

# BISLEY

## ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025



## Storage Units | TOWER

The environmental impacts of this product have been assessed from cradle to grave. This Environmental Product Declaration has been verified by an independent third party.

An EPD should provide current information, and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com).

**Declaration Number: S-P-01614**

Issued on: 2019-10-16

Valid until: 2024-08-28

Programme Operator: EPD International AB

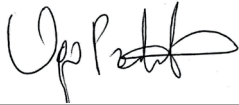



THE INTERNATIONAL EPD® SYSTEM

# INTRODUCTION

This EPD provides environmental performance indicators for storage furniture manufactured by FC Brown under the brand name “Bisley”. This is a cradle-to-grave EPD, based on a life cycle assessment (LCA) study which used production data for 2018 from Bisley’s manufacturing facilities in Newport, Wales, UK. Background data were taken from the ecoinvent database (v3.4).

The EPD presents details of the LCA, a description of the product life cycle it covers, values for relevant environmental indicators and a brief explanation of those results.

Tower storage units EPD	
EPD programme	<b>The International EPD® System</b>
EPD programme operator	<b>EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden</b> <b>info@environdec.com   www.environdec.com</b>
EPD owner	<b>Bisley, Caswell Way, Reevesland Industrial Estate, Newport, Gwent</b> <b>NP19 4PW, UK   www.bisley.com</b>
Product codes	<b>BTW2ZRFS, BTW3BR2S, BTW3BRLS, BTW4BR4S, BTW21ZR</b>
CPC code	<b>CPC 3812 under the UN CPC classification system v2.1</b>
Declared unit	<b>1 item of storage furniture in use for 15 years</b>
System boundaries	<b>Cradle to grave</b>
Reference year for data	<b>2018</b>
Declaration no.	<b>S-P-01614</b>
Date of publication/valid until	<b>Issued on 2019-10-16 / valid until 2024-08-28</b>
Procedure for data follow-up during EPD validity	<b>Involves third party Verifier:</b> <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
EPD geographical scope	<b>Worldwide</b>
EPD based on Product Category Rules (PCR)	<b>PCR Furniture, except Seats and Mattresses - 2012:19, V2.0</b> <b>(valid 2019-06-17 to 2023-06-17)</b> <b>Product Category Classification: UN CPC 3812/3813/3814</b>
PCR review conducted by	<b>The Technical Committee of the International EPD® System Chair:</b> <b>Mr Filippo Sessa, Quantis; contact via info@environdec.com</b>
Verification	<b>Independent verification of this EPD and data, according to ISO 14025/2006:</b> <input type="checkbox"/> internal certification <input checked="" type="checkbox"/> external verification
Third party Verifier	<b>Ugo Pretato,</b> <b>Studio Fieschi &amp; Soci S.r.l., Italy:</b> 
Approved by	<b>The International EPD® System Technical Committee,</b> <b>supported by the Secretariat</b>
LCA conducted by	<b>EuGeos Limited, UK - +44 (0)1625 434423</b> <b>www.eugeos.co.uk</b> 

The EPD owner has the sole ownership, liability and responsibility of the EPD. EPDs within the same product category but from different programmes may not be comparable.

## COMPANY PROFILE

Since launching the iconic MultiDrawer in 1958, Bisley has pioneered innovative storage that meets the challenges of the time and stays relevant, decade after decade. When it comes to creating working environments, Bisley is the name people in over 50 countries turn to for quality they can trust.

Bisley produces 15,000 items each week from its factory in Wales and makes over 4000 world-wide deliveries every month via its 10 international offices. Through continued production investment and acquisition, Bisley can combine the strength and durability of steel with the pleasing aesthetic qualities of wood to provide a unique choice of solutions for an extensive range of markets.

Bisley products maximise workspaces by providing intelligent and often bespoke storage solutions which create organised environments. Whether that means furniture for focused and individual working or adaptable pieces for collaborative spaces, meeting rooms or break-out areas, the extensive portfolio helps people across the world be comfortable and effective, wherever they are working.

The product is manufactured at Bisley's facility in Newport, Gwent, Wales.

