Steelcase

Ology®

EMEA

NSF Certified Environmental Product Declaration www.nsf.org

About this product

Ology® height-adjustable desks and benches support the wellbeing of workers in any health-conscious work environment regardless of size, layout, or footprint.

The reference product is a table covering 1.28 m^2 meaning 0.781 units are required to meet the functional unit of one square meter of physical floor space for a 10-year period.

Date of Issue: November 14, 2024
Date of Expiration: November 14, 2029

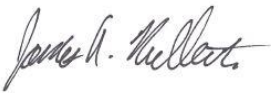
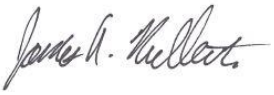
About this document

This declaration describes the Life Cycle Assessment of the Ology® Desk and Bench produced for the EMEA market by Steelcase Inc. in Germany. The assessment is performed according to the ISO standards 14040 (2006), 14044 (2006) and 14025 (2006), EN 15804+A2, and BIFMA PCR for Tables: UNCPC 3812 to generate an EPD for business-to-business communication.

Learn more

- Explore Steelcase environmental philosophy and commitments overview.
- Find product details and sustainability certifications on the product page at steelcase.com.
- See our product warranty.
- Contact epd@steelcase.com for any EPD-related questions or inquiries.

ASSESSMENT OVERVIEW

EPD commissioner	Steelcase® Inc
Corporate Address	901 44th Street SE Grand Rapids, Michigan 49508-7594 United States
Product group	Tables
Product name	Ology®
Product intended use	Table
Product reference service life	10 years
Reference standards	ISO 14025, ISO 14040, ISO 14044, EN 15804+A2
EPD scope	Cradle to grave and Module D
EPD number	EPD10957
Date of issuance	November 14, 2024
Date of expiration	November 14, 2029
EPD type	Product specific
EPD Product Coverage	Ology Desk and Bench for the EMEA market
Intended audience	Business to business (B2B)
Year of reported manufacturer data	2023
Functional unit	One square meter of physical floor space for a reference service life of 10 years
Applicable markets/regions	EMEA
LCA software and database version	GaBi 10.6.2.9; GaBi database, 2022.2
LCIA methodology and version number	TRACI 2.1, EN15804+A2 (EF 3.1)
Program administrator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
Reference PCR and version number	BIFMA PCR for Tables: UNCPC 3812 (BIFMA PCR, 2022)
PCR reviewer	Review Panel Chaired by Dr. Thomas Gloria
EPD reviewer	External review conducted by:  Jim Mellentine, Thrive ESG This declaration and its Life Cycle Assessment was independently verified in accordance with ISO standards 14040 (2006), 14044 (2006) and 14025 (2006), BIFMA PCR for Tables: UNCPC 3812 (BIFMA PCR, 2022), and EN 15804+A2.
LCA reviewer	External review conducted by:  Jim Mellentine, Thrive ESG The product Life Cycle Assessment was conducted in accordance with ISO 14044, EN 15804+A2, and the reference PCR.
Disclaimer	The PCR this EPD was based on was written to determine the potential environmental impacts of a table product from cradle to grave and module D. It was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.

ASSESSMENT PARAMETERS

Functional unit

One square meter of physical floor space for a reference service life of 10 years. To fulfill the functional unit, 0.78 units of desk and 0.37 units of bench are required.

Product scope

The products assessed are Ology® Desk (product number N111052700 [1600x800mm]), and Bench (product number N1H105A700 [1600x1700mm]) with rectangular top and extended height adjustment.

Results presented on the subsequent pages are of Ology® Desk and Bench manufactured in Steelcase Rosenheim, Germany plant.

One height adjustable Ology® Desk (N111052700) subcategory single user is intended for use by 1 occupant at one time. One height adjustable Ology® Bench (N1H105A700) subcategory multi-purpose is intended for use by 2 occupants.

Assessment goal and scope

The potential environmental impacts of Ology® Desk and Bench and its packaging throughout its entire life cycle – including raw materials extraction, production, transport, use, and end of life – were assessed. In the absence of primary information, the GaBi database was used for secondary data.

The life cycle stages included in this assessment follow the BIFMA PCR for Tables: UNCPC 3812 and the reporting format of EVS-EN 15804:2012+A2:2019 Sustainability of construction works – Environmental product declarations – core rules for the product category of construction products. Material acquisition and pre-processing (including transportation), production, distribution, use and end-of-life are assessed for the table product.

For tables, the energy usage requirements in kW-hr for 1 hour of usage for 1 user are reported. An hour of usage includes adjusting the table from minimum height to maximum height, then returning the product to minimum height. The maximum average energy consumption per workstation assumes 4 cycles per day for lifting the top from the lowest to highest position and returning to lowest. The table below assumes the energy used for 1 user, 10 years, 260 working days for the desk and bench.

Energy use kW-hr/4 cycles	10-year energy use kW-hr
0.005	15.2

Assessment boundary

The Life Cycle Assessment considers the full life cycle of the product as described here, cradle to grave. Life cycle stages included in this assessment follow the BIFMA PCR for Tables: UNCPC 3812. Because the BIFMA PCR serves as the core PCR, life cycle stages and phases are first presented according to the PCR for tables, then additionally reported on by EN 15804+A2 life cycle modules.

