Environmental Product Declaration

In accordance with ISO 14025 for:

OVO Bench Collection

from

BENCHMARK

Programme:	The International EPD® System, www.environdec.com
Programme operator:	EPD International AB
EPD registration number:	S-P-01955
Publication date:	2020-06-09
Valid until:	2025-05-27

PROGRAMME INFORMATION

Programme:	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com

Product category rules (PCR): Seats - Product Group Classification: UN CPC 3811. 2009:02, version 2.1, valid until: 2020-05-03.
PCR review was conducted by: Leo Breedveld, 2B Srl, breedveld@to-be.it
Independent third-party verification of the declaration and data, according to ISO 14025:2006: ☐ EPD process certification ☒ EPD verification
Third party verifier: Dr. Hudai Kara, Metsims Sustainability Consulting [www.metsims.com] Approved by: The International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☒ Yes ☐ No

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

COMPANY INFORMATION

Benchmark are a powerhouse of craft, making beautiful, sustainable and healthy furniture from natural materials for commercial and residential markets. At the heart of our workshops lies a dedicated team of skilled and passionate craftspeople. With a strong kinship as our base, we focus on craft, materials and quality to ensure that we offer an honest and conscious furniture solution which will stand the test of time.

For the last 35 years we have collaborated with a variety of partners to drive our mission of sustainability forward and we constantly challenge ourselves to ensure that we are working towards an increased knowledge and awareness of global impact. With a transparent approach, we aim to be open with our sustainable journey, encouraging this mindset amongst others. Through our continued efforts to be at the forefront of the industry, we are looking to set an example in creating a sustainable option for consumers without any compromise on design and quality. We believe that through collaboration and a sharing of knowledge we can participate in a positive future for the furniture industry.

Benchmark Woodworking Ltd, Bath Road, Kintbury, Berkshire RG17 9SA, UK
+44 1488 658184 info@benchmarkfurniture.com benchmarkfurniture.com

PRODUCT INFORMATION

The boldness and simplicity of the OVO Collection demands perfection of our craft. Designed by Foster + Partners, the collection includes tables, storage and seating and is a celebration of traditional craftsmanship. It is made in our workshops in Kintbury, Berkshire in the United Kingdom.

This EPD declares the environmental performance of the OVO Bench Collection which includes timber and upholstered options in three sizes.

In this EPD, environmental performance is declared for the sizes/formats shown below, made in oak. The environmental performance of custom sizes and American Black Walnut can be provided on request.

OVO BENCH COLLECTION	
TIMBER	UPHOLSTERED
1155 x 365 x 430mm	1155 x 365 x 454mm
2200 x 365 x 430mm	2200 x 365 x 454mm
	2400 x 580 x 454mm

Materials

The OVO Bench Collection is made from solid timber in either FSC/PEFC European oak or American Black Walnut. The upholstered options have an organic sheep wool filling from the UK with Sorensen Dunes chrome free leather upholstery from Europe.

The OVO collection has Declare Red List Free Labelling meaning that it is free from toxic chemicals and meets the air quality standards for WELL certified buildings.

Manufacturing

The OVO collection combines 5-axis CNC machining with the highest level of craftsmanship to deliver incredibly tactile pieces with pillowed surfaces and gently bevelled edges that are a pleasure to use.

Packaging

Our furniture is blanket wrapped and unwrapped in situ with blankets taken away to be reused. For International Shipments, our crates are made from FSC birch plywood and we ensure wherever possible that the crates are returned for re-use. We are working towards having all our packaging created from recycled materials and are using biodegradable corn starch alternatives in place of plastic foam.

Transportation

Our furniture is delivered directly to our clients by road or by road and sea for international shipments.

Product Use and Maintenance

The OVO Collection carries a 5-year warranty and is made to last a lifetime. It is easy to look after and easily refurbished. Finished with a hard-wax oil which protects it from stains and spillages, it can be kept clean by simply wiping with a damp cloth. Deep scratches and marks can be removed with light sanding and re-oiling.

