operate and/or within the communities in which their suppliers operate. The applicant shall publicly disclose a summary describing a minimum of two water stewardship efforts every three years, include any collaborations with other stakeholders, and the resulting positive impacts. The summary shall also include information about how the applicant will continue to address water stewardship. Additionally, the applicant shall provide a spreadsheet documenting all input assumptions and the resulting impact calculations. Inclusion of non-quantifiable impacts is encouraged but not required.

Projects implemented more than three years prior to the assessment start year do not qualify. The applicant shall demonstrate current conformance to the requirements upon initial conformance and conformance renewals.

If no facilities under the organization's operational control perform manufacturing, the applicant shall follow the gate-to-gate requirements to report waste diversion and water stewardship.

6.7 Energy and Environmental Management

The methodology for calculating the Organizational Boundary percentages is based on the number of buildings or the square footage of all buildings under operational control. The calculation methodology selected shall be applied consistently and disclosed during the assessment. Showrooms and dealer offices may be exempt. However, headquarters or primary corporate offices shall be included in the calculations unless the headquarters is in a leased space with set utility costs.

An Energy Management System (EnMS) is a set of practices that create a culture of continual improvement in energy performance and shall contain the following elements, at minimum:

- Monitoring and tracking energy performance
- Energy audits
- Objectives, targets, and action plans for achievement
- Policies and procedures to ensure management of energy usage within the operational controls and purchasing of energy efficient equipment and energy usage devices.
- Performance of the system including Management Review

An environmental management system shall contain the following elements, at minimum:

- Environmental policy and leadership commitment
- Context of organization
- Environmental aspects, risks, and compliance obligations
- Objectives, targets, and action plans for achievement
- Operational Control Measures
- Performance of the system, including a documented management review
- Demonstration of continuous improvement

The applicant must demonstrate the following:

- Monitoring and/or measurements to help the applicant determine the effectiveness of action plans in achieving energy objectives and targets.
- Management review to help assure the applicant's top management is committed to support the energy management system and to improve its effectiveness.

6.7.1 Energy and Environmental Management System (Tier 1)

An organization shall create an environmental policy that should include energy management.

6.7.2 Energy and Environmental Management System – 50% (Tier 2)

50% of Organizational Boundary maintains an Environmental Management System and Energy Management System

6.7.3 Energy and Environmental Management System – 90% (Tier 3)

90% of Organizational Boundary maintains an Environmental Management System and Energy Management System

6.7.4 Energy and Environmental Management System – 100% (Tier 4)

100% Organizational Boundary maintains an Environmental Management System

OR

50% of Organizational Boundary is ISO 14001 certified to the current standard

AND

100% Organizational Boundary develop an Energy Management System **OR**
50% of Organizational Boundary is ISO 50001 certified to the current standard

6.8 Energy and GHG Inventory

The applicant shall follow the methodology of *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)* authored by: World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD). The applicant shall assess and identify all Scope 1 and 2 GHG sources within their boundary and ensure any relevant non-CO₂ greenhouse gas emitting activities like refrigerants or process emissions were not unreasonably omitted. For surveillance and/or reconfirmation assessments, the applicant shall retain compliance by demonstrating the inventory is current to the most recent performance year.

The organizational boundary shall stay consistent for all energy and greenhouse gas-related criteria in the standard. The boundary should be consistent with any public GHG reporting by the applicant.

See *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)* for the definitions of Scope 1, 2, and 3.

6.8.1 Energy and GHG Inventory – 75% (Tier 1)

The applicant shall inventory and calculate the energy and Scope 1 and 2 GHG emissions for a minimum of 75% of the total organizational boundary determined by a percentage of total square foot area under operational or financial control.

6.8.2 Energy and GHG Inventory – 95% (Tier 2)

The applicant shall inventory and calculate Scope 1 and 2 emissions for 95% of the total organizational boundary and evaluate upstream Scope 3 categories as noted below to review a minimum of every 5 years.

For the purposes of this criteria, an evaluation is a preliminary step in which a company identifies the relevant Scope 3 categories and shall determine if the applicant has influence or control over impacting each category. The applicant shall provide a written defense of their determination.

Upstream Scope 3 categories:

- **Purchased Goods and Services:** Emissions from the production of goods and services purchased by the company, such as raw materials, components, and other products.
- **Capital Goods:** Emissions associated with the production of capital goods purchased by the company, including machinery, equipment, and buildings.
- **Fuel- and Energy-Related Activities (Not Included in Scope 1 or Scope 2):** Emissions from the extraction, production, and transportation of fuels and energy purchased by the company, not already accounted for in Scope 1 or Scope 2.
- **Upstream Transportation and Distribution:** Emissions from the transportation and distribution of products purchased by the company, between the supplier and the company's operations.
- **Waste Generated in Operations:** Emissions from the disposal and treatment of waste generated by the company's operations, including solid and liquid waste.
- **Business Travel:** Emissions from the transportation of employees for business-related activities, including air travel, rail travel, car travel, and other modes of transport.
- **Employee Commuting:** Emissions from the transportation of employees between their homes and their workplaces.
- **Upstream Leased Assets:** Emissions from the operation of assets that are leased by the company (upstream) and not included in Scope 1 and Scope 2.

Source: WRI <https://ghgprotocol.org/corporate-value-chain-scope-3-standard>

6.8.3 Energy and GHG Inventory – 100% (Tier 3)

The applicant shall calculate 100% of the Scope 1 and Scope 2 emissions within their defined boundary, as outlined in Credit 6.8.2. The applicant must perform a screening of all applicable Scope 3 categories by following the process for Scope 3 Screening Outlined in WRI Technical Guidance for Calculating Scope 3 Emissions and the applicant must evaluate whether the applicant has influence or control over any categories deemed significant in the screening. The evaluation of the Scope 3 categories should follow the process defined in Credit 6.8.2

6.8.4 Energy and GHG Inventory – 3rd Party Verification (Tier 4)

The applicant shall complete a third-party verification of their greenhouse gas inventory (compiled in 6.8.3) to a set verification standard, which includes any third-party verification standard referenced in CDP's "List of accepted standards"¹.

6.9 Greenhouse Gas Baseline, Targets, and Reduction Plans

6.9.1 Greenhouse Gas Baseline, Targets, and Reductions – Baseline and Target (Tier 2)

Establish a baseline and reduction target. The target shall match the publicly reported boundary and targets by the applicant.

The applicant shall create a 5 to 10-year plan for reducing their total greenhouse gas emissions to meet their publicly stated targets. At a minimum, the plan should address all emissions in the inventory calculated for 6.8.2. A plan shall include the following:

- Prioritization of emissions-generating activities based on control and total impact
- Identification of possible technology solutions being considered
- Comparison of the targets to emission reductions needed to reach 1.5°C warming as defined by SBTi²
- The evaluation of on-site and purchased renewable energy
- Any additional strategies being considered for reducing emissions

¹ Source: <https://www.cdp.net/en/guidance/verification#d8add324c80c222f9a6153bc6c76e12c>

² Source: <https://sciencebasedtargets.org/resources/?tab=develop#resource>

The applicant shall demonstrate the following;

- Regular monitoring and/or measurements to help the applicant determine the effectiveness of action plans in achieving greenhouse objectives and targets.
- At a minimum, an annual management review to help assure the applicant's top management is committed to supporting the greenhouse gas management system and improving its effectiveness.

6.9.2 Greenhouse Gas Baseline, Targets, and Reductions – Reporting (Tier 3)

The applicant shall publicly disclose the reported baseline, reduction target, and progress toward goals using a voluntary GHG reporting program. The voluntary GHG reporting program, where companies annually inventory and report their GHG emissions, shall meet the following requirements:

- The program shall allow the identification of the emissions methodology the applicant used for collecting, calculating, and managing its emissions inventory data.
- The program shall allow reporting for Scope 1, Scope 2, and/or Scope 3 GHG emission figures in metric tons CO₂e.
- The program shall allow documentation of targets and initiatives the applicant has in place to reduce the emissions derived from its activities, directly or indirectly.
- The program shall allow the applicant to participate on an annual basis.

6.9.3 Greenhouse Gas Baseline, Targets, and Reductions – Optimization (Tier 4)

Science-Based Target Approval

This process involves an inventory and detailed emissions reduction plan that aligns with the latest climate science and meets the SBTi's rigorous criteria for ambition and feasibility. The inventory and plan shall undergo a third-party review.

6.10 Life Cycle Assessment

6.10.1 Life Cycle Assessment – Inventory (Tier 2)

The applicant shall establish a cradle-to-gate inventory for each representative product. The applicant should consider the configuration (i.e. materials of construction) that has the highest propensity for embodied energy impact.

This inventory shall include, at minimum, an embodied energy calculation.

6.10.2 Life Cycle Assessment – Impact Summary (Tier 3)

The organization shall encourage the use of Life Cycle Assessments (LCA) to inform product design and development, to optimize materials choices, and provide environmental information to end users.

The applicant shall provide evidence that the company has completed an underlying LCA and has begun to incorporate the life cycle assessment framework into product design by applying the process described in ISO 14040, ISO 14044, and most recent PCR.

