

Steelcase Series® 2

APAC



About this product

Steelcase Series® 2 offers attainable performance with a boost of expression. The geometric back design comes in – standard or quilted upholstery, or plenty of 3D Microknit or Air back options.

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

Date of Issue: October 5, 2026
Date of Expiration: October 5, 2031

Learn more

- Explore Steelcase environmental philosophy and commitments [overview](#).
- Find product details and sustainability certifications on the [APAC 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 Series 2 task chair produced for the APAC market by Steelcase Inc. in Malaysia and India. The assessment is performed according to the ISO standards 14040 (2006), 14044 (2006) and 14025 (2006), and BIFMA PCR for Seating: UNCPC 3811 v4 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	Seating
Product name	Series 2
Product intended use	Office chair
Product reference service life	10 years
Reference standards	ISO 14025, ISO 14040, ISO 14044, ISO 21930
EPD scope	Cradle-to-gate A1-A3 with options A4-A5, B1, B4, C1-C4, and optionally D
EPD number	EPD11371
Date of issuance	October 5, 2026
Date of expiration	October 5, 2031
EPD type	Product specific
EPD Product Coverage	Series 2 for the APAC market
Intended audience	Business to business (B2B)
Year of reported manufacturer data	2025
Functional unit	One unit of seating to seat one individual for a reference service life of 10 years
Applicable markets/regions	APAC
LCA software and database version	GaBi 10.6.2.9; GaBi database, 2022.2
LCIA methodology and version number	TRACI 2.2, CML2001, IPCC AR6, ISO 21930
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 v4 (2025)
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), BIFMA PCR for Seating UNCPC 3811 v4 and ISO 21930.
LCA reviewer	External review conducted by:  Jim Mellentine, Thrive ESG 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-gate A1-A3 with options A4-A5, B1, B4, C1-C4, and optionally 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 unit of seating to seat one individual for a reference service life of 10 years.
One product is required to fulfill the functional unit.

Product scope

One Series 2 task chair 436AIR3D with 4D arms, 3D Microknit back, upholstered seat, lumbar, hard casters, plastic base, and weight-activated mechanics was modeled for this EPD. This configuration is the top selling product in the region.



One Series 2 stool 436UPHSTOOL with 4D arms, upholstered seat and back, lumbar, headrest, hard casters, foot ring, aluminum base and weight-activated mechanics was assessed. This configuration is considered to have the highest environmental impacts among all available configurations and therefore provides a conservative estimate for the product line.

The product image shown is representative only and does not depict the exact assessed configuration; specifically, it does not include the headrest or upholstered back and shows a plastic base instead of the aluminum base assessed.



Manufacturing location
Puchong, Malaysia
Pune, India

Product SKUs within the variation allowance
Series 2

Applicable markets and regions
APAC

Assessment goal and scope

The potential environmental impacts of Series 2 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 v4 (2025). Material acquisition and pre-processing (including transportation), production, distribution, use and end-of-life are assessed for the seating product, except the following use stages that are excluded per the PCR: maintenance, repair, refurbishment, and operational energy use and water.

Series 2 seating products are manufactured in multiple production facilities and are supplied through regionally differentiated supply chains. As a result, upstream data inputs such as material sourcing, recycled content availability, transportation distances, and energy grid mixes are modelled using region-specific datasets and primary supplier information where available. Consequently, differences in Life Cycle Inventory inputs arising from regional manufacturing and supply chain conditions lead to variations in environmental impact results.

Assessment boundary

The Life Cycle Assessment considers the full life cycle of the product from cradle to gate A1-A3 with options, A4-A5, B1, B4, C1-C4, and optionally Module D. Life cycle stages included in this assessment follow the BIFMA PCR for Seating: UNCPC 3811 v4. Life cycle stages and phases are presented according to the PCR for seating.

	Stage	Status
	Cradle to inbound gate MATERIALS ACQUISITION Raw material extraction and pre-processing.	A1. Raw material supply ✓
	Transportation up to the factory gate and internal transport.	A2. Transport ✓
	Gate to gate PRODUCTION PROCESS External and internal manufacturing of products, ancillary materials, parts, packaging.	A3. Manufacturing ✓
		A4. Transport ✓
		A5. Installation ✓
		B1. Use ✓
		B2. Maintenance/cleaning MND
		B3. Repair MND
		B4. Replacement ✓
		B5. Refurbishment MND
		B6. Operational energy use MND
		B7. Operational water use MND
		C1. Disassembly ✓
		C2. Transport ✓
		C3. Waste processing ✓
		C4. Disposal ✓
	Beyond the boundary	D. Reuse/recovery MND

TASK CHAIR RESULTS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to the top selling configuration of Series 2 task chair with 4D arms, 3D Microknit back, upholstered seat, lumbar, hard casters, plastic base, and weight-activated mechanics.