End of Life

We offer a 'Take Back Scheme' – all furniture can be returned when it is no longer needed. It will be refurbished, repurposed or donated to charitable enterprises.

Classification

The OVO Collection is classified CPC 38112 Seats, primarily with wooden frames, under the UN CPC Classification system v2.1

Further Product Information

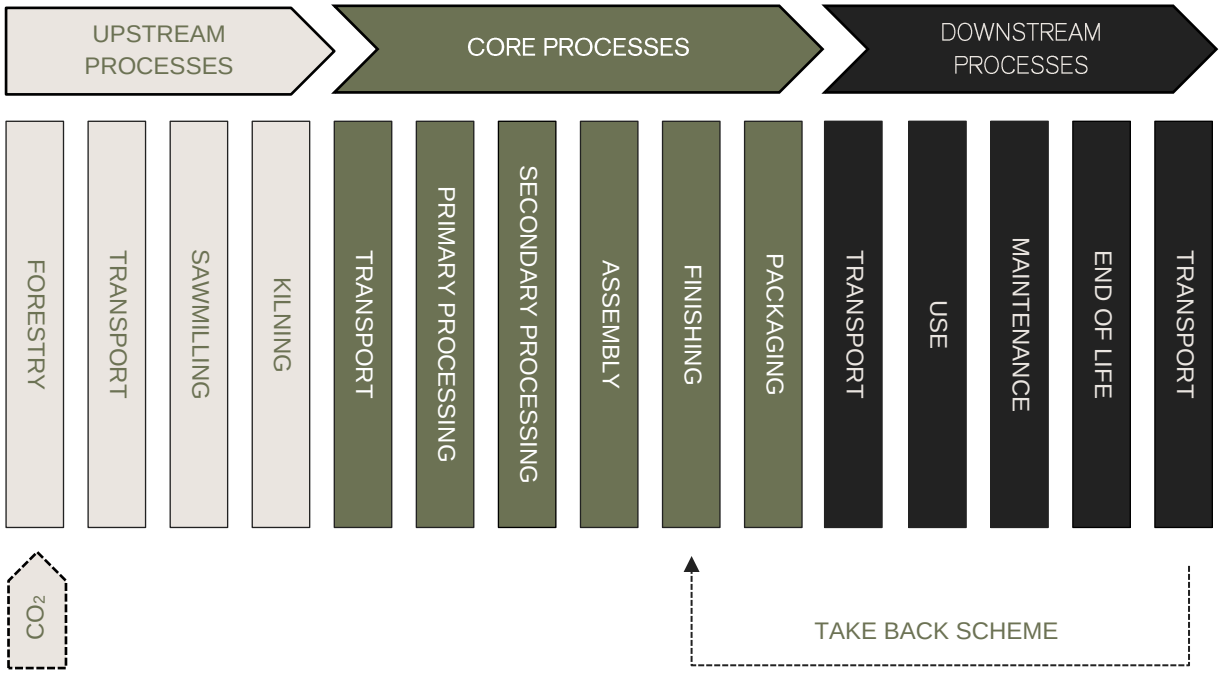
Detailed product information and specifications can be found on our website benchmarkfurniture.com

LCA INFORMATION

Scope

This cradle-to-grave EPD is applicable globally. For the representation 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)



FUNCTIONAL UNIT / DECLARED UNIT	The declared unit is the production of one bench
REFERENCE SERVICE LIFE	The expected life of these tables is 100 years. A minimum 15 years lifetime has been assumed for these calculations
SCOPE	Global
SYSTEM BOUNDARIES	Cradle to gate with options
TIME REPRESENTATIVENESS	April 2018 – March 2019
EXCLUDED LIFECYCLE STAGES	None
LCA PRACTITIONER	Dr. Andrew Norton of Renuables Ltd www.renuables.co.uk

Data Sources

This EPD is based upon an underlying LCA of the Benchmark manufacturing facility, with operational data obtained for the period April 2018 to March 2019.