### **Contact:**

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## PRODUCT INFORMATION

This EPD applies to Bisley tower units. Towers provide pull-out space for filing and personal items; flexible storage that can be positioned under or next to desks, keeping workstation completely clutter free.

Bisley tower units are classified CPC 3812 under the UN CPC classification system v2.1.

FIGURE 1. TOWER UNIT

*In this EPD, environmental performance is declared for the smallest, a medium-sized and the largest towers, without optional accessories.*



TOWER UNITS			
	SMALLEST UNIT	MEDIUM UNIT	LARGEST UNIT
CODE	BTW2ZRFS	BTW3BR2S	BTW4BR4S
UNIT CONFIGURATION	1 shelf	1 shelf with vertical support	4 shelves

### ■ Manufacturing

Steel in sheet or coil form is cut to size, and formed using standard steelworking techniques of bending, pressing, stamping, welding to produce the main parts of Bisley products. These are coated with polymer-based, solvent-free epoxy-polyester powder coatings. Main parts are combined, and small parts (for example handles, locks, adjustable feet) purchased from external suppliers added, in final product assembly. Products are then packed prior to despatch.

## ■ Packaging

Each unit is wrapped in plastic film for protection, with cardboard reinforcement at key points (e.g. corners); this packaging remains in place until the product reaches the point of use. Packed products are palletised for transport to customers.

## ■ Transportation

Bisley products are sent to Bisley's own distribution subsidiaries, or directly to large customers and major projects, by road or by road and sea.

## ■ Product Use and Maintenance

All Bisley products carry a 10-year warranty. They require no energy or water inputs to function. Bisley guidance to customers is that products should be cleaned periodically with mild detergent and warm water.

## ■ End-of-life

When the user has no further use for Bisley office furniture products, they may be reused by others, recycled or disposed of as non-hazardous waste. Reuse is recommended, but if no route for reuse is available, the product - which is more than 99% steel - should be recycled with other ferrous-metal goods

## ■ Further Product Information

Detailed product information and datasheets can be found on our website [www.bisley.com](http://www.bisley.com) or by contacting Customer Service by calling 01633 637383 or emailing [info@bisley.com](mailto:info@bisley.com).

## CONTENT DECLARATION

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The material composition of Bisley's storage towers covered by this EPD is shown below:

MATERIAL	% OF MASS PER FUNCTIONAL UNIT
steel	>99
epoxy - polyester resin	<0.1
other metals: aluminium, nickel, zinc	<0.3
other polymers	<0.2

Steel used by Bisley has a recycled content typical of European steel production, quoted as 56% by steel suppliers in 2018. This is assumed to be 32% pre-consumer, 24% post-consumer scrap based on the information in the background LCA database.

Products are shrink-wrapped in plastic film to protect them until they reach the user; cardboard reinforcement is used on the corners of units and other areas particularly susceptible to damage. Cardboard is assumed to have a recycled content of approx. 75% based on the information in the background LCA database. Distribution packaging varies according to the destination, but products are always distributed on wooden pallets; approximately 20% of all pallets used by Bisley in 2018 had been used at least once before.

No substance included in the Candidate List of Substances of Very High Concern for authorisation under the REACH Regulations is present in the furniture, either above the threshold for registration with the European Chemicals Agency or above 0.1% (wt/wt).

## TECHNICAL DATA

Bisley towers are intended for personal storage in flexible working environments.

Key technical properties and certifications are shown in the table below; consult the relevant product Technical Data Sheet for a comprehensive specification.

TECHNICAL PROPERTIES (TESTS)	ALL SIZES	
	VALUE	UNIT
BS EN 14073-2:2004 Office furniture. Storage furniture. Safety requirements	Pass	N/A
BS EN 14073-3:2004 Office furniture. Storage furniture. Test methods for the determination of stability and strength of the structure	Pass	N/A
BS EN 14074:2004 Office furniture. Tables and desks and storage furniture. Test methods for the determination of strength and durability of moving parts	Pass	N/A
ANSI/BIFMA M7.1/ X7.1-2011(R2016) Test method / acceptance criteria for VOC emissions from furniture used in offices to be classified as low-emitting product	Pass	N/A
Volatile organic chemical emission testing method for California Department of Public Health specification 01350	Pass	N/A

