ZEITRAUM

PLAISIR

Design by Formstelle, 2012/2017

zeitraum-moebel.de

Furniture Footprint

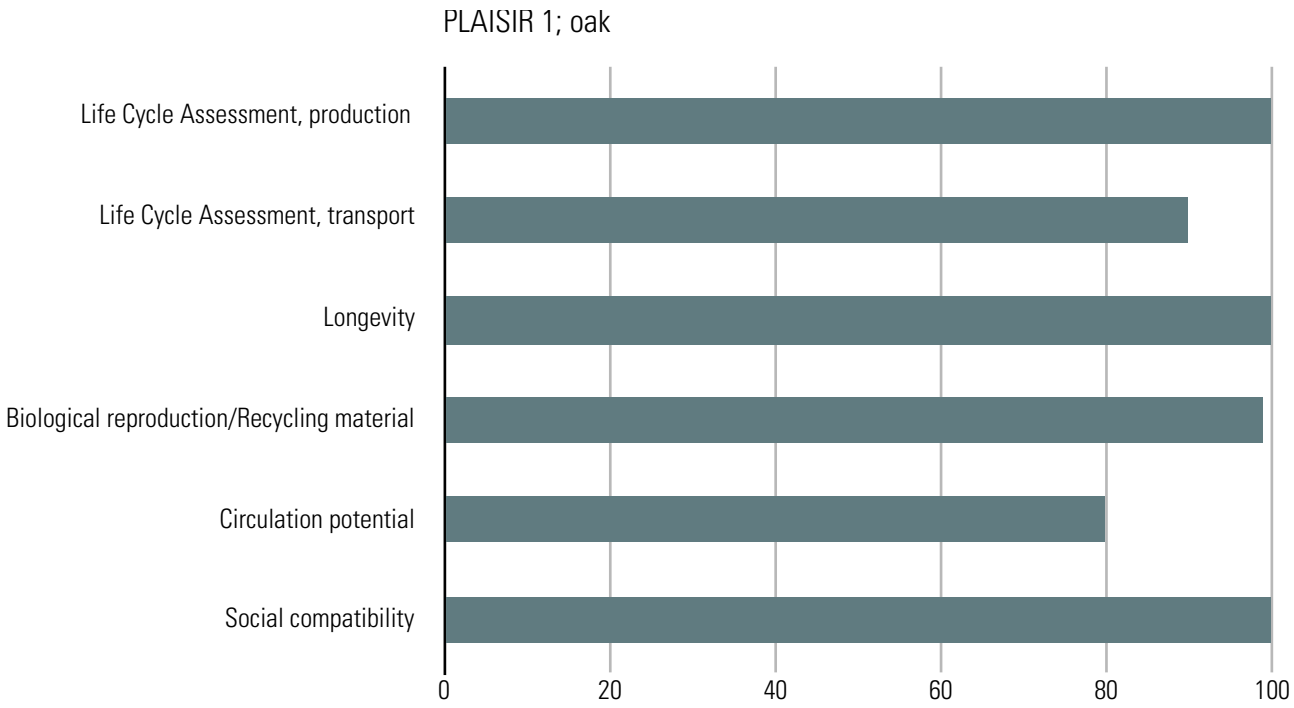
PLAISIR

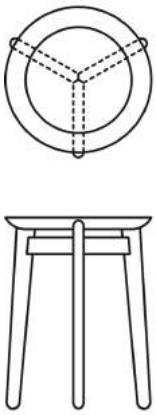
Design by Formstelle, 2012

"Avec plaisir" – with pleasure – the name is the concept. The idea is that of an Oriental side table for serving tea or coffee. A low, three-legged solid wooden table support carries a removable tablet. The high, slim model supports a fine, removable wooden tray. The lower version carries a tray made of aluminum or a correspondingly large solid wood plate.

