

TS Series Storage

AMERICAS



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Product Declaration
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About this product

With a fundamental and clean design, TS Series storage is a hard-working, economical steel base solution that can flexibly integrate into a wide range of Steelcase workspace applications.

The TS Series Storage configurations selected for this study are TS Lockers (TS2LOCKERCUB2B), TS Laterals (TS2File), and TS Pedestals (TS2PBF22MC). They have 10-year service life and 0.15 m³ of storage capacity.

Date of Issue: December 20, 2024
Date of Expiration: December 20, 2029

Learn more

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

About this document

This declaration describes the Life Cycle Assessment of the TS Series storage produced for the Americas market by Steelcase Inc. in the United States. The assessment is performed according to the ISO standards 14040 (2006), 14044 (2006) and 14025 (2006), and BIFMA PCR for Storage: UNCPC 3812 to generate an EPD for business-to-business communication.

ASSESSMENT OVERVIEW

EPD commissioner	Steelcase® Inc
Corporate Address	901 44th Street SE Grand Rapids, Michigan 49508-7594 United States
Product group	Storage
Product name	TS Series Storage
Product intended use	Storage
Product reference service life	10 years
Reference standards	ISO 14025, ISO 14040, ISO 14044
EPD scope	Cradle to grave
EPD number	EPD11006
Date of issuance	December 20, 2024
Date of expiration	December 20, 2029
EPD type	Product specific
EPD Product Coverage	TS Series Storage for the Americas market
Intended audience	Business to business (B2B)
Year of reported manufacturer data	2023
Functional unit	0.15 m3 of storage capacity for a reference service life of 10 years
Applicable markets/regions	AMER
LCA software and database version	GaBi 10.6.2.9; GaBi database, 2022.2
LCIA methodology and version number	TRACI 2.1, IPCC AR6
Program administrator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
Reference PCR and version number	BIFMA PCR for Storage: UNCPC 3812 (BIFMA PCR, 2022)
PCR reviewer	Review Panel Chaired by Dr. Thomas Gloria
EPD reviewer	<p>External review conducted by:</p>  <p>Jim Mellentine, Thrive ESG This declaration and its Life Cycle Assessment was independently verified in accordance with ISO standards 14040 (2006), 14044 (2006), 14025 (2006), and BIFMA PCR for Storage UNCPC 3812 (2022).</p>
LCA reviewer	<p>External review conducted by:</p>  <p>Jim Mellentine, Thrive ESG The product Life Cycle Assessment was conducted in accordance with ISO 14044 and the reference PCR.</p>
Disclaimer	<p>The PCR this EPD was based on was written to determine the potential environmental impacts of a storage product from cradle to grave. 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 final 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.</p>

ASSESSMENT PARAMETERS

Functional unit

0.15 m³ of storage capacity including packaging, for a reference service life of 10 years under ANSI/BIFMA X5.9.

Product scope

The products modeled are:

- One lateral with a storage volume of 0.17 m³. To match the functional unit of 0.15 m³, the results in this EPD were scaled down to 0.894 of one TS Series Mobile File Center (box/box/file configuration lateral product number TS2File) with a box/box/file configuration, steel construction with a top cushion, standard locks, with ledge pulls and casters.
- One pedestal with a storage volume of 0.08 m³. To match the functional unit of 0.15 m³, the results in this EPD were scaled up to 1.88 of one TS Series Mobile Pedestal (product number TS2PBF22MC) with box/file drawers, steel construction with a top cushion, standard locking, with ledge pulls and casters; These two products are subcategory 4.4 Mobile Storage.
- One locker with a storage volume of 0.24 m³. To match the functional unit of 0.15 m³, the results in this EPD were scaled down to 0.62 of one TS Series Double Cubby Locker (product number TS2LOCKERCUB2B) at a height of 65.5"H, with a handle pull, and door hinges on the left. This product is subcategory 4.3 Storage Device with Retractable Storage Areas.



Manufacturing location

Ludington, Michigan (lateral file & mobile pedestal) and Grand Rapids, Michigan (lockers)




Assessment goal and scope

The potential environmental impacts of TS Series storage 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 Storage: UNCPC 3812 September 2022. Material acquisition and pre-processing (including transportation), production, distribution, use and end-of-life are assessed for the storage product.

Assessment boundary

The Life Cycle Assessment considers the full life cycle of the product as described here, cradle to grave. Life cycle stages and phases included in this assessment follow the BIFMA PCR for Storage UNCPC 3812 and are presented in the following table.