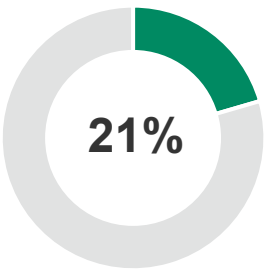
Malaysia Version

Results shown below are for the top selling configuration of one Series 2 chair 436AIR3D, produced in Puchong, Malaysia for the APAC market, consisting of 4D arms, 3D Microknit back, upholstered seat, lumbar, hard casters, and a plastic base.

Product composition			Post-consumer		Pre-consumer	
Material	Weight (kg)	Weight (%)	%	Weight (kg)	%	Weight (kg)
Nylon	6.794	42.5%	0	0	26.8%	1.819
Steel	5.219	32.7%	11.2%	0.582	10.3%	0.537
PP	2.162	13.5%	0	0	0	0
Aluminum	0.659	4.1%	27%	0.178	24%	0.158
PU Foam	0.620	3.9%	0	0	0	0
Other plastics	0.378	2.4%	0	0	0	0
Fabric	0.118	0.7%	0	0	0	0
Zamac	0.034	0.2%	0	0	0	0
Total	15.983	100%	4.8%	0.760	15.7%	2.514

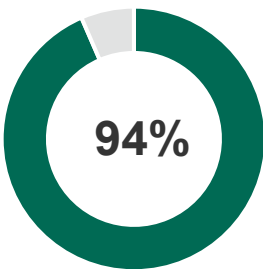
Packaging composition			Post-consumer		Pre-consumer	
Material	Weight (kg)	Weight (%)	%	Weight (kg)	%	Weight (kg)
Cardboard	4.3	97.3%	40%	1.72	0	0
LDPE	0.12	2.7%	0	0	0	0
Total	4.42	100%	38.9%	1.72	0	0

Product recycled content* and recyclability** summary



TOTAL RECYCLED
CONTENT*

*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
BY WEIGHT**

**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. Per the requirements of the PCR, the end-of-life results presented in this EPD were calculated using the US EPA's Warm Model within the 2020 Municipal Solid Waste Report for parts that can be disassembled. Excludes packaging.

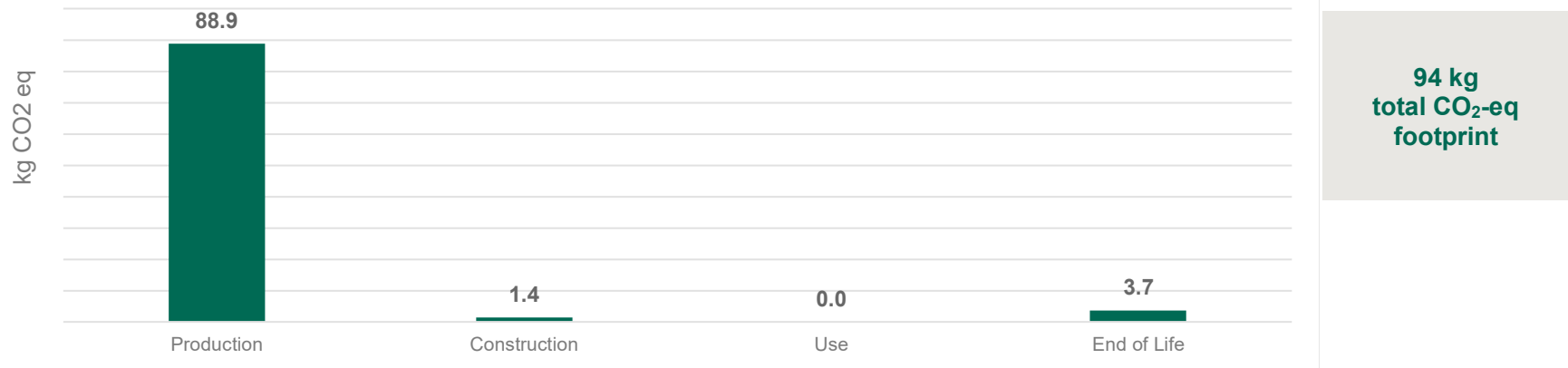
STEELCASE SERIES® 2 | ENVIRONMENTAL PRODUCT DECLARATION | STEELCASE APAC

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.2, IPCC AR6 characterization factors, CML 2001, and ISO 21930 for multiple indicators. Results presented in this report are one unit of seating to seat one individual for a reference service life of 10 years. Additionally, the results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks. Use stage modules B2, B3, B5-B7 not declared.