The LCA boundary should be consistent with BIFMA Product Category Rule(s) if one exists at the time the LCA is conducted.

Unless otherwise specified, processes for the manufacturing of small components (e.g., fasteners, screws, washers, glides, labels), that combined comprise up to 5% of the product by weight, may be excluded from the scope of LCA criteria.

The applicant shall include at least the following impact categories:

- Global warming potential (greenhouse gases) in kg CO₂e.
- Depletion of the stratospheric ozone layer, in kg CFC-11.
- Acidification of land and water sources, in mols H⁺ or kg SO₂.
- Eutrophication, in kg nitrogen or kg phosphate.
- Formation of tropospheric ozone, in kg NO_x, kg O₃ e.g., or kg ethane; and
- Depletion of nonrenewable energy resources in MJ.

6.10.3 Life Cycle Assessment – Verification and Environmental Product Declaration (EPD) (Tier 4)

The applicant shall publicly disclose a 3rd party verified LCA report or EPD.

The LCA shall conform to ISO 14040 and ISO 14044.

The EPD must conform to ISO 14025, 14040, 14044 and have cradle-to-grave scope.

The LCA should be consistent with BIFMA Product Category Rule(s) if one exists at the time the LCA is conducted.

6.11 Positive Climate Impact (Tier 4)

The intent of this credit is to encourage and recognize regenerative products and their related environmental benefits (carbon handprint).

The applicant shall generate a carbon handprint greater than 10% of the product's carbon footprint. The following shall be provided:

- Verified documentation of the product's cradle-to-gate absolute carbon footprint as required for Tier 4.
- A spreadsheet detailing the total cradle-to-gate absolute carbon footprint per year for the 3-year certification period.
- Approval of handprint concept(s) by MIT's SHINE, ILFI, or equivalent, i.e., an independent third party. BIFMA must approve equivalent, independent third party if the product seeks LEVEL certification.
- A narrative describing all existing and planned handprint actions for the 3-year certification period. Handprint actions shall:
 - Occur independently of the product's boundary or another product boundary of the applicants.
 - Be additional per WRI definition (handprint action would not have happened without the organization's intervention).
 - Be measurable in weight of CO₂eq; and
 - Be taken with the footprint of your handprint action into account. The calculated footprint of your handprint action must be subtracted from your total handprint.
- The calculated existing handprint shall exceed the product's cradle-to-gate absolute carbon footprint for at least 3 months of projected production (from date of certification).
- If the assessment is based on a single product, the absolute carbon footprint is based on the projected sales quantity of the single product.
- If the assessment includes a group of products, aggregate the absolute carbon footprint based on projected sales quantity for each product within the group to determine the total.

7 Material Health Impacts

BIFMA aims to quantify and minimize the human health and environmental risks posed by chemicals used in products. This involves conducting chemical-specific risk assessments, developing industry-accepted methods for assessing the risks that chemicals pose to humans and the environment, and identifying safer alternatives to avoid regrettable substitution.

The Material Health Impacts section addresses the chemical aspects of the materials used in the products covered by the assessment. It does not cover the use of chemicals in manufacturing processes, maintenance, and operations chemicals (defined in Section 3), and other operations-related activities (e.g., maintenance, repair, janitorial, etc.) except for criteria in 7.1.2.

The applicant is required to complete all criteria in accordance with the following scheme to achieve the desired tier of assessment:

Section 7 requires the usage of supplemental materials for assessments. Supplemental materials are described in Section 6, Section 7.2 below, and the glossary. For tiers 1-3, assessment of supplementary materials is completed at the material level. For Tier 4, the assessment of supplementary materials is completed at the material or product level. See criteria 7.7 for additional details.

Refer to Section 4 and Section 6 for additional information regarding grouping and additional exclusions.

7.1 Policies, Plans, and Strategies

The following criteria are required for Tier 1. The applicant shall demonstrate that these requirements are managed in accordance with the elements of an Environmental Management System (EMS), including periodic management review.

7.1.1 Chemical Policy for Products (Tier 1)

The organization shall adopt a policy statement addressing chemicals and materials used in products. The policy statement shall be publicly available. The policy shall address the following aspects:

- Compliance with all applicable environmental-related laws, regulations, standards, and norms for product for all jurisdictions at the local, regional, national, and international levels.
- Shall align with the Design for the Environment strategy around chemicals in products (see Section 6.1.2)
- Consideration of life cycle thinking principles into identifying potential chemical risk
- Shall be consistent with the chemical management plan (see Section 7.1.2)
- Shall be consistent with the chemicals of concern strategy (see Section 7.1.3)

7.1.2 Chemical Management Plan (Tier 1)

The applicant shall develop and implement a system for tracking chemicals and control of process, product, and facility management chemicals that include acquisition, use, storage, transportation, and final disposition. The plan shall cover:

- The chemicals and materials disclosed as part of the inventory criteria per Section 5 Bill of Materials
- Alignment to the policy and program elements of 8.1.1

7.1.3 Chemicals of Concern Strategy (Tier 1)

The applicant shall design safer products by implementing a strategy that is based on the principles of Design for the Environment (DfE) and life cycle thinking; and addresses how the chemical policy has been implemented for product materials and chemicals.

The strategy shall cover the following requirements as applicable to tier of conformance achieved:

- Aligning with how the chemicals of concern element of the DfE program, 6.1.2, has been addressed.
- Specifically for the assessment of chemicals of concern, the applicant shall provide a rationale for their selection of chemical screening lists.
- State how the applicant will conduct the chemical assessment, disclosure, and elimination of chemicals of concern, per 7.4, 7.5, and 7.7, as applicable.
- Specifically for the criteria around elimination of chemicals of concern, the applicant shall describe the procedures it will follow to minimize the likelihood of regrettable substitution.

7.2 Material inventory

The applicant shall inventory the generic materials that comprise the products included in the product scope in two categories:

1. Representative Materials
2. Supplemental Materials (defined in Section 3). For examples of supplemental material, see Table 3.

Generic materials include generic substrate material (e.g., nylon-6, carbon steel, Table 3 items) and “surface” material modification or finish (e.g., coating, anodization, plating, etc.) of the substrate material (e.g., powder-coated steel) that are options.

Certain materials may be excluded in accordance with the criteria stipulated in Section 4.9.

7.2.1 Representative Materials (Tier 2)

For each representative product included in the scope of conformance, the applicant shall generate and tabulate a “bill of materials” (BOM) that contains the following information:

- Organized by assembly and component level.
- Identify generic substrate material (see note in 7.2 regarding generic materials)
- Identify the surface material modification or finish (e.g., powder coating, anodization, plating, etc.) of the substrate material (e.g., steel)
- % weight of the final finished material (weight of substrate material + finish), calculated as a function of the total product weight (after adjustment for allowed exclusions per Section 4.9).
- Recycled content polymer-based materials shall be disclosed and reported as separate items in the inventory from the virgin version of the same material (e.g., recycled content polypropylene vs. virgin polypropylene).

7.2.2 Supplemental Materials (Tier 2)

The applicant shall compile an inventory of other generic materials present in all other products and options/variants included in the defined product group that are not already covered by the Representative Material Inventory.

The supplemental material inventory shall conform to the following:

- Identify generic substrate material.
- Identify the surface material modification or finish (e.g., coating, anodization, plating, etc.) of the substrate material (e.g., steel).
- Recycled content polymer-based materials must be disclosed and reported as separate items in the inventory from the virgin version of the same generic material (e.g., recycled content polypropylene vs. virgin polypropylene).
- List of generic materials that are intentionally excluded from the conformance assessment.

Generic materials shall be characterized as shown in Table 3. Weights for supplemental materials are not required. 100 ppm chemistry is based on the total weight reported in the BOM of representative materials from the represented product. For the supplemental materials list, identify materials as shown in the Material Inventory column. See ANNEX B: Example BOM for details.

Supplemental material need not be reported if it is less than 5% of the weight of the total product except for surface material options which shall be disclosed. The 5% rule applies to 7.3 and 7.4 as well for supplemental materials.

Material Inventory qualifiers identified in Table 3 apply to both the representative and supplemental materials. The Chemical Inventory qualifiers apply to both the substrate material and the finish for representative and supplemental materials, as stated.

