

teknion



Expansion[®] Casegoods

Workspace Solutions

Environmental Product Declaration

Date of Issue: 10/26/2021

Date of Expiration: 10/26/2026

PRODUCT CATEGORY RULE



BIFMA PCR for Office Furniture Workspace Products, UNCPC 3814

FUNCTIONAL UNIT

1 m² of workspace, maintained for a 10-year period. A representative private office configuration was utilized for the purposes of this study and includes fabric panels, pedestal box, work surfaces, and cabinet storage.



**Certified
Environmental
Product Declaration**
www.nsf.org

| | |
|--|---|
| Program Operator | NSF Certification, LLC 789 N. Dixboro, Ann Arbor, MI 48105 sustainability@nsf.org |
| Manufacturer Name and Address | Teknion 975 rue des Calfats, Lévis, Québec, G6Y 9E8 |
| Declaration Number | EPD10640 |
| Declared Product and Functional Unit | 1 m ² of workspace, maintained for a 10 year period. |
| Reference PCR and Version Number | BIFMA PCR for Office Furniture Workspace Products: UNCPC 3814 |
| Product's intended Application and Use | Commercial Furniture |
| Product RSL | 10 year |
| Markets of Applicability | North America |
| Date of Issue | 10/26/2021 |
| Period of Validity | 5 years from date of issue |
| EPD Type | Product Specific |
| Range of Dataset Variability | N/A |
| EPD Scope | Cradle to Grave |
| Year of reported manufacturer primary data | 2020 |
| LCA Software and Version Number | GaBi 10.5.0.78 |
| LCI Database and Version Number | GaBi Database 2021.1 |
| LCIA Methodology and Version Number | TRACI 2.1 |
| The sub-category PCR review was conducted by: | Thomas Gloria, PhD (chair) Jack Geibig, P.E. Michael Overcash, PhD |
| This declaration was independently verified in accordance with ISO 14025: 2006. The BIFMA PCR for Office Furniture Workspace Products: UNCPC 3814 serves as the core PCR. <input type="checkbox"/> Internal <input checked="" type="checkbox"/> External |  Tony Favilla afavilla@nsf.org |
| This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by: | Matt Van Duinen, LCACP WAP Sustainability Consulting |
| This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by: |  Jack Geibig jgeibig@ecoform.com |
| <p>Limitations: Environmental declarations from different programs (ISO 14025) may not be comparable. Comparison of the environmental performance of products using EPD information shall be based on the product's use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR. Full conformance with the PCR allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible". Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared.</p> | |



Company Description

Teknion designs, manufactures, and markets workplace interiors. Its products include panel systems, desking systems, private office systems/case goods, seating solutions, architectural products, tables and collaborative spaces, storage products, work better tech products (complements), and textiles. The company's products are used in various applications, including open, collaborative, private, meeting, lounge, learning, next culture, and work couture areas. Teknion was founded in 1981 and is based in Toronto, Canada.

Product Description

Expansion Casegoods systems are customizable workspace solutions containing panels in addition with other office components such as work surfaces, casegoods, and shelving. The design is suited to a broad range of freestanding applications and diverse office plans. A typical workspace configuration was used to showcase a representative setup. The full configuration was studied and the results were scaled appropriately based on the floor area of the final configuration and the functional unit.

The workspace solution studied can contain panels, worksurfaces, storage solutions, and power cables, depending on the final configuration. Additional details of the product configuration used for this EPD can be found below, but other configurations are possible.

| | Expansion Casegoods |
|----------------------------|---|
| Product Category | Panels + other office components |
| Number of Occupants | 1 |
| Floor Area | 4.46 m ² |
| Components Included | Panel, Worksurface, Wall and Filing Storage, Pedestal |
| Defining Features | Worksurface, integrated panels, storage devices |
| Recycled Content | 87.9% pre-consumer, 1.8% post-consumer |

Product Composition

Like many commercial furniture products, Expansion Casegoods is available in a multitude of configurations. For this particular study, a worst-case scenario, as defined by the ANSI/BIFMA e3-2014e Furniture Sustainability Standard program was used. This composition of the configuration is provided in the table below, with a total product weight of 211.3 kg. The exact configuration purchased may be slightly different. However, because a worst-case scenario was used, this EPD will still be applicable to the purchased configuration.

| Material | Mass % | Material | Mass % |
|---------------|--------|--------------------|--------|
| LPL | 55.0% | Tentest | 1.4% |
| Particleboard | 23.0% | Polypropylene | 0.9% |
| Steel | 11.0% | Zinc | 0.7% |
| Glass | 2.4% | Polyvinyl Chloride | 0.3% |
| Backer | 1.8% | Powder Coating | 0.2% |
| HPL | 1.8% | Fabric | 0.2% |
| Aluminum | 1.4% | | |

Selection of Impact Parameters

Environmental Impacts were calculated using the GaBi software platform. Impact results have been calculated using TRACI 2.1 characterization factors. Results presented in this report are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

| Abbreviation | Parameter | Unit |
|--------------|---|------------------------|
| AP | Acidification potential of soil and water | kg N eq. |
| EP | Eutrophication potential | kg SO ₂ eq. |
| GWP | Global warming potential | kg CO ₂ eq. |
| ODP | Depletion of stratospheric ozone layer | kg CFC 11 eq. |
| POCP | Photochemical ozone creation potential | kg O ₃ eq. |

In addition to the environmental parameters above, the following resource use and waste categories are also disclosed.

| Abbreviation | Parameter | Unit |
|--------------|---|-------------------------|
| PED | Total use of renewable and non-renewable primary energy resources | MJ, net calorific value |
| FW | Net use of fresh water | kg |

LCA Results

All results are given per functional unit, which is 1 m² of workspace for a period of 10 years.

