Environmental Product Declaration

Steelcase

Leap®

AMERICAS, APAC

About this product

Leap® lets you dial in a precise fit in all the places you need it most. It's highly intuitive and you'll love the way the seat glides back and forth as you recline, keeping you connected to your work.

One chair is required to meet the functional unit of seating for one individual for a 10-year period.

Date of Issue: February 17, 2023
Date of Expiration: February 17, 2028

About this document

This declaration describes the Life Cycle Assessment of the Leap chair produced for the Americas and APAC markets by Steelcase Inc. in Mexico and Malaysia. The assessment is performed according to the ISO standards 14040 (2006), 14044 (2006) and 14025 (2006), and BIFMA PCR for Seating: UNCPC 3811 (2020) to generate an EPD for business-to-business and business-to-consumer communication.

Learn more

- Explore Steelcase environmental philosophy and commitments overview.
- Find product details and sustainability certifications on Americas product page and APAC 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	Seating
Product name	Leap®
Product intended use	Office chair
Product reference service life	10 years
Reference standards	ISO 14025, ISO 14040, ISO 14044
EPD scope	Cradle to grave
EPD number	10812
Date of issuance	February 17, 2023
Date of expiration	February 17, 2028
EPD type	Product specific
EPD Product Coverage	Leap task chair/stool for the Americas and APAC markets, including configurations with product codes beginning with 462 (Americas) and Leap 101, 111, 201, 211 (APAC).
Intended audience	Business to business and business to consumer
Year of reported manufacturer data	2021
Functional unit	One unit of seating to seat one individual for a reference service life of 10 years
Applicable markets/regions	Americas, APAC
LCA software and database version	GaBi 10.6.2.9; GaBi database, 2022.2
LCIA methodology and version number	TRACI 2.1 and CML 2001-October 2012
Program administrator	NSF Certification LLC 789 N. Dixboro, Ann Arbor, MI 48105 www.nsf.org
Reference PCR and version number	BIFMA PCR for Seating: UNCPC 3811 (BIFMA PCR, 2020)
PCR reviewer	Review Panel Chaired by Dr. Thomas Gloria
EPD reviewer	External review conducted by: Tony Favilla, afavilla@nsf.org  This declaration and its Life Cycle Assessment was independently verified in accordance with ISO standards 14040 (2006), 14044 (2006) and 14025 (2006), and BIFMA PCR for Seating UNCPC 3811 (2020).
LCA reviewer	External review conducted by: Jack Geibig, jgeibig@ecoform.com  The product Life Cycle Assessment was conducted in accordance with ISO 14044 and the reference PCR.
Disclaimer	The PCR this EPD was based on was written to determine the potential environmental impacts of a seating 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.

ASSESSMENT PARAMETERS

Functional unit

One unit of seating to seat one individual for a reference service life of 10 years. One product required to fulfill the functional unit.

Product scope

One Leap stool (product number 46267179) produced in the Americas, with a steel base, 4D arms, and hard casters was modeled for this EPD. This office stool is determined to be a typical product based on sales of the variations. The results presented for this configuration represent a baseline for the product. This may be compared against the results for alternative configurations herein that represent the highest and lowest impacts for this product produced and sold in the Americas and APAC.

Results for alternative configurations of Leap with the lowest and highest impacts are also presented in this EPD. Details on the composition and results for the configurations with lowest and highest impacts can be found at the end of this EPD.

Manufacturing location	Product SKUs within the variation allowance	Applicable markets and regions
Reynosa, Mexico	46216179, 46216189, 46267179, 46267189, 46216179C	Americas
Kuala Lumpur, Malaysia	LEAP-20100, LEAP-10100, LEAP-10110, LEAP-20110, LEAP-11100, LEAP-21100, LEAP-11110, LEAP-21110	APAC

Assessment goal and scope

The potential environmental impacts of Leap 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 Seating: UNCPC 3811 V3. Material acquisition and pre-processing (including transportation), production, distribution, use and end-of-life are assessed for the seating product.

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 Seating: UNCPC 3811 2020. Life cycle stages and phases are presented according to the PCR for seating.

		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	✓

TYPICAL CONFIGURATION RESULTS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to the typical configuration of Leap consisting of a stool with a primarily metal base and upholstered seat and back produced in the Americas. Product numbers represented by these results include: 46267179 and 46267189. The configuration reviewed in this study has a product number of 46267179.

