

KEILHAUER

Swurve | Seating

Product Environmental Criteria



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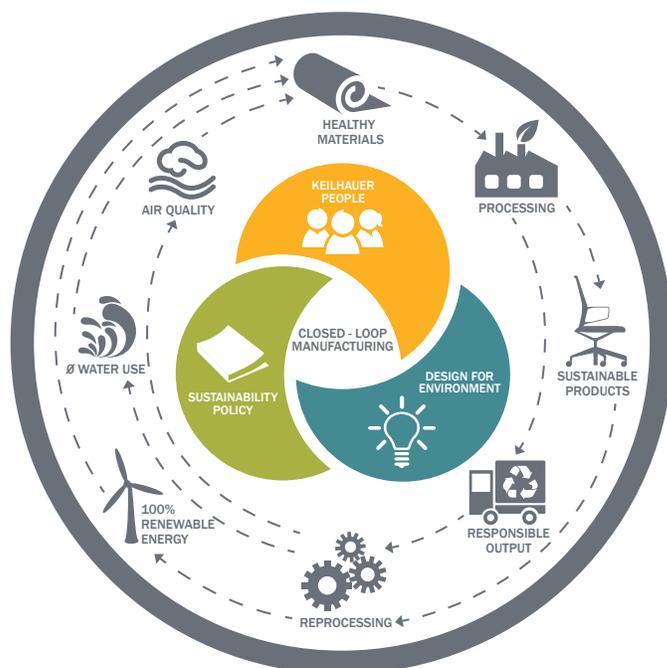
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Planet Keilhauer Overview

As part of our commitment to transparency and disclosure, Keilhauer is proud to present our Product Environmental Criteria documents. These documents will provide information on our corporate sustainability goals as well as specific environmental information about our products. For information not found in this document please visit our website or contact your local sales representative.

Keilhauer is a design activist and a pioneer in creating sustainable solutions. We believe that good business and long term success is measured by the Triple Bottom Line, meaning we harmoniously look after our people, our environment and our economic success. We introduced a comprehensive sustainability program called Planet Keilhauer so that sustainability would be prioritized throughout our company.

Planet Keilhauer is driven by its Corporate Goal of closed loop manufacturing. We are guided by our sustainability policy, occupied by our sustainability programs, and supported by our people.



We'll know we have a closed loop system when:

- We can disassemble, reuse, recycle, or biodegrade our products.
- We use 100% recycled content or rapidly renewable materials.
- We are powered by 100% renewable energy.
- We use materials with 0 impact on humans and the environment.
- We create 0 waste in our facilities.
- We use 0 water in our processes.

Keilhauer Environmental Certifications

Keilhauer is proud to have many of our products certified under the following certifications (see Life Cycle Section for product applicability):



BIFMA LEVEL®

Many Keilhauer products have been certified by SCS Global Services under BIFMA's multi-attribute sustainability standard: LEVEL® 2.



Indoor Air Quality

Many Keilhauer products have been certified by SCS Global Services for Indoor Air Quality achieving Indoor Advantage™ Gold. This means they meet rigorous and comprehensive air quality standards.



FSC® Forest Stewardship Council®

We believe in responsible forestry and ethically sourced materials. Many Keilhauer products are made from FSC-certified wood parts.



Carbonfree® Product Certification

Keilhauer's Swurve chair is certified by Carbonfund.org to be carbon neutral.

Swurve Seating Life Cycle

1. Design for Environment

Keilhauer's interdisciplinary Design for Environment Program (DfE) ensures that we design our products in line with our sustainability goals. This includes holistic life cycle thinking, material specification and sourcing so that we create exceptionally well designed and safe products with long, useful lives that are repairable and recyclable. Members of the DfE team include managers from Manufacturing, Engineering, Operations, Sustainability, and even our President!

2. Swurve Seating Certification

Swurve seating is certified under the following industry standard certifications:



3. Environmental Standards

Keilhauer products may assist in achieving credits under the following industry standards and certifications:

WELL™ v2 Building Standard

Keilhauer products may be applied to the three WELL project typologies:

- New and Existing Buildings
- New and Existing Interiors
- Core and Shell

For more credit specific details, see WELL v2 Building Standard Credit Applicability on page 5.

LEED® v4.1

Keilhauer products may assist with the following LEED Projects. For more credit specific details, see LEED v4.1 Credit Applicability on pages 6 and 7.



Applicable credits can be found in the following sections:

- Materials and Resources Credits
- Indoor Environmental Quality
- Pilot Credits

Healthier Hospitals for Safer Chemicals Challenge - V2.0

Keilhauer products may comply with this standard. Please contact your local sales representative for more information.