Ecoinvent 3.4 (2019), with Simapro 9.0.0.30 (2019) was used for the background data.
All relevant inputs and outputs have been considered in the LCA.

An electricity grid mix based upon the Good Energy fuel mix disclosure statement was used.

For characterization factors: CML baseline for the GWP, AP, EP, ADP-elements, ADP-fossil resources, ReCiPe for POCP, CED for Primary energy resources renewable/non-renewable used as energy carrier, AWARE for water scarcity potential, USEtox for human toxicity and ecotoxicity, ReCiPe for land use.

Lower heating value was used for energy content of wood. This data was obtained from the Phyllis 2 database.

Cut-off criteria were based upon input flows being less than 1% of the total individually, subject to the sum of all flows being less than 5% of the total, and subject to verification that the impacts associated with such flows were not of a mgnitude to affect the reported data significantly (less than 5% in total).

Scenarios/Assumptions

End of Life: The default production lifetime of 15 years as specified in the PCR is applied. However, as our products are made to last 100 years and we offer a take back scheme, it is very likely that the products will be reused or recycled. Therefore, our End of Life assumption, as a worst-case scenario, is that 80% will be recycled/reused and 20% goes to landfill.

Waste Management: All timber offcuts are used to provide heat onsite. Although renewable energy certification can be provided, there has been no assumptions regarding the replacement of fossil fuel sources.

Transport: For this EPD, we have assumed that delivery is from our workshops to London with a distance of 104km. The impact of other delivery scenarios can be calculated on request.

CONTENT DECLARATION

The material composition of Benchmark's OVO Bench collection covered by this EPD is shown below:

FUNCTIONAL UNIT	SIZE (mm)	kg OF MATERIAL PER FUNCTIONAL UNIT						
		SOLID TIMBER	METAL	OIL	GLUE	LEATHER	WOOL	PLY
Timber Bench	1155 x 365 x 430	13.3	0.0	0.1	0.1	0.0	0.0	0.0
	2200 x 365 x 430	23.7	0.0	0.2	0.1	0.0	0.0	0.0
Upholstered Bench	1155 x 365 x 454	11.9	0.0	0.1	0.0	0.8	0.4	1.8
	2200 x 365 x 454	21.0	0.0	0.2	0.1	1.6	0.7	3.7
	2400 x 560 x 454	35.7	0.0	0.4	0.1	2.8	1.3	6.4

We have no consumer packaging for deliveries within the UK. Our furniture is blanket wrapped and unwrapped in situ with blankets taken away to be reused.

No substance included in the Candidate List of Substances of Very High Concern for authorisation under the REACH Regulations is present in the furniture

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 following abbreviations have been used in the tables of indicator values that follow:

ENVIRONMENTAL IMPACTS	ABBREVIATION	UNITS
Global warming potential (fossil, biogenic, land use and transformation)	GWP	kg CO_2 eq
Acidification potential	AP	kg SO_2 eq.
Eutrophication potential	EP	kg PO_4^{3-} eq.
Formation potential of tropospheric ozone	POCP	kg NMVOC eq.
Abiotic depletion potential – Elements	ADPE	kg Sb eq.
Abiotic depletion potential – Fossil resources	ADPFF	MJ, net calorific value
Water scarcity potential	WSP	m^3 eq.

USE OF RESOURCES	ABBREVIATION	UNITS
Primary Renewable Energy Resources	PER	MJ, net calorific value
Primary Non-Renewable Energy Resources	PENR	MJ, net calorific value
Secondary Material	SM	kg
Renewable Secondary Fuels	RSF	MJ, net calorific value
Non-renewable Secondary Fuels	NRSF	MJ, net calorific value
Net use of Fresh Water	FW	m^3