Table 3: Instructions for Characterization of Generic Materials

Material	Material Inventory	Chemical Inventory
Metal grades	Identify based on generic description (e.g., carbon steel, leaded steel) and standardized grade specification (e.g., SAE 1008, 12L15) for base material	
Natural fibers, wood-based products and bio-composites	Identify as solid wood, plywood, MDF, particleboard, jute, hemp, flax, veneer, laminate (HPL, LPL) etc.	Fiber content can be inventoried as “cellulosic material” or “lignocellulosic material.” Other chemical constituents (e.g., resins, waxes, catalysts, etc.) shall be inventoried at 0.01% by weight of product
electrical and electronic (EE) product / components	<i>Note: To be eligible for inclusion in the product scope</i> EE components shall meet the substance threshold limits stipulated by the most current version of EU RoHS and UK RoHS, including exemptions allowed by these regulations. If this condition is not met, the EE product/component shall be disclosed as an exclusion. Identify by the type of product/component (e.g., motor, lighting, data port) rather than the material composition of the product/component.	EE products/components are only subject to the Class Approach (per 7.3.1)
Glass	Potential identifiers include float glass, laminated glass, acid-etched glass, painted glass	The glass component of float glass, glass-filled polymers, and fiberglass can be disclosed using a generic CAS for “glass oxide, chemicals,” namely CAS 65997-17-3. The non-glass components of these materials (e.g., resins in fiberglass, PBT in laminated glass, etc.) shall be inventoried separately as individual chemicals.
Textiles	Described by base material [woven, knit yarn/mesh type (by % if more than yarn), leather], backer, and any treatment/finish	All chemical constituents above 0.01% by weight of product (for a representative fabric selected for the representative product). Other fabrics included in the product scope shall be assessed as Supplemental Materials.

Material	Material Inventory	Chemical Inventory
Polymers (virgin)	Identified by resin type and filler type, by percentage (e.g., 30% glass-filled nylon-6)	All chemical constituents above 0.01% by weight of product (e.g., glass fill, nylon, and additives)
Polymers (recycled)	Identified by resin type and filler type, by percentage (e.g., 30% glass-filled nylon-6) AND indicate if pre-consumer and/or post-consumer recycled content	For representative materials, all chemical constituents above 0.01% by weight of product (e.g., glass fill, nylon, and additives) of the virgin material, AND Any chemicals declared by the supplier per the requirements of Section 7.4.2.1 For supplemental materials, recycled polymers shall be assessed by the Class Approach (7.4.2) Note: All recycled content polymers included in the product scope are also subject to the sourcing and claim verification requirements of 7.4.2.2
Flexible Polyurethane Foam	This applies to resilient filling materials comprising flexible polyurethane foam. Potential identifiers include cut/slab foam, molded foam, self-skinning, or integral skin. Other types of foam shall be characterized as polymers.	Qualifying foams may be identified using the generic CAS number (e.g. CAS 9009-54-5). Individual chemical constituents - such as polyol, isocyanate, catalysts, surfactants, and blowing agents - do not have to be inventoried given they are reacted during the production process. Flame retardants and antimicrobials used in representative materials shall be inventoried if greater than 0.01% by weight of product.
All other generic materials	Identified by generic material description (e.g. concrete, etc.)	All chemical constituents above 0.01% by weight of product.

7.3 Chemical Inventory

Chemicals present in materials shall be inventoried at two levels:

- Representative materials must be inventoried per 7.2.1. Individual chemical constituents of the representative materials inventoried per 7.2.1.
- Chemical class and/or functional class evaluation is required for both primary (per 7.2.1) and supplemental materials (per 7.2.2)

7.3.1 Inventory by Class Approach (Tier 2)

Applicant shall inventory all chemical constituents that are intentionally added (and still present) to the representative materials (per 7.2.1) and supplemental materials (per 7.2.2) at a concentration equal to or greater than 0.01% (100 ppm) per weight of material, and can be characterized as belonging to one or more of the following chemical or functional classes:

- Per- and polyfluoroalkyl substances (PFAS)
- Flame retardants
- Antimicrobial agents
- Bisphenol A and structural analogs
- Ortho-phthalates
- Organo-halogenated solvents
- Other organo-halogenated compounds and polymers
- Metals: hexavalent chromium, mercury, cadmium, lead, and arsenic, and compounds of these metals

7.3.2 Inventory of Chemical Constituents (Tier 3)

Applicant shall inventory all chemical constituents of the representative materials (per 7.2.1) that are present at a concentration equal to or greater than 0.01 % (100 ppm) per weight of representative product. Individual chemicals shall be identified by chemical name and Chemical Abstracts Service Registry Number (CASRN) unless otherwise specified by Table 3.

The inventory shall be tabulated with the following information:

- Chemical name or another approved identifier per Table 3
- CASRN or another approved qualifier per Table 3
- % w/w (by product weight) of each chemical.
- % w/w (by product weight) total proprietary ingredients

For reporting % w/w (by product weight), typical averages or typical range values are acceptable.

Chemical composition may be validated through one or more of the following means: supplier declarations; direct analytical testing (by raw material manufacturer, the applicant, or supply chain); publicly available data.

Proprietary Ingredients

Proprietary ingredients shall not exceed 25% (by weight of product)

- Up to 1% (by weight of product) may be included as part of the proprietary ingredients without further requirements.
- If more than 1% (by weight of product) is included within proprietary ingredients, the applicant shall validate that there are no chemicals of concern included, per the requirements of 7.4.1.
- If more than 5% (by weight of product) is included within proprietary ingredients, the applicant shall not qualify for 7.7.

The inventory shall be tabulated with the following information:

- Class category (as above)
- Description of material(s) that contain the applicable chemical(s)
- Description of the function and type of the chemical(s)
- Concentration of each chemical. Concentration can be expressed as a typical value, greater than or less than, max/min, or a range.

Note: Antimicrobial agents are exempt when added to materials or products for the sole purpose of preserving the product.

7.4 Chemical Assessment

The chemical assessment approach is based on a screening methodology at two levels:

- Individual chemical constituents of the representative materials inventoried, per 7.3.1.
- Chemical and/or functional class evaluation of both primary and supplemental materials, per 7.3.2

7.4.1 Assessment of Chemical Constituents (Tier 3)

The applicant shall identify and assess all chemicals of concern inventoried as representative materials. Any chemicals classified as proprietary ingredients in the chemical inventory shall also be screened if the total proprietary ingredients represent 1% or more of the inventory (by weight of product).

A chemical of concern is a chemical that satisfies the following two criteria:

1. Included in the chemical inventory (per 7.3.1) due to its presence in a representative material at a concentration equal to or greater than 100 ppm (0.01%) by weight of the product, AND
2. Included in one or more of the chemicals of concern lists cited below.

The applicant shall screen all the chemical constituents disclosed in the chemical inventory against one or more of the most current versions of the following authoritative “chemicals of concern lists”:

- Living Building Challenge “Red List” and list for “Priority for Red List Inclusion”
- Green Screen List Translator LT-1 or GreenScreen BM-1
- GHS category 1 (1A, 1B) for carcinogens, mutagens, reproductive toxicants, and endocrine disruptors (human health and the environment)
- Cradle to Cradle Certified Restricted Substance List (v4.1)
- Persistent, Bioaccumulative and Toxic (PBT) chemicals (per US EPA TSCA¹ and EU REACH²)
- Substance of Very High Concern (SVHC) Candidate List per EU REACH and UK REACH

In addition to mandatory screening against one or more of the normative lists, the applicant may opt to screen against other “chemicals of concern lists” for purposes of the chemical inventory, assessment, and disclosure.

Notes:

1: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals under TSCA Section 6(h)

2: European Union candidate list of Substances of Very High Concern in accordance with Article 59 of Regulation (EC) 1907/2006 on the basis of Article 57(d), Article 57(e), or Article 57(f) for persistent, bioaccumulative and toxic, or very persistent and very bioaccumulative properties (22 CCR 69502.2(a)(1)(G)).

7.4.2 Assessment of Recycled Content Polymers (Tier 4)

Reground or other recovered waste materials used in the same manufacturing process that generated the waste material do not qualify as recycled content materials.

If a recycled content polymeric material is sourced directly from a raw material manufacturer that produces the material using the same or similar manufacturing processes as the equivalent virgin, the recycled content material can be assessed using the same type of documentation as virgin material. No additional testing and/or declarations (as specified in 7.4.3.1) are required.

Post-industrial polymeric material shall meet the additional requirements of 7.4.2.1 and 7.4.2.2.

7.4.2.1 Sourcing and Claim Verification of Recycled Content Polymers

The applicant shall obtain declarations from its supply chain for all recycled content polymeric materials, within the product scope (i.e. primary and supplemental materials) that addresses the sourcing of such materials and allows for verification of claims of recycled content.

In the declaration, the supplier shall provide the requested statement (points 1 and 2 below) and address the following questions:

- A statement of the type of recycled content (pre-consumer, post-consumer) and % content
- A statement that material complies with all applicable regulations.
- A description of the source of the material, including;
 - Is the material recovered from the environment? Provide description of the environment, environmental fate, and recovery methods.
 - Is the material obtained directly from other industries/market sectors at end-of-life? Provide description and indicate if the material is recovered at the end of its first generation use or after multi-generation use.
 - Is the material obtained from a single source or multi-source? Is the material homogeneous or heterogeneous (e.g., single material from single source, multiple materials from single source, single material from multiple sources, or multiple materials from multiple source)?
 - Description of process controls to minimize batch-to-batch variations, potential for cross-contamination, compliance of materials, clean material inputs.
 - Recycling technology
- A statement of the due diligence process to substantiate the recycled content and chemical content claims for the recycled material, for example:
 - Can the supplier provide test reports to validate claims?
 - Does the supplier have third-party validation/certification for the recycled content materials?
 - Can the supplier point to external analyses that support that their material is representative of the expected chemical content of other materials recycled in the same manner?

