Environmental Product Declaration

Steelcase

Gesture™

AMERICAS, APAC

NSF Certified Environmental Product Declaration www.nsf.org

About this product

Gesture redefines the relationship between you and your desk chair. Voted best office chair, its 360-degree arms, contoured back and adjustments are designed for all the ways technology shapes your posture.

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

Date of Issue: July 16, 2025
Date of Expiration: July 16, 2030

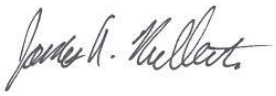
About this document

This declaration describes the Life Cycle Assessment of the Gesture office 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 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	Gesture™
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	EPD11086
Date of issuance	July 16, 2025
Date of expiration	July 16, 2030
EPD type	Product specific
EPD Product Coverage	Gesture for the Americas and APAC markets
Intended audience	Business to business (B2B)
Year of reported manufacturer data	2023
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
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 (2020)
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), 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 on which this EPD was based 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 is required to fulfill the functional unit under ANSI/BIFMA X5.4 2020.

Product scope

One Gesture chair, produced in Mexico (product number 442A30), with 4D, height-adjustable arms and a plastic base was modeled for this EPD. This office chair 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.

One Gesture chair, produced in Malaysia (product number 442A30), with 4D, height-adjustable arms, shell back, upholstered seat and a plastic base was modeled for this EPD. This office chair 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.

One Gesture chair produced in Malaysia (product number 442A50) with aluminum base, 4D arms, advanced synchro-tilt mechanisms, upholstered back and seat, hard casters, and a headrest. This office chair configuration is the highest impact model and determined to be representative of all configurations produced in APAC.

Assessment goal and scope

The potential environmental impacts of Gesture 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 (2020). 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. Transportation up to the factory gate and internal transport.	**A1.** Raw material supply	✓
		A2. Transport	✓
	***Gate to gate*** **PRODUCTION PROCESS** External and internal manufacturing of products, ancillary materials, parts, packaging.	**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	

AMERICAS RESULTS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to the typical configuration of Gesture consisting of 4D, height-adjustable arms, upholstered shell back and seat and plastic base produced in Reynosa, Mexico for the Americas. Product numbers represented by these results include: task chair 442A30.

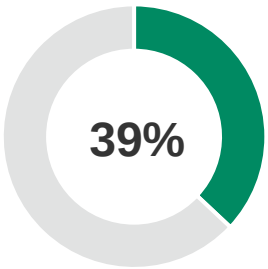
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	13.701	52.26%	**Recycled, virgin non-renewable**
Nylon (PA6 and PA66)	5.274	20.12%	Recycled, virgin non-renewable
Polypropylene (PP)	3.147	12.00%	Recycled, virgin non-renewable
Aluminum	1.853	7.07%	Recycled, virgin non-renewable
Polyurethane (PU) foam	1.062	4.05%	Virgin non-renewable
Polyoxymethy-lene (POM)	0.525	2.00%	Recycled, virgin non-renewable
Other	0.656	2.50%	Virgin non-renewable
Total	26.218	100%	

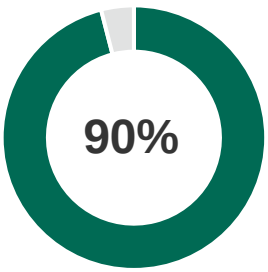
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	3.69648	85.00%	Renewable
Paper	0.20385	4.69%	Renewable
HDPE	0.000453	0.01%	Non-renewable
LDPE	0.11325	2.60%	Non-renewable
PP	0.0588	1.35%	Non-renewable
PE foam	0.130917	3.01%	Non-renewable
EPE	0.14496	3.33%	Non-renewable
Total	4.349	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. Excludes 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. Excludes packaging.

Results shown below are for the typical configuration of one Gesture chair 442A30, produced in the Mexico for the Americas, consisting of standard pneumatic cylinder, upholstered seat and back, 4D height-adjustable arms and a plastic base.