4. Supply Chain

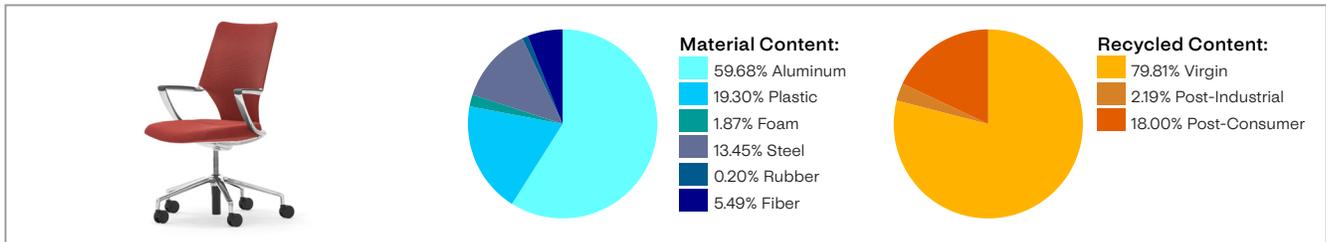
We have always believed that who you do business with is fundamental to how you do business. We work with vendors that conduct business honestly and ethically, giving priority to local vendors. We also work with vendors to include recycled materials and to source raw materials from sustainable sources.

5. Materials & Recycled Content

Our products are made from a variety of materials, some of which are made using recycled content. See below for percentages from our best seller. For other models please reference the chart at the end of the document.

Note: Recycled content is determined by weight. Products may contain both pre-consumer and post-consumer recycled content materials. Post-industrial (pre-consumer) recycled content is material diverted from the waste stream during manufacturing. Post-consumer recycled content is material generated by end users such as households, commercial, or consumers of the final product.

Best seller: Swurve 79001, Mid mesh back office chair with 5-star aluminum base



6. Manufacturing Plant

To target efficiency, we measure our resource use and perform regular audits. Using the data generated, we can evaluate our processes such as energy and water use and shift our capital investments to align with our sustainability goals.

7. Final Manufacturing Location

Keilhauer products are manufactured in Toronto, Ontario, Canada.



8. Blanket Wrapping

When shipping seating, Keilhauer's standard is to cover products in a recyclable plastic bag (made using recycled content), and then wrap in a reusable blanket. The blanket is taken back by the shipper at delivery. Alternatively, products can be shipped in recyclable cardboard boxes. Depending on the model, some tables are packed in wooden crates.

9. End of Product Life

For information on reparability and recyclability see 'End of Product Life Document: Task, Conference, Executive' located on our website: www.keilhauer.com.

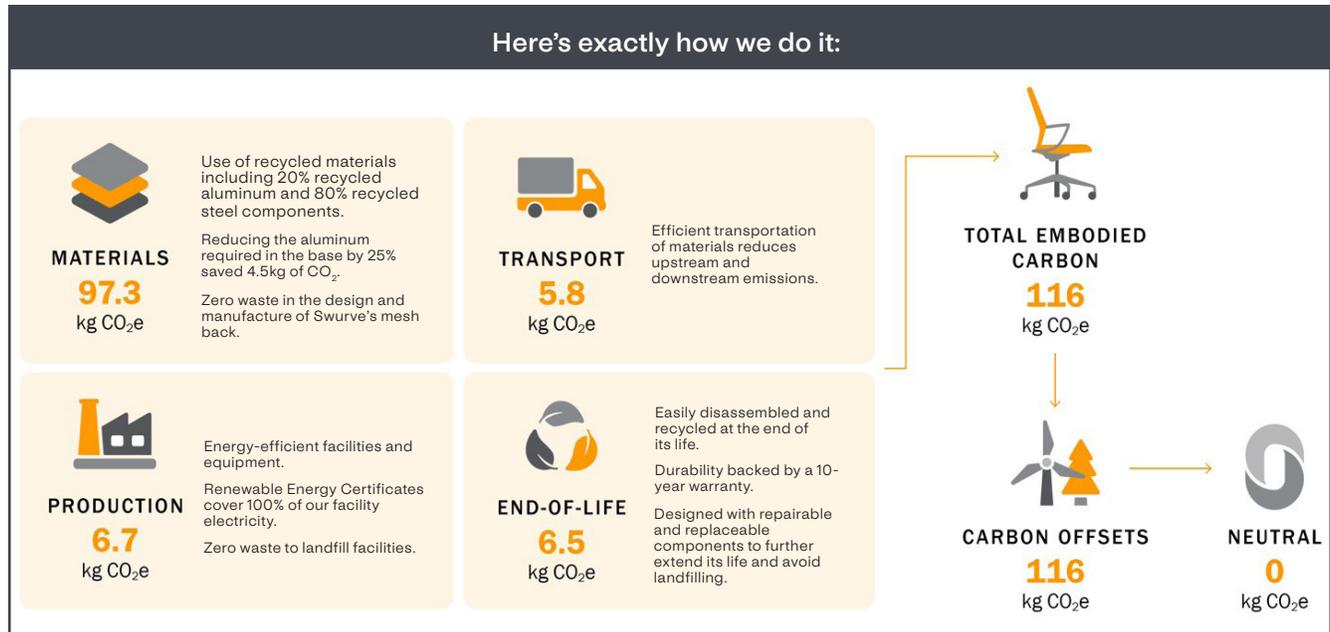
Carbon Neutral

Swurve, Keilhauer's first product that is completely carbon neutral, was developed to reduce embodied carbon and address climate change.