7.4.2.2 Enhanced Assessment of Recycled Content Polymers

The applicant shall obtain documentation by test results or a supplier declaration. The supplier declaration shall state the recycled content polymeric material does not contain any of the chemicals listed below at a concentration greater than or equal to 100 ppm (0.01%) by weight of the material level.

- Metals (lead, cadmium, mercury, hexavalent chromium, arsenic)
- Persistent, Bioaccumulative, and Toxic (PBT) chemicals (as defined by 7.4.1)

For halogen content, e.g. bromine, chlorine, fluorine as identified in a regulatory authoritative list shall be included.

If any of the chemicals are present above the stated threshold, the applicant shall include these chemicals within the chemical inventory per 7.2.1 if the concentration remains greater than or equal to 0.01% when recalculated by product weight.

The value(s) reported shall be based on typical averages or ranges representative of expected batch-to-batch variations. Alternatively, the applicant may report the anticipated maximum % by weight of material. Documentation may include:

- Direct analytical testing such as XRF analysis can be used for halogen content and metals. Testing may be commissioned by the applicant or obtained from its supply chain.
- Declarations from suppliers

When documentation is in the form of analytical testing, potential batch-to-batch variations will be addressed through the following test protocols:

Initial testing

- If the material is produced with strict controlled inputs and process, and it is a single material from a single industrial processes: test one batch.
- If the material is produced from highly variable inputs or materials recovered from the environment: test three different batches. The applicant will report the average.

Re-testing is required if:

- Applicant documents changes in the performance/technical specifications of the material.
- Supplier notifies applicant of significant changes in the inputs/process controls of the recycled material that may change chemical content.

7.4.3 Intentionally Blank

7.4.4 Targeted Chemical and Material Elimination (Optional Criteria)

The intent of this credit is to eliminate or minimize targeted chemicals and materials of concern, which include antimicrobials, flame retardants, formaldehyde, per- and poly-fluorinated alkyl substances, and polyvinyl chloride.

The applicant may voluntarily opt to conform to these criteria if it meets all the applicable requirements per [Health Care Without Harm's Healthy Interiors criteria](#), and publicly discloses such conformance on (1) the e3 Scorecard, for any tier of achievement, and (2) the product chemical disclosure document per 7.5 for Tier 3 conformance.

The applicant may select a subset of the product scope to achieve these criteria contingent upon disclosing such conformance for the applicable products and product options/variants on the e3 Scorecard and product chemical disclosure document, as described above.

7.5 Public Chemical Disclosure – (Tier 3)

The applicant shall publicly disclose a document that includes the following elements.

- **Scope statement:** product statement of line that is being assessed, including description of product categories/sub-categories, product trade names, options and variants included, and exclusions.
- **Material inventory:** Output of 7.2, i.e.:
 - The Representative Material Table
 - List of Supplemental Materials
 - Statement of any materials that were intentionally excluded.
- **Chemical inventory:** Output of 7.3, i.e.:
 - The table of chemical constituents, including the percentage withheld as “proprietary ingredients”
 - The table of chemical classes
- **Chemical Assessment:**
 - Declaration of which chemical of concerns listed were selected for chemical screening of the representative materials.
 - Output of the screening process
- **Recycled Content Polymers**
Description of:
 - Original use/application of the materials that were recovered for recycling.
 - Environmental fate
 - Recycling technology (e.g., chemical recycling vs. mechanical)
 - If available, third-party validation of sourcing and recycled content claims
- **Optional criteria:**
 - The applicant shall specifically disclose which products and product options/variants conform to 7.4.4.
 - The applicant may opt to disclose additional chemicals of concern lists that were used for the chemical assessment.
- **Remarks:** Open section for voluntary remarks

7.6 Low Emitting Furniture

The organization shall promote good indoor air quality by reducing irritating, odorous, and/or harmful indoor air contaminants in finished products.

Individual furniture components of workstations (e.g., file cabinets, desks, drawer pedestals, work surfaces, tables, vertical panels, privacy screens, etc.) may achieve by meeting the maximum allowed emission factors for either an open plan workstation or a private office, using configurations as defined in ANSI/BIFMA M7.1-2011 (R-2021). This criteria also applies to items not necessarily intended to be workstations like easels, conference tables, etc. Please note the following items are excluded from 7.6: office accessories such as desktop blotters, trays, tape dispensers, waste baskets, work tools, monitor arms, and all electrical items such as desk lamps and other small appliances.

All surfaces are allowed a maximum emission factor depending upon the intended use environment. The maximum emission factor is calculated based on the guideline concentration for a constituent as defined in 7.6.1, 7.6.2, or 7.6.3; the total surface area for the open plan workstation or private office; and the airflow rates for the open plan workstation or private office.

In order to meet this requirement, classroom furniture consisting of individual pupil desks, seating units, combined desk/seating units, or non-electrical visual aid boards (e.g. marker boards, chalkboards) shall meet the maximum allowed concentration limits for a workstation system (in the appropriate Section 7.6.1, 7.6.2, or 7.6.3) when calculated using the standard classroom scenario defined in Tables 4-2 and 4-3 of CDPH/EHLB/Standard Method V1.2 January 2017.

The standard test method to be used to demonstrate compliance is the ANSI/BIFMA M7.1-2011 (R-2021) Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components, and Seating.

The applicant shall provide documentation that all products within scope, including those that are inherently non-emitting, meet the furniture emissions concentrations or factors as stipulated by ANSI/BIFMA X7.1-2011(R-2021). Appropriate documentation may include either a letter or a certification from an accredited 3rd party laboratory or certification body, stating compliance.

As a result, a documented non-emitting product may potentially attain 7.6.1, 7.6.2, and 7.6.3.

7.6.1 Low Emitting Furniture – (Tier 1)

The applicant shall provide documentation that furniture emissions concentrations or factors meet the following criteria as defined in ANSI/BIFMA X7.1.-2011 (R-2021) at 168 hours:

Table 4 - Workstation Systems (open plan or private office) Emissions Concentration Limits	
TVOC toluene	≤ 0.5 mg/m ³
Formaldehyde	≤ 50 ppb
Total Aldehydes	≤ 100 ppb
4-Phenylcyclohexene	≤ 0.0065 mg/m ³

Table 5 - Seating Office Emissions Concentration Limits	
TVOC toluene	≤ 0.25 mg/m ³
Formaldehyde	≤ 25 ppb
Total Aldehydes	≤ 50 ppb
4-Phenylcyclohexene	≤ 0.00325 mg/m ³

Table 6 - Individual Furniture Components Maximum Emission Factors		
	ANSI/BIFMA M7.1-2011 (R-2021) Open Plan Workstation	ANSI/BIFMA M7.1-2011 (R-2021) Private Office Workstation
Formaldehyde (µg/m ² hr.)	42.3	85.1
TVOC toluene (µg/m ² hr.)	345	694
Total Aldehyde (µmol/m ² hr.)	2.8	5.7
4-Phenylcyclohexene (µg/m ² hr)	4.5	9.0

7.6.2 Low Emitting Furniture – Intermediate (Tier 2)

Furniture emissions shall not exceed the individual Volatile Organic Chemical (VOC) concentration limits listed in Annex C at 336 hours (14 days) or sooner when determined in accordance with the ANSI/BIFMA M7.1-2011 (R-2021) Standard Test Method. These criteria are based on the acceptance criteria in CDPH/EHLB/Standard Method V1.2 January 2017.

Seating may meet this criteria by meeting 1/2 the maximum acceptable limits for a workstation as defined in 7.6.2.

7.6.3 Low Emitting Furniture – Advanced (Tier 3)

Furniture emissions shall not exceed the individual formaldehyde concentration limits listed below at 336 hours (14 days) or sooner when determined in accordance with the ANSI/BIFMA M7.1-2011 (R-2021) Standard Test Method. These formaldehyde criteria are based on CDPH/EHLB/Standard Method V1.2 January 2017 (Table 4-1, footnote b).

Table 7 - Workstation Systems (open plan or private) Office Emissions Concentration Limits

Formaldehyde	$\leq 9 \mu\text{g}/\text{m}^3$
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Table 8 - Seating Office Emissions Concentration Limits

Formaldehyde	$\leq 4.5 \mu\text{g}/\text{m}^3$
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Table 9 - Individual Furniture Components Emission Factors

Emission factor	Units	Open plan workstation*	Private office workstation**
Formaldehyde	$\mu\text{g}/\text{m}^2/\text{hr.}$	6.2	12.5
—	—	*ANSI/BIFMA M7.1-2011 (R-2021)	**ANSI/BIFMA M7.1-2011 (R-2021)

7.7 Elimination of Chemicals of Concern – (Tier 4)

Optimization of Products by Chemical Class

The applicant shall demonstrate optimization of the products covered by the assessment, where optimization is the elimination of chemicals of concern, as defined below. Elimination is achieved when the chemical of concern is at or below 0.01% (100 ppm) at (1) material level for surface materials and (2) by-product weight for non-surface materials.