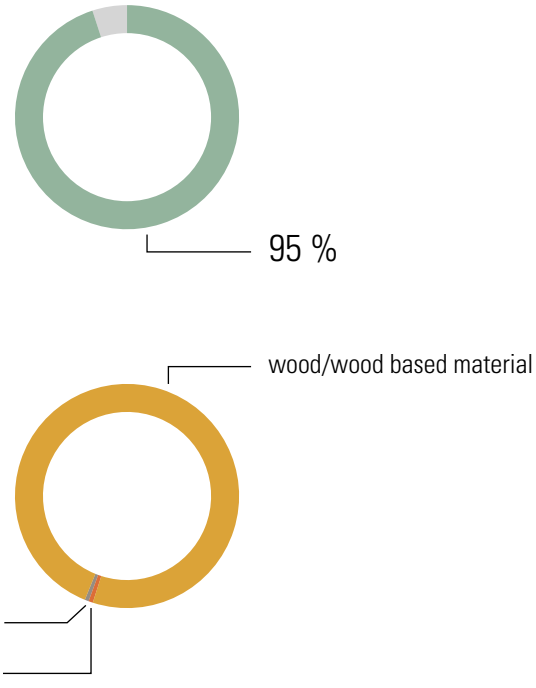
ZEITRAUM furniture meets the highest quality and environmental standards and is primarily made of solid wood. All the materials we use come from responsible manufacturing and are for the most part sourced directly from Germany. The following describes the product: PLAISIR. Due to the proportion of renewable raw materials, among other things, ZEITRAUM products can contribute to a good rating in certification programmes for sustainable buildings, such as LEED. For more information, please do not hesitate to contact us at any time.

Product details				
Product category	Occasional furniture			
Weight (PLAISIR 2)	ca. 1,6 kg			
Environmental details (PLAISIR 2)				
Recycled content/ renewable raw materials	ca. 98,3 % renewable materials			
Recyclability	ca. 100 % wood (waste wood category 2)			
Repairability	Due to the modular construction and the use of solid wood, the furniture can be repaired and refurbished almost indefinitely. We will be happy to assist with spare parts and service where necessary and possible.			
Manufacturing details				
Furniture element	Production site	Production partner since	Visited by ZEITRAUM	Code of Conduct signed
Frame	Bavaria, Germany	2012	Yes	Yes
Wooden plate	Bavaria, Germany	2000	Yes	Not yet
Aluminium plate	Bavaria, Germany	2012	Yes	Not yet
Packaging				
Flatpack	No			
Warehouse				
Country		Federal state		
Germany		Bavaria		



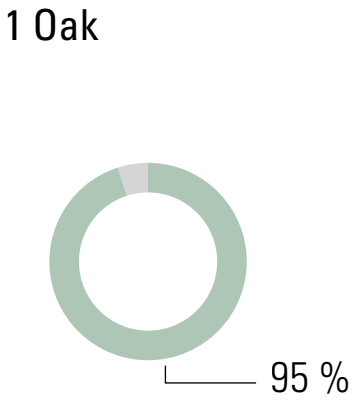


wood/wood based material
natural oil
PVAC adhesive



PLAISIR 1; oak	Material/Product rating			
	Oak	Natural oil, Osmo	PVAC	Weighted rating, %
Life Cycle Assessment, production	10	5	10	99,665 %
Life Cycle Assessment, transport	9	9	6,5	89,8395 %
Longevity	10	10	9	99,923 %
Biological reproduction/Recycling material	10	6	0	99,158 %
Circulation potential	8	10	4	79,882 %
Social compatibility	10	10	9	99,923 %
Average rating, ø	9,5	8,333	6,416	Total weight
Share in kg	1,55	0,01	0,009	1,569
Share in %	98,78 %	0,63 %	0,57 %	
Weighted rating	9,384	0,052	0,036	
Product rating in %	**94,72**			