Swurve is backed by a critically-reviewed ISO 14040 and ISO 14044 Life Cycle Assessment with a cradle-to-grave scope and supports low carbon projects designed to meet 2030 targets for zero embodied carbon. It is certified by Carbonfund.org to be carbon neutral through their Carbonfree® product certification.



Keilhauer has reduced emissions at every stage of our processes – from design and the materials we use to production, distribution, and end-of-life.



Throughout the life cycle of the chair, there is inevitable carbon that can't be eliminated. Keilhauer completely offsets this carbon with investments in third-party verified carbon offset projects through Carbonfund.org. We have carefully chosen to support three projects that address our carbon impact and align with our values.

1. The US Truck Stop Electrification Project

Swurve seating, along with all Keilhauer products, are transported via truck to reach the final customer. Keilhauer is supporting this project to specifically address the carbon emissions of our product transportation.

2. The Minnesota Forestry Improvement Project

Many of Keilhauer's products contain wood components and it is important to us to consistently measure and manage our natural resource use. Supporting this project means contributing to the management and improvement of Minnesota woodlands.

3. The Aqua Clara Water Filtration Program

Keilhauer believes clean water is a basic human right that every person should have access to. This water filtration program provides Kenyan communities with access to safe drinking water while generating employment opportunities and reducing deforestation.

For more carbon neutral documentation or the Swurve life cycle assessment, visit the Mindful Materials Library:
<http://www.mindfulmaterials.com/>

Environmental Standards & Credit Applicability

Keilhauer products may assist with the following features and credits:

WELL v2 Building Standard Credit Applicability

Materials

FEATURE: X05 Enhanced Material Restrictions

Keilhauer restricts the use of heavy metals in all products. Any Keilhauer components that constitute a minimum of 5% by weight meet the following thresholds for material content: Less than 100 ppm of Mercury, Cadmium and Antimony.

All standard Keilhauer components are free of halogenated flame retardants, meeting CAL 117-2013 without the use of chemical flame retardants and are labeled accordingly. Urea formaldehyde content of all Keilhauer composite wood and laminate components complies with TSCA Title VI. Textiles and plastic components may contain lead and polyfluoroalkyl substances (PFAS) in amounts less than 1000 ppm. Please contact sustainability@keilhauer.com for details.

FEATURE: X06 VOC Restrictions

Swurve seating is certified by SCS Global Services for Indoor Air Quality at the Indoor Advantage™ Gold level and conforms to the requirements set out in the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e.3-2019 (Credits 7.6.1, 7.6.2, 7.6.3) for seating parameters. Also conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017 for seating. See registration number located in the Life Cycle section on page 3 of this document. The certificate can be found on Keilhauer's website under the sustainability section.

Movement

FEATURE: V02 Ergonomic Workstation Design

Swurve seating is engineered to the highest ergonomic standards. It is intended for work spaces designed for computer use and meets the seat flexibility requirements in feature V02 as well as the BIFMA G1-2013 Guidelines.

LEED v4.1 Credit Applicability

LEED ID+C Interior Design + Construction

Materials and Resources (MR) Credits:

CREDIT: Construction and Demolition Waste Management Planning

When shipping, Keilhauer covers seating in a recyclable plastic bag (made using recycled content) which is then wrapped with a protective reusable blanket. The blanket is taken back by the shipper at delivery. Alternatively, products can be shipped in recyclable cardboard boxes. See page 4 for End of Product Life details.

CREDIT: Interiors Life Cycle Impact Reduction

Keilhauer products are designed for durability and offer a long useful life with a ten year warranty. Some products may be refurbished and reused to contribute to this point on future projects.

CREDIT: Sourcing of Raw Materials

Materials Reuse: Keilhauer products are designed for durability and offer a long useful life with a ten year warranty. Some products may be refurbished and reused to contribute to this point on future projects.

Recycled Content: The majority of Keilhauer products contain some recycled content and may assist in contributing to this credit. Reference the chart on page 7 for model specific recycled content percentages.