	Stage	Status
 ***Cradle to inbound gate*** **MATERIALS ACQUISITION** Raw material extraction, pre-processing and transportation of materials to suppliers.	**A1.** Raw material supply	✓
	A2. Transport	✓
 ***Gate to gate*** **PRODUCTION PROCESS** Transportation of furniture components and materials from Tier 1 suppliers to Steelcase final manufacturing facility. External and internal production.	**A3.** Manufacturing	✓
 ***Gate to grave*** **DISTRIBUTION, USE AND END OF LIFE** Distribution of products, installation, use and end of life.	**A4.** Transport	✓
	A5. Installation	✓
	B1. Use	✓
	B2. Maintenance/cleaning	✓
	B3. Repair	✓
	B4. Replacement	✓
	B5. Refurbishment	✓
	B6. Operational energy use	✓
	B7. Operational water use	✓
	C1. Disassembly	✓
	C2. Transport	✓
	C3. Waste processing	✓
	C4. Disposal	✓
Beyond the boundary	**D.** Reuse/recovery	✓

MATERIALS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to the Ology® Desk (N111052700) - 1600x800, with T legs, rectangular top, extended height adjustment range, up and down switch control, and cable tray support.

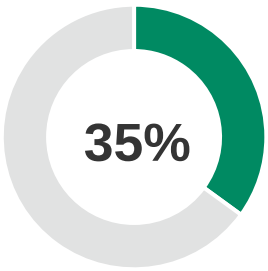
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	16.435	46.84 %	Recycled, Virgin Non-renewable
Melamine and particleboard	16.297	46.45%	Recycled, Virgin Non-renewable
Electronic components	0.813	2.32%	Virgin Non-renewable
PA6 and PA66 with/without filler	0.599	1.71%	Virgin Non-renewable
ABS	0.320	0.91%	Virgin Non-renewable
PP	0.088	0.25%	Virgin Non-renewable
POM	0.067	0.19%	Virgin Non-renewable
PC	0.317	0.90%	Virgin Non-renewable
Other	0.149	0.42%	Virgin Non-renewable
Total	35.086	100%	

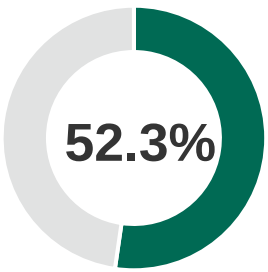
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	2.046	54.77%	Recycled, Virgin Non-renewable
PE	1.666	44.58%	Non-renewable
PE foam	0.024	0.65%	Non-renewable
Total	3.736	100%	

Product recycled content* and recyclability** summary



TOTAL RECYCLED CONTENT *



RECYCLABILITY BY WEIGHT**

*Total recycled content based on supplier's data. The source of recycled content of various materials could be either post-industrial or post-consumer based on market availability. Packaging excluded.

**Recyclability: this recyclability rate is the maximum amount of the product that is recyclable, based on the availability of recycling facilities in the specified regions and the ability of the product to be disassembled. Note that, per the requirements of the PCR, the end-of-life results presented in this EPD were calculated using the US EPA's recycling rates within the 2020 Municipal Solid Waste Report for parts that can be disassembled. Packaging excluded.

RESULTS

Results for one Ology® desk (N111052700) - 1600x800 height-adjustable with rectangular top and extended height adjustment range are shown in the subsequent pages.

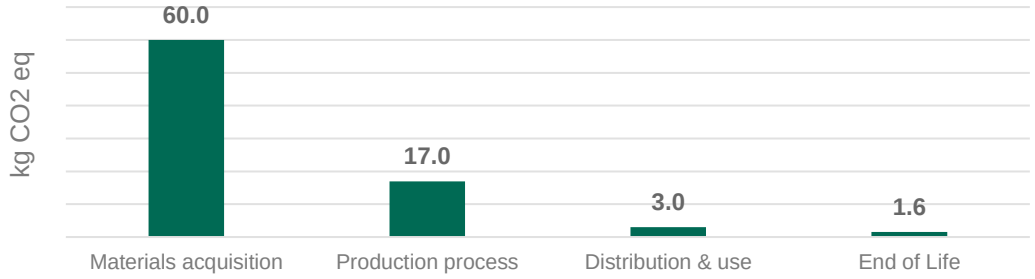
Life cycle impact by category and stage

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.1, IPCC AR6 characterization factors, and ISO 21930 LCI indicators for primary energy and water usage. Results presented in this report are for one square meter of physical floor space for one occupant for 10 years. Additionally, the results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

