Product pictured is not the exact style of the product studied in this document.

FrameFour Desk

Product Environmental Profile is an environmental declaration according to the objectives of ISO 14021. Precise, accurate, verifiable and relevant information on sustainability attributes of FrameFour Desk.

FrameFour makes transitions practically seamless, providing a consistent ecosystem of spaces that support resident, nomadic, meeting workstyles throughout the work environment. This new family of products sharing a common leg design encompasses 4-leg desks in various heights, a 4-leg bench, a series of 4-leg meeting tables in different sizes and a storage leg.

The model chosen for analysis from the FrameFour range is reference # N411012700. Standard features for FrameFour include:

- 1600 x 800 mm top size
- 740 mm height
- Facility manager sliding top function
- Cable brackets

Environmental Overview

Final Assembly Location

Final assembly of FrameFour Desk is in Rosenheim, Germany by Steelcase for the EMEA (Europe, Middle East, and Africa) markets.

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 FrameFour Desk, Steelcase is performing a Life-Cycle Assessment (ISO 14040-44), the results of which will be disclosed in an Environmental Product Declaration (EPD – ISO 14025).

Materials ⊙

Materials Composition
A break down of the basic materials in FrameFour Desk.

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
FrameFour Desk contains 48.3% recycled materials, by weight (26.7% pre-consumer + 21.6% post-consumer).

At the end of its useful life, FrameFour Desk is 96.9% recyclable by weight*.

Certifications and Labels ⊙
The environmental and social performance of FrameFour Desk is communicated through the following voluntary labels/certifications:

• PEFC™

• SCS Indoor Advantage™ Gold

• Blauer Engel RAL-UZ 38

Other targeted labels and certificates:

• Environmental Product Declaration (EPD)

• NF Environnement

• NF OEC

• Cradle to Cradle Certified™

LEED Contribution ⊙
FrameFour Desk may contribute in the following areas:

• Recycled content

• Materials reuse

• Regional materials

• Low-emitting materials

• Interiors life-cycle impact reduction

• Building product disclosure and optimization - material ingredients

• Daylight and views

• Building product disclosure and optimization - sourcing of raw materials

• Quality Views

• Construction & Demolition Waste Planning & Management

*In locations where recycling is available. Steelcase offers services to assist customers with end-of-use options including resale, refurbishment, charitable donation, and recycling.

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.

- **FrameFour Desk contains 48.3% recycled materials,** by weight (26.7% pre-consumer + 21.6% post-consumer).
- **Materials chemistry assessment in progress for this product.**
- **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.
- **No additional adhesives between edge band and particle board** (seamless edge banding), depending on colours.

- **Low formaldehyde emissions** of wood-based components, according to ISO 16000 (<20 µg/m³).
- **Is made with wood** sourced from responsibly managed forests.
- **Packaged with 77.4% recycled cardboard.**
- **FrameFour Desk contains 0.0% new wood by weight.** FSC certified wood is available as a special for some product lines.

Production

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

- This plant is EMAS and ISO 14001 certified.

- **The coating systems** operate in accordance with the requirements of the **European VOC Directive.**

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.

- **Designed for a long product life,** with replaceable parts that are easy to change.
- Cleaning instructions available.
- 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.
- **97% recyclable by weight,** according to the current waste disposal schemes.
- **100% recyclable packaging.**
- **Designed for quick and easy disassembly of materials** - with no permanent assembly.
- **Primary plastic parts clearly labelled for easy sorting and effective recycling,** according to ISO 11469.

- **Disassembly and recycling directions available upon request,** for a representative configuration.
- **Steelcase offers a comprehensive asset management service for furniture that is no longer needed.** For more information, and to see if this service is available in your area, please contact Eco'Services at eco-services@steelcase.com.
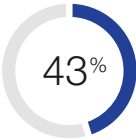
Materials

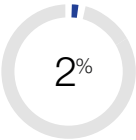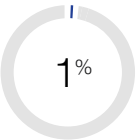FrameFour Desk materials composition is listed below*.
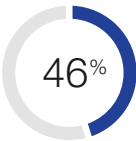
METALS

	kg	%
Steel	21.1	46.1

46%

WOOD BASED MATERIALS

	kg	%
Particle board	19.6	42.9
Melamine	0.2	0.4

43%

PLASTICS

	kg	%
Nylon 6 with glass beads (PA6-GB)	0.6	1.3
Polypropylene (PP)	0.3	0.7
Polyoxymethylene (POM)	<0.1	0.2
Polyamide 6 (PA6)	<0.1	<0.1%
Polyoxymethylene (POM)	<0.1	<0.1%
Polyamide 6 (PA6)	<0.1	<0.1%

2%

OTHER MATERIALS

	kg	%
Powder coating	0.4	0.9

1%
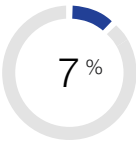
PACKAGING

	kg	%
Cardboard	3.0	6.4
Expanded polyethylene (EPE)	0.3	0.8
Low density polyethylene (LDPE)	<0.1	0.2

7%

TOTAL WEIGHT – incl. packaging   **45.8**

*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 have been evaluated or assessed for several human and environmental health criteria – all in an effort to understand and optimize the products throughout their life cycle.