For purposes of this criteria, surface materials are limited to all fabrics, leather, laminates, veneer, and surface coatings.

The scope of this criteria is all representative materials and supplemental materials as disclosed in conformance with 7.2. Note: virgin and recycled content materials are in scope for 7.7.

For the purposes of this criteria, all chemicals of concern that meet the criteria listed below shall be eliminated:

- GHS¹ categories 1A and 1B, for:
 - Carcinogens
 - Mutagens
 - Reproductive toxicants
 - Endocrine disruptors (human health and environment)
- Persistent, Bioaccumulative, and Toxic (PBT) chemicals (per US EPA TSCA² and EU REACH³)
- Per- and polyfluoroalkyl substances (PFAS)
- Flame retardants⁴
- Antimicrobial agents (allowed when added for the sole purpose of preserving the product).
- Bisphenol A and structural analogs
- Ortho-phthalates
- Halogenated solvents
- Metals: hexavalent chromium, mercury, cadmium, lead and arsenic, and compounds of these metals

Absence of the applicable chemical(s) in the disclosure document generated in 7.5 is considered evidence of elimination.

The applicant shall publicly disclose exemptions for alignment with other programs or for irreplaceable/essential materials.

Notes:

¹Globally Harmonized System of Classification and Labelling of Chemicals (GHS Rev. 10, 2023)

²Persistent, Bioaccumulative, and Toxic (PBT) Chemicals under TSCA Section 6(h)

³European Union candidate list of Substances of Very High Concern in accordance with Article 59 of Regulation (EC) 1907/2006 on the basis of Article 57(d), Article 57(e), or Article 57(f) for persistent, bioaccumulative and toxic, or very persistent and very bioaccumulative properties (22 CCR 69502.2(a)(1)(G)).

⁴Flame retardants

(a) For electrical/electronic components: flame retardants that are critically required to comply with electrical safety standards are exempt from elimination, contingent upon conforming to the other criteria 1-9.

(b) For non-electrical/electronic components: flame retardants that are critically required to comply with flammability standards are exempt from elimination, contingent upon conforming to the other criteria 1-9 and must not be organo-halogenated compounds.

8 Social Impacts

8.1 Occupational Health and Safety (OHS)

The applicant shall ensure employee health and safety by establishing management processes to identify and manage health and safety risk in the workplace and support better, safer working conditions. The following criteria apply to the organizational boundary.

8.1.1 Occupational Health and Safety Policy (Tier 1)

The applicant shall provide a written Occupational Health and Safety (OHS) policy which reflects the vision and mission of the organization and includes, at a minimum, the following elements:

- Commitment to fulfill applicable local, regional, and national legal requirements.
- Commitment to the prevention of work-related incidents and injuries.
- Commitment to provide safe and healthy working conditions.
- Commitment to continual improvement.
- Commitment to consult with and provide opportunities to engage with workers to ensure health and safety needs and concerns are addressed, and improvements are considered.
- Commitment to eliminate hazards and reduce health and safety risks.

8.1.2 Occupational Health and Safety Program Basic Requirements (Tier 2)

The applicant shall provide documentation and/or demonstration of systems which incorporate the following:

- Tracking of safety incidents, which, at a minimum, shall include applicable regulatory reporting requirements for incident occurrence/ incident rates.
- A process for employees to report potential safety hazards.
- A process for corrective action and continual improvement.
- A process to assess chemical hazards and comply with hazard communication requirements.
- Records of employee training relative to organizational expectations and specific job functions.
- A process in place to ensure necessary personal protective equipment (PPE) is in place and PPE is in use; and
- A framework for setting OHS objectives.

8.1.3 Occupational Health and Safety Advanced Requirements (Tier 3)

The applicant shall provide documentation and/or demonstration of systems which incorporate the following advanced considerations for employee safety:

- A process to identify, review, and approve modifications or changes to equipment and process conditions and their impact on worker safety.
- A preventive or leading set of metrics that captures key work processes and layers of protection to control safety risk and prevent incidents.
- Regular internal or 3rd party audits of the OHS management system; and
- Safety performance transparency, including internal and public disclosure of organizational OHS performance data. Internal data shall be disclosed at least annually. Public disclosure shall be consistent with sustainability reporting frequency (at a minimum of once per conformance period).

Applicants can demonstrate current, 3rd party certification to an external health and safety management system standard, e.g., ISO 45001, to meet all requirements of 8.1.1, 8.1.2 and 8.1.3 bullet points 1-3, but shall be required to demonstrate safety performance disclosure requirements per 8.1.3 bullet points 4.

8.2 Wellness

The applicant shall ensure processes are in place to support employees and contribute toward the customer's wellness. The following criteria for employees applies to the organizational boundary.

8.2.1 Wellness Policy (Tier 1)

The applicant shall provide a written health and wellness policy which reflects the organization's commitment to the health and wellness of both workers and customers.

The policy shall communicate commitment to at least three of the following:

- Proactive health care
- Employee ergonomics
- Air quality in working areas
- Lighting
- Noise
- Temperature
- Financial education
- Health education (including mental health services such as services to support mental well-being, emotional help, and/or the prevention of mental illness or disorders).
- Fitness/activity opportunities

8.2.2 Basic Wellness Program (Tier 2)

The applicant shall provide documentation and/or demonstration of systems which promote wellness in their workforce that extends beyond standard health and safety compliance requirements and encourages employees to take an active role in their own health and wellness.

The applicant shall provide evidence of their commitment to wellness demonstrating a program including wellness considerations such as: lighting, temperature, noise, air quality, ergonomics, financial education, health education (including mental health services), etc.

8.2.3 Advanced Wellness Program (Tier 3)

The applicant shall advocate for wellness in the workforce in an advanced way that extends beyond basic considerations. The applicant shall provide evidence of a program that has been communicated and offered to all employees, which includes at least one of the following:

- Access to healthy food (see most current version of the WELL Building Standard^(R) or the equivalent).
- Access to mental health resources.
- Consideration of work-life balance in the following ways:
 - Restricted work hours to not exceed 48 hours in a week.
 - Family leave policy
 - Flexible work arrangements (i.e. hybrid or work at home options possible)

8.3 Inclusiveness

The applicant shall promote an inclusive workplace that addresses belonging, fair treatment, and employee participation.

8.3.1 Inclusiveness Policy (Tier 1)

The applicant shall provide a written policy that promotes an inclusive workplace and reflects the vision and mission of the organization. The policy shall include the following elements:

- Commitment to and description of how the applicant will promote inclusiveness within the organization.
- Commitment to fulfill applicable local, regional, and national legal requirements related to inclusiveness.
- Commitment to eliminate all forms of discrimination, abusive conduct, harassment, and retaliation in the workplace or during work-related activities
- Commitment to continually improve inclusiveness efforts.

8.3.2 Inclusiveness Basic Program (Tier 2)

The applicant shall provide documentation and/or demonstration of systems which incorporate the following:

- Review of compliance with applicable local, regional, and national inclusiveness regulatory requirements at least every three (3) years.
- Education program that includes, but is not limited to, the organization's policy and information about how the company handles reports of discrimination, abusive conduct, harassment, and retaliation, as well as inclusive concepts and benefits.
- Documented corrective action process.
- Quantitative metrics that have been implemented and are reviewed at least once every three (3) years
- Language translation provided as needed.

8.3.3 Inclusiveness Advanced Program (Tier 3)

The applicant shall provide current documentation and/or demonstration of systems which incorporates the following advanced level of commitment to an inclusive workplace:

- Internal and public disclosure of organizational inclusiveness performance.
 - Internal data shall be disclosed at least annually to employees (e.g., intranet, newsletter).
 - Public disclosure shall align with sustainability reporting frequency (at a minimum once per conformance period).
- A process to gather feedback from employees and continuously improve the program, which shall include an employee survey to assess feedback on the organization's inclusiveness program(s) and evidence of implemented actions/responses based on survey results.

8.4 Community Outreach and Engagement

The applicant shall demonstrate their commitment to community outreach and engagement.

8.4.1 Community Outreach and Engagement Policy (Tier 1)

The applicant shall make publicly available a written Community Outreach and Engagement Policy that includes a commitment to participate in and support communities where they operate through programs such as: volunteerism, giving donations, community collaboration, scholarships, and community resiliency.

8.4.2 Community Outreach and Engagement Basic (Tier 2)

The applicant shall provide evidence of three specific examples of volunteer or financial community outreach and engagement efforts occurring within the 12-month performance period. The publicly available summary of the efforts shall include:

- Beneficiary's name or event name
- Description of the efforts.
- Date(s) of occurrence.
- Location(s) of the beneficiary.
- Participation (number or percentage of employees or details of donation from the organization).
- An explanation of how outreach efforts support the Community Outreach and Engagement Policy.