		Life cycle stages				
		A1–A2	A3	A4-B7	C1-C4	
	Unit	**Materials acquisition**	**Production process**	**Distribution & Use**	**End of life**	*Totals*
***Global warming potential** (100 years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	6.00E+01	1.70E+01	3.03E+00	1.55E+00	8.15E+01
***Acidification** Emissions that increase the acidity of the environment due to various chemical reactions and/or biological activity, or by natural circumstances.	kg SO2 eq	2.37E-01	3.43E-02	1.03E-02	7.27E-03	2.89E-01
***Photochemical ozone creation (Smog)** Through various chemical reactions, which occur between nitrogen oxides (NOx) and volatile organic compounds (VOCs) in sunlight.	kg O3 eq	3.35E+00	5.66E-01	2.28E-01	5.17E-02	4.19E+00
***Eutrophication** Enrichment of an aquatic ecosystem with nutrients (nitrates, phosphates) that accelerate biological productivity and an undesirable accumulation of algal biomass.	kg N eq	2.60E-03	5.96E-03	1.04E-03	1.49E-03	1.11E-02
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	6.33E-08	3.35E-12	1.25E-14	8.47E-11	6.34E-08
Primary energy demand Energy consumption at the source.	MJ	1.35E+03	4.79E+02	2.69E+01	8.81E+00	1.86E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	4.94E+01	7.23E+02	8.98E-02	5.75E-03	7.72E+02
Renewable primary resources used as an energy carrier First use materials from renewable sources with energy content used as a fuel.	MJ	8.89E+01	7.39E+01	1.30E+00	1.55E+00	1.66E+02
Renewable primary resources used as material First use materials from renewable sources with energy content used as a material	MJ	28.65625	2.87E+01	0.00E+00	0.00E+00	5.73E+01
Non-renewable primary resources used as an energy carrier First use materials from non-renewable sources with energy content used as a fuel	MJ	7.59E+02	2.69E+02	2.56E+01	7.25E+00	1.06E+03
Non-renewable primary resources used as material First use materials from non-renewable sources with energy content used as a material	MJ	6.58E+01	3.93E+01	0.00E+00	0.00E+00	1.05E+02
Recovered electrical energy (EEE) Electrical energy recovered from disposal of waste in previous systems	MJ	0.00E+00	3.88E+00	1.70E+00	1.92E+00	7.49E+00
Recovered thermal energy (EET) Thermal energy recovered from disposal of waste in previous systems	MJ	0.00E+00	1.41E+00	2.66E+00	2.09E+00	6.16E+00

*Methods: TRACI 2.1, IPCC AR6

Global warming potential summary



81.5 kg total CO_2-eq footprint

Life cycle resource consumption & waste summary

Additionally, results have been calculated using LCIA methodologies for core environmental impact categories specified in EN 15804+A2, as well as LCI indicators required by EN15804+A2. The results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

		Product Stage	Construction Stage		Use Stage							End of Life			Benefits and Loads Beyond the System Boundary
	Unit	A1–A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change, total corrected	kg CO2 eq	5.89E+01	1.81E+00	1.01E+01	0	4.33E-05	0	0	0	4.58E+00	0	0	2.94E-02	5.36E+00	1.56E+02	-1.29E+01
Climate change, fossil	kg CO2 eq	7.66E+01	1.82E+00	7.54E-01	0	4.03E-05	0	0	0	4.54E+00	0	0	5.09E-02	3.67E-01	2.47E-01	-1.58E+01
Climate change, biogenic	kg CO2 eq	9.22E-01	0.00E+00	8.53E+00	0	3.01E-06	0	0	0	4.08E-02	0	0	0.00E+00	4.61E+00	1.55E+02	2.90E+00
Climate change, land use and land use change	kg CO2 eq	3.37E-02	1.00E-03	2.33E-04	0	2.78E-08	0	0	0	6.90E-04	0	0	2.81E-05	-4.11E-05	9.71E-04	-3.07E-02
Ozone depletion	kg CFC-11 eq	6.10E-08	2.67E-13	3.61E-13	0	2.66E-16	0	0	0	1.03E-10	0	0	7.46E-15	6.15E-11	7.59E-13	-3.13E-11
Acidification	Mole of H+ eq	3.44E-01	1.03E-02	6.06E-04	0	1.00E-07	0	0	0	8.78E-03	0	0	1.74E-04	4.58E-04	4.20E-03	-1.38E-01
Eutrophication, freshwater	kg P eq.	6.05E-04	9.12E-06	2.57E-05	0	3.51E-09	0	0	0	1.88E-05	0	0	2.55E-07	-9.76E-08	2.59E-05	-2.28E-04
Eutrophication, marine	kg N eq	5.57E-02	4.97E-03	2.33E-04	0	3.61E-08	0	0	0	2.19E-03	0	0	8.48E-05	2.35E-04	1.66E-03	-1.16E-02
Eutrophication, terrestrial	Mole of N eq	7.38E-01	5.48E-02	2.17E-03	0	2.53E-07	0	0	0	2.29E-02	0	0	9.36E-04	2.74E-03	1.61E-02	-1.15E-01
Photochemical ozone formation, human health	kg NMVOC eq	2.15E-01	1.01E-02	7.28E-04	0	6.99E-08	0	0	0	5.80E-03	0	0	1.67E-04	6.22E-04	2.40E-03	-3.92E-02
Resource use, mineral and metals**	kg Sb eq	1.12E-03	2.39E-07	6.44E-09	0	2.88E-12	0	0	0	8.50E-07	0	0	6.63E-09	-5.84E-08	1.73E-08	-4.95E-03
Resource use, fossils**	MJ	1.23E+03	2.40E+01	1.65E+00	0	7.06E-04	0	0	0	9.53E+01	0	0	6.76E-01	2.50E+00	4.07E+00	-1.83E+02
Water use**	m3 world equiv	2.62E+01	1.07E-01	9.34E-02	0	1.29E-02	0	0	0	1.26E+00	0	0	3.00E-03	2.92E-01	3.49E-02	-5.46E+00
Use of renewable primary energy (PERE)	MJ	5.60E+02	1.05E+00	2.46E-01	0	1.59E-02	0	0	0	6.89E+01	0	0	2.94E-02	9.26E-01	5.99E-01	-6.26E+01
Primary energy resources used as raw materials (PERM)	MJ	2.87E+01	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00