Packaging	Material/Product rating		
	Cardboard	PE fleece	Weighted rating, %
Life Cycle Assessment, production	10	3	97,2 %
Life Cycle Assessment, transport	9	6,5	89 %
Longevity	4	5	40,4 %
Biological reproduction/Recycling material	6	0	57,6 %
Circulation potential	10	10	100 %
Social compatibility	10	9	99,6 %
Average rating, ø	8,166	5,583	Total weight
Share in kg	1,2	0,05	1,25
Share in %	96 %	4 %	
Weighted rating	7,839	0,223	
Product rating in %	**80,62**		



Tab. 1 A: Material data sheet, oak, general[1][2]

Material group	Natural material; wood; hardwood
Botanical name	*Quercus robur L./Q. patrea Liebl. (Fagaceae)*
Name	European Oak (GB, US); Eiche (D), Sommereiche (D); Chêne (F)
Material Norm. Ref.	DIN EN 13556: QCXE
Origin	Germany, (Central Europe)
Occurrence	Europe to Asia Minor; North America; most common European occurrence in France
Use	Solid and veneer, mainly sliced veneer; furniture and interior fittings; paneling and parquet; structural timber, etc.

[1] WAGENFUEHR, R. (2007) - Wood Atlas. (6) Leipzig: Hanser Wirtschaft, Fachbuchverlag Leipzig, pp. 255-277

[2] LOHMANN, U. (2010) - Wood encyclopedia. The standard work for wood and forestry. (4) Hamburg: Nikol-Verlag, pp. 284-285

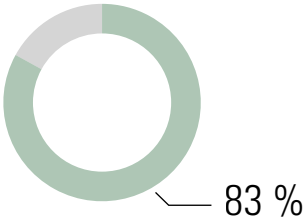
Tab. 1 B: Material data sheet, oak, specific[3]

General description		
Certifications/Information	FSC and PEFC on request	
Life cycle assessment data hardwood, average (GER)		10
Resource input per kg	**A1-A3**	
Total non-renewable primary energy (PENRT)	2,18 MJ	10
Use of freshwater resources (FW)	0,00048 m^3	10
Environmental impact per m^3	**A1-A3**	
Global Warming Potential (GWP)	-1,74 Kg CO_2-eqv.	10
Environmental impact Transport, per 1000 kgkm (690 kg/m^3)		9
Production site: Germany/ZEITRAUM		
Truck - ca. 300 km	A4	10
Total non-renewable primary energy (PENRT)	362,4 MJ	
Use of freshwater resources (FW)	0,019164 m^3	
Global Warming Potential (GWP)	26,907 Kg CO_2-eqv.	
Main raw material origin: Germany, Central Europe/Production site		
Truck - ca. 1500 km	A4	8
Total non-renewable primary energy (PENRT)	1812 MJ	
Use of freshwater resources (FW)	0,09582 m^3	
Global Warming Potential (GWP)	134,535 Kg CO_2-eqv.	
Sustainability Assessment		
Longevity	Very durable/repairable (> 20 years)	10
Biological reproduction/ recycled material	100 %	10
Circulation potential	70 % - 99 % (technological/recycling)	8
Socially compatible	Yes	10
Total average rating		**9,5**
Processing		
Mechanical	Good; can be cut and peeled, suitable for turning and carving; pre-drill thin wood for nailing	
Drying	Moderately good; slow; tendency to tear and warp; predrying outdoors favorable; good durability	

[3] BMI 2021: Oekobaudat. Database <https://www.oekobaudat.de/no_cache/en/database/search.html> Accessed, on 10/27/2021

