B-Free big cube

Product Environmental Profile is an environmental declaration according to the objectives of ISO 14021. Precise, accurate, verifiable and relevant information on sustainability attributes of B-Free big cube.

B-Free range welcomes varied work postures -reading, reclining, or leaning in to a conversation. From focused individual work to a casual meeting, B-Free provides thoughtful, comfortable support.

B-Free big cube
Different shapes and size to follow the movements of the user whether he is connecting, collaborating or concentrating and to offer qualitative support in a wide variety of postures.

The model chosen for analysisis is the most representative one (reference N3L C00 040) from the B-Free range. Standard features on this model include:

- Gaja fabric (fabrics on the picture is not related to the analysis)
- L-shape armrest
- adjustable glides

Published on 09/2015

Steelcase

Environmental Overview

Final Assembly Location

Final assembly of B-Free big cube is in Sarrebourg, France, by Steelcase, for the EMEA (Europe, Middle East and Africa) market.

Life Cycle Performance
Steelcase considers each phase of the life cycle: from materials extraction, production, transport, use and reuse, through the end of its life.

To measure the environmental impacts of B-Free big cube, Steelcase performed a Life-Cycle Assessment (ISO 14040-44), the results of which are disclosed in an Environmental Product Declaration (EPD – ISO 14025).

Materials

Materials Composition
A break down of the basic materials in B-Free big cube.

Materials Chemistry
Steelcase's materials chemistry practice aims to design products with materials that support human and environmental health, throughout all phases of the life cycle.

Recycled Materials and Recyclability
B-Free big cube contains 2% recycled materials, by weight (2% pre-consumer + 0% post-consumer).

At the end of its useful life, B-Free big cube is 80% effectively recyclable by weight.

Certifications and Labels
The environmental and social performance of B-Free big cube is communicated through the following voluntary labels/certifications:

- NF Environnement
- NF OEC
- PEFC™
- Cradle to Cradle Certified™
- SCS Indoor Advantage™ Gold
- Environmental Product Declaration (EPD)

LEED Contribution
B-Free big cube may contribute in the following areas:

- Recycled content
- Materials reuse
- Regional materials
- Low-emitting materials
- Interior life cycle impact reduction
- Design for flexibility
- Environmental Product Declarations
- Material ingredients

Life Cycle Performance

Steelcase considers each phase of the life cycle: from materials extraction, production, transport, use and reuse, through the end of its life.

Materials

This phase includes raw materials extraction and transformation into material ready to be used.

- **Contains 2% recycled materials**, by weight (2% pre-consumer + 0% post-consumer).
- **Materials** chemistry assessment completed for this product.
- **No REACh Substances of Very High Concern (SVHC)** present at concentrations greater than 0.1% according to data/ declarations provided by our suppliers.
- **No flame retardants nor phthalates nor biocides** added as defined by the requirements of NF Environnement and Blauer Engel RAL-UZ 38.
- **Materials** used in the manufacturing and assembly of our products **are not specified to contain nanomaterials**.
- **Plastic parts** do not contain pigments with Cadmium, Chrome VI and Mercury.
- **CFC, HCFC and HFC** are not used as blowing agents for PU foam.
- **PU slab foam** is Certipur or OekoTex 100 certified.
- **Low formaldehyde emissions** of wood-based components, according to ISO 16000 (<20 µg/m3).
- Is made with wood sourced from **responsibly managed forests.**
- **No use of woods from genetically modified trees.**
- **Eco-labelled textiles OekoTex / EU Ecolabel / Cradle to Cradle Certified™** and rapidly renewable wool textiles **(LEED)** available to specify with product.
- **Packaged with 82% recycled cardboard and 25% recycled LDPE film.**

Production

This phase comprises all production and assembly processes taking place at Steelcase or at their suppliers and sub-suppliers.

- Final assembly of B-Free big cube is in Sarrebourg, France, by Steelcase, for the EMEA (Europe, Middle East and Africa) market.
- **This plant is ISO 14001 and OHSAS 18001 certified.**
- **Water-based adhesives used in assembly.**

Transport

This phase includes downstream transports.