		Product Stage	Construction Stage		Use Stage							End of Life			Benefits and Loads Beyond the System Boundary
	Unit	A1–A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Total use of renewable primary energy resources (PERT)	MJ	5.89E+02	1.05E+00	2.46E-01	0	1.59E-02	0	0	0	6.89E+01	0	0	2.94E-02	9.26E-01	5.99E-01	-6.26E+01
Use of non-renewable primary energy (PENRE)	MJ	1.13E+03	2.40E+01	1.65E+00	0	7.06E-04	0	0	0	9.53E+01	0	0	6.76E-01	2.50E+00	4.07E+00	-1.84E+02
Non-renewable primary energy resources used as raw materials (PENRM)	MJ	1.05E+02	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources (PENRT)	MJ	1.24E+03	2.40E+01	1.65E+00	0	7.06E-04	0	0	0	9.53E+01	0	0	6.76E-01	2.50E+00	4.07E+00	-1.84E+02
Input of secondary material (SM)	kg	1.92E+01	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels (RSF)	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of nonrenewable secondary fuels (NRSF)	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy (RE)	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water (FW)	m3	7.10E-01	3.49E-03	2.27E-03	0	3.00E-04	0	0	0	5.27E-02	0	0	9.76E-05	6.03E-03	1.02E-03	-6.16E-01
Hazardous waste disposed (HWD)	kg	2.65E-07	3.23E-09	4.59E-10	0	3.34E-13	0	0	0	1.38E-07	0	0	8.97E-11	2.22E-09	9.79E-10	-2.14E-05
Non-hazardous waste disposed (NHWD)	kg	7.39E+00	2.38E-03	1.72E+00	0	9.35E-05	0	0	0	7.86E-02	0	0	6.66E-05	1.68E-01	1.11E+01	-2.26E+00
Radioactive waste disposed (RWD)	kg	1.54E-02	7.22E-05	2.83E-05	0	2.64E-08	0	0	0	1.52E-02	0	0	2.00E-06	2.01E-04	5.45E-05	-2.14E-03
Materials for recycling (MFR)	kg	2.37E+00	0.00E+00	1.54E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	7.00E+00	0.00E+00	0.00E+00
Exported electrical energy (EEE)	MJ	3.88E+00	0.00E+00	1.70E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	1.92E+00	0.00E+00	0.00E+00
Exported thermal energy (EET)	MJ	1.41E+00	0.00E+00	2.66E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	2.09E+00	0.00E+00	0.00E+00
Components for re-use (CRU)	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for energy recovery (MER)	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon removal in product (BCRP)	kg	4.43E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon release in product (BCEP)	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	4.43E+00	0.00E+00

		Product Stage	Construction Stage		Use Stage							End of Life			Benefits and Loads Beyond the System Boundary
	Unit	A1–A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Biogenic carbon removal in packaging (BCRK)	kg	3.23E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon emission packaging (BCEK)	kg	0.00E+00	0.00E+00	3.23E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulate matter emissions (PM)	Disease incidence	7.70E-06	9.56E-08	6.02E-09	0	1.77E-12	0	0	0	7.34E-08	0	0	6.29E-09	3.68E-08	-1.20E-06	6.29E-09
Ionizing human radiation (IRP)*	kBq U235 eq.	3.22E+00	6.10E-03	4.01E-03	0	4.02E-06	0	0	0	2.51E+00	0	0	3.55E-02	7.32E-03	-1.09E-01	3.55E-02
Eco-toxicity freshwater (ETP-fw)**	CTUe	2.35E+03	1.87E+01	2.11E+00	0	1.11E-03	0	0	0	2.76E+01	0	0	3.80E-01	1.42E+01	-8.13E+01	3.80E-01
Human toxicity - Cancer (HTP-c)**	CTUh	5.76E-06	3.21E-10	4.25E-11	0	2.61E-14	0	0	0	1.55E-09	0	0	2.79E-11	1.54E-10	-1.04E-08	2.79E-11
Human toxicity - noncancer (HTP-nc)**	CTUh	6.20E-04	7.32E-09	2.30E-09	0	1.93E-12	0	0	0	2.38E-08	0	0	6.22E-10	3.64E-09	-4.36E-07	6.22E-10
Land use related impacts / soil quality (SQP)**	n/a	2.48E+02	4.60E+00	2.66E-01	0	1.08E-04	0	0	0	4.01E+01	0	0	4.53E-01	7.10E-01	-1.49E+02	4.53E-01

* This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

** The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

Module D: *20% of recycled materials were assumed to be available for subsequent use and offset and equivalent number of primary materials. Recovered energy was assumed to be in the form of electrical energy and thermal heat from the average European-28 electricity grid mix to consumer.*

Functional Unit

Parameter	Value
Declared unit	1m2 of table for a 10-year period
Number of occupants	1
Reference service life required	10 years

A4: Transport to the building site

Parameter	Value per functional unit	Value per functional unit
Transportation type	Truck	Ship
Fuel consumption (l/km)	0.42 diesel	130 heavy fuel oil
Distance	761 km	315 km
Capacity utilization	67%	53%
Capacity utilization volume factor	=1	=1
Weight of product (kg)	35.086	
Volume (m^3)	1.6	

A5: Installation in the building

Parameter	Value per functional unit
Packaging waste for recycling	3.736 kg
Installation Assumptions	No product waste, Installed with hand tools.