8.4.3 Community Outreach and Engagement Advanced (Tier 3)

The applicant shall demonstrate an organizational program or system that exhibits the following:

- A sustained commitment (i.e. multiple and repeated engagements of a similar nature and purpose) to the community, examples of sustained commitment include: an employee volunteer program that offers paid time off for employees to volunteer, matching employee donations, sustained partnerships with nonprofits or community organizations, or ongoing monetary donations that align with the company's policy.
- A method to track and measure community impact resulting from these efforts, examples of monitoring and measuring include tracking hours, dollars, or other measurements aligned with the policy and program.
- Public disclosure of the community outreach and engagement efforts and their outcome. Public disclosure shall align with sustainability reporting frequency.

8.5 Business Conduct

The applicant shall demonstrate their commitment to ethical business practices both internally and externally within their supply chain.

8.5.1 Business Conduct Policy (Tier 1)

The applicant shall provide a written corporate Code of Conduct, or equivalent, which defines ethical standards for the conduct of the applicant organization, and a Supplier Code of Conduct which defines the applicant's expectations for its suppliers' conduct. At a minimum, the Codes of Conduct shall address the following criteria:

- Child labor
- Forced labor
- Working hours
- Compensation
- Freedom of association
- Discrimination
- Discipline/harassment
- Corruption
- Bribery
- Health and safety
- Regulatory compliance (i.e. applicable government regulations)
- Environmental and/or sustainability

The applicant shall provide the following:

- Evidence that the corporate and supplier Codes of Conduct have been implemented and communicated with those working for and/or on behalf of the applicant organization.

- For suppliers, the applicant shall:
 - Provide evidence to demonstrate that suppliers comprising at least 75% of their total direct material spend on all products have signed the Supplier Code of Conduct or have otherwise acknowledged that the conditions of the supplier Code of Conduct are being met. The percentage shall be measured using actual annual spend data for a consecutive 12-month period within the previous two years.
 - For suppliers that act as brokers, distributors, inventory management providers, etc., and do not manufacture and/or assemble the components/products purchased by the organization, the signed Supplier Code of Conduct shall be obtained from their suppliers who do manufacture and/or assemble the components/products.

8.5.2 Business Conduct Basic (Tier 2)

The applicant shall assess the supplier impact of materials/components representing 5% of direct material spend, measured using actual annual spend data for a consecutive 12-month period within the previous two years. The applicant shall collect evidence to demonstrate that one of the following criteria is met by suppliers included in the assessment:

- The supplied part or material(s) have achieved recognition in a multi-attribute, consensus-based sustainability standard(s) as defined in Section 3 of this standard; or
- ISO14001; or
- The applicant shall obtain details of the supplier's goals in 3 of the following areas:
 - Energy consumption
 - Material efficiency
 - Solid and/or hazardous waste
 - Water consumption
 - Air emissions (e.g. greenhouse gas emissions, hazardous air pollutants)
 - Transportation

8.5.3 Business Conduct Advanced (Tier 3)

The applicant shall verify the conformity of high-risk suppliers to the Supplier Code of Conduct. The program shall include at least one on-site supplier assessment during the conformance period (full supplier Code of Conduct conformance assessment shall be conducted by the applicant organization or a third party).

High-risk suppliers within the applicant's supply chain should be determined by evaluating relative risk using, but not limited to, the following criteria:

- Country of manufacture (final assembly, at a minimum)
- Suppliers of major components (i.e. a component weighing greater than 40% of the total weight)
- Industry type
- Annual spend
- Locations of final material

The method and frequency of supplier assessments shall be determined by the applicant and based on the level of risk and results from previous conformance assessments, if applicable. The applicant shall provide evidence to demonstrate the qualifications of individuals performing the verification assessment as they relate to the criteria found in the Supplier Code of Conduct.

8.5.4 Business Conduct – On-site Assessments (Tier 4)

The program shall include at least 3 on-site supplier assessments, prioritizing high-risk suppliers (outlined in previous criteria) during the conformance period. A full supplier Code of Conduct conformance assessment shall be conducted by the applicant organization or a third party.

8.6 Sustainability Transparency

The applicant shall demonstrate their commitment to disclosure of relevant environmental and social metrics and communicate their performance and understanding of sustainability risks and opportunities related to their operations.

8.6.1 Sustainability Transparency Index (Tier 1)

The applicant shall provide an index of the public disclosures required throughout the standard for the applicable criteria achieved, and links to the location of the disclosures. The index of public disclosures shall be available upon request.

8.6.2 Sustainability Transparency Basic (Tier 2)

The applicant shall internally track and report metrics that pertain to the following:

- Employee health and safety
- Employee engagement, development, and wellness
- Social, labor, and human rights
- Inclusiveness
- Community involvement and support
- Environmental and sustainability goals

The report shall present updates on progress related to indicators and specify the guidelines or standards followed. Communication frequency shall be determined by the applicant but shall not exceed three years. Reports that are not completed annually shall include performance indicator data for the entire reporting period.

8.6.3 Sustainability Transparency Advanced (Tier 3)

The applicant shall publicly disclose a comprehensive sustainability report that follows current, internationally recognized guidelines or standards for reporting. The report shall, at a minimum, include the following performance indicators:

- Employee health and safety
- Employee engagement, development, and wellness
- Social, labor, and human rights
- Inclusiveness
- Community involvement and support
- Environmental and sustainability goals

Annex A: Conformance and Certification Requirements by Tier

(informative)

[PRODUCT] by [COMPANY]: LEVEL [X] Certified

Representative Model(s):

Justification:

Products Represented:

*Exclusions:



indicates requirement

3rd-party certified by: [X] Certificate #: [NUMBER] Certification Term: [X]

		Tier 1	Tier 2	Tier 3	Tier 4
6.0 Environmental Impacts					
6.1	Energy, Environmental and Product Design Strategies				
6.1.1	Energy and Environmental Policy*	✓	✓	✓	✓
6.1.2	Design for the Environment Program	✓	✓	✓	✓
6.2	Product Safety and Performance				
6.2.1	Product Safety and Performance Standards – Basic		✓	✓	✓
6.2.2	Product Safety and Performance Standards – Advanced			✓	✓
6.3	Circularity				
6.3.1	Extended Producer Responsibility Program (EPR)	✓	✓	✓	✓
6.3.2	Extended Producer Responsibility Tracking		✓	✓	✓
6.3.3	Recycled Content – Circularity Alignment			✓	✓
6.3.4	Extended Producer Responsibility Circularity Program				✓
6.4	Biobased Materials				
6.4.1	Biobased Materials Data Collection*			✓	✓
6.4.2	3rd Party Certified Biobased Materials				✓
6.5	Responsible Packaging				
6.5.1	Responsible Packaging Product Inventory*	✓	✓	✓	✓
6.5.2	Responsible Packaging Inventory Assessment		✓	✓	✓
6.5.3	Responsible Packaging Optimization Programs*			✓	✓
6.6	Responsible Use of Resources/Materials				
6.6.1	Material Inventory	✓	✓	✓	✓
6.6.2	Material Inventory and Assessment*		✓	✓	✓
6.6.3	Performance and Transparency			✓	✓
6.6.4	Advanced Performance				✓

		Tier 1	Tier 2	Tier 3	Tier 4
6.7	Energy and Environmental Management				
6.7.1	Energy and Environmental Management System*	✓	✓	✓	✓
6.7.2	Energy and Environmental Management System – 50%		✓	✓	✓
6.7.3	Energy and Environmental Management System – 90%			✓	✓
6.7.4	Energy and Environmental Management System – 100%				✓
6.8	Energy and GHG Inventory				
6.8.1	Energy and GHG Inventory – 75%	✓	✓	✓	✓
6.8.2	Energy and GH Inventory – 95%		✓	✓	✓
6.8.3	Energy and GHG Inventory – 100%			✓	✓
6.8.4	Energy and GHG Inventory – 3 rd Party Verification				✓
6.9	Greenhouse Gas Baseline, Targets, and Reduction Plans				
6.9.1	Greenhouse Gas Baseline, Targets, and Reductions – Baseline and Target		✓	✓	✓
6.9.2	Greenhouse Gas Baseline, Targets, and Reductions – Reporting			✓	✓
6.9.3	Greenhouse Gas Baseline, Targets, and Reductions – Optimization				✓
6.10	Life Cycle Assessment				
6.10.1	Life Cycle Assessment – Inventory		✓	✓	✓
6.10.2	Life Cycle Assessment – Impact Summary			✓	✓
6.10.3	Life Cycle Assessment – Verification and Environmental Product Declaration (EPD)				✓
6.11	Positive Climate Impact				✓

7.0 Material Health Impacts

7.1	Policies, Plans and Strategies				
7.1.1	Chemical Policy for Products	✓	✓	✓	✓
7.1.2	Chemical Management Plan*	✓	✓	✓	✓
7.1.3	Chemicals of Concern Strategy	✓	✓	✓	✓
7.2	Material Inventory				
7.2.1	Representative Materials		✓	✓	✓
7.2.2	Supplemental Materials		✓	✓	✓
7.3	Chemical Inventory				
7.3.1	Inventory by Class Approach			✓	✓
7.3.2	Inventory of Chemical Constituents			✓	✓
7.4	Chemical Assessment				
7.4.1	Assessment of Chemical Constituents			✓	✓
7.4.2	Assessment of Recycled Content Polymers				✓
7.4.4	Targeted Chemical and Material Elimination	<i>Optional Criteria</i>			
7.5	Chemical Disclosure				
7.5.1	Public Chemical Disclosure			✓	✓