Adhesion	Good; alkalis can cause stains	
Surface finishing	Good; can be stained and varnished, if necessary use pore filler when varnishing; tinting of wood color by smoking	
Natural durability DIN EN 350-2	durable; sapwood low;heartwood durable; also in water; durability class 2	
Physical properties		
Kiln density (0 % wood moisture content)	390… 650… 930 kg/m³	
Bulk density (12 - 15 % wood moisture)	430… 690… 960 kg/m³	
Pore ratio	ca. 57 %	
Shrinkage rate at 1 % moisture reduction	radial - 0,20 %; tangetial - 0,32 %; volume - 0,45 %	
Mechanical properties		
Compressive strength (σ_{dB})	Q. robur: 54… 61… 67 N/mm² Q. petraea: 48… 65… 70 N/mm²	
Flexural strength (σ_{bB})	Q. robur: 74… 88… 105 N/mm² Q. petraea: 78… 110… 117 N/mm²	
Tensile strength (σ_{zB} ||) Tensile strength (σ_{zB} ⊥)	50… 90… 180 N/mm² 2,6… 4,0… 9,6 N/mm²	
Shear strength (τ_{aB})	6,0… 11,0… 13,0 N/mm²	
Hardness (HB ||)	50… 66 N/mm²	
Hardness (HB ⊥)	25… 34 N/mm²	
E-modulus (E_b ||)	Q. robur: 10000… 11700… 13200 N/mm² Q. petraea: 9200… 13000… 13500 N/mm²	

2 Osmo, hard wax oil



Tab. 2 A: Material data sheet, Osmo, hard wax oil, general[45]

Material group	Coating materials; Oils
Name	Hard wax oil (GB, US); Hartwachsöl (D)
Manufacturer	Osmo Holz und Color GmbH & Co. KG
Manufactured in	Germany (GER)
Version	Osmo Hard Wax Oil 3032 satin, 3062 matt
Use	Furniture construction; for interior use; also suitable for parquet, cork and terracotta

[4] KALWEIT A. (2012) - Handbook of technical product design - materials and manufacturing. Berlin: Springer Verlag

[5] Osmo (2019) - Osmo Hard Wax Oil 3032 satin, 3062 matte <https://www.osmo.de> Accessed, on 03/02/2019

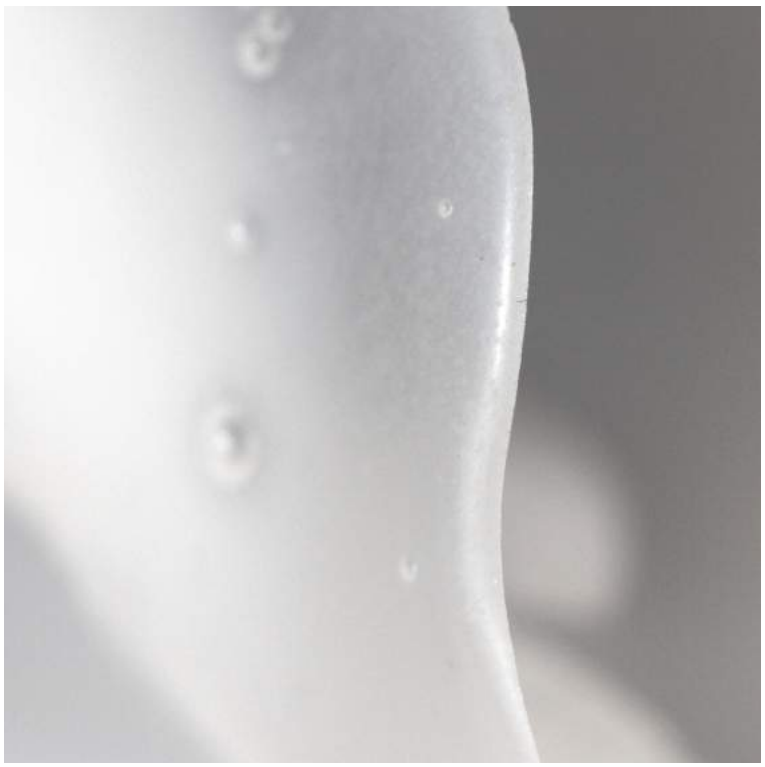
Tab. 2 B: Material data sheet, Osmo, hard wax oil, specific[67]