- **Optimized packaging** to keep transportation volumes as low as possible and improve filling rates.
- Made in Europe.

Use

During the use phase of the product - the longest phase of the life cycle - no significant environmental impacts occur.

- **Product meets** ANSI/BIFMA Standards M7.1/X7.1 for low- VOC emissions to indoor air quality - SCS Indoor Advantage™ Gold.
- **Designed for a long product life**, with replaceable parts that are easy to change.
- Clean with only soapy water.
- Maintenance information available upon request.

End of Use

Any product can become a resource itself, or be responsibly disposed of in different ways.

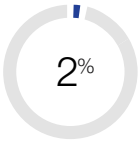
- **Designed to enable responsible end of use strategies** - re-selling, refurbishing, charitable donation or recycling.
- **Designed for quick and easy disassembly of materials** - with no permanent assembly.
- **Disassembly and recycling directions available upon request,** for a representative configuration.
- **91% recyclable by weight**, according to the current waste disposal schemes.
- **100% effectively recyclable packaging**.
- **Primary plastic parts clearly labelled for an easy sorting and effective recycling**, according to ISO 11469.

For more information

Ask for the Environmental Product Declaration (EPD) (according to ISO 14025) which communicates the estimated environmental impacts of this product throughout its life cycle, using the life cycle assessment methodology ISO 14040/14044.

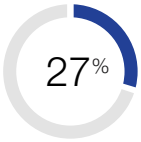
Materials

B-Free big cube materials composition is listed below*.



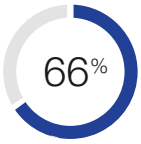
METALS

	kg	%
Steel	0.9	2.4



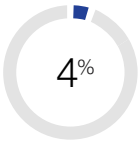
PLASTICS

	kg	%
PU foam – polyurethane	5.3	15.3
PP – polypropylene	1.5	4.3
EPP – expanded polypropylene	1.4	4
Recycled PU foam – polyurethane	0.4	1.3
LDPE – low density polyethylene - for packaging	0.3	0.8
PET – polyethylene terephthalate	0.2	0.7
EPE – expanded polyethylene - for packaging	0.1	0.3
PA GF – polyamide glass fiber	<0.1	0.2
PE/PU – polyethylene/polyurethane	<0.1	0.1
PA – polyamide	<0.1	<0.1



WOOD BASED MATERIALS

	kg	%
OSB	13.5	38.8
Cardboard – for packaging	5.4	15.4
Solid wood – Spruce	3.0	8.7
Masonite – pressure-molded wood fibres	1.2	3.5



OTHER MATERIALS

	kg	%
Wool fabric	1.5	4.2
Coating powder	<0.1	<0.1

TOTAL WEIGHT – incl. packaging	**34.8**

*The list of materials does not contain all materials used in the product (adhesives, coatings, residuals, etc.).

Materials Chemistry

Steelcase's goal in its materials chemistry practice is to design products with materials that are ecologically sound, and that mitigate the risk to human and environmental health, throughout all phases of the life cycle.

At least 75 of the materials in this product have been assessed and rated against 24 human health and environmental criteria. As a result of the assessment, this product has been Cradle to Cradle Certified™ [1] Bronze.

We have contacted our suppliers for all products sold in the European Union to ensure that our products are compliant with REACh (Registration, Evaluation, Authorization and Restriction of Chemicals). When information from suppliers is not available, we rely on testing to ensure that our products meet required standards.

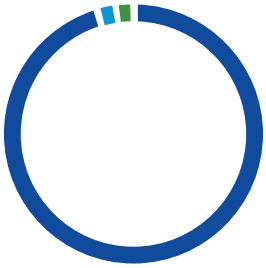
Steelcase intends to avoid from purchasing products, components, or materials containing any "Democratic Republic of the Congo (DRC) Conflict Minerals" (coltan (from which tantalum is derived), cassiterite (tin), gold, wolframite (tungsten), or their derivatives), and any other minerals or derivatives which the U.S. Secretary of State determines to be financing conflict in the DRC or an adjoining country.

[1] Cradle to Cradle Certified℠ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute.