	Stage	Status
 <p>Cradle to inbound gate MATERIALS ACQUISITION Raw material extraction, pre-processing and transportation. Transportation up to the factory gate and internal transport.</p>	A1. Raw material supply	✓
	A2. Transport	✓
 <p>Gate to gate PRODUCTION PROCESS External and internal manufacturing of products, ancillary materials, parts, packaging.</p>	A3. Manufacturing	✓
 <p>Gate to grave DISTRIBUTION, USE AND END OF LIFE Distribution of products, installation, use and end of life.</p>	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	

RESULTS: TS Series Mobile File Center

The lateral product composition, packaging composition, recycled content, recyclability visuals, and life cycle impacts below relate specifically to 0.15 m³ of storage space. This study modeled 0.894 units of one TS Series Mobile File Center (product number TS2File) with a box/box/file configuration, steel construction with a top cushion, standard locks, with ledge pulls and casters.

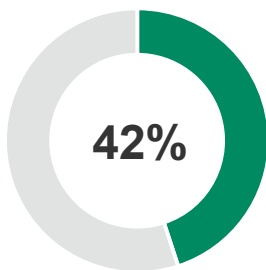
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	23.418	87.96%	Recycled, Virgin Non-renewable
Acetal (POM)	1.349	5.07%	Virgin Non-renewable
Other (Paint)	0.976	3.66%	Virgin Non-renewable
Aluminum	0.003	0.01%	Recycled, Virgin Non-renewable
Nylon (PA6)	0.010	0.04%	Virgin Non-renewable
Polypropylene	0.005	0.02%	Recycled, Virgin and renewable
Polyurethane	0.862	3.24%	Virgin Non-renewable
PVC	0.001	0.00%	Virgin Non-renewable
Total	26.624	100%	

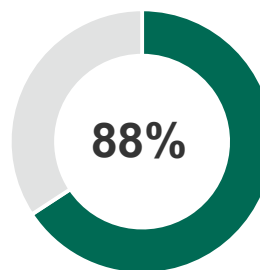
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	1.966	77.65%	Renewable
EPS Foam	0.560	22.14%	Non-renewable
LDPE	0.005	0.21%	Non-renewable
Total	2.531	100.00%	

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. Excluding packaging.

**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. Excluding packaging.

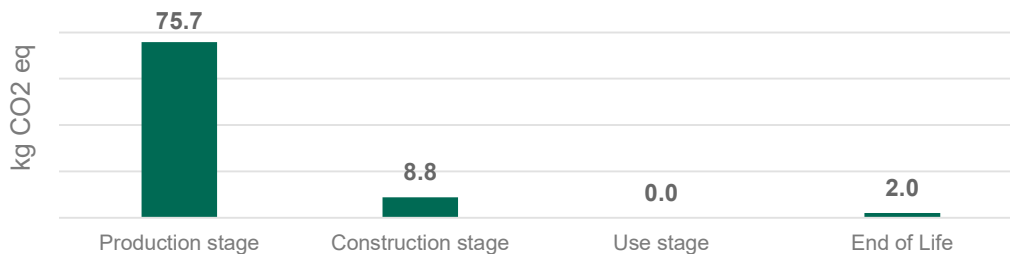
Life cycle impact by category and stage

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using IPCC 6, TRACI 2.1 characterization factors, as well as LCI indicators for primary energy and water usage. Results presented in this report are for 0.15 m³ (0.89 units) of TS Series Mobile File Center maintained 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.

	Unit	Life cycle stages				Totals
		A1-A3 Production stage	A4-A5 Construction stage	B1-B7 Use Stage	C1-C4 End of life stage	
*Global warming potential (100 years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	7.57E+01	8.82E+00	0.00E+00	2.04E+00	8.65E+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	2.45E-01	5.04E-02	0.00E+00	5.61E-03	3.01E-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	3.40E+00	1.10E+00	0.00E+00	8.46E-02	4.58E+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	1.38E-02	3.96E-03	0.00E+00	7.42E-04	1.85E-02
*Ozone depletion Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	8.24E-08	2.67E-14	0.00E+00	2.40E-12	8.24E-08
Primary energy demand Energy consumption at the source.	MJ	1.29E+03	1.24E+02	0.00E+00	1.50E+01	1.42E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	9.12E+03	4.56E+03	0.00E+00	6.84E+03	2.05E+04
Renewable primary resources used as an energy carrier (RPRe) First use materials from renewable sources with energy content used as a fuel	MJ	6.06E+01	4.80E+00	0.00E+00	6.54E-01	6.60E+01
Renewable primary resources used as material (RPRm) First use materials from renewable sources with energy content used as a material	MJ	1.85E+01	0.00E+00	0.00E+00	0.00E+00	1.85E+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	8.74E+02	1.11E+02	0.00E+00	1.33E+01	9.98E+02
Non-renewable primary resources used as material First use materials from non-renewable sources with energy content used as a material	MJ	1.19E+02	0.00E+00	0.00E+00	0.00E+00	1.19E+02
Recovered electrical energy (EEE) Electrical energy recovered from disposal of waste in previous systems	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E+00
Recovered thermal energy (EET) Thermal energy recovered from disposal of waste in previous systems	MJ	1.22E-01	5.93E-01	0.00E+00	2.61E+00	2.16E+00