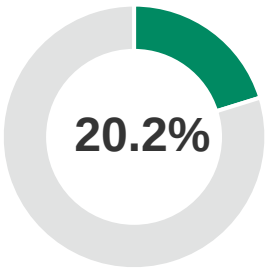
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	20.978	64.00%	Recycled, virgin non-renewable
Nylon (PA6 and PA66)	4.100	12.51%	Virgin non-renewable
Polypropylene (PP)	3.068	9.40%	Virgin non-renewable
Polyurethane (PU)	1.789	5.50%	Virgin non-renewable
Polyoxymethy-lene (POM)	1.656	5.00%	Virgin non-renewable
Low-density polyethylene (LDPE)	0.508	1.50%	Virgin non-renewable
Other	0.687	2.10%	Recycled, virgin non-renewable
Total	32.786	100%	

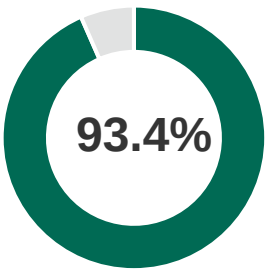
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	9.242	98.31%	Renewable
Paper	0.067	0.72%	Renewable
Polyethylene (PE)	0.046	0.49%	Non-renewable
Linear low-density polyethylene (LLDPE)	0.045	0.48%	Non-renewable
Total	9.401	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.

** 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.

Results for the typical configuration of one Leap stool, produced in the Americas, consisting of a primarily metal base, height-adjustable seat, and hard casters are shown below.

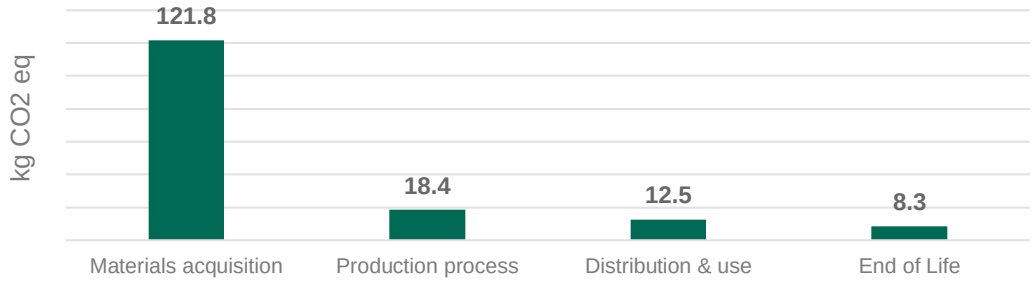
Life cycle impact by category and stage

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 one seat maintained for one individual 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	**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	1.22E+02	1.84E+01	1.25E+01	8.27E+00	**1.61E+02**
***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	2.93E-01	1.41E-01	7.64E-02	1.29E-02	**5.23E-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	4.99E+00	2.13E+00	1.70E+00	1.22E-01	**8.95E+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	6.85E+00	5.04E+00	9.79E-01	5.99E-01	**1.35E+01**
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	3.92E-10	2.65E-10	2.34E-14	4.91E-14	**6.58E-10**
Primary energy demand Energy consumption at the source.	MJ	2.18E+03	8.25E+02	1.82E+02	2.48E+01	**3.21E+03**
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	6.59E+02	2.23E+02	2.33E+01	1.72E+01	**9.23E+02**

*Methods: TRACI 2.1

Global warming potential summary



161.00 kg total CO_2 eq footprint

LOWEST IMPACT CONFIGURATION RESULTS

Results for the alternative configuration of one Leap chair with the lowest impacts, which is produced and sold in the Americas, consisting of a plastic base, 4D arms, and hard casters are shown below. This configuration was determined to be a minimum impact configuration for the AMER/APAC regions for its low mass and impact of materials used. Product numbers represented by these results include: 46216179 and 46216189. The configuration reviewed in this study has a product number of 46216179. Compared to the typical configuration, this product weighs less and uses plastic for the base instead of metal.

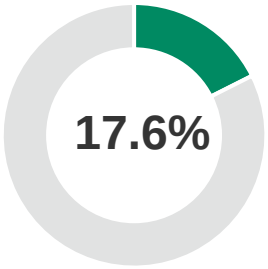
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	13.845	55.90%	Virgin non-renewable
Nylon (PA6 and PA66)	5.050	20.40%	Virgin non-renewable
Polypropylene (PP)	2.811	11.40%	Virgin non-renewable
Polyurethane (PU)	1.789	7.20%	Virgin non-renewable
Polyoxymethy-lene (POM)	0.767	3.10%	Virgin non-renewable
Other	0.496	2.00%	Recycled, virgin non-renewable
Total	24.760	100%	

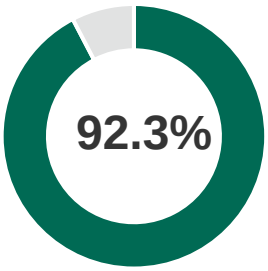
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	9.242	98.31%	Renewable
Paper	0.067	0.72%	Renewable
Polyethylene (PE)	0.046	0.49%	Non-renewable
Linear low-density polyethylene (LLDPE)	0.045	0.48%	Non-renewable
Total	9.401	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.