ENVIRONMENTAL PERFORMANCE

ENVIRONMENTAL IMPACT – TIMBER BENCHES										
PARAMETER		UNIT	SHORT - 1155 x 365 x 430mm				LONG - 2200 x 365 x 430mm			
			Up Stream	Core	Down Stream	TOTAL	Up Stream	Core	Down Stream	TOTAL
GWP	Fossil	kg CO_2 eq.	5.00E+00	3.51E+00	1.45E-01	8.66E+00	8.88E+00	4.40E+00	2.58E-01	1.35E+01
	Biogenic		-4.86E+01	2.31E+01	1.98E-01	-2.53E+01	-8.69E+01	4.13E+01	3.54E-01	-4.52E+01
	Land		3.20E-01	7.49E-02	4.05E-05	3.95E-01	5.72E-01	7.77E-02	7.23E-05	6.50E-01
	TOTAL		-4.33E+01	2.67E+01	3.43E-01	-1.62E+01	-7.74E+01	4.58E+01	6.12E-01	-3.10E+01
AP		kg SO_2 eq.	3.22E-02	2.71E-02	4.60E-04	5.98E-02	5.50E-02	3.06E-02	8.22E-04	8.64E-02
EP		kg PO_4^{3-} eq.	1.31E-02	9.16E-03	6.63E-03	2.89E-02	2.18E-02	9.97E-03	1.19E-02	4.36E-02
POCP		kg NMVOC eq.	4.78E-02	2.84E-02	7.67E-04	7.71E-02	8.53E-02	3.20E-02	1.37E-03	1.19E-01
ADPE		kg Sb eq.	4.83E-05	2.48E-05	2.60E-07	7.34E-05	5.74E-05	2.71E-05	4.64E-07	8.50E-05
ADPFF		MJ, net calorific value	6.90E+01	4.53E+01	2.56E+00	1.17E+02	1.22E+02	5.91E+01	4.57E+00	1.86E+02
WSP		m^3 eq.	1.07E+00	8.96E-01	1.54E-02	1.98E+00	1.87E+00	1.00E+00	2.75E-02	2.90E+00

USE OF RESOURCES – TIMBER BENCHES										
PARAMETER		UNIT	SHORT - 1155 x 365 x 430				LONG - 2200 x 365 x 430			
			Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
PER	Use as energy carrier	MJ, net calorific value	7.32E+02	5.14E+02	4.11E-02	1.25E+03	1.31E+03	7.02E+02	7.34E-02	2.01E+03
	Used as raw materials		4.77E+02	-2.27E+02	0.00E+00	2.51E+02	8.53E+02	-4.05E+02	0.00E+00	4.48E+02
	TOTAL		1.21E+03	2.87E+02	4.11E-02	1.50E+03	2.16E+03	2.97E+02	7.34E-02	2.46E+03
PENR	Use as energy carrier	MJ, net calorific value	8.07E+01	5.83E+01	2.79E+00	1.42E+02	1.43E+02	7.36E+01	4.99E+00	2.22E+02
	Used as raw materials		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL		8.07E+01	5.83E+01	2.79E+00	1.42E+02	1.43E+02	7.36E+01	4.99E+00	2.22E+02
SM		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF		MJ, net calorific value	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, net calorific value	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		m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

WASTE PRODUCTION – TIMBER BENCHES									
PARAMETER	UNIT	SHORT - 1155 x 365 x 430				LONG - 2200 x 365 x 430			
		Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
Hazardous waste disposed	kg	1.52E-04	6.69E-04	1.37E-06	8.22E-04	2.61E-04	7.00E-04	2.45E-06	9.63E-04
Non-hazardous waste disposed	kg	1.74E+00	1.97E+00	2.70E+00	6.41E+00	3.09E+00	3.07E+00	4.82E+00	1.10E+01
Radioactive waste disposed	kg	3.21E-01	7.52E-02	5.83E-05	3.96E-01	5.73E-01	7.82E-02	1.04E-04	6.51E-01

OUTPUT FLOWS – TIMBER BENCHES									
PARAMETER	UNIT	SHORT - 1155 x 365 x 430				LONG - 2200 x 365 x 430			
		Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	1.09E+01	1.09E+01	0.00E+00	0.00E+00	1.95E+01	1.95E+01
Materials for energy recovery	kg	0.00E+00	1.26E+01	0.00E+00	1.26E+01	0.00E+00	2.25E+01	0.00E+00	2.25E+01
Exported energy, electricity	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
Exported energy, thermal	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