*Methods: TRACI 2.1, IPCC AR6

Global warming potential summary



86.5 kg total CO₂-eq footprint

RESULTS: TS SERIES MOBILE PEDESTAL

The product composition, packaging composition, recycled content, recyclability visuals, and life cycle impacts below relate specifically to 0.15 m³ of storage space. This study modeled 1.875 units one TS Series Mobile Pedestal (product number TS2PBF22MC) with box/file drawers, steel construction with a top cushion, standard locking, with ledge pulls and casters.

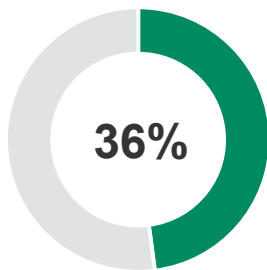
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	14.462	63.49%	Recycled, Virgin Non-renewable
Zamak	0.553	2.43%	Recycled, Virgin Non-renewable
HIPS	0.101	0.44%	Virgin Non-renewable
Nylon (PA6)	0.181	0.80%	Virgin Non-renewable
Particle Board	4.470	19.62%	Recycled, Virgin and renewable
Polyurethane	2.382	10.46%	Virgin Non-renewable
Polypropylene	0.010	0.04%	Virgin Non-renewable
Rubber	0.002	0.01%	Virgin Non-renewable
Polyester fabric	0.014	0.06%	Virgin Non-renewable
Other (paint)	0.603	2.65%	Virgin Non-renewable
Total	22.778	100%	

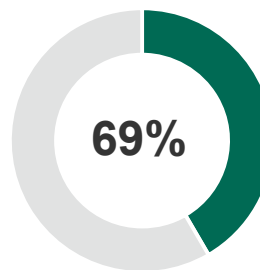
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	2.888	70.90%	Renewable
EPS foam	1.176	28.87%	Non-renewable
LDPE	0.009	0.23%	Non-renewable
Total	4.073	100.00%	

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. Excluding packaging.

**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. Excluding packaging.

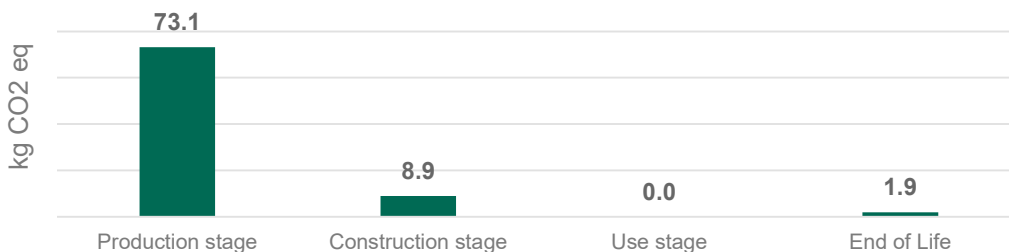
Life cycle impact by category and stage

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.1 characterization factors, as well as LCI indicators for primary energy and water usage. Results presented in this report are for 0.15 m³ (1.875 units) of TS Series Mobile Pedestal, maintained 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.

	Unit	Life cycle stages				Totals
		A1-A3 Production stage	A4-A5 Construction stage	B1-B7 Use Stage	C1-C4 End of life stage	
*Global warming potential (100 years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	7.31E+01	8.94E+00	0.00E+00	1.87E+00	8.39E+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	2.85E-01	4.92E-02	0.00E+00	5.14E-03	3.39E-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	3.56E+00	1.06E+00	0.00E+00	7.46E-02	4.69E+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	1.84E-02	3.97E-03	0.00E+00	9.07E-04	2.33E-02
*Ozone depletion Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	2.40E-07	2.81E-14	0.00E+00	1.52E-12	2.40E-07
Primary energy demand Energy consumption at the source.	MJ	1.36E+03	1.11E+02	0.00E+00	9.41E+00	1.48E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	1.58E+03	1.67E+01	0.00E+00	5.99E+00	1.60E+03
Renewable primary resources used as an energy carrier (RPRe) First use materials from renewable sources with energy content used as a fuel	MJ	1.29E+02	4.67E+00	0.00E+00	4.78E-01	1.34E+02
Renewable primary resources used as material (RPRm) First use materials from renewable sources with energy content used as a material	MJ	4.04E+01	0.00E+00	0.00E+00	0.00E+00	4.04E+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	8.52E+02	1.06E+02	0.00E+00	8.93E+00	9.67E+02
Non-renewable primary resources used as material First use materials from non-renewable sources with energy content used as a material	MJ	1.51E+02	0.00E+00	0.00E+00	0.00E+00	1.51E+02
Recovered electrical energy (EEE) Electrical energy recovered from disposal of waste in previous systems	MJ	1.48E-01	1.27E+00	0.00E+00	2.59E+00	4.01E+00
Recovered thermal energy (EET) Thermal energy recovered from disposal of waste in previous systems	MJ	6.06E-02	1.63E+00	0.00E+00	2.00E+00	3.69E+00