PHYSICAL DATA				
	TOWER UNITS			
	UNIT	SMALLEST UNIT	MEDIUM UNIT	LARGEST UNIT
Dimensions (height, length, depth)	mm	698 x 420 x 800	1118 x 450 x 800	1300 x 450 x 800
Volume	m <sup>3</sup>	0.23	0.40	0.47
Mass (approx.)	kg	44	60	70
Storage units according to BIFMA storage PCR (1 unit = 0.15m <sup>3</sup> )	number	1.56	2.68	3.12

### Residual Risks and Emergencies

There are no residual risks associated with the normal day-to-day use of Bisley's storage furniture. Care must be taken to follow the guidance for safe use in the product information documents for Bisley's tower units available from [www.bisley.com/resources/product-information/](http://www.bisley.com/resources/product-information/).

# ENVIRONMENTAL PERFORMANCE RELATED INFORMATION

## LCA INFORMATION

This section of the EPD records key features of the LCA on which it is based.

### Scope

This cradle-to-grave EPD is applicable globally; end-of-life scenarios are based on European statistics for waste management. For the presentation of results, and reflecting the different sources of data used, the life cycle of products is divided into three different stages:

- Upstream processes (from cradle-to-gate)
- Core processes (from gate-to-gate)
- Downstream processes (from gate-to-grave)