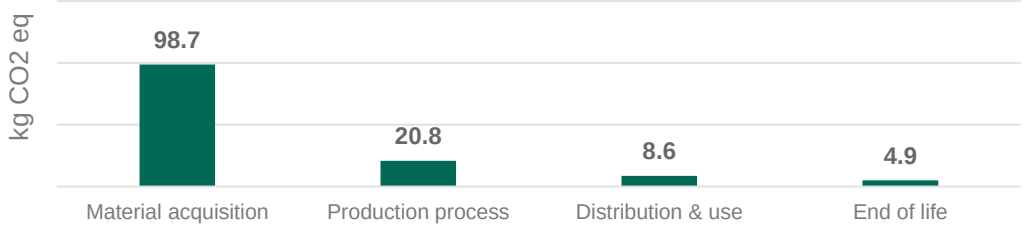
Life cycle impact by category and stage

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. LCI indicators for primary energy and water usage were obtained. 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 excluding biogenic carbon** (100years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	9.87E+01	2.08E+01	8.64E+00	4.90E+00	1.33E+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	2.81E-01	4.60E-02	3.45E-02	6.30E-03	3.68E-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	6.00E+00	8.55E-01	1.17E+00	1.78E-01	8.20E+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	2.12E-02	9.26E-03	4.13E-03	1.87E-03	3.64E-02
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	1.04E-07	1.44E-10	2.61E-14	2.48E-12	1.05E-07
Primary energy demand Energy consumption at the source.	MJ	1.03E+03	2.35E+02	6.51E+01	1.04E+01	1.34E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	4.23E+03	6.22E+02	9.79E+00	4.86E+03	9.73E+03

*Methods: TRACI 2.1

Global warming potential summary



133 kg total CO_2-eq footprint

This EPD 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, the specifics of the product modeled, and the software tool used to conduct the study.

APAC TYPICAL CONFIGURATION RESULTS

Results shown below are for one Gesture task chair produced in APAC, consisting of 4D, height-adjustable arms, plastic base, shell back, adjustable lumbar support, and hard casters. The APAC configuration is manufactured in Malaysia. Product numbers represented by these results include: 442A30.

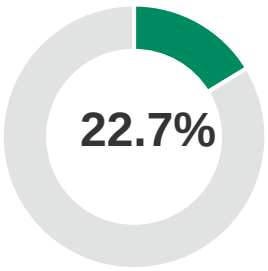
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	13.132	52.02%	Recycled, virgin non-renewable
Nylon (PA6 and PA66)	5.628	22.29%	Recycled, virgin non-renewable
Polypropylene (PP)	3.195	12.66%	Virgin non-renewable
Aluminum	1.052	4.17%	Recycled, virgin non-renewable
Polyurethane (PU)	0.919	3.64%	Virgin non-renewable
Other	0.810	3.21%	Virgin non-renewable
Polyoxymethy-lene (POM)	0.507	2.01%	Virgin non-renewable
Total	25.243	100%	

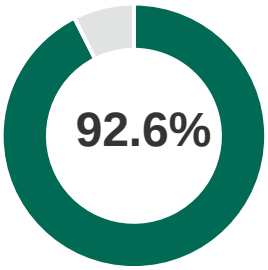
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	5.07	97.88%	Renewable
LLDPE	0.09	1.74%	Non-renewable
PE foam	0.02	0.39%	Non-renewable
Total	5.18	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. Excludes 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. Excludes packaging

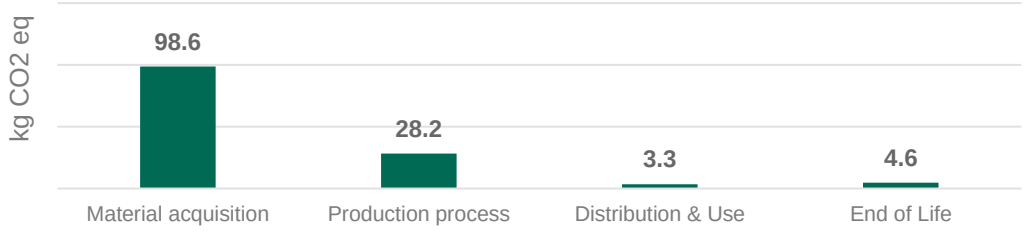
Life cycle impact by category and stage

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 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 excluding biogenic carbon** (100years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	9.86E+01	2.82E+01	3.28E+00	4.60E+00	1.35E+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	3.18E-01	1.08E-01	2.93E-02	7.54E-03	4.63E-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	4.66E+00	1.55E+00	6.28E-01	1.86E-01	7.02E+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	1.79E-02	1.37E-02	1.73E-03	1.69E-03	3.50E-02
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	9.85E-08	5.05E-15	2.14E-14	2.20E-14	9.85E-08
Primary energy demand Energy consumption at the source.	MJ	1.87E+03	5.62E+02	3.45E+01	1.52E+01	2.48E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	6.11E+03	2.17E+02	1.89E+00	1.45E+01	6.35E+03

*Methods: TRACI 2.1

Global warming potential summary



135 kg total CO_2 eq footprint

APAC HIGHEST IMPACT CONFIGURATION RESULTS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to the highest impact configuration of the Gesture chair consisting of an aluminum base, 4D arms, advanced synchro-tilt mechanisms, upholstered back and seat, hard casters, and a headrest.