*Methods: TRACI 2.1, IPCC AR6

Global warming potential summary



83.9 kg total CO₂-eq footprint

RESULTS: TS SERIES DOUBLE CUBBY LOCKER

The product composition, packaging composition, recycled content, recyclability visuals, and life cycle impacts below relate specifically to 0.15 m³ (0.615 units) TS Series Double Cubby Locker (product number TS2LOCKERCUB2B) at a height of 65.5"H, with an electronic lock, and door hinges on the left.

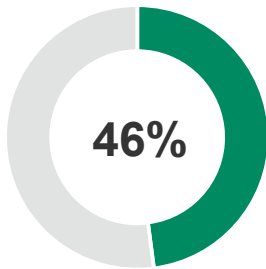
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	20.362	95.72%	Recycled, Virgin Non-renewable
Aluminum	0.061	0.29%	Recycled, Virgin Non-renewable
Acetal (POM)	0.001	0.01%	Virgin Non-renewable
Other (paint)	0.848	3.99%	Virgin Non-renewable
Total	21.273	100%	

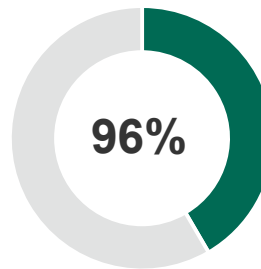
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	1.571	83.49%	Renewable
LDPE	0.003	0.16%	Non-renewable
Expanded Polyethylene	0.308	16.35%	Non-renewable
Total	1.882	100.00%	

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. Excluding packaging.

**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. Excluding packaging.

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 characterization factors, as well as LCI indicators for primary energy and water usage. Results presented in this report are for 0.15 m³ (0.615 units) of TS Series Double Cubby Locker, maintained 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.

	Unit	Life cycle stages				Totals
		A1-A3 Production stage	A4-A5 Construction stage	B1-B7 Use Stage	C1-C4 End of life stage	
*Global warming potential (100 years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	6.96E+01	7.30E+00	0.00E+00	1.66E+00	7.86E+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	2.28E-01	4.26E-02	0.00E+00	4.92E-03	2.76E-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	3.19E+00	9.34E-01	0.00E+00	7.38E-02	4.20E+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	1.19E-02	3.31E-03	0.00E+00	6.06E-04	1.58E-02
*Ozone depletion Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	6.52E-08	2.15E-14	0.00E+00	2.14E-12	6.52E-08
Primary energy demand Energy consumption at the source.	MJ	1.13E+03	1.05E+02	0.00E+00	1.32E+01	1.25E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	2.32E+03	3.14E-01	0.00E+00	6.35E+00	2.33E+03
Renewable primary resources used as an energy carrier (RPRe) First use materials from renewable sources with energy content used as a fuel	MJ	5.59E+01	4.04E+00	0.00E+00	5.68E-01	6.05E+01
Renewable primary resources used as material (RPRm) First use materials from renewable sources with energy content used as a material	MJ	1.01E+01	0.00E+00	0.00E+00	0.00E+00	1.01E+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	8.09E+02	9.38E+01	0.00E+00	1.17E+01	9.15E+02
Non-renewable primary resources used as material First use materials from non-renewable sources with energy content used as a material	MJ	9.03E+01	0.00E+00	0.00E+00	0.00E+00	9.03E+01
Recovered electrical energy (EEE) Electrical energy recovered from disposal of waste in previous systems	MJ	9.61E-02	2.09E-01	0.00E+00	2.00E+00	2.31E+00
Recovered thermal energy (EET) Thermal energy recovered from disposal of waste in previous systems	MJ	3.88E-02	2.13E-01	0.00E+00	1.02E+00	1.27E+00

*Methods: TRACI 2.1, IPCC AR6

Global warming potential summary



ADDITIONAL ENVIRONMENTAL INFORMATION

Indoor air: Steelcase storage 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

Life Cycle Assessment, Global Storage. Steelcase Inc. December 2024.

NSF BIFMA Product Category Rule (PCR) for Storage: 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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Contact
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epd@steelcase.com