LEED BD+C Building Design + Construction

Materials and Resources (MR) Credits:

CREDIT: Construction and Demolition Waste Management Planning

When shipping, Keilhauer covers seating in a recyclable plastic bag (made using recycled content) which is then wrapped with a protective reusable blanket. The blanket is taken back by the shipper at delivery. Alternatively, products can be shipped in recyclable cardboard boxes. See page 4 for End of Product Life details.

CREDIT: Sourcing of Raw Materials

Materials Reuse: Keilhauer products are designed for durability and offer a long useful life with a ten year warranty. Some products may be refurbished and reused to contribute to this point on future projects.

Recycled Content: The majority of Keilhauer products contain some recycled content and may assist in contributing to this credit. Reference the chart on page 7 for model specific recycled content percentages.

**CREDIT: Furniture and Medical Furnishings
(Option 3. Building Product Disclosure and Optimization)**

Materials Reuse: Keilhauer products are designed for durability and offer a long useful life with a ten year warranty. Some products may be refurbished and reused to contribute to this point on future projects.

Recycled Content: The majority of Keilhauer products contain some recycled content and may assist in contributing to this credit. Reference the chart on page 7 for model specific recycled content percentages.

Indoor Environment Quality (EQ) Credits:

CREDIT: Low Emitting Materials

Swurve seating is certified by SCS Global Services for Indoor Air Quality at the Indoor Advantage™ Gold level and conforms to the requirements set out in the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e.3-2019 (Credits 7.6.1, 7.6.2, 7.6.3) for seating parameters. Also conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017 for seating. See registration number located in the Life Cycle section on page 3 of this document. The certificate can be found on Keilhauer's website under the sustainability section.

LEED O+M Operations + Maintenance

Materials and Resources (MR) Credits:

PREREQ: Facility Maintenance and Renovations Policy

Low Emissions of VOC: Swurve seating is certified by SCS Global Services for Indoor Air Quality at the Indoor Advantage™ Gold level and conforms to the requirements set out in the ANSI/BIFMA Furniture Emissions Standard (M7.1/X7.1-2011 R2016) and ANSI/BIFMA e.3-2019 (Credits 7.6.1, 7.6.2, 7.6.3) for seating parameters. Also conforms to the CDPH/EHLB Standard Method (CA 01350) v1.2-2017 for seating. See registration number located in the Life Cycle section on page 3 of this document. The certificate can be found on Keilhauer's website under the sustainability section.

Materials Reuse: Keilhauer products are designed for durability and offer a long useful life with a ten year warranty. Some products may be refurbished and reused to contribute to this point on future projects.

Recycled Content: The majority of Keilhauer products contain some recycled content and may assist in contributing to this credit. Reference the chart on page 7 for model specific recycled content percentages.

LEED Pilot Credit (PC)

BD+C: Building Design + Construction, ID+C: Interior Design + Construction

PC 112: Certified Multi-Attribute Products and Materials

Many Keilhauer products are certified by SCS Global Services for BIFMA LEVEL certification. The registration number is located in the Life Cycle section of this document. The certificate can be found on Keilhauer's website under the sustainability section.

PC 44: Ergonomics Approach for Computer Users

Swurve seating is engineered to the highest ergonomic standards and meets the ergonomic guidelines outlined in BIFMA G1-2013.

Materials & Recycled Content

Product			Recycled Content			Material Content					
	MODEL #	DESCRIPTION	POST CONSUMER	POST INDUSTRIAL	TOTAL	PLASTIC	FOAM	STEEL	ALUMINUM	RUBBER	FIBER
	SWURVE 79000	MID MESH BACK, NYLON BASE	20.05%	7.57%	27.62%	41.16%	1.92%	14.33%	36.72%	0.21%	5.66%
	SWURVE 79001	MID MESH BACK, ALUMINUM BASE	18.00%	2.19%	20.19%	19.30%	1.87%	13.45%	59.68%	0.20%	5.49%
	SWURVE 79100	MID UPHOLSTERED BACK, NYLON BASE	16.50%	5.70%	22.20%	39.73%	4.95%	13.83%	35.45%	0.20%	5.84%
	SWURVE 79101	MID UPHOLSTERED BACK, ALUMINUM BASE	14.62%	0.55%	15.18%	18.65%	4.81%	13.00%	57.67%	0.20%	5.67%

Document Disclaimer:

This document will be reviewed and updated periodically and is subject to change without notice. Keilhauer is not responsible for slight deviations in the data and information contained in this document.

Recycled content data is calculated using data from suppliers, manufacturers and industry averages. Keilhauer makes conservative assumptions to ensure disclosure of the most accurate recycled content as possible. Variability of manufacturing processes may result in higher or lower content. Textiles and associated weights are not accounted for in the analysis. Recycled content and material content data is calculated using base models only.