OTHER ENVIRONMENTAL INDICATORS – TIMBER BENCHES									
PARAMETER	UNIT	SHORT - 1155 x 365 x 430				LONG - 2200 x 365 x 430			
		Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
Human toxicity (cancer)	CTUh	3.26E-07	2.63E-08	4.95E-09	3.57E-07	5.48E-07	4.69E-08	8.85E-09	6.04E-07
Human toxicity (non-cancer)	CTUh	2.49E-06	1.51E-07	7.85E-08	2.72E-06	3.76E-06	2.70E-07	1.40E-07	4.17E-06
Ecotoxicity	CTUe	3.83E+04	1.63E+03	4.20E+02	4.03E+04	5.97E+04	2.91E+03	7.51E+02	6.33E+04
Land use	Species.yr	2.89E-07	6.73E-10	1.49E-10	2.90E-07	5.16E-07	1.20E-09	2.66E-10	5.17E-07

ENVIRONMENTAL IMPACT – UPHOLSTERED BENCHES										
PARAMETER		UNIT	SHORT - 1155 x 365 x 454				LONG - 2200 x 365 x 454			
			Up Stream	Core	Down Stream	TOTAL	Up Stream	Core	Down Stream	TOTAL
GWP	Fossil	kg CO_2 eq.	3.64E+01	4.08E+00	1.41E-01	4.06E+01	6.89E+01	5.61E+00	2.50E-01	7.48E+01
	Biogenic		-3.45E+01	2.08E+01	1.78E-01	-1.36E+01	-5.95E+01	3.66E+01	3.14E-01	-2.26E+01
	Land		3.00E+00	9.32E-02	3.94E-05	3.09E+00	5.78E+00	1.17E-01	7.01E-05	5.89E+00
	TOTAL		4.87E+00	2.50E+01	3.19E-01	3.01E+01	1.51E+01	4.24E+01	5.64E-01	5.80E+01
AP		kg SO_2 eq.	4.38E-01	3.29E-02	4.41E-04	4.72E-01	8.40E-01	4.28E-02	7.84E-04	8.84E-01
EP		kg PO_4^{3-} eq.	1.77E-01	1.12E-02	5.97E-03	1.94E-01	3.39E-01	1.44E-02	1.05E-02	3.64E-01
POCP		kg NMVOC eq.	1.62E-01	3.45E-02	7.21E-04	1.97E-01	3.04E-01	4.48E-02	1.28E-03	3.50E-01
ADPE		kg Sb eq.	1.26E-03	3.04E-05	2.53E-07	1.29E-03	2.41E-03	3.89E-05	4.50E-07	2.45E-03
ADPFF		MJ, net calorific value	4.11E+02	5.17E+01	2.47E+00	4.65E+02	7.81E+02	7.27E+01	4.39E+00	8.58E+02
WSP		m^3 eq.	3.04E+03	1.09E+00	1.49E-02	3.04E+03	6.08E+03	1.41E+00	2.64E-02	6.08E+03

ENVIRONMENTAL IMPACT – UPHOLSTERED BENCHES						
PARAMETER		UNIT	WIDE - 2400 x 560 x 454			
			Up Stream	Core	Down Stream	TOTAL
GWP	Fossil	kg CO_2 eq.	1.19E+02	7.59E+00	4.26E-01	1.27E+02
	Biogenic		-9.89E+01	6.22E+01	5.33E-01	-3.62E+01
	Land		1.03E+01	1.40E-01	1.19E-04	1.05E+01
	TOTAL		3.03E+01	6.99E+01	9.59E-01	1.01E+02
AP		kg SO_2 eq.	1.48E+00	5.43E-02	1.33E-03	1.54E+00
EP		kg PO_4^{3-} eq.	5.97E-01	1.78E-02	1.79E-02	6.33E-01
POCP		Kg NMVOC eq.	5.23E-01	5.68E-02	2.17E-03	5.82E-01
ADPE		kg Sb eq.	4.14E-03	4.82E-05	7.67E-07	4.19E-03
ADPFF		MJ, net calorific value	1.34E+03	1.01E+02	7.48E+00	1.45E+03
WSP		m^3 eq.	1.06E+04	1.77E+00	4.50E-02	1.06E+04