** 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.

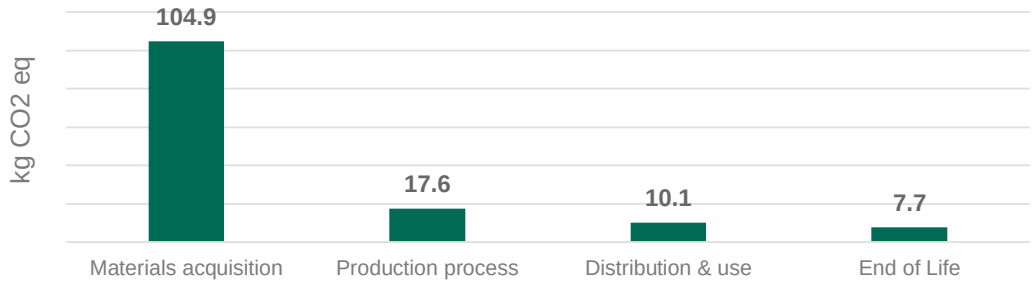
Life cycle impact by category and stage

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 one seat maintained for one individual 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	**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	1.05E+02	1.76E+01	1.01E+01	7.68E+00	**1.40E+02**
***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	2.32E-01	1.46E-01	6.19E-02	1.14E-02	**4.51E-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	4.25E+00	2.19E+00	1.37E+00	1.01E-01	**7.92E+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	5.97E+00	5.74E+00	7.93E-01	4.30E-01	**1.29E+01**
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	1.59E-10	3.58E-10	1.90E-14	3.78E-14	**5.17E-10**
Primary energy demand Energy consumption at the source.	MJ	1.96E+03	8.06E+02	1.47E+02	1.96E+01	**2.93E+03**
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	5.18E+02	2.27E+02	1.89E+01	1.46E+01	**7.78E+02**

*Methods: TRACI 2.1

Global warming potential summary



140.2 kg total CO_2 eq footprint

HIGHEST IMPACT CONFIGURATION RESULTS

Results for the alternative configuration of one Leap chair with the highest impacts, which is produced and sold in APAC, consisting of a primarily metal base, upholstered back and seat, adjustable seat depth, 4D arms, headrest, lumbar support, and hard casters are shown below. This configuration was determined to be a maximum impact configuration for the AMER/APAC regions because it has the most accessories and highest impact materials of all Leap chair and stool configurations. Product numbers represented by these results include: LEAP-20100, LEAP-10100, LEAP-10110, LEAP-20110, LEAP-11100, LEAP-21100, LEAP-11110, LEAP-21110.
Compared with the typical configuration, this product contains additional accessories (headrest, lumbar support) and uses aluminum for the base instead of metal.

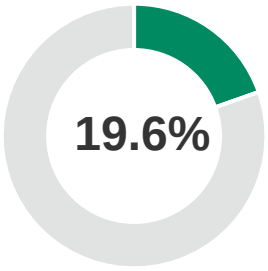
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	12.870	47.30%	Recycled, Virgin non-renewable
Nylon (PA6 and PA66)	3.888	14.20%	Virgin non-renewable
Polypropylene (PP)	3.444	12.60%	Virgin non-renewable
Aluminum	2.805	10.30%	Recycled, virgin non-renewable
Polyurethane (PU)	2.799	10.30%	Virgin non-renewable
Polyoxymethy-lene (POM)	0.746	2.70%	Virgin non-renewable
Other	0.678	2.50%	Recycled, Virgin non-renewable
Total	27.231	100%	

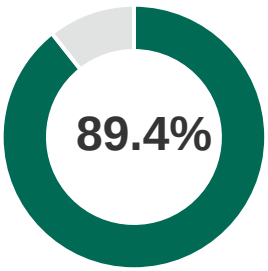
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	11.730	99.62%	Renewable
Polyethylene (PE)	0.045	0.38%	Non-renewable
Total	11.775	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.

** 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.

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 one seat maintained for one individual 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	**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	1.40E+02	2.84E+01	1.84E+00	9.05E+00	**1.79E+02**
***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	4.50E-01	2.32E-01	3.00E-02	1.49E-02	**7.27E-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	6.18E+00	3.75E+00	6.36E-01	1.41E-01	**1.07E+01**
***Eutrophication** Enrichment of an aquatic ecosystem with nutrients (nitrates, phosphates) that accelerate biological productivity and an undesirable accumulation of algal biomass.	kg N eq	1.23E+01	6.13E+00	1.77E-01	5.57E-01	**1.92E+01**
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	1.48E-10	1.99E-10	3.41E-15	5.63E-14	**3.47E-10**
Primary energy demand Energy consumption at the source.	MJ	2.39E+03	1.04E+03	2.47E+01	2.44E+01	**3.48E+03**
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	6.56E+02	1.51E+02	3.80E-01	1.79E+01	**8.25E+02**

*Methods: TRACI 2.1

Global warming potential summary

179.1 kg total CO_2 eq footprint

REFERENCES

Life Cycle Assessment, LCA Report for Steelcase. WAP Sustainability Consulting. November 2022.

NSF BIFMA Product Category Rule (PCR) for Seating: UNCPC 3811, Version 3. September 2020.

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.

Product Category Rule for Environmental Product Declarations, BIFMA PCR for Seating: UNCPC 3811 (ext. 2020-111)

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