Methods: IPCC AR6, TRACI 2.2, ISO 21930, CML 2001

		Production	Construction	Use		End of life					
Environmental impact indicators	Unit	A1 - A3	A4	A5	B1	B4	C1	C2	C3	C4	Totals
(GWP) Global warming potential 100 years excludes biogenic carbon	kg CO ₂ eq	8.89E+01	2.85E-01	1.13E+00	0	0	0	9.16E-02	3.26E+00	3.25E-01	9.40E+01
(GWP) Global warming potential 100 years includes biogenic carbon	kg CO ₂ eq	8.04E+01	2.86E-01	1.85E+00	0	0	0	9.45E-02	3.26E+00	3.28E-01	8.62E+01
(AP) Acidification potential	kg SO ₂ eq	2.93E-01	1.22E-03	7.48E-04	0	0	0	9.86E-04	3.81E-03	1.51E-03	3.01E-01
(POCP) Photochemical ozone creation (Smog)	kg O ₃ eq	4.32E+00	3.01E-02	1.86E-02	0	0	0	2.47E-02	1.21E-01	2.75E-02	4.54E+00
(EP) Eutrophication - freshwater	kg P eq	3.68E-04	1.74E-07	5.82E-06	0	0	0	1.13E-08	3.42E-08	7.70E-05	4.51E-04
(EP) Eutrophication - marine	kg N eq	1.32E-01	1.08E-03	5.56E-04	0	0	0	8.99E-04	3.41E-03	7.66E-04	1.39E-01
(ODP) Ozone depletion	kg CFC 11-eq	6.53E-08	9.75E-14	6.06E-13	0	0	0	2.64E-13	1.44E-11	8.39E-12	6.53E-08
Carbon emissions and removals											
(BCRP) Biogenic carbon removal from product	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(BCEP) Biogenic carbon emission from product	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(BCRK) Biogenic carbon removal from packaging	kg CO2eq	6.78E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	6.78E+00
(BCEK) Biogenic carbon emission from packaging	kg CO2eq	0.00E+00	0.00E+00	6.78E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	6.78E+00
(BCEW) Biogenic carbon emission from combustion of renewable waste used in production	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CCE) Calcination carbon emissions	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CCR) Carbonation carbon removal	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CWNR) Carbon emission from combustion of non-renewable waste used in production	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Output flows and waste categories											
(HWD) Hazardous waste disposed	kg	1.43E-05	7.54E-10	3.12E-10	0	0	0	7.18E-11	7.85E-10	1.40E-09	1.43E-05
(NHWD) Non-hazardous waste disposed	kg	5.71E+00	4.12E-04	9.18E-01	0	0	0	5.64E-05	1.31E-01	1.20E+01	1.87E+01
(HLRW) High-level radioactive waste, conditioned, to final repository	kg	1.86E-05	1.30E-08	1.53E-08	0	0	0	1.32E-09	5.34E-08	5.35E-08	1.87E-05
(ILLRW) Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	1.59E-02	1.09E-05	1.71E-05	0	0	0	1.11E-06	4.52E-05	4.62E-05	1.61E-02
(CRU) Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MFR) Materials for recycling	kg	1.26E+00	0.00E+00	2.94E+00	0	0	0	0.00E+00	1.73E+00	0.00E+00	5.93E+00
(MER) Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(EEE) Recovered electrical energy exported from the product system	MJ	5.33E-01	0.00E+00	6.58E-01	0	0	0	0.00E+00	7.53E+00	0.00E+00	8.72E+00
(EET) Recovered thermal energy exported from the product system	MJ	9.49E-01	0.00E+00	1.19E+00	0	0	0	0.00E+00	6.22E+00	0.00E+00	8.36E+00
Resource use indicators											
(RPRr) Renewable primary resources used as energy carrier	MJ	1.69E+02	1.38E-01	1.78E-01	0	0	0	9.56E-03	3.16E-01	7.40E-01	1.70E+02
(RPRm) Renewable primary resources with energy content used as material	MJ	6.02E+01	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	6.02E+01
(NRPRr) Non-renewable primary resources used as energy carrier	MJ	8.71E+02	3.60E+00	1.63E+00	0	0	0	1.23E+00	2.70E+00	4.69E+00	8.85E+02
(NRPRm) Non-renewable primary resources with energy content used as material	MJ	2.65E+02	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	2.65E+02
(SM) Secondary materials	kg	5.43E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	5.43E+00
(RSF) Renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(NRSF) Non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(RE) Recovered energy	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(FW) Use of net freshwater resources including water from electricity generation	m ³	4.59E-01	1.07E-04	1.38E-03	0	0	0	1.35E-05	9.00E-03	1.26E-03	4.71E-01
Primary energy demand (renewable-nonrenewable energy and materials)	MJ	1.37E+03	3.73E+00	1.81E+00	0	0	0	1.23E+00	3.01E+00	5.43E+00	1.38E+03
(ADP) Abiotic depletion potential fossil	MJ	1.35E+03	3.57E+00	1.58E+00	0	0	0	1.22E+00	2.57E+00	4.56E+00	1.37E+03

Global warming potential summary



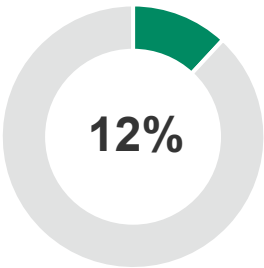
India Version

Results shown below are for the top selling configuration of one Series 2 chair 436AIR3D, produced in Pune, India for the India market, consisting of 4D arms, 3D Microknit back, upholstered seat, lumbar, hard casters, and a plastic base.