B1: Use

Parameter	Value per functional unit
There are no emissions related to the expected use of this product.	

B2: Maintenance

Parameter	Value per functional unit
Maintenance Process	Cleaning with soap and water
Maintenance cycle	0
Ancillary Materials for maintenance (kg/cycle)	0
Waste materials resulting from maintenance (kg)	0
Net fresh water consumption during maintenance (m^3)	0.000030
Energy input during maintenance (kWh)	0

Reference service life (RSL)

Parameter	Value per functional unit
Reference service life	10 years
Design application parameters	Use as indicated in product brochure and warranty
Declared product properties	Properties given in product description on page 3
Indoor environment	Typical office and home environment
Use conditions	Typical office and home use

B3: Repair

Parameter	Value per functional unit
Repair process	No repairs are expected for this product
Inspection process	No repairs are expected for this product
Repair cycle (#/RSL)	0
Ancillary materials (kg)	0
Waste materials from repair (kg)	0
Net freshwater consumption during repair (m^3)	0
Energy input during repair (kWh)	0

B4: Replacement

Parameter	Value per functional unit
Replacement cycle (#/RSL)	0
Energy input during replacement (kWh)	0
Exchange of worn parts during the products life cycle (kg)	0

B5: Refurbishment

Parameter	Value per functional unit
Refurbishment process	No refurbishment is expected for this product
Refurbishment cycle (#/RSL)	0
Energy input during refurbishment (kWh)	0
Material input for refurbishment (kg)	0
Waste material resulting from refurbishment (kg)	0

B6 and B7: Use of energy and Use of Water

Parameter	Value per functional unit
Ancillary materials (kg)	0
Net freshwater consumption (m^3)	0
Power output of equipment (kW-hr)	0.005
Characteristic performance	n/a

C1-C4: End-of-life

Parameter	Value per functional unit
Weight of product collected	35.086 kg
Weight to recycling	7.02 kg
Weight to energy recovery	5.61 kg
Weight to landfill	22.46 kg
Distance to recycling	32.2 km
Distance to energy recovery	32.2 km
Distance to landfill	32.2 km

MATERIALS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to the Ology® Bench - (N1H105A700) - 1600x1700mm with dual rectangular top, T legs, extended height adjustment range, up and down switch control, and cable tray support.

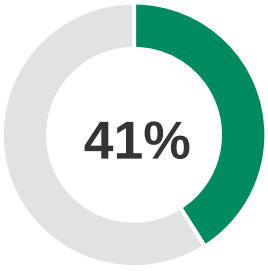
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	26.687	60.72%	Recycled, Virgin Non-renewable
Melamine and particleboard	15.339	34.90%	Recycled, Virgin Renewable
PC	0.813	0.68%	Virgin Non-renewable
Electronic components	0.765	1.74%	Virgin Non-renewable
Nylon (PA6 and PA66)	0.372	0.85%	Virgin Non-renewable
ABS	0.303	0.69%	Virgin Non-renewable
PP	0.083	0.19%	Virgin Non-renewable
POM	0.072	0.16%	Virgin Non-renewable
Other	0.092	0.08%	Virgin Non-renewable
Total	43.952	100%	

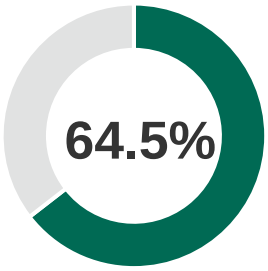
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	1.180	42.76%	Renewable
PE	1.568	56.82%	Non-renewable
Plastic/foam	0.011	0.41%	Non-renewable
Total	2.759	100%	

Product recycled content* and recyclability** summary



TOTAL RECYCLED CONTENT *



RECYCLABILITY BY WEIGHT**

*Total recycled content based on supplier's data. The source of recycled content of various materials could be either post-industrial or post-consumer based on market availability. Packaging excluded.

**Recyclability: this recyclability rate is the maximum amount of the product that is recyclable, based on the availability of recycling facilities in the specified regions and the ability of the product to be disassembled. Note that, per the requirements of the PCR, the end-of-life results presented in this EPD were calculated using the US EPA's recycling rates within the 2020 Municipal Solid Waste Report for parts that can be disassembled. Packaging excluded

RESULTS

Results for one Ology® Bench (N1H105A700) - 1600x1700mm dual-sided bench, and extended height adjustment range. is shown on the subsequent pages.