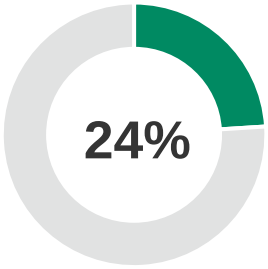
Product composition

Material	Weight (kg)	Weight (%)	Resource Type
Steel	13.268	48.69%	Recycled, Virgin Non-renewable
Polypropylene (PP)	3.948	14.49%	Virgin Non-renewable
Nylon (PA6 and PA66)	4.173	15.31%	Virgin Non-renewable
Aluminum	3.496	12.83%	Recycled, Virgin Non-renewable
Polyurethane (PU)	1.169	4.29%	Virgin Non-renewable
Polyoxymethylene (POM)	0.557	2.04%	Virgin Non-renewable
Polyester	0.063	0.023%	Virgin Non-renewable
Thermoplastic Polyurethane (TPU)	0.231	0.85%	Virgin Non-renewable
Other	0.349	1.28%	Recycled, Virgin Non-renewable
Total	27.254	100%	

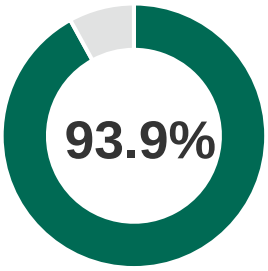
Product packaging composition

Material	Weight (kg)	Weight (%)	Resource Type
Cardboard	5.070	97.88%	Renewable
PE FOAM	0.020	0.39%	Non-renewable
LDPE	0.090	1.74%	Non-renewable
Total	5.180	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. Excludes 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. Excludes packaging.

RESULTS

Results for one Gesture chair with an aluminum base, advanced synchro-tilt mechanisms, shell back, upholstered seat, hard casters, and a headrest shown on the subsequent pages.

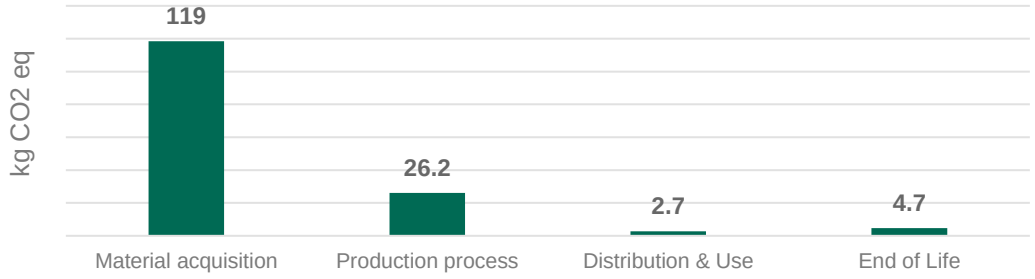
Life cycle impact by category and stage

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.1 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** excluding biogenic carbon (100 years) Warming of the atmosphere caused by the global release of greenhouse gases.	kg CO2 eq	1.18E+02	2.62E+01	2.66E+00	4.72E+00	1.52E+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	4.51E-01	9.67E-02	1.68E-03	3.12E-02	5.80E-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	6.39E+00	1.45E+00	5.30E-01	1.57E-01	8.53E+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	2.13E-02	1.27E-02	1.39E-03	1.62E-03	3.70E-02
***Ozone depletion** Reduction of the stratospheric ozone layer due to anthropogenic emissions of ozone depleting substances.	kg CFC-11 eq	1.18E-07	1.05E-10	7.12E-15	4.43E-14	1.18E-07
Primary energy demand Energy consumption at the source.	MJ	2.09E+03	5.44E+02	3.16E+00	3.76E+01	2.67E+03
Net freshwater usage Freshwater used and otherwise not recoverable.	kg	5.74E+03	1.45E+02	1.60E+00	1.51E+01	5.90E+03

*Methods: TRACI 2.1

Global warming potential summary



152 kg total CO_2-eq footprint

ADDITIONAL ENVIRONMENTAL INFORMATION

Indoor air: Steelcase seating 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 for seating. The certification can be found here.

REFERENCES

Life Cycle Assessment, LCA Report for Steelcase. WAP Sustainability Consulting. August 2023.

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

NSF BIFMA Product Category Rule (PCR) for Seating: UNCPC 3811 (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, Version 4 (2025)

Contact
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