Product composition			Post-consumer		Pre-consumer	
Material	Weight (kg)	Weight (%)	%	Weight (kg)	%	Weight (kg)
Nylon	6.794	42.6%	0	0	6.6%	0.448
Steel	5.199	32.6%	11.2%	0.582	10.3%	0.537
PP	2.162	13.5%	0	0	0	0
Aluminum	0.659	4.1%	27%	0.178	24%	0.158
PU Foam	0.620	3.9%	0	0	0	0
Other plastics	0.378	2.4%	0	0	0	0
Fabric	0.118	0.7%	0	0	0	0
Zamac	0.034	0.2%	0	0	0	0
Total	15.963	100.0%	4.8%	0.760	7.2%	1.143

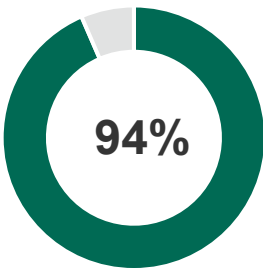
Packaging composition			Post-consumer		Pre-consumer	
Material	Weight (kg)	Weight (%)	%	Weight (kg)	%	Weight (kg)
Cardboard	3.7	94.9%	40%	1.48	0	0
LDPE	0.2	5.1%	0	0	0	0
Total	3.9	100%	37.9%	1.48	0	0

Product recycled content* and recyclability** summary



TOTAL RECYCLED
CONTENT*

*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
BY WEIGHT**

**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. Per the requirements of the PCR, the end-of-life results presented in this EPD were calculated using the US EPA's Warm Model within the 2020 Municipal Solid Waste Report for parts that can be disassembled. Excludes packaging.

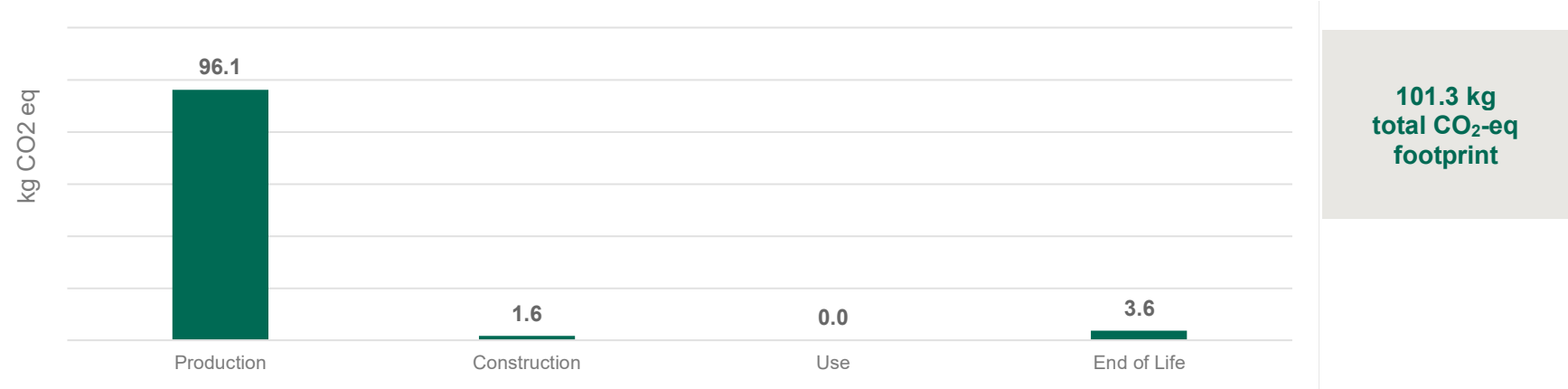
STEELCASE SERIES® 2 | ENVIRONMENTAL PRODUCT DECLARATION | STEELCASE APAC

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.2, IPCC AR6 characterization factors, CML 2001, and ISO 21930 for multiple indicators. Results presented in this report are one unit of seating to seat one individual for a reference service life of 10 years. Additionally, the results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks. Use stage modules B2, B3, B5-B7 not declared.