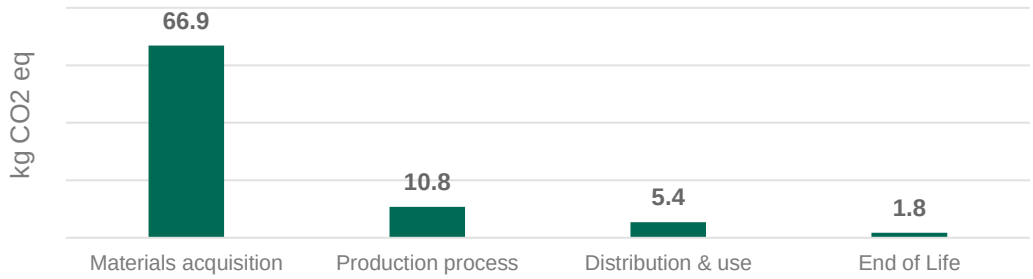
Life cycle impact by category and stage

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.1, IPCC AR6 characterization factors, and ISO 21930 LCI indicators for primary energy and water usage Results presented below are for one square meter of physical floor space maintained for two individuals for 10 years. Additionally, the results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

		Life cycle stages				
	Unit	A1–A2 **Materials acquisition**	A3 **Production process**	A4-B7 **Distribution & Use**	C1-C4 **End of life**	*Totals*
***Global warming potential** (100 years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	6.69E+01	1.08E+01	5.40E+00	1.75E+00	8.48E+01
***Acidification** Emissions that increase the acidity of the environment due to various chemical reactions and/or biological activity, or by natural circumstances.	kg SO2 eq	2.55E-01	2.27E-02	2.47E-02	7.73E-03	3.11E-01
***Photochemical ozone creation (Smog)** Through various chemical reactions, which occur between nitrogen oxides (NOx) and volatile organic compounds (VOCs) in sunlight.	kg O3 eq	3.59E+00	3.83E-01	5.52E-01	7.28E-02	4.60E+00
***Eutrophication** Enrichment of an aquatic ecosystem with nutrients (nitrates, phosphates) that accelerate biological productivity and an undesirable accumulation of algal biomass.	kg N eq	1.08E-02	3.63E-03	2.16E-03	1.42E-03	1.80E-02
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	4.90E-08	2.24E-10	1.91E-14	8.61E-11	4.93E-08
Primary energy demand Energy consumption at the source.	MJ	1.38E+03	3.25E+02	6.27E+01	1.33E+01	1.78E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	5.12E+01	9.45E+01	6.79E-02	1.04E-02	1.46E+02
Renewable primary resources used as an energy carrier First use materials from renewable sources with energy content used as a fuel.	MJ	4.19E+02	4.96E+01	2.76E+00	2.43E+00	4.74E+02
Renewable primary resources used as material First use materials from renewable sources with energy content used as a material	MJ	0.00E+00	1.65E+01	0.00E+00	0.00E+00	1.65E+01
Non-renewable primary resources used as an energy carrier First use materials from non-renewable sources with energy content used as a fuel	MJ	8.56E+02	1.69E+02	5.99E+01	1.09E+01	1.10E+03
Non-renewable primary resources used as material First use materials from non-renewable sources with energy content used as a material	MJ	5.14E+01	3.65E+01	0.00E+00	0.00E+00	8.80E+01
Recovered electrical energy (EEE) Electrical energy recovered from disposal of waste in previous systems	MJ	0.00E+00	1.86E+00	1.41E+00	2.03E+00	5.30E+00
Recovered thermal energy (EET) Thermal energy recovered from disposal of waste in previous systems	MJ	0.00E+00	7.19E-01	2.31E+00	1.78E+00	4.81E+00

*Methods: TRACI 2.1, IPCC AR6

Global warming potential summary



84.8 kg total CO_2-eq footprint

Life cycle resource consumption & waste summary

Additionally, results have been calculated using LCIA methodologies for core environmental impact categories specified in EN 15804+A2, as well as LCI indicators required by EN15804+A2. The results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