Recycled Materials and Recyclability

Recycled materials are determined by weight and defined in accordance with the ISO 14021.
They may include pre- and post-consumer materials:

- Pre-consumer materials (or post-industrial recycled materials) are materials diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.
- Post-consumer materials are materials generated by households or by commercial, industrial and institutional facilities in their role as end-users of the final product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.



B-FREE BIG CUBE

	kg	%
Pre-consumer recycled content	0.5	2
Post-consumer recycled content	0.1	2
Total recycled content	**0.6**	**2**

Pre consumer - Recycled content

Post consumer - Recycled content

Virgin material

*Calculations of recycled materials are based on data provided by professional organizations, suppliers and other available information. Recycled content figures are based off of product weight only, and exclude packaging for evaluation to LEED contribution and other purposes. This data may include industry averages, ranges or other broadly based information. Steelcase makes conservative assumptions when compiling this information to provide the most accurate recycled content calculations possible but variability in market conditions or manufacturing processes may result in higher or lower content. This document will be reviewed and updated periodically and is subject to change without notice.

Recyclability

Steelcase considers a material recyclable if it can be effectively collected, sorted, processed, and converted into raw materials to be used in the production of new products.*Recyclability calculation does not include packaging.

80%

According to the available waste management infrastructures, we estimate that 80% is effectively recyclable.

*Excludes packaging. To be compliant with applicable regulations, Steelcase calculations are based on the materials having physical properties that allow recycling, our evaluation of the ability to disassemble the products and the actual availability of recycling services in the markets where the products are sold.

Certifications and Labels

To show continuous improvements, Steelcase communicates the environmental and social performance of its products through voluntary labels and declarations.

ON THE PRODUCTS

EPD

This product is currently going through the LCA methodology, which results will be communicated through a voluntary Type III Environmental Product Declaration, according to the objectives of ISO 14025.

NF Environnement

This product is NF Environnement certified, meaning it complies with 20 product lifecycle criteria.

NF Office Excellence Certifié

This product is NF OEC (Office Excellence Certifié) certified, meaning it complies with safety, ergonomic, environmental and social requirements.

SCS Indoor Advantage™ Gold

This product is Indoor Advantage™ Gold certified, according to the indoor air quality emissions requirements defined by the ANSI/ BIFMA M7.1- 2011.

Cradle to Cradle Certified™

This product is Cradle to Cradle Certified™ Bronze, which assesses and rates products for material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness.

ON THE MATERIALS

Cradle to Cradle Certified™

A selection of textile options are Cradle to Cradle Certified™ Silver, which assesses and rates products for material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness.

European Ecolabel

A selection of pure wool fabrics are labelled with the European Ecolabel, guaranteeing that it meets stringent quality and environmental performance criteria.

Oeko-Tex

A selection of fabrics are certified with the Oeko-Tex 100 Standard, guaranteeing a limited presence of harmful substances.

PEFC™

At least 100% of the wood components in this product are PEFC™ (Programme for the Endorsement of Forest Certification) labelled, ensuring that wood originates from sustainably managed forests. Chain of custody: FCBA/06-00787.

E1

The wood based materials of this product comply with the E1 standard of emissions / concentration of formaldehyde.

ON THE PLANTS

ISO 14001

The plant in Sarrebourg, France is ISO (International Organization for Standardization) 14001 - Environmental management system certified.

OHSAS 18001

The plant in Sarrebourg, France OHSAS 18001 (Occupational Health and Safety Assessment Series) management system certified.

[1] Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute.

[2] Indoor Advantage™ and Indoor Advantage™ Gold are trademarks of Scientific Certification Systems.