Methods: IPCC AR6, TRACI 2.2, ISO 21930, CML 2001

		Production	Construction	Use		End of life					
Environmental impact indicators	Unit	A1 - A3	A4	A5	B1	B4	C1	C2	C3	C4	Totals
(GWP) Global warming potential 100 years excludes biogenic carbon	kg CO ₂ eq	9.61E+01	5.37E-01	1.01E+00	0	0	0	9.15E-02	3.22E+00	3.28E-01	1.01E+02
(GWP) Global warming potential 100 years includes biogenic carbon	kg CO ₂ eq	8.88E+01	5.40E-01	1.64E+00	0	0	0	9.44E-02	3.22E+00	3.31E-01	9.46E+01
(AP) Acidification potential	kg SO ₂ eq	3.53E-01	2.04E-03	6.68E-04	0	0	0	9.85E-04	3.75E-03	1.52E-03	3.62E-01
(POCP) Photochemical ozone creation (Smog)	kg O ₃ eq	4.95E+00	4.84E-02	1.63E-02	0	0	0	2.47E-02	1.19E-01	2.77E-02	5.19E+00
(EP) Eutrophication - freshwater	kg P eq	3.17E-04	3.39E-07	5.68E-06	0	0	0	1.13E-08	3.74E-08	7.61E-05	3.99E-04
(EP) Eutrophication - marine	kg N eq	1.52E-01	1.83E-03	4.89E-04	0	0	0	8.98E-04	3.35E-03	7.70E-04	1.59E-01
(ODP) Ozone depletion	kg CFC 11-eq	6.66E-08	1.86E-13	5.57E-13	0	0	0	2.63E-13	1.44E-11	8.72E-12	6.66E-08
Carbon emissions and removals											
(BCRP) Biogenic carbon removal from product	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(BCEP) Biogenic carbon emission from product	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(BCRK) Biogenic carbon removal from packaging	kg CO2eq	5.83E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	5.83E+00
(BCEK) Biogenic carbon emission from packaging	kg CO2eq	0.00E+00	0.00E+00	5.83E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	5.83E+00
(BCEW) Biogenic carbon emission from combustion of renewable waste used in production	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CCE) Calcination carbon emissions	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CCR) Carbonation carbon removal	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CWNR) Carbon emission from combustion of non-renewable waste used in production	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Output flows and waste categories											
(HWD) Hazardous waste disposed	kg	1.42E-05	1.43E-09	2.88E-10	0	0	0	7.17E-11	7.79E-10	1.41E-09	1.42E-05
(NHWD) Non-hazardous waste disposed	kg	5.49E+00	7.90E-04	8.66E-01	0	0	0	5.63E-05	1.30E-01	1.20E+01	1.85E+01
(HLRW) High-level radioactive waste, conditioned, to final repository	kg	2.00E-05	2.46E-08	1.40E-08	0	0	0	1.32E-09	5.29E-08	5.43E-08	2.01E-05
(ILLRW) Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	1.69E-02	2.07E-05	1.55E-05	0	0	0	1.11E-06	4.48E-05	4.68E-05	1.71E-02
(CRU) Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MFR) Materials for recycling	kg	1.30E+00	0.00E+00	2.54E+00	0	0	0	0.00E+00	1.72E+00	0.00E+00	5.55E+00
(MER) Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(EEE) Recovered electrical energy exported from the product system	MJ	5.34E-01	0.00E+00	6.35E-01	0	0	0	0.00E+00	7.44E+00	0.00E+00	8.61E+00
(EET) Recovered thermal energy exported from the product system	MJ	9.52E-01	0.00E+00	1.15E+00	0	0	0	0.00E+00	6.16E+00	0.00E+00	8.26E+00
Resource use indicators											
(RPRr) Renewable primary resources used as energy carrier	MJ	1.71E+02	2.67E-01	1.64E-01	0	0	0	9.55E-03	3.14E-01	7.47E-01	1.72E+02
(RPRm) Renewable primary resources with energy content used as material	MJ	5.18E+01	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	5.18E+01
(NRPRr) Non-renewable primary resources used as energy carrier	MJ	9.30E+02	6.81E+00	1.46E+00	0	0	0	1.22E+00	2.67E+00	4.72E+00	9.47E+02
(NRPRm) Non-renewable primary resources with energy content used as material	MJ	3.00E+02	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	3.00E+02
(SM) Secondary materials	kg	4.06E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	4.06E+00
(RSF) Renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(NRSF) Non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(RE) Recovered energy	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(FW) Use of net freshwater resources including water from electricity generation	m ³	4.61E-01	2.07E-04	1.28E-03	0	0	0	1.35E-05	8.90E-03	1.30E-03	4.73E-01
Primary energy demand (renewable-nonrenewable energy and materials)	MJ	1.45E+03	7.08E+00	1.63E+00	0	0	0	1.23E+00	2.99E+00	5.47E+00	1.47E+03
(ADP) Abiotic depletion potential fossil	MJ	1.48E+03	6.76E+00	1.42E+00	0	0	0	1.22E+00	2.55E+00	4.59E+00	1.50E+03