USE OF RESOURCES – UPHOLSTERED BENCHES										
PARAMETER		UNIT	SHORT - 1155 x 365 x 454				LONG - 2200 x 365 x 454			
			Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
PERE	Use as energy carrier	MJ, net calorific value	8.94E+02	5.61E+02	3.88E-02	1.46E+03	1.62E+03	8.07E+02	6.89E-02	2.43E+03
	Used as raw materials	MJ, net calorific value	4.29E+02	-2.04E+02	0.00E+00	2.25E+02	7.56E+02	-3.59E+02	0.00E+00	3.97E+02
	TOTAL	MJ, net calorific value	1.32E+03	3.58E+02	3.88E-02	1.68E+03	2.38E+03	4.47E+02	6.89E-02	2.83E+03
PENR	Use as energy carrier	MJ, net calorific value	5.72E+02	6.76E+01	2.70E+00	6.42E+02	1.10E+03	9.32E+01	4.79E+00	1.19E+03
	Used as raw materials	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	5.72E+02	6.76E+01	2.70E+00	6.42E+02	1.10E+03	9.32E+01	4.79E+00	1.19E+03
SM		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF		MJ, net calorific value	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, net calorific value	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		m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

USE OF RESOURCES – UPHOLSTERED BENCHES						
PARAMETER		UNIT	WIDE - 2400 x 560 x 454			
			Upstream	Core	Down Stream	TOTAL
PERE	Use as energy carrier	MJ, net calorific value	2.78E+03	1.15E+03	1.17E-01	3.93E+03
	Used as raw materials	MJ, net calorific value	1.28E+03	-6.10E+02	0.00E+00	6.74E+02
	TOTAL	MJ, net calorific value	4.06E+03	5.37E+02	1.17E-01	4.60E+03
PENR	Use as energy carrier	MJ, net calorific value	1.89E+03	1.27E+02	8.16E+00	2.03E+03
	Used as raw materials	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	1.89E+03	1.27E+02	8.16E+00	2.03E+03
SM		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RSF		MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF		MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW		m^3	0.00E+00	0.00E+00	0.00E+00	0.00E+00

WASTE PRODUCTION – UPHOLSTERED BENCHES									
PARAMETER	UNIT	SHORT - 1155 x 365 x 454				LONG - 2200 x 365 x 454			
		Upstream	Core	Down Stream	TOTAL	Upstrea m	Core	Down Stream	TOTAL
Hazardous waste disposed	kg	3.42E-03	8.32E-04	1.33E-06	4.25E-03	6.73E-03	1.04E-03	2.37E-06	7.78E-03
Non-hazardous waste disposed	kg	7.19E+00	2.06E+00	2.44E+00	1.17E+01	1.12E+01	3.25E+00	4.31E+00	1.88E+01
Radioactive waste disposed	kg	3.00E+00	9.36E-02	5.67E-05	3.09E+00	5.78E+00	1.17E-01	1.01E-04	5.90E+00

WASTE PRODUCTION – UPHOLSTERED BENCHES					
PARAMETER	UNIT	WIDE - 2400 x 560 x 454			
		Upstream	Core	Down Stream	TOTAL
Hazardous waste disposed	kg	1.17E-02	1.26E-03	4.03E-06	1.30E-02
Non-hazardous waste disposed	kg	1.75E+01	5.06E+00	7.31E+00	2.99E+01
Radioactive waste disposed	kg	1.03E+01	1.41E-01	1.72E-04	1.05E+01