		Tier 1	Tier 2	Tier 3	Tier 4
7.6	Low Emitting Furniture				
7.6.1	Low Emitting Furniture	✓	✓	✓	✓
7.6.2	Low Emitting Furniture – Intermediate		✓	✓	✓
7.6.3	Low Emitting Furniture – Advanced			✓	✓
7.7	Elimination of Chemicals of Concern				
7.7.1	Optimization of Products by Chemical Class				✓

8.0 Social Impacts

8.1	Occupational Health and Safety				
8.1.1	Occupational Health and Safety Policy*	✓	✓	✓	✓
8.1.2	Occupational Health and Safety Program Basic Requirements*		✓	✓	✓
8.1.3	Occupational Health and Safety Advanced Requirements			✓	✓
8.2	Wellness				
8.2.1	Wellness Policy	✓	✓	✓	✓
8.2.2	Basic Wellness Program		✓	✓	✓
8.2.3	Advanced Wellness Program			✓	✓
8.3	Inclusiveness				
8.3.1	Inclusiveness Policy*	✓	✓	✓	✓
8.3.2	Inclusiveness Basic Program		✓	✓	✓
8.3.3	Inclusiveness Advanced Program			✓	✓
8.4	Community Outreach and Engagement				
8.4.1	Community Outreach and Engagement Policy*	✓	✓	✓	✓
8.4.2	Community Outreach and Engagement Basic		✓	✓	✓
8.4.3	Community Outreach and Engagement Advanced			✓	✓
8.5	Business Conduct				
8.5.1	Business Conduct Policy*	✓	✓	✓	✓
8.5.2	Business Conduct Basic		✓	✓	✓
8.5.3	Business Conduct Advanced			✓	✓
8.5.4	Business Conduct – On-site Assessments				✓
8.6	Sustainability Transparency				
8.6.1	Sustainability Transparency Index	✓	✓	✓	✓
8.6.2	Sustainability Transparency Basic		✓	✓	✓
8.6.3	Sustainability Transparency Advanced			✓	✓

*Recommended onsite review per section 4.5 Facility Assessment Applicability

Annex B: Sample Bill of Materials (informative)

Table Product

Total Weight **44.47**

Part Level	Description	General Material	Finishes	Part Weight (kg)	Percent of Total (%)	Post Industrial Recycled Content (%)	Post Consumer Recycled Content (%)	Calculated PIR (kg)	Calculated PCR (kg)	Comments
1	WORKSURFACE	GENERAL ASSEMBLY		0.00	0.0%	0.0%	0.0%	0.00	0.00	
2	WORKSURFACE	GENERAL ASSEMBLY		0.00	0.0%	0.0%	0.0%	0.00	0.00	
3	WKSF ASSY	GENERAL ASSEMBLY		0.00	0.0%	0.0%	0.0%	0.00	0.00	
4	BOARD	PARTICLEBOARD		30.61	68.8%	50.0%	0.0%	15.31	0.00	
4	ADHESIVE	ADHESIVE		0.05	0.1%	0.0%	0.0%	0.00	0.00	
4	ADHESIVE	ADHESIVE		0.23	0.5%	0.0%	0.0%	0.00	0.00	
4	EDGE	POLYPROPYLENE		0.10	0.2%	0.0%	0.0%	0.00	0.00	
4	EDGE	POLYPROPYLENE		0.00	0.0%	0.0%	0.0%	0.00	0.00	
4	LAMINATE	LAMINATE		1.40	3.1%	20.0%	0.0%	0.28	0.00	
4	BACKER	LAMINATE		1.50	3.4%	20.0%	0.0%	0.30	0.00	
2	LEG	GENERAL ASSEMBLY		0.00	0.0%	0.0%	0.0%	0.00	0.00	
3	GLIDE ASSY	GENERAL ASSEMBLY		0.00	0.0%	0.0%	0.0%	0.00	0.00	
4	BASE	HIGH IMPACT POLYPROPYLENE	BLACK PP	0.05	0.1%	0.0%	0.0%	0.00	0.00	

Part Level	Description	General Material	Finishes	Part Weight (kg)	Percent of Total (%)	Post Industrial Recycled Content (PIR) (%)	Post Consumer Recycled Content (PCR) (%)	Calculated PIR (kg)	Calculated PCR (kg)	Comments
4	STEM	CARBON STEEL	9100 CHROME FREE BRIGHT ZINC	0.05	0.1%	22.0%	24.0%	0.01	0.01	
3	LEG ASSEMBLY	GENERAL ASSEMBLY		0.00	0.0%	0.0%	0.0%	0.00	0.00	
4	BASE	ADC 12 Cast ALUMINUM	POWDER PAINT	2.08	4.7%	30.0%	26.0%	0.62	0.54	
4	OVAL TUBE	SAE/AISI 1008 or 1010 STEEL	POWDER PAINT	6.22	14.0%	22.0%	24.0%	1.37	1.49	
4	PLATE	SAE/AISI 1008 or 1010 steel	POWDER PAINT	1.69	3.8%	22.0%	24.0%	0.37	0.41	
4	BLOCK	SAE/AISI 1008 or 1010 STEEL	POWDER PAINT	0.34	0.8%	22.0%	24.0%	0.08	0.08	

Note: Hardware and electrical not included - allowed per Section 4 exclusions.

Secondary Material List – Table

Required for Tier 1 and 2: Section 6 and 7.2.2	Required for Tier 3 and 4 -> 7.3	
GENERAL MATERIAL	GENERAL MATERIAL	EXACT MATERIAL
TEMPERED GLASS	ABS	TRADE NAME B700-80
304 STAINLESS STEEL	ACETAL	TRADE NAME K-60
6063 T6 ALUMINUM	ADHESIVE	TRADE NAME SEALER
A380 ALUMINUM	ADHESIVE	TRADE NAME JB-3
ABS	ADHESIVE	TRADE NAME OA-3145
ACETAL	ADHESIVE	TRADE NAME 282.40
ADC 12 Aluminum	ADHESIVE	TRADE NAME 180 HOT MELT
ADHESIVE	BACKER	TRADE NAME BACKER
AISI 1070 - 1075 STEEL	CAST ALUMINUM	A380 ALUMINUM
BACKER	CAST ALUMINUM	ADC 12 ALUMINUM
ELECTRICAL COMPONENTS	ELECTRICAL COMPONENTS	ELECTRICAL COMPONENTS
LAMINATE	EXTRUDED ALUMINUM	6063 T6 ALUMINUM
LAMINATED GLASS	LAMINATE	TRADE NAME HIGH-PRESSURE LAMINATE (HPL)
MDF	LAMINATED GLASS	LAMINATED GLASS
NYLON	NYLON	TRADE NAME 600 G X 136994 C
PARTICLE BOARD	NYLON	TRADE NAME JP-KSX 601
PE	NYLON	TRADE NAME ZT-491 BK010
PET	PARTICLE BOARD	TRADE NAME PARTICLE BOARD
POLYPROPYLENE	PARTICLE BOARD	TRADE NAME PARTICLEBOARD
PUR	POWDERED METAL	F-0008-30 POWDER METAL
PVC	PP	TRADE NAME -D-879
RUBBER	STAINLESS STEEL	304 STAINLESS STEEL
SAE 1006 - SAE 1010 STEEL	STEEL	SAE 1008 STEEL, SAE 1010 STEEL
SAE 1008 STEEL	STEEL	SAE 1215 STEEL
SAE 1010 STEEL	STEEL	SAE 1018 STEEL, SAE 1020 STEEL, SAE 1021 STEEL, SAE 1022 STEEL
SAE 1018 STEEL	STEEL	SAE 1050 STEEL

Required for Tier 1 and 2: Section 6 and 7.2.2		Required for Tier 3 and 4 -> 7.3	
GENERAL MATERIAL		GENERAL MATERIAL	EXACT MATERIAL
SAE 1018 STEEL - SAE 1022 STEEL	STEEL	STEEL	SAE 1214 STEEL OR SAE 1018 STEEL
SAE 1021 STEEL, SAE 1022 STEEL	STEEL	STEEL	SAE/AISI 1008 or 1010 STEEL
SAE 1050 STEEL	STEEL	STEEL	SAE 1018 STEEL
SAE 1060 STEEL - SAE 1090 STEEL	STEEL	STEEL	SAE/AISI 1008 thru 1020
SAE 1214 STEEL OR SAE 1018 STEEL	STEEL	STEEL	SAE 1010 STEEL
SAE 1215 STEEL	STEEL	STEEL	SAE/AISI 050XF STEEL
SAE/AISI 050XF STEEL	TEMPERED GLASS	TEMPERED GLASS	TEMPERED GLASS
ZAMAK 8	ZINC ALLOY	ZINC ALLOY	ZAMAK 8