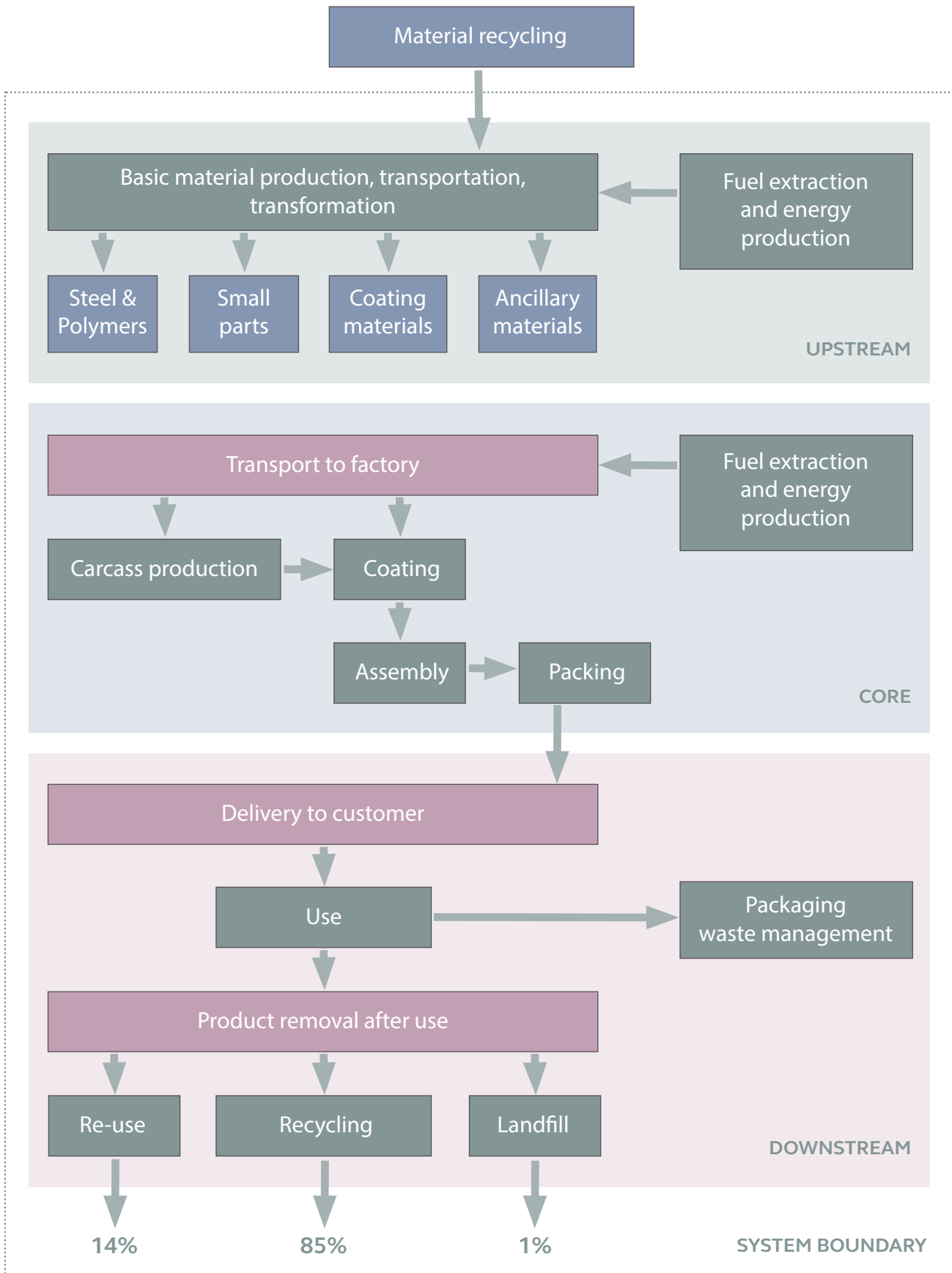
### System Boundaries

The system boundary of the EPD is defined using a modular approach reflecting the three life-cycle stages. Storage furniture is used in buildings, therefore the equivalence of the modules covered by this EPD to the modules defined in EN 15804 is also presented (see table below).

Those modules included in the LCA are denoted by v; those not declared by ND: those not relevant by NR.

UPSTREAM PROCESSES						CORE PROCESSES					DOWNSTREAM PROCESSES			
Raw material extraction & production	Transport	Manufacturing (main parts)	Electricity and fuel use	Manufacturing (auxiliary products, packaging)	Waste treatment	Transport	Manufacturing/Assembly	Maintenance (equipment)	Waste treatment	Electricity and fuel use	Distribution transport	Use	Product end-of-life	Packaging end-of-life
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
EN 15804 MODULES														
A1	A1	A1	A1 A3	A1	A1	A2	A3	A3	A3	A3	A4	B1 v B2 v B4 v B3 NR B5-B7 NR	C1- C4	A5

The product life cycle covered by this EPD is illustrated below.



**PRODUCT LIFE CYCLE (CRADLE-TO-GRAVE)**



## ■ Functional Unit

The functional unit is 1 item of storage furniture in use for 15 years. Bisley products carry a 10-year warranty; this is the minimum service life that can be expected. In this LCA, the default product lifetime specified in the PCR - 15 years - is applied. One product unit therefore provides the functional unit.

## ■ Cut-off Criteria

The collected data covered all raw materials, consumables and packaging materials; associated transport to the manufacturing site; process energy and water use; direct production wastes; emissions to air and water.

According to the PCR, flows can be omitted (cut off) from a core process in the LCA up to a maximum of 1% of the total mass of material inputs or 1% of the total energy content of fuels and energy carriers; small components such as plastic washers, small screws and adjustable feet amounting, in combination, to <1% of total input materials were omitted from the LCA underpinning this EPD. This is consistent with requirements of the PCR and General Programme Instructions.

## ■ Data Sources and Data Quality

Data characterising the core processes (cabinet manufacture, coating, assembly and packing) were collected for the calendar year 2018. Therefore the producer-specific data used in LCA calculations are based on 1 year averaged data, which matches the requirement of EN 15804. The data have been updated within the last 5 years. These data were checked to ensure that sufficient materials and water are included within the inputs to account for all products, wastes and emissions.

### BACKGROUND DATA:

Background (generic) data were taken from the ecoinvent database (v3.4); thus generic data used in the LCA have been updated within the last 10 years.

Data quality has been reviewed for processes that contribute significantly to the overall LCA. Other data were judged fit for purpose. No environmental impact potential stemming from proxy data exceeds 10% for any impact category.

Bisley purchase electricity on a low-carbon tariff; the fuel mix notified by the supplier was used to model electricity supply to the Newport factory.

## ■ Allocation

In the background data, the ecoinvent default allocation is applied to all processes except those in which secondary materials are used, where the “cut-off” allocation is applied. This ensures that secondary materials are free of upstream burdens that arise prior to their reaching the “end of waste” state; this is in accordance with the PCR and also Section 6.3.4.2 of EN 15804.