Global warming potential summary



TECHNICAL INFORMATION AND SCENARIOS FOR MODULES BEYOND THE FACTORY GATE

A4: Transport to the installation site

Parameter	Malaysia		India	
	Value per product	Value per product	Value per product	Value per product
Transportation type	Truck trailer	Ship	Truck trailer	Ship
Fuel consumption (l/km)	0.42 diesel	130 heavy fuel oil	0.42 diesel	130 heavy fuel oil
Distance*	94 km	4,417 km	190 km	37 km

*Weighted average distance per product market share

A5: Installation in the building

Parameter	Malaysia	India
	Value per functional unit	Value per functional unit
Installation Assumptions	No product waste Installed with hand tools	No product waste Installed with hand tools
Energy use for installation	0 kWh	0 kWh
Transportation type for installation waste	Truck	Truck
Fuel consumption (l/km)	0.42 diesel	0.42 diesel
Distance	32.2 km	32.2 km
Packaging to recycling	2.95 kg	2.55 kg
Packaging to energy recovery	0.29 kg	0.27 kg
Packaging to landfill	1.18 kg	1.08 kg

C1- C4: End-of-life

Parameter	Malaysia	India
	Value per functional unit	Value per functional unit
Method of deconstruction	Hand tools	Hand tools
Method of recycling	Mechanical recycling	Mechanical recycling
Method of energy recovery	Incineration	Incineration
Final disposal of remaining parts	Landfilling	Landfilling
Transportation type	Truck	Truck
Fuel consumption (l/km)	0.42 diesel	0.42 diesel
Distance to waste processing site	32.2 km	32.2 km
Weight to recycling	2.75 kg	2.74 kg
Weight to energy recovery	2.65 kg	2.65 kg
Weight to landfill	10.59 kg	10.58 kg

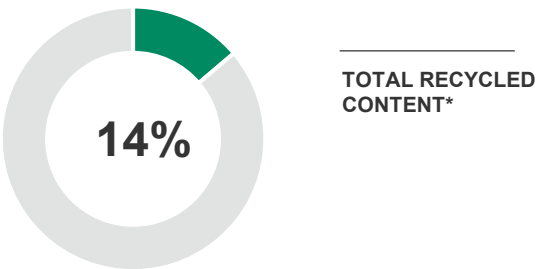
STOOL CONFIGURATION RESULTS

The product composition, packaging composition, recycled content, and recyclability visuals below relate specifically to one unit of Series 2 stool with the highest environmental impacts. This configuration includes hard casters, foot adjustable ring, primarily metal base, weight-activated mechanics, 4D arms, upholstered seat and back, with a lumbar and a headrest.

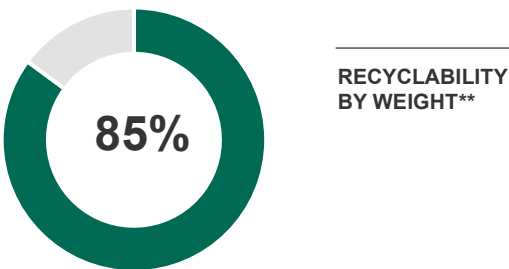
Product composition			Post-consumer		Pre-consumer	
Material	Weight (kg)	Weight (%)	%	Weight (kg)	%	Weight (kg)
Nylon	6.867	28.4%	0	0	0	0
Steel	5.658	23.4%	11.9%	0.675	11%	0.623
Aluminum	4.043	16.7%	23.4%	0.944	27%	1.092
Polyurethane (PU)	3.021	12.5%	0	0	0	0
Polypropylene (PP)	2.870	11.9%	0	0	0	0
Thermoplastic polyurethane (TPU)	0.550	2.3%	0	0	0	0
Polyester Fabric	0.403	1.7%	0	0	0	0
Other	0.758	3.1%	0	0	0	0
Total	24.170	100%	6.7%	1.619	7.1%	1.714

Packaging composition			Post-consumer		Pre-consumer	
Material	Weight (kg)	Weight (%)	%	Weight (kg)	%	Weight (kg)
Cardboard	6.770	98.7%	40%	2.708	0	0
LDPE	0.080	1.2%	0	0	0	0
Polyethylene (PE)	0.010	0.2%	0	0	0	0
Paper	0.001	0.0%	0	0	0	0
Total	6.861	100%	39.5%	2.708	0	0

Product recycled content* and recyclability** summary



*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. Per the requirements of the PCR, the end-of-life results presented in this EPD were calculated using the US EPA's Warm Model within the 2020 Municipal Solid Waste Report for parts that can be disassembled. Excludes packaging.