LEED 2009

LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. B-Free big cube may contribute to a project's pursuit of LEED certification across the three rating systems:

- LEED-ID+C - Interior Design & Construction 2009 (formerly LEED-CI)
- LEED-BD+C - Building Design & Construction 2009 (formerly LEED-NC, LEED-Core & Shell & LEED-Schools)
- LEED-O+M - Operations & Maintenance (formerly LEED-EB)

CREDITS	RATING SYSTEM			POTENTIAL CONTRIBUTION*
	ID+C	BD+C	O+M	
Materials & Resources				
Recycled content	MRc4	MRc4 Healthcare: MRc5 Option 3	MRc2.2: Sustainable purchasing-Furniture	B-Free big cube contributes to the project recycled content criteria: post-consumer (0%) + ½ pre-consumer (2%) = 1%.
Materials reuse	MRc3.2	MRc3 Healthcare: MRc5 Option 3		If chosen for reuse, this product can contribute to the 30% valuation of the furniture & furnishings budget
Regional materials	MRc5	MRc5 Healthcare: MRc5 Option 3		B-Free big cube is assembled in Sarrebourg, France for EMEA orders. Projects < 500 miles from this location qualify.
Indoor Enviromental Quality				
Low emitting materials	EQc4.5	Healthcare: MRc5 Option 2	N/A	B-Free big cube is SCS Indoor Advantage™ Gold (depending on options) certified for indoor air quality in EMEA.

*For potential contribution: These are the probable contributions; exact contributions will be dependent on the LEED rating system and the specific product.

**For LEED BD+C: New construction, these standards do not currently apply to furniture in the IEQ credit; however, the USGBC has allowed equivalent credit for furniture / furnishings when submitted as an Innovation in Design credit.

LEED V4

LEED is a rating system that drives integrated design thinking as it relates to various aspects of green buildings.
B-Free big cube can contribute to a project's pursuit of LEED Certification across the three rating systems:

- LEED-ID+C - Interior Design & Construction
- LEED-BD+C - Building Design & Construction
- LEED-O+M - Operations & Maintenance

CREDITS	RATING SYSTEM			POTENTIAL CONTRIBUTION*
	ID+C	BD+C	O+M	
Materials & Resources				
Interior life cycle impact reduction	MRc2 Option 2: Furniture Reuse	N/A	Purchasing-facility maintenance & renovation (MRc5) - Option 2: Furniture	Steelcase products are designed to be long lasting and durable-- often making reuse a feasible option, depending on project needs and desirability.
Interior life cycle impact reduction	MRc2 Option 3: Design for flexibility	N/A		B-Free big cube is designed to be adaptable for design needs today and in the future-- and can easily be changed to remain on pace with evolving business needs.
Environmental Product Declarations	MRc3 Option 1: Environmental Product Declaration	MRc2 Option 1: Healthcare	N/A	A life cycle assessment has been performed on B-Free big cube, the results of which are published through a Type III Environmental Product Declaration (available for viewing).
Material ingredients	MRc5 Option 1: Material Ingredient Reporting	MRc4 Option 1: Material Ingredient Reporting Healthcare-Medical Furniture & Furnishings (MRc7) Option 3: Multi-attribute assessment	Purchasing-facility maintenance & renovation (MRc5) - Option 2: Furniture	B-Free big cube is Cradle to Cradle Certified™ Bronze, which contributes to this credit.
Indoor Enviromental Quality				
Low emitting materials	EQc2	EQc2 Healthcare-Medical Furniture & Furnishings (MRc7) Option 1: testing and modeling of chemical content	Purchasing-facility maintenance & renovation (MRc5) - Option 2: Furniture	B-Free big cube is SCS Indoor Advantage™ Gold certified for indoor air quality in EMEA.

*For potential contribution: These are the probable contributions; exact contributions will be dependent on the LEED rating system and the specific product.

Other Potential LEED V4 Contributions

CREDITS	RATING SYSTEM			POTENTIAL CONTRIBUTION*
	ID+C	BD+C	O+M	
Construction & Demolition Waste Planning & Management				
Planning	MR p2	MR p2	N/A	Steelcase uses several innovative packaging initiatives to minimize our waste impact (see transport section). These efforts may help to contribute, in part, towards achieving this prerequisite or credit.
Management	MRc6	MRc5	N/A	
		Healthcare: MRc9		

*For potential contribution: These are the probable contributions; exact contributions will be dependent on the LEED rating system and the specific product.

Refer to www.usgbc.org for LEED Program details.

Steelcase sustainability related actions and results are communicated annually in the **Corporate Sustainability Report.**

Steelcase®

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