General description		
Certifications/Information	ISO 9001, ISO 14001, ISO 18001	
Emission class (formaldehyde)	Formaldehyde-free	
VOC's	< 500 g/l (volatile components emit during curing)	
Delivery forms	Liquid	
Color	yellowish (transparent/yellowish in cured form)	
Texture	Glossy to matt (cured)	
Contents		
50 - 60 % solids	Natural oils and waxes (sunflower oil, soybean oil, safflower oil, carnauba and candellila wax) Paraffins	
Additives	Siccatives (desiccants) and water-repellent additives	
Solvent	Desaromatized white spirit (gasoline-free - according to the purity requirements of the European Pharmacopoeia)	
Life cycle assessment data hard wax oil (GER)		5
Resource input per kg	**A1-A3**	
Total non-renewable primary energy (PENRT)	n.a.	
Use of freshwater resources (FW)	n.a.	
Environmental impact per kg	**A1-A3**	
Global Warming Potential (GWP)	n.a.	
Environmental impact Transport, per 1000 kgkm		9
Production site: Germany/ZEITRAUM		
Truck - ca. 200 km	A4	10
Total non-renewable primary energy (PENRT)	172,12 MJ	
Use of freshwater resources (FW)	0,012106 m^3	
Global Warming Potential (GWP)	12,822 Kg CO_2-eqv.	
Main raw material origin: n.a./production site		
n.a. - ø 3000 km	A4	8
Total non-renewable primary energy (PENRT)	3624 MJ	
Use of freshwater resources (FW)	0,19164 m^3	

[6] BMI 2021: Oekobaudat. Database <https://www.oekobaudat.de/no_cache/en/database/search.html> Accessed, on 10/27/2021

[7] MATERIALARCHIV (2019) - Materialarchiv <http://www.materialarchiv.ch/app-tablet/#search> Accessed, on 03/01/2019

Global Warming Potential (GWP)	296,07 Kg CO_2-eqv.	
Sustainability Assessment		
Longevity	Very durable/repairable (> 20 years, with good care)	10
Biological reproduction/ recycled material	51 - 60 %	6
Circulation potential	100 % (biodegradable)	10
Socially compatible	Yes	10
Total average rating		**8,33**
Processing		
Application	With brush, spatula or spray gun	
Storage	Can be stored up to 5 years with tight closure	
Properties		
Density	0,89 g/cm³	
Viscosity	Thixotropic, creamy	
Consistency	Medium viscosity	
Moisture resistance	Good	
Notes	Osmo Polyx®-Oil is based on natural vegetable oils and waxes; Osmo Polyx®-Oil contains neither biocides nor preservatives. It is harmless to humans, animals and plants when dry and complies with DIN 53160 (sweat- and saliva-proof) and EURO-NORM EN 71 (suitable for children's toys)	



3 PVAc dispersion adhesive, D3

64 %

Tab. 3 A: Material data sheet, PVAc dispersion adhesive, D3, general[89]

Material group	Synthetic material; adhesives; dispersion adhesives
Name	Dispersion Adhesive (GB, US); Dispersionsklebstoff, PVAc-(Polyvinylacetat) Klebstoffe, Weißleim (D)
Manufacturer	Kleiberit Klebstoffe GmbH
Manufactured in	Germany (GER)
Version	Kleiberit 303, D3-adhesive
Use	Furniture construction; especially for interiors; staircase construction, ship interior finishing; surface bonding of HWS; door and window production

[8] KALWEIT A. (2012) - Handbook of technical product design - materials and manufacturing. Berlin: Springer Verlag

[9] KEIBERIT (2019) - KLEIBERIT 303, D3, PVAC Adhesive <https://interior-construction.kleiberit.com/fileadmin/Content/Documents/DE/Infoblaetter/303_D3_Leim_D.pdf> Accessed, on 02/03/2019