OUTPUT FLOWS – UPHOLSTERED BENCHES									
PARAMETER	UNIT	SHORT - 1155 x 365 x 454				LONG - 2200 x 365 x 454			
		Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	1.07E+01	1.07E+01	0.00E+00	0.00E+00	1.91E+01	1.91E+01
Materials for energy recovery	kg	0.00E+00	1.13E+01	0.00E+00	1.13E+01	0.00E+00	2.00E+01	0.00E+00	2.00E+01
Exported energy, electricity	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
Exported energy, thermal	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
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

OUTPUT FLOWS – UPHOLSTERED BENCHES					
PARAMETER	UNIT	WIDE - 2400 x 560 x 454			
		Upstream	Core	Down Stream	TOTAL
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	0.00E+00	3.26E+01	3.26E+01
Materials for energy recovery	kg	0.00E+00	3.39E+01	0.00E+00	3.39E+01
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00

OTHER ENVIRONMENTAL INDICATORS – UPHOLSTERED BENCHES									
PARAMETER	UNIT	SHORT - 1155 x 365 x 454				LONG - 2200 x 365 x 454			
		Upstream	Core	Down Stream	TOTAL	Upstream	Core	Down Stream	TOTAL
Human toxicity (cancer)	CTUh	4.99E-06	2.51E-08	4.73E-09	5.02E-06	8.90E-06	4.45E-08	8.39E-09	8.95E-06
Human toxicity (non-cancer)	CTUh	1.30E-05	1.44E-07	7.22E-08	1.32E-05	2.34E-05	2.56E-07	1.28E-07	2.38E-05
Ecotoxicity	CTUe	1.98E+05	1.56E+03	3.95E+02	2.00E+05	3.48E+05	2.76E+03	6.99E+02	3.52E+05
Land use	Species yr	5.77E-07	6.41E-10	1.41E-10	5.78E-07	1.08E-06	1.14E-09	2.51E-10	1.08E-06

OTHER ENVIRONMENTAL INDICATORS – UPHOLSTERED BENCHES					
PARAMETER	UNIT	WIDE - 2400 x 560 x 454			
		Upstream	Core	Down Stream	TOTAL
Human toxicity (cancer)	CTUh	1.48E-05	7.57E-08	1.43E-08	1.49E-05
Human toxicity (non-cancer)	CTUh	3.91E-05	4.35E-07	2.17E-07	3.98E-05
Ecotoxicity	CTUe	5.78E+05	4.70E+03	1.19E+03	5.84E+05
Land use	Species yr	1.89E-06	1.93E-09	4.27E-10	1.89E-06

ADDITIONAL ENVIRONMENTAL INFORMATION

Accreditations

Being one of the first UK furniture makers to receive both FSC and PEFC accreditation, we are continuously working to adhere to expectations and to always try to be accountable for our actions.

Declare.

Solid Timber Furniture Benchmark

Final Assembly: Kintbury, Berkshire, United Kingdom
Life Expectancy: 100 Years
End of Life Options: Salvageable/Reusable in its Entirety, Biodegradable/Compostable, Recyclable

Ingredients:

Timber: Solid Timber (FSC/PEFC Certified); Finishes: Fatty Acids, Vegetable Oil, Polymers with Isophthalic Acid, Pentaerythritol, Trimellitic Anhydride and Trimethylolpropane, Naphtha (Petroleum), Hydrotreated Heavy, Candelilla Wax, Carnauba Wax, Paraffin Waxes (Petroleum), Hydrotreated, Fatty Acids, Soya, Polymers with Hydroxy-terminated Me Ph Siloxanes, Pentaerythritol and Phthalic Anhydride; Wood Glue: PVA Emulsion Polymer, Water; Fixings: Steel

Living Building Challenge Criteria:

BUK-0001
VOC Content: N/A
EXP: 01 NOV 2020
VOC Emissions: CDPH Compliant
Declaration Status
LBC Red List Free
FSC Compliant
Declared

INTERNATIONAL LIVING FUTURE INSTITUTE

Alongside our ISO 14001 certification, we have Red List Free Declare Labelling which enables us to be providers to WELL certified projects. The WELL Building Standard was launched in 2014 and focuses on the health and wellness of people within interior environments. Factors such as air quality, light sources, materials and thermal comfort are taken into account to make way for calmer spaces and positive impacts on the mental and physical health of inhabitants.