Following ISO 14044, the overall process is subdivided as far as possible, so that flows dedicated to a particular product type are fully assigned to that product type and the need for allocation is minimised. Utility, packaging and ancillary material inputs to the production facility have been allocated across all products manufactured at the facility, including those not covered by this EPD.

## ■ Assumptions and Estimates

Inputs to and outputs from the system are accounted for over a 100-year time period; long-term emissions are therefore omitted from the impact assessment part of the LCA.

The “primary energy used as material” indicators (PERM; PENRM) are calculated using - as characterisation factors - published values for constituent materials which can yield energy on combustion, where available, and from published calorific values where PEM values are not available. Calculations of PE(N)RM are based on a feedstock energy content of 27MJ/kg for pvc (where present), 52MJ/kg for other polymers, 43MJ/kg for coating materials, 16MJ/kg for wood and 14MJ/kg for cardboard.

“Primary energy as fuel” indicators (PENRE, PERE) are calculated as the total primary energy demand minus primary energy used as material.

The secondary material indicator counts scrap steel, recycled polymer and other recycled material inputs to the product and its constituent components, re-used wooden packaging and recycled paper/board inputs to packaging manufacture.

**SCENARIOS:**

Transport to the customer, product maintenance, transport to waste management of packaging and product at end-of-life, and management of end-of-life product and waste packaging are characterised using scenarios.

Under normal use conditions, no replacement parts or maintenance are required during the warranty period of 10 years. Product maintenance, which comprises cleaning according to the manufacturer’s instructions, is assumed to consume 1l water and 5g detergent per year. No other inputs or outputs are required for use of the product. The default product lifetime specified in the PCR is applied, so that one product fulfils the functional unit.

The effective mass per unit volume of the product is obtained by dividing the reported mass by volume, applying the values in the “Technical Data” section above. Other relevant parameters for transport are shown in the table below:

<b>SCENARIO PARAMETERS, TRANSPORT</b>		
<b>PARAMETER AND UNIT</b>	<b>VALUE &amp; UNIT</b>	
	<b>TO CUSTOMER</b>	<b>TO END-OF-LIFE MANAGEMENT</b>
Fuel type and consumption	<b>road: diesel - 0.2l/km sea: fuel oil - 2.5 g/tkm</b>	<b>diesel: 0.2 l/km</b>
Distance	<b>road: 560 sea: 890</b>	<b>road: 50</b>
Capacity utilisation (including empty returns) %	<b>58</b>	<b>28</b>
Volume capacity utilisation factor	<b>1</b>	<b>1</b>

The proportions of each waste management method assumed for packaging materials and for products (cabinets) are shown in the table below, based on data for Bisley’s major European markets (source: eurostat).

<b>MATERIAL/PRODUCT</b>	<b>PERCENTAGE TO:</b>			
	<b>RE-USE</b>	<b>RECYCLING</b>	<b>INCINERATION WITH ENERGY RECOVERY</b>	<b>LANDFILL</b>
Cardboard packaging	<b>0</b>	<b>85</b>	<b>9</b>	<b>6</b>
Plastic packaging	<b>0</b>	<b>42</b>	<b>34</b>	<b>24</b>
Wood (pallets)	<b>0</b>	<b>47</b>	<b>27</b>	<b>26</b>
Cabinet	<b>14</b>	<b>85</b>	<b>0</b>	<b>1</b>

## ENVIRONMENTAL INDICATORS AND INTERPRETATION

This EPD contains environmental information about the specified products, in the form of quantitative indicator values for a number of parameters, which encompass calculated environmental impact potentials, resource and energy use, and waste generation.

The parameters are listed below along with the abbreviations used for them in the tables of indicator values that follow.