		Production Stage	Distribution Stage		Use Stage							End of Life			Benefits and Loads Beyond the System Boundary
	Unit	A1–A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Climate change, total	kg CO2 eq	1.41E+02	8.89E+00	1.17E+01	0	1.59E-02	0	0	0	4.58E+00	0	0	1.46E-01	1.51E+02	2.90E+02	-1.88E+01
Climate change, fossil	kg CO2 eq	7.75E+01	4.45E+00	6.88E-01	0	7.06E-04	0	0	0	4.54E+00	0	0	7.30E-02	5.37E-01	3.53E-01	-1.10E+01
Climate change, Biogenic	kg CO2 eq	8.61E-01	0.00E+00	4.92E+00	0	0.00E+00	0	0	0	4.08E-02	0	0	0.00E+00	4.30E+00	1.44E+02	1.58E+00
Climate change, land use and land use change	kg CO2 eq	3.71E-02	2.44E-03	1.95E-04	0	7.06E-04	0	0	0	6.90E-04	0	0	3.97E-05	-7.10E-05	1.42E-03	-5.91E-03
Ozone depletion	kg CFC-11 eq	4.73E-08	6.53E-13	3.03E-13	0	0.00E+00	0	0	0	1.03E-10	0	0	1.06E-14	6.37E-11	1.08E-12	1.46E-12
Acidification	Mole of H+ eq	3.23E-01	2.61E-02	4.77E-04	0	0.00E+00	0	0	0	8.78E-03	0	0	2.58E-04	7.49E-04	4.57E-03	-4.16E-02
Eutrophication, freshwater	kg P eq.	3.46E-04	2.22E-05	2.26E-05	0	0.00E+00	0	0	0	1.88E-05	0	0	3.59E-07	-1.70E-07	2.73E-05	-1.16E-04
Eutrophication, marine	kg N eq	6.50E-02	1.23E-02	1.68E-04	0	0.00E+00	0	0	0	2.19E-03	0	0	1.26E-04	3.94E-04	1.68E-03	-5.93E-03
Eutrophication, terrestrial	Mole of N eq	7.41E-01	1.36E-01	1.67E-03	0	3.00E-04	0	0	0	2.29E-02	0	0	1.39E-03	4.53E-03	1.66E-02	-5.59E-02
Photochemical ozone formation, human health	kg NMVOC eq	2.16E-01	2.52E-02	5.16E-04	0	3.34E-13	0	0	0	5.80E-03	0	0	2.48E-04	1.04E-03	2.77E-03	-2.08E-02
Resource use, mineral and metals**	kg Sb eq	4.35E-04	5.84E-07	5.16E-09	0	9.35E-05	0	0	0	8.50E-07	0	0	9.36E-09	-9.16E-08	2.48E-08	-6.21E-04
Resource use, fossils**	MJ	1.21E+03	5.86E+01	1.30E+00	0	2.64E-08	0	0	0	9.53E+01	0	0	9.69E-01	4.09E+00	5.83E+00	-1.27E+02
Water use**	m3 world equiv	-6.02E-01	2.61E-01	7.83E-02	0	0.00E+00	0	0	0	1.26E+00	0	0	4.24E-03	4.66E-01	4.67E-02	-1.65E+00
Use of renewable primary energy (PERE)	MJ	4.88E+02	2.56E+00	2.04E-01	0	0.00E+00	0	0	0	6.89E+01	0	0	4.15E-02	1.53E+00	8.56E-01	-2.27E+01
Primary energy resources used as raw materials (PERM)	MJ	1.65E+01	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of renewable primary energy resources (PERT)	MJ	5.04E+02	2.56E+00	2.04E-01	0	0.00E+00	0	0	0	4.58E+00	0	0	4.15E-02	1.53E+00	8.56E-01	-2.27E+01
Use of non-renewable primary energy (PENRE)	MJ	1.12E+03	5.86E+01	1.30E+00	0	1.59E-02	0	0	0	6.89E+01	0	0	9.69E-01	4.09E+00	5.83E+00	-1.27E+02

		Production Stage	Distribution Stage		Use Stage							End of Life			Benefits and Loads Beyond the System Boundary
	Unit	A1–A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Non-renewable primary energy resources used as raw materials (PENRM)	MJ	8.80E+01	0.00E+00	0.00E+00	0	7.06E-04	0	0	0	9.53E+01	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total use of non-renewable primary energy resources (PENRT)	MJ	1.21E+03	5.86E+01	1.30E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	9.69E-01	4.09E+00	5.83E+00	-1.27E+02
Input of secondary material (SM)	kg	2.63E+01	0.00E+00	0.00E+00	0	7.06E-04	0	0	0	9.53E+01	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water (FW)	m3	7.86E-02	8.48E-03	1.90E-03	0	0.00E+00	0	0	0	0.00E+00	0	0	1.38E-04	9.54E-03	1.38E-03	-7.65E-01
Use of renewable secondary fuels (RSF)	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of nonrenewable secondary fuels (NRSF)	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Recovered energy (RE)	MJ	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Hazardous waste disposed (HWD)	kg	1.09E-05	7.90E-09	3.81E-10	0	3.00E-04	0	0	0	5.27E-02	0	0	1.27E-10	3.67E-09	1.40E-09	-3.41E-05
Non-hazardous waste disposed (NHWD)	kg	8.79E+00	5.80E-03	1.47E+00	0	3.34E-13	0	0	0	1.38E-07	0	0	9.45E-05	2.78E-01	1.65E+01	4.58E-01
Radioactive waste disposed (RWD)	kg	1.27E-02	1.76E-04	2.31E-05	0	9.35E-05	0	0	0	7.86E-02	0	0	2.83E-06	3.33E-04	7.79E-05	-1.07E-03
Materials for recycling (MFR)	kg	1.53E+00	0.00E+00	9.42E-01	0	2.64E-08	0	0	0	1.52E-02	0	0	0.00E+00	9.36E+00	0.00E+00	0.00E+00
Exported electrical energy (EEE)	MJ	1.86E+00	0.00E+00	1.41E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	2.03E+00	0.00E+00	0.00E+00
Exported thermal energy (EET)	MJ	7.19E-01	0.00E+00	2.31E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	1.78E+00	0.00E+00	0.00E+00
Components for re-use (CRU)	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for energy recovery (MER)	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon removal in product (BCRP)	kg	2.19E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon release in product (BCEP)	kg	0.00E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	2.19E+00	0.00E+00
Biogenic carbon removal in packaging (BCPK)	kg	1.86E+00	0.00E+00	0.00E+00	0	0.00E+00	0	0	0	0.00E+00	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Biogenic carbon release in packaging (BCEK)	kg	0.00E+00	0.00E+00	1.86E+00	0	0.00E+00	0	0	0	7.34E-08	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00