At least 95% of the materials in this product have been assessed and rated against 24 human health and environmental criteria.

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.
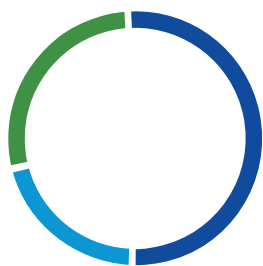
FRAMEFOUR DESK

	kg	%
Pre-consumer recycled content	11.3	26.7
Post-consumer recycled content	9.1	21.6
Total recycled content	**20.5**	**48.3**

- ■ 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.

97%
According to the available waste management infrastructures, we estimate that 97% is effectively recyclable.

*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 that 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.

Blauer Engel RAL-UZ 38

This product is Blauer Engel RAL-UZ 38 certified, according to environmental and consumer health requirements.

Cradle to Cradle Certified™

This product is targeted for Cradle to Cradle™ certification [2] which assesses and rates products for material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness.

NF Environnement

This product is targeted for NF Environnement certification, meaning it complies with 20 product lifecycle criteria.

NF Office Excellence Certifié

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

SCS Indoor Advantage™ Gold

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

ON THE MATERIALS

PEFC™

At least 90% 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

EMAS

The plant in Rosenheim, Germany is EMAS (European Eco-Management and Audit Scheme) certified.

ISO 14001

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

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

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

LEED V3 – 2009

LEED, or Leadership in Energy & Environmental Design, is a green building certification program that recognizes best-in-class building strategies and practices. FrameFour Desk 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	MRc2.2: Sustainable purchasing-Furniture	FrameFour Desk contributes to the project recycled content criteria: post-consumer (21.6)% + ½ pre-consumer (26.7)% = 35.0%.
		Healthcare: MRc5 Option 3		
Materials reuse	MRc3.2	Healthcare: MRc5 Option 3		If chosen for reuse, this product can contribute to the 30% valuation of the furniture & furnishings budget
Regional materials	MRc5	Healthcare: MRc5 Option 3		FrameFour Desk is assembled in Rosenheim, Germany for EMEA orders. Projects < 500 miles from this location qualify.
Indoor Enviromental Quality				
Low emitting materials	EQc4.5	Healthcare: MRc5 Option 2	N/A	FrameFour Desk is SCS Indoor Advantage™ Gold (depending on options) certified for indoor air quality in EMEA.
Daylight and views	EQc8.1 & 8.2	EQc8.1 & 8.2**	EQc2.4	Steelcase offers a range of products and application thought starters to assist customers in achieving these credits.

*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. FrameFour Desk 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				
Interiors life-cycle impact reduction	Option 2: Furniture Reuse	N/A	Purchasing - facility maintenance and renovation 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.
Interiors life-cycle impact reduction	Option 3: Design for flexibility	N/A		FrameFour Desk 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.
Building product disclosure and optimization - sourcing of raw materials	Option 2: Leadership extraction practices	Option 2: Leadership extraction practices Healthcare - Medical furniture & furnishings Option 3: Multi-attribute assessment		Extended Producer Responsibility - Steelcase offers different end of use / end of life programs for different markets, to reuse, resell, refurbish, donate, or recycle the mix of existing assets – all in an effort to divert materials from the landfill (See notes below). Bio-based materials - Steelcase offers select textile and surface material options that may contribute to this credit. Wood products - Steelcase offers FSC™ certified wood as an option on select products, which contributes to this option. Materials Reuse - If chosen for reuse, this product can contribute. Recycled content - (21.6%) post-consumer + ½ pre-consumer (26.7%) = 35.0%.
Building product disclosure and optimization - environmental product declarations	Option 1: Environmental Product Declaration	Furniture and medical furnishings Option 3: Multi-attribute assessment of products Option 1: Environmental Product Declaration	N/A	A life cycle assessment is being performed on FrameFour Desk, the results of which will be published through a Type III Environmental Product Declaration (available for viewing).
Building product disclosure and optimization - material ingredients	Option 1: Material Ingredient Reporting	Option 1: Material Ingredient Reporting Furniture and medical furnishings Option 1: Minimal chemical content	Purchasing - facility maintenance and renovation Option 2: Furniture	FrameFour Desk is targeted for Cradle to Cradle™ certification which contributes to this credit.
Construction & Demolition Waste Planning & Management	Required	Required	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.

*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	
Indoor Enviromental Quality				
Low emitting materials	Option 1: Product Category Calculations or Option 2: Budget Calculation Method	Required Option 1: Product Category Calculations or Option 2: Budget Calculation Method Furniture and medical furnishings Option 2: testing and modeling of chemical content	Purchasing - facility maintenance and renovation Option 2: Furniture	FrameFour Desk is SCS Indoor Advantage™ Gold certified for indoor air quality in EMEA.
Quality Views	Credit	Credit	Daylight and quality views Option 2: Quality views	Steelcase offers a range of products and application thought starters, though several other factors play into achieving this credit, beyond the scope of furniture.

*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.** ⊙

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