PARAMETER	ABBREVIATION	UNITS
<b>ENVIRONMENTAL IMPACTS</b>		
Climate change - GWP100 (fossil, biogenic, land use and transformation)	GWP	kg CO <sub>2</sub> eq
Acidification potential - fate excluded	AP (fx)	kg SO <sub>2</sub> eq
Eutrophication - generic	EP	kg PO <sub>4</sub> <sup>3-</sup> eq
Photochemical oxidant creation potential	POCP	Kg NMVOC eq
Depletion of abiotic resources - elements, ultimate reserves	ADPE	Kg Sb eq
Depletion of abiotic resources - fossil fuels	ADPFF	MJ
Water scarcity potential	WSP	m <sup>3</sup> eq

<b>RESOURCE USE</b>		
Renewable primary energy as energy carrier	PERE	MJ
Renewable primary energy resources as material utilisation	PERM	MJ
<b>Total renewable primary energy use (sum of the two parameters above)</b>	PERT	MJ
Non-renewable primary energy as energy carrier	PENRE	MJ
Non-renewable primary energy resources as material utilisation	PENRM	MJ
<b>Total non-renewable primary energy use (sum of the two parameters above)</b>	PENRT	MJ
Use of secondary material	SM	kg
Use of renewable secondary fuels	RSF	MJ
Use of non-renewable secondary fuels	NRSF	MJ
Net use of fresh water	FW	m <sup>3</sup>

PARAMETER	ABBREVIATION	UNITS
<b>WASTES</b>		
Hazardous waste disposed	HWD	kg
Non-hazardous waste disposed	NHWD	kg
Radioactive waste disposed	TRWD	kg

<b>OUTPUT FLOWS</b>		
Components for re-use	CFR	kg
Materials for recycling	MFR	kg
Materials for energy recovery	MER	kg
Exported energy - electricity	EEE	MJ
Exported energy - thermal	EET	MJ

<b>OTHER ENVIRONMENTAL INDICATORS</b>		
Human toxicity - cancer impacts	HTC	cases
Human toxicity - non-cancer impacts	HTNC	cases
Fresh water ecotoxicity	FWE	kgPAF.m3.day
Land use	LU	species.yr
Acidification potential, fate included - average Europe*	AP	kg SO <sub>2</sub> eq
Ozone layer depletion - ODP steady state*	ODP	kg CFC-11 eq

\* Additional indicator specified by EN15804, for information

**Tower Units:**

Environmental indicator results are shown in the 5 following tables for the declared unit of 1 item of storage furniture in use for 15 years.

TOWER UNITS													
ENVIRONMENTAL IMPACT	UNIT	SMALLEST UNIT				MEDIUM UNIT				LARGEST UNIT			
		UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL
GWP	fossil	1.18E+02	1.15E+01	7.44E+00	1.37E+02	1.59E+02	1.26E+01	1.00E+01	1.81E+02	1.81E+02	1.32E+01	1.14E+01	2.06E+02
		3.69E+00	1.78E-01	1.54E+00	5.42E+00	4.53E+00	2.12E-01	1.56E+00	6.30E+00	4.99E+00	2.32E-01	1.56E+00	6.79E+00
	1.61E-01	3.09E-03	4.26E-02	2.07E-01	2.17E-01	3.98E-03	4.32E-02	2.65E-01	2.49E-01	4.48E-03	4.36E-02	2.97E-01	
	1.22E+02	1.16E+01	9.03E+00	1.43E+02	1.63E+02	1.28E+01	1.16E+01	1.88E+02	1.86E+02	1.35E+01	1.31E+01	2.13E+02	
AP(fx)		kg SO <sub>2</sub> eq		1.71E-01	8.79E-03	4.61E-03	1.84E-01	2.33E-01	1.21E-02	6.01E-03	2.51E-01	2.88E-01	
EP		kg PO <sub>4</sub> <sup>3-</sup> eq		6.56E-02	4.08E-03	3.50E-03	7.32E-02	8.51E-02	5.02E-03	4.39E-03	9.45E-02	1.06E-01	
POCP		Kg NMVOC eq		5.15E-01	2.31E-02	1.96E-02	5.57E-01	6.97E-01	2.93E-02	2.64E-02	7.53E-01	8.62E-01	
ADPE		Kg Sb eq		9.50E-04	2.12E-05	5.06E-05	1.02E-03	1.07E-03	2.77E-05	6.85E-05	1.17E-03	1.25E-03	
ADPIFF		MJ		1.71E+03	1.94E+02	8.19E+01	1.98E+03	2.29E+03	2.10E+02	1.11E+02	2.61E+03	2.96E+03	
WSP		m <sup>3</sup> eq		6.89E+01	3.46E+00	2.74E+00	7.51E+01	9.46E+01	3.76E+00	2.99E+00	1.01E+02	1.16E+02	