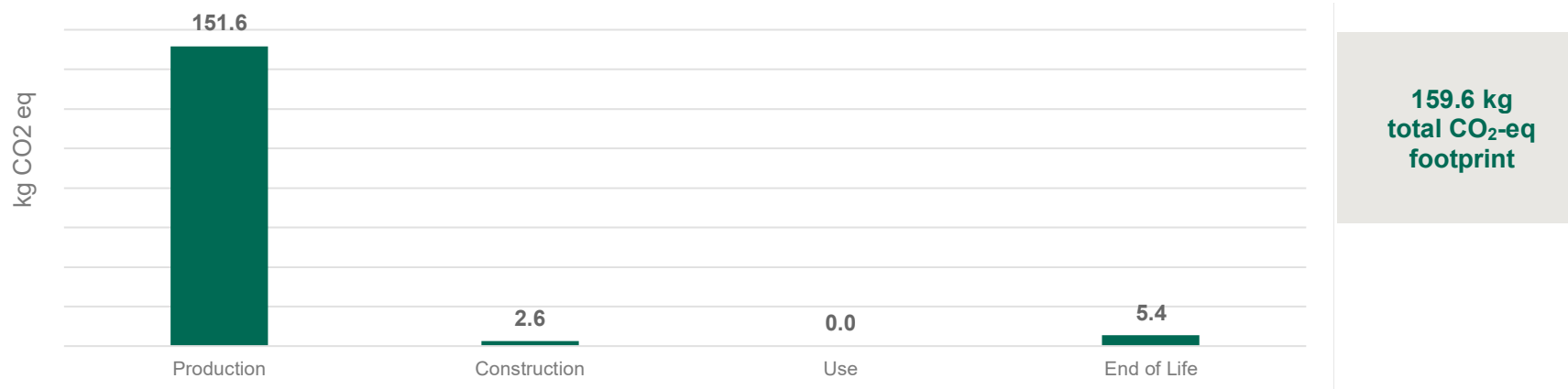
Life cycle impact by category and stage

Environmental impacts were calculated using the GaBi software platform. Impact results according to the BIFMA PCR have been calculated using TRACI 2.2, IPCC AR6 characterization factors, CML 2001, and ISO 21930 for multiple indicators. Results presented in this report are one unit of seating to seat one individual for a reference service life of 10 years. Additionally, the results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks. Use stage modules B2, B3, B5-B7 not declared.

Methods: IPCC AR6, TRACI 2.2, ISO 21930, CML 2001

		Production	Construction		Use		End of life				
Environmental impact indicators	Unit	A1 - A3	A4	A5	B1	B4	C1	C2	C3	C4	Totals
(GWP) Global warming potential 100 years excludes biogenic carbon	kg CO ₂ eq	1.52E+02	8.21E-01	1.74E+00	0	0	0	1.37E-01	4.75E+00	4.63E-01	1.60E+02
(GWP) Global warming potential 100 years includes biogenic carbon	kg CO ₂ eq	1.38E+02	8.25E-01	2.88E+00	0	0	0	1.41E-01	4.75E+00	4.66E-01	1.47E+02
(AP) Acidification potential	kg SO ₂ eq	5.59E-01	3.12E-03	1.15E-03	0	0	0	1.42E-03	4.76E-03	2.22E-03	5.71E-01
(POCP) Photochemical ozone creation (Smog)	kg O ₃ eq	7.59E+00	7.43E-02	2.89E-02	0	0	0	3.57E-02	1.51E-01	3.97E-02	7.92E+00
(EP) Eutrophication - freshwater	kg P eq	5.79E-04	5.18E-07	8.48E-06	0	0	0	2.19E-08	1.08E-04	1.08E-04	8.05E-04
(EP) Eutrophication - marine	kg N eq	2.30E-01	2.80E-03	8.65E-04	0	0	0	1.29E-03	4.25E-03	1.10E-03	2.40E-01
(ODP) Ozone depletion	kg CFC 11-eq	2.89E-07	2.83E-13	9.18E-13	0	0	0	3.65E-13	1.60E-11	9.34E-12	2.89E-07
Carbon emissions and removals											
(BCRP) Biogenic carbon removal from product	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(BCEP) Biogenic carbon emission from product	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(BCRK) Biogenic carbon removal from packaging	kg CO2eq	1.07E+01	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	1.07E+01
(BCEK) Biogenic carbon emission from packaging	kg CO2eq	0.00E+00	0.00E+00	1.07E+01	0	0	0	0.00E+00	0.00E+00	0.00E+00	1.07E+01
(BCEW) Biogenic carbon emission from combustion of renewable waste used in production	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CCE) Calcination carbon emissions	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CCR) Carbonation carbon removal	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(CWNr) Carbon emission from combustion of non-renewable waste used in production	kg CO2eq	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Output flows and waste categories											
(HWD) Hazardous waste disposed	kg	1.58E-04	2.18E-09	4.71E-10	0	0	0	1.29E-10	9.36E-10	1.97E-09	1.58E-04
(NHWD) Non-hazardous waste disposed	kg	1.31E+01	1.21E-03	1.37E+00	0	0	0	9.34E-05	2.05E-01	1.77E+01	3.24E+01
(HLRW) High-level radioactive waste, conditioned, to final repository	kg	4.57E-05	3.76E-08	2.34E-08	0	0	0	2.34E-09	6.95E-08	7.47E-08	4.60E-05
(ILLRW) Intermediate- and low-level radioactive waste, conditioned, to final repository	kg	4.52E-02	3.16E-05	2.60E-05	0	0	0	1.96E-06	6.06E-05	6.61E-05	4.54E-02
(CRU) Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(MFR) Materials for recycling	kg	1.27E+00	0.00E+00	4.63E+00	0	0	0	0.00E+00	2.77E+00	0.00E+00	8.66E+00
(MER) Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(EEE) Recovered electrical energy exported from the product system	MJ	6.98E-01	0.00E+00	9.65E-01	0	0	0	0.00E+00	1.05E+01	0.00E+00	1.22E+01
(EET) Recovered thermal energy exported from the product system	MJ	9.91E-01	0.00E+00	1.75E+00	0	0	0	0.00E+00	1.02E+01	0.00E+00	1.30E+01
Resource use indicators											
(RPRr) Renewable primary resources used as energy carrier	MJ	3.95E+02	4.08E-01	2.70E-01	0	0	0	1.82E-02	3.95E-01	1.09E+00	3.97E+02
(RPRm) Renewable primary resources with energy content used as material	MJ	9.48E+01	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	9.48E+01
(NRPRr) Non-renewable primary resources used as energy carrier	MJ	1.57E+03	1.04E+01	2.51E+00	0	0	0	1.82E+00	3.38E+00	6.82E+00	1.59E+03
(NRPRm) Non-renewable primary resources with energy content used as material	MJ	4.39E+02	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	4.39E+02
(SM) Secondary materials	kg	7.43E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	7.43E+00
(RSF) Renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(NRSF) Non-renewable secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(RE) Recovered energy	MJ	0.00E+00	0.00E+00	0.00E+00	0	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
(FW) Use of net freshwater resources including water from electricity generation	m ³	7.23E-01	3.16E-04	2.08E-03	0	0	0	2.26E-05	1.33E-02	1.60E-03	7.41E-01
Primary energy demand (renewable-nonrenewable energy and materials)	MJ	2.50E+03	1.08E+01	2.78E+00	0	0	0	1.84E+00	3.78E+00	7.91E+00	2.52E+03
(ADP) Abiotic depletion potential fossil	MJ	2.31E+03	1.03E+01	2.43E+00	0	0	0	1.82E+00	3.21E+00	6.63E+00	2.34E+03