TRACI Results

| Impact Category | Unit | Total | Material Acquisition | Production | Distribution, Storage, and Use | End-of-Life |
|-----------------|------------------------|----------|----------------------|------------|--------------------------------|-------------|
| AP | kg SO ₂ -eq | 2.59E-01 | 2.17E-01 | 9.82E-03 | 1.79E-02 | 1.41E-02 |
| EP | kg N-eq | 2.48E-02 | 2.14E-02 | 7.82E-04 | 1.71E-03 | 9.05E-04 |
| GWP | kg CO ₂ -eq | 5.24E+01 | 1.86E+00 | 3.01E+01 | 3.85E+00 | 1.66E+01 |
| ODP | kg CFC-11 eq | 9.69E-08 | 9.69E-08 | 1.99E-13 | 7.66E-16 | 5.95E-15 |
| POCP | kg O ₃ -eq | 4.71E+00 | 3.52E+00 | 4.22E-01 | 4.15E-01 | 3.50E-01 |

LCI Indicators

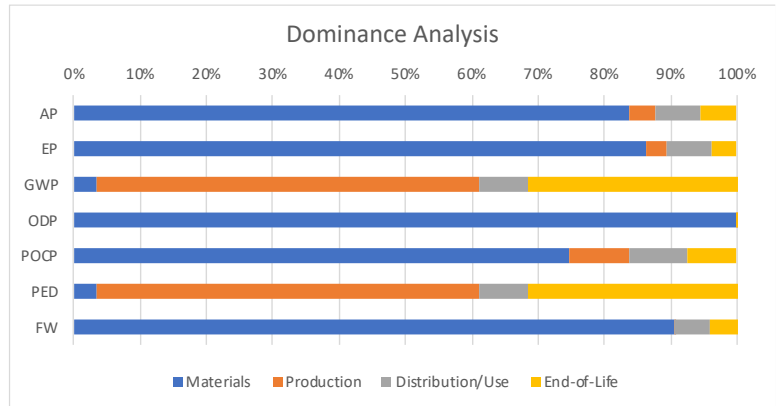
| Impact Category | Unit | Total | Material Acquisition | Production | Distribution, Storage, and Use | End-of-Life |
|-----------------|------|----------|----------------------|------------|--------------------------------|-------------|
| PED | MJ | 2.22E+03 | 2.00E+03 | 1.38E+02 | 5.66E+01 | 3.24E+01 |
| FW | kg | 2.69E+05 | 1.60E+05 | 1.08E+05 | 2.09E+02 | 7.62E+02 |

Interpretation

A dominance analysis was performed for all of the products in the LCA to show which of the life cycle stages contributes to the majority of the impacts. Results are shown for the 5 TRACI 2.1 impact categories.

Overall, the dominance analysis shows the vast majority of the impacts are coming from the materials and production stages. This tracks with the majority of durable goods similar to Expansion Casegoods workspace solutions.

An additional dominance analysis was performed to determine the relative impacts of the materials used in the production of Expansion Casegoods. For most of the LCIA indicators, the materials affecting the results the most are particleboard, HPL, steel, and aluminum.



Additional Environmental Information

Teknion is a supporter and/or a participant in the following environmental and sustainability related programs.

- The International Living Future Institute's Declare program. Products with Declare labels can be found at <https://living-future.org/declare/>
- ANSI/BIFMA e3-2014e Furniture Sustainability Standard program. Expansion Casegoods is certified to Level 3.
- Teknion products comply with SCS's Indoor Advantage Gold program. Expansion Casegoods' certification can be found at this [link](#).
- Teknion participates in mindful Materials. Teknion products that have been listed on mindful Materials are available at this [link](#).
- Teknion has been a member of the USGBC since 2016.

Additionally, Teknion publishes an annual Impact Report which is publicly available at <https://www.teknion.com/about/our-planet>

References

Life Cycle Assessment of Teknion Products: Background Report for LCA/EPD Creation Tool. WAP Sustainability. February 2019, updated September 2021.

BIFMA PCR for Office Furniture Workspace Products, UNCPC 3814

ISO 14025:2006 Environmental labels and declarations – Type III environmental declarations – Principles and procedures.8

ISO 14040:2006 Environmental management - Life cycle assessment – Principles and framework.

ISO 14044:2006 Environmental management - Life cycle assessment – Requirements and guidelines.