TOWER UNITS													
RESOURCE USE	UNIT	SMALLEST UNIT				MEDIUM UNIT				LARGEST UNIT			
		UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL
PERE	MJ	9.76E+01	3.44E+00	5.73E+00	1.07E+02	1.30E+02	4.52E+00	6.18E+00	1.40E+02	1.47E+02	5.12E+00	6.43E+00	1.59E+02
PERM	MJ	1.50E+01	0.00E+00	0.00E+00	1.50E+01	1.50E+01	0.00E+00	0.00E+00	1.50E+01	1.50E+01	0.00E+00	0.00E+00	1.50E+01
PERT	MJ	1.13E+02	3.44E+00	5.73E+00	1.22E+02	1.45E+02	4.52E+00	6.18E+00	1.55E+02	1.62E+02	5.12E+00	6.43E+00	1.74E+02
PENRE	MJ	1.88E+03	4.44E+02	8.44E+01	2.41E+03	2.53E+03	4.64E+02	1.14E+02	3.11E+03	2.90E+03	4.75E+02	1.30E+02	3.50E+03
PENRM	MJ	1.81E+01	0.00E+00	0.00E+00	1.81E+01	1.83E+01	0.00E+00	0.00E+00	1.83E+01	1.84E+01	0.00E+00	0.00E+00	1.84E+01
PENRT	MJ	1.90E+03	4.44E+02	8.44E+01	2.43E+03	2.55E+03	4.64E+02	1.14E+02	3.13E+03	2.91E+03	4.75E+02	1.30E+02	3.52E+03
SM	kg	3.11E+01	5.76E-01	0.00E+00	3.17E+01	4.29E+01	5.76E-01	0.00E+00	4.34E+01	4.94E+01	5.76E-01	0.00E+00	5.00E+01
RSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW	m3	1.62E+00	9.05E-02	7.32E-02	1.78E+00	2.22E+00	9.74E-02	7.90E-02	2.39E+00	2.55E+00	1.01E-01	8.22E-02	2.74E+00

TOWER UNITS													
WASTES	UNIT	SMALLEST UNIT				MEDIUM UNIT				LARGEST UNIT			
		UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL
HWD	kg	1.94E+01	2.85E-03	2.60E-03	1.99E-01	2.20E-01	3.70E-03	3.52E-03	2.27E-01	2.34E-01	4.18E-03	4.03E-03	2.42E-01
NHWD	kg	9.46E+00	1.31E+00	5.77E+00	1.65E+01	1.23E+01	1.73E+00	7.47E+00	2.15E+01	1.40E+01	1.96E+00	8.43E+00	2.43E+01
TRWD	kg	4.21E-03	3.52E-03	5.40E-04	8.28E-03	5.74E-03	3.64E-03	7.40E-04	1.01E-02	6.59E-03	3.71E-03	8.60E-04	1.12E-02