		Production Stage	Distribution Stage		Use Stage							End of Life			Benefits and Loads Beyond the System Boundary
	Unit	A1–A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter emissions (PM)	Disease incidence	7.79E-06	2.51E-07	4.83E-09	0	0.00E+00	0	0	0	2.51E+00	0	0	2.45E-09	1.04E-08	4.25E-08	-4.12E-07
Ionizing human radiation (IRP)*	kBq U235 eq.	3.02E+00	1.49E-02	3.23E-03	0	1.77E-12	0	0	0	2.76E+01	0	0	2.39E-04	5.89E-02	1.05E-02	6.48E-02
Eco-toxicity freshwater (ETP-fw)**	CTUe	6.30E+02	4.57E+01	1.80E+00	0	4.02E-06	0	0	0	1.55E-09	0	0	7.70E-01	6.17E-01	1.42E+01	-2.76E+01
Human toxicity - Cancer (HTP-c)**	CTUh	1.35E-06	7.84E-10	3.57E-11	0	1.11E-03	0	0	0	2.38E-08	0	0	1.31E-11	4.42E-11	1.61E-10	-6.61E-09
Human toxicity - noncancer (HTP-nc)**	CTUh	6.98E-05	1.79E-08	1.76E-09	0	2.61E-14	0	0	0	4.01E+01	0	0	2.97E-10	1.06E-09	4.28E-09	-6.52E-08
Land use related impacts / soil quality (SQP)**	n/a	1.98E+02	1.12E+01	2.19E-01	0	1.93E-12	0	0	0	7.34E-08	0	0	1.81E-01	7.37E-01	1.03E+00	-4.79E+01

* This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

** The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Module D: *22% of recycled materials were assumed to be available for subsequent use and offset and equivalent number of primary materials. Recovered energy was assumed to be in the form of electrical energy and thermal heat from the average European-28 electricity grid mix to consumer.*

Functional Unit

Parameter	Value
Declared unit	1m2 of table for a 10-year period
Number of occupants	2
Reference service life required	10 years

A4: Transport to the building site

Parameter	Value per functional unit	Value per functional unit
Transportation type	Truck	Ship
Fuel consumption (l/km)	0.42 diesel	130 heavy fuel oil
Distance	761 km	315 km
Capacity utilization	67%	53%
Capacity utilization volume factor	=1	=1
Weight of product (kg)	43.952	
Volume (m^3)	3.4	

A5: Installation in the building

Parameter	Value per functional unit
Packaging waste for recycling	2.747 kg
Installation Assumptions	No product waste, Installed with hand tools.

B1: Use

Parameter	Value per functional unit
There are no emissions related to the expected use of this product.	

B2: Maintenance

Parameter	Value per functional unit
Maintenance Process	Cleaning with soap and water
Maintenance cycle	0
Ancillary Materials for maintenance (kg/cycle)	0
Waste materials resulting from maintenance (kg)	0
Net fresh water consumption during maintenance (m^3)	0.000030
Energy input during maintenance (kWh)	0

Reference service life (RSL)

Parameter	Value per functional unit
Reference service life	10 years
Design application parameters	Use as indicated in product brochure and warranty
Declared product properties	Properties given in product description on page 3
Indoor environment	Typical office and home environment
Use conditions	Typical office and home use

B3: Repair

Parameter	Value per functional unit
Repair process	No repairs are expected for this product
Inspection process	No repairs are expected for this product
Repair cycle (#/RSL)	0
Ancillary materials (kg)	0
Waste materials from repair (kg)	0
Net freshwater consumption during repair (m^3)	0
Energy input during repair (kWh)	0

B4: Replacement

Parameter	Value per functional unit
Replacement cycle (#/RSL)	0
Energy input during replacement (kWh)	0
Exchange of worn parts during the products life cycle (kg)	0

B5: Refurbishment

Parameter	Value per functional unit
Refurbishment process	No refurbishment is expected for this product
Refurbishment cycle (#/RSL)	0
Energy input during refurbishment (kWh)	0
Material input for refurbishment (kg)	0
Waste material resulting from refurbishment (kg)	0

B6 and B7: Use of energy and Use of Water

Parameter	Value per functional unit
Ancillary materials (kg)	0
Net freshwater consumption (m^3)	0
Power output of equipment (kW-hr)	0.010/two tables
Characteristic performance	n/a

C1-C4: End-of-life

Parameter	Value per functional unit
Weight of product collected	43.952 kg
Weight to recycling	9.6 kg
Weight to energy recovery	7.0 kg
Weight to landfill	27.3 kg
Distance to recycling	32.2 km
Distance to energy recovery	32.2 km
Distance to landfill	32.2 km

ADDITIONAL ENVIRONMENTAL INFORMATION

Indoor air: Steelcase tables products are certified with SCS's Indoor Advantage Gold™ program, conforming to the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2021) and CDPH/EHLB Standard Method (CA 01350) v1.2-2017. The certification can be found here.

Improper disposal of product: At the end of its useful life, manage Steelcase products correctly in accordance with all applicable regulations for effective end-of-life management, including recycling, disposal, or incineration. Improper management may result in the release of chemicals that may represent a risk to the environment and human health & safety.

REFERENCES

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NSF BIFMA Product Category Rule (PCR) for Tables: UNCPC 3812.

NSF Certification Policies for Environmental Product Declarations (EPD). November 1, 2022.

ISO 14025:2006 Environmental Labels and Declarations – Type III Environmental Declarations – Principles and Procedures.

ISO 14040:2006 Environmental Management – Life Cycle Assessment – Principles and Framework, Requirements and Guidelines.

ISO 14044:2006 Environmental Management – Life cycle assessment – Requirements and Guidelines.

ISO 14044: 2006/ Amd 1:2017 Environmental Management – Life cycle assessment – Requirements and Guidelines – Amendment 1.

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