We are proud to have been twice winners of the Queen's Award for Enterprise in Sustainable Development.

Transparency

Throughout everything we do, we offer 100% transparency. Our DECLARE label, which is an international specification, provides consumers with honest details of the materials we use including the level of VOC's. We have achieved the Red List Free Label which shows that our furniture does not include any toxic chemicals or emit harmful VOC's. We request the same level of transparency from our suppliers. Our Environmental Product Declarations will provide complete transparency on the impact of our production and distribution on the planet.

Materials

In developing new collections, we use natural materials over synthetic alternatives:

We have selected natural, non-toxic and biodegradable options for our upholstery including organic wool, coir, and natural latex. They are better for our health as well as the environment, meeting fire regulations without the need for toxic fire retardant chemicals.

The forests from which we source timber are all sustainably managed encouraging a positive impact on climate change with the re-planting of trees and maintenance of biodiversity.

The finishes we use are low VOC oils developed from natural materials, again contributing to our drive away from the use of toxic materials within the built environment.

We encourage the use of local suppliers of materials where possible to reduce the carbon footprint in a product and do not work with endangered species of timber.

Circular Mindset

Our goal is to become an innovative enterprise with a circular mindset in every aspect of the business. No waste from our production goes to landfill and any surplus timber is repurposed into smaller components and accessories, or as fuel for energy used within the premises. All kitchen waste is composted on-site, and we work with local waste specialists to recycle uncommon plastics and materials. Our packaging is created from recycled materials and we have substituted plastic foam with a biodegradable corn starch alternative. We operate a Take Back Scheme where furniture can be returned to us if no longer required. We then refurbish, repurpose or give to charitable enterprises.

Community

Supporting our internal and external communities are of paramount importance at Benchmark:

We are Winners of the Best Employer of the Year from the Learning and Skills Council and provide apprenticeship schemes every year. Working with approx. 70 apprentices to date, the majority become full-time employees with over half of our team working over 10yrs at the company.

We continually strive to build a strong social community in-house with daily shared lunches provided by our own cook and a schedule of social activities throughout the year.

With most of our workforce based within 15 miles of our workshop, we share transport to and from work and are replacing company vehicles to low-emission models.

We ensure our workshops have high levels of natural light, insulation and ventilation to provide better workplaces for our staff.

We seek to build strong relationships with our local community, investing into environmental improvements, supporting local initiatives and working with local schools and charities to strengthen the social benefits within our region.

Sharing our Knowledge

We believe through collaboration and a sharing of knowledge we can participate in a positive future for the furniture industry. We have a CPD programme which educates the design community about sustainability and wellness. We work with young designers and students and seek to continue the conversations with them around sustainability, encouraging a positive mindset to continue into the future.

FSC www.fsc.org FSC® C016983 The mark of responsible forestry

PEFC PEFC/19-37-1649 PEFC Certified This product is from sustainably managed forests and controlled sources

THE QUEEN'S AWARDS FOR ENTERPRISE: SUSTAINABLE DEVELOPMENT 2015

Apprenticeships TOP 100 APPRENTICESHIP EMPLOYER 2016 Brought to you by National Apprenticeship Service Sponsored by centrica

REFERENCES

General Programme Instructions of the International EPD® System. Version 3.0.

PCR 2009:02, Seats, version 2.1, valid until: 2020-05-03.

ISO 14040: 2006 Environmental management - Life cycle assessment – Principles and Framework

ISO 14044: 2006 Environmental management - Life cycle assessment - Requirements and guidelines

ISO 14025: 2005 Environmental labels and declarations - Type III environmental declarations - Principles and procedures

EPD®

www.environdec.com