TOWER UNITS													
OUTPUT FLOWS	UNIT	SMALLEST UNIT				MEDIUM UNIT				LARGEST UNIT			
		UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL
CFR	kg	0.00E+00	0.00E+00	6.12E+00	6.12E+00	0.00E+00	0.00E+00	8.44E+00	8.44E+00	0.00E+00	0.00E+00	9.73E+00	9.73E+00
MFR	kg	8.27E-02	2.40E-03	3.75E+01	3.76E+01	8.39E-02	2.42E-03	5.16E+01	5.17E+01	8.46E-02	2.43E-03	5.94E+01	5.95E+01
MER	kg	6.77E-11	2.00E-12	3.54E-09	3.61E-09	7.47E-11	2.43E-12	3.54E-09	3.61E-09	7.86E-11	2.67E-12	3.54E-09	3.62E-09
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOWER UNITS													
OTHER ENVIRONMENTAL INDICATORS	UNIT	SMALLEST UNIT				MEDIUM UNIT				LARGEST UNIT			
		UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL	UP PROCESSES	CORE PROCESSES	DOWN PROCESSES	TOTAL
HTC	cases	9.06E+05	4.04E-07	1.09E-06	9.21E-05	1.20E-04	5.07E-07	1.49E-06	1.30E-04	1.40E-04	5.64E-07	1.71E-06	1.40E-04
HTNC	cases	9.31E-05	1.28E-06	1.46E-06	9.59E-05	1.30E-04	1.51E-06	1.93E-06	1.30E-04	1.40E-04	1.63E-06	2.19E-06	1.50E-04
FWE	kgPAF. m3.day	8.38E+05	2.97E+04	1.01E+04	8.78E+05	1.08E+06	3.41E+04	1.30E+04	1.12E+06	1.21E+06	3.65E+04	1.46E+04	1.26E+06
LU	species.yr	2.76E-08	1.33E-09	3.50E-09	3.24E-08	3.45E-08	1.82E-09	4.18E-09	4.05E-08	3.84E-08	2.09E-09	4.56E-09	4.51E-08
AP	kg SO <sub>2</sub> eq	5.19E-01	2.01E-02	2.25E-02	5.62E-01	6.95E-01	2.54E-02	3.03E-02	7.51E-01	7.93E-01	2.83E-02	3.46E-02	8.56E-01
ODP	kg CFC-11 eq	7.84E-06	3.31E-06	9.42E-07	1.21E-05	1.06E-05	3.48E-06	1.29E-06	1.54E-05	1.22E-05	3.57E-06	1.48E-06	1.73E-05



## ■ Interpretation

Steel accounts for more than 99% of the mass of the product. Steel production accounts for the largest fraction of the total indicator value across the life cycle for most environmental categories covered. Small components, such as locks, are important for the resource depletion category - relative to the proportion of the product's mass they represent - because they contain more specialised, scarcer materials than the main body of the product.

Indicator values obtained for human toxicity, ecotoxicity, land use, ODP and water scarcity should be used with caution; all are subject to uncertainties in data or method which limit the scope for their use as the basis for comparisons.

## ADDITIONAL ENVIRONMENTAL INFORMATION

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At Bisley, we take our impact on the environment very seriously. In 2015, The Furniture Makers' Guild awarded Bisley with the prestigious Manufacturing Guild Mark, which observes excellence in sustainability and production. We are members of the Furniture Industry Sustainability Program (FISP), Confederation of British Metal Formers (CBM) and the British Contract Furniture Association (BCFA).

We strive to ensure that the company adheres to and exceeds all environmental regulation, continuously evaluating the impact of our product and processes, in addition to guaranteeing that the physical products are safe and worthy of use. We favour steel as it is highly recyclable, durable and maintains its quality through the recycling process.

All our products are precision engineered and built to last at our facility in Newport which is certified to ISO 9001, ISO 14001 and ISO 45001. When our products come to the end of their natural lifespan, we make sure that they are able to be recycled into other timber and metal based products.

## REFERENCES

ecoinvent database (v3.4) - [www.ecoinvent.ch](http://www.ecoinvent.ch)

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General Program Instructions, Version 3.0, 2017-12-11 - The International EPD® System - EPD International AB

ISO 14001:2015 - Environmental management systems - Requirements with guidance for use

ISO 14025:2009-11: Environmental labels and declarations - Type III environmental declarations - Principles and procedures

PCR Furniture, except Seats and Mattresses (UN CPC 3812/3813/3814) 2012:19, Version 2.0 - 2019-06-17

Storage Furniture LCA Report - EuGeos Limited, May 2019



## GLOSSARY

The International EPD® System: a programme for Type III environmental declarations, maintaining a system to verify and register EPDs as well as keeping a library of EPDs and PCRs in accordance with ISO 14025. ([www.environdec.com](http://www.environdec.com))

Life cycle assessment (LCA): LCA studies the environmental aspects and quantifies the potential impacts (positive or negative) of a product (or service) throughout its entire life. ISO standards ISO 14040 and ISO 14044 set out conventions for conducting LCA.

REACH Regulation: REACH is the European Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals. It entered into force in 2007, replacing the former legislative framework for chemicals in the EU.