Global warming potential summary



TECHNICAL INFORMATION AND SCENARIOS FOR MODULES BEYOND THE FACTORY GATE

A4: Transport to the installation site

Parameter	Value per product	Value per product
Transportation type	Truck trailer	Ship
Fuel consumption (l/km)	0.42 diesel	130 heavy fuel oil
Distance*	186 km	4,272 km

*Weighted average distance per product market share

A5: Installation in the building

Parameter	Value per functional unit
Installation Assumptions	No product waste Installed with hand tools
Energy use for installation	0 kWh
Transportation type for installation waste	Truck
Fuel consumption (l/km)	0.42 diesel
Distance	32.2 km
Packaging to recycling	4.63 kg
Packaging to energy recovery	0.45 kg
Packaging to landfill	1.79 kg

C1- C4: End-of-life

Parameter	Value per functional unit
Method of deconstruction	Hand tools
Method of recycling	Mechanical recycling
Method of energy recovery	Incineration
Final disposal of remaining parts	Landfilling
Transportation type	Truck
Fuel consumption (l/km)	0.42 diesel
Distance to waste processing site	32.2 km
Weight to recycling	3.95 kg
Weight to energy recovery	4.045 kg
Weight to landfill	16.18 kg

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](#).

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, LCA Report for Steelcase. WAP Sustainability Consulting November 2022. *Updated by Steelcase March 2024.*

NSF BIFMA Product Category Rule (PCR) for Seating 1103-25: UNCPC 3811 v4.

ANSI/BIFMA X5.5-2021, Desk and Table Products.

ANSI/BIFMA X5.6-2016 (R2021), Panel Systems.

ANSI/BIFMA X5.9, Storage Units.

ANSI/BIFMA e3, Furniture Sustainability Standard.

ACLCA Guidance to Calculating Non-LCIA Inventory Metrics in Accordance with ISO 21930:2017. May 2019

BIFMA PCR for Office Furniture Workspace V2 March 2025: UNCPC 3814

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.

ISO 21930:2017 Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services.

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



Visit steelcase.com

 facebook.com/Steelcase  twitter.com/Steelcase  youtube.com/SteelcaseTV

Contact
For further questions, please contact:
epd@steelcase.com