Task Chair

Part Level	Description	General Material	Part Weight (kg)	Percent of Total (%)	Post Industrial Recycled Content (PIR) (%)	Post Consumer Recycled Content (PCR) (%)	Calculated PIR (kg)	Calculated PCR (kg)	Comments
1	TASK CHAIR EXAMPLE		17.70						
2	FABRIC	PET FABRIC	0.5	2.8%	0%	0%	0.00	0.00	
2	BACKSKIN - COLOR: BLACK	TPE	1.115	6.3%	0%	0%	0.00	0.00	
2	LEVERS		0.03	0.2%					
3		POM	0.014	0.1%	0%	0%	0.00	0.00	
3		STEEL - SAE 1008	0.002	0.0%	7.60%	0.6%	<0.001	<0.001	
3		PA6/6	0.014	0.1%	0%	0%	0.00	0.00	
2	WOBBLE PLATE	STEEL - SAE 1008	0.499	2.8%	7.63%	15.59%	0.038	0.004	
2	ARM CROSS BRACKET	STEEL - SAE 1008	0.24	1.4%	7.63%	72.44%	0.018	0.17	
2	CHAIR LIFT - STANDARD HEIGHT		0.582	3.3%					
3		STEEL - SAE 1008	0.502	2.8%	7.63%	15.15%	0.038	0.004	
3		STEEL - SAE 1008	0.08	0.5%	9.30%	9.92%	0.007	<0.001	
2	TILT MECHANISM		3.885	21.9%					
3		Zinc: Zamak 3 SAE 903	0.094	0.5%	0%	0%	0.00	0.00	
3		TPE	1.222	6.9%	0%	0%	0.00	0.00	
3		STEEL - SAE 1008	2.288	12.9%	7.6%	69.3%	0.174	0.089	
3		POM	0.007	0.0%	0%	0%	0.00	0.00	
3		POM (10%GF)	0.055	0.3%	0%	0%	0.00	0.00	
3		PA6/6	0.07	0.4%	0%	0%	0.00	0.00	
3		PP (20%GF)	0.038	0.2%	0%	0%	0.00	0.00	

Part Level	Description	General Material	Part Weight (kg)	Percent of Total (%)	Post Industrial Recycled Content (%)	Post Consumer Recycled Content (%)	Calculated PIR (kg)	Calculated PCR (kg)	Comments
3		PP	0.006	0.0%	0%	0%	0.00	0.00	
3		PA6 (50%GF)	0.094	0.5%	0%	0%	0.00	0.00	
3		BRASS	0.012	0.1%	0%	0%	0.00	0.00	
2	SEAT PAN	PA6 (30%GF)	0.711	4.0%	0%	0%	0.00	0.00	
2	LUMBAR SUPPORT	PC	0.2	1.1%	0%	0%	0.00	0.00	
2	BACKFRAME		3.556	20.1%					
3		PBT (30%GF) US	3.223	18.2%	0%	0%	0.00	0.00	
3		STEEL - SAE 1008	0.042	0.2%	7.63%	12.71%	0.003	<0.001	
3		BRASS	0.03	0.2%	0%	0%	0.00	0.00	
3		TPE	0.157	0.9%	0%	0%	0.00	0.00	
3		PBT (30%GF)	0.1	0.6%	0%	0%	0.00	0.00	
3		BRASS	0.004	0.0%	0%	0%	0.00	0.00	
2	COSMETIC ARM COVERS	PP	0.107	0.6%	0%	0%	0.00	0.00	
2	CUSHION	PU FOAM	0.39	2.2%	0%	0%	0.00	0.00	
2	HIGH PERFORMANCE ARMS		3.056	17.3%					
3		TPE	0.001	0.0%	0%	0%	0.00	0.00	
3		POM	0.068	0.4%	0%	0%	0.00	0.00	
3		PU Foam	0.2	1.1%	0%	0%	0.00	0.00	
3		STEEL - SAE 1008	0.212	1.2%	9.30%	26.23%	0.020	0.003	
3		PA6 (33%GF)	0.8	4.5%	0%	0%	0.00	0.00	
3		ALUMINUM: AA ADC12	1.776	10.0%	100%	0%	1.776	0.000	
2	5 STAR BASE		2.12	12.0%					
3		PA6 (40%GF)	2.1	11.9%	0%	0%	0.00	0.00	
3		ALUMINUM: AA ADC12	0.02	0.1%	85%	3.00%	0.017	0.000	

Part Level	Description	General Material	Part Weight (kg)	Percent of Total (%)	Post Industrial Recycled Content (%)	Post Consumer Recycled Content (%)	Calculated PIR (kg)	Calculated PCR (kg)	Comments
2	CASTERS		0.596	3.4%	0%	0%	0.00	0.00	
3		STEEL - SAE 1008	0.246	1.4%	7.63%	74.27%	0.019	0.010	industry average recycled content
3		PA6	0.35	2.0%	0%	0%	0.00	0.00	
3		ZINC: Zamak 3 SAE 903	0.001	0.0%	0%	0%	0.00	0.00	

SECONDARY MATERIALS Tier 1 and 2

Glass
Nylon 6
Wool Fabric
PET Fabric with Flame
Retardant
Polyester Fabric

Note: Hardware and electrical not included - allowed per Section 4 exclusions.

Annex C: Individual Volatile Organic Chemical (VOC) Concentration Limits

(normative – See Section 7.6.2)

Compound Name	Chemical abstract services registry number (CASRN)	Molecular weight (MW)	CREL	Workstation	Seating	Individual components	
				Maximum allowable conc. (µg/m³)	Maximum allowable conc. (µg/m³)	Open plan maximum allowable emission factor (µg/m²h)	Private office maximum allowable emission factor (µg/m²h)
Methyl <i>t</i> -butyl ether	1634-04-4	88.2	Y	4000	2000	2762	5569
Ethylbenzene	100-41-4	106.2	Y	1000	500	691	1392
Styrene	100-42-5	104.2	Y	450	225	311	626
1,4-Dichlorobenzene	106-46-7	147	Y	400	200	276	557
Epichlorohydrin	106-89-8	92.52	Y	1.5	0.75	1.0	2.1
Ethylene Glycol	107-21-1	62.1	Y	200	100	138	278
1-Methoxy-2-propanol (Propylene glycol monomethyl ether)	107-98-2	90.12	Y	3500	1750	2417	4873
Vinyl Acetate	108-05-4	86.1	Y	100	50	69.1	139
Toluene	108-88-3	92.1	Y	150	75	104	209
Chlorobenzene	108-90-7	112.56	Y	500	250	345	696
Phenol	108-95-2	94.1	Y	100	50	69.1	139
2-Methoxyethanol	109-86-4	76.1	Y	30	15	21	42
Ethylene glycol monomethyl ether acetate	110-49-6	118.13	Y	45	22.5	31	63
n-Hexane	110-54-3	86.2	Y	3500	1750	2417	4873
2-Ethoxyethanol	110-80-5	90.1	Y	35	17.5	24	49
2-Ethoxyethyl acetate	111-15-9	132.2	Y	150	75	104	209
1,4-Dioxane	123-91-1	88.1	Y	1500	750	1036	2088
Tetrachloroethylene	127-18-4	165.8	Y	17.5	8.75	12.1	24.4
Carbon Tetrachloride	56-23-5	153.8	Y	20	10	14	28
Formaldehyde	50-00-0	30.1	Y	16.5	8.25	11	23
Isopropanol	67-63-0	60.1	Y	3500	1750	2417	4873
Chloroform	67-66-3	119.4	Y	150	75	104	209
N,N-Dimethyl Formamide	68-12-2	73.09	Y	40	20	28	56
Benzene	71-43-2	78.1	Y	1.5	0.75	1.0	2.1
1,1,1-Trichloroethane	71-55-6	133.4	Y	500	250	345	696
Acetaldehyde	75-07-0	44.1	Y	70	35	48	97
Methylene Chloride	75-09-2	84.9	Y	200	100	138	278
Carbon Disulfide	75-15-0	76.14	Y	400	200	276	557

Compound Name	Chemical abstract services registry number (CASRN)	Molecular weight (MW)	CREL	Workstation	Seating	Individual components	
				Maximum allowable conc. ($\mu\text{g}/\text{m}^3$)	Maximum allowable conc. ($\mu\text{g}/\text{m}^3$)	Open plan maximum allowable emission factor ($\mu\text{g}/\text{m}^2\text{h}$)	Private office maximum allowable emission factor ($\mu\text{g}/\text{m}^2\text{h}$)
Dichloroethylene (1,1)	75-32-4	96.8	Y	35	17.5	24	49
Isophorone	78-59-1	138.2	Y	1000	500	691	1392
Trichloroethylene	79-01-6	131.4	Y	300	150	207	418
Naphthalene	91-20-3	128.2	Y	4.5	2.25	3	6
Xylenes (m-,o-, p-Xylene combined)	108-38-3 95-47-6 106-42-3	106.2	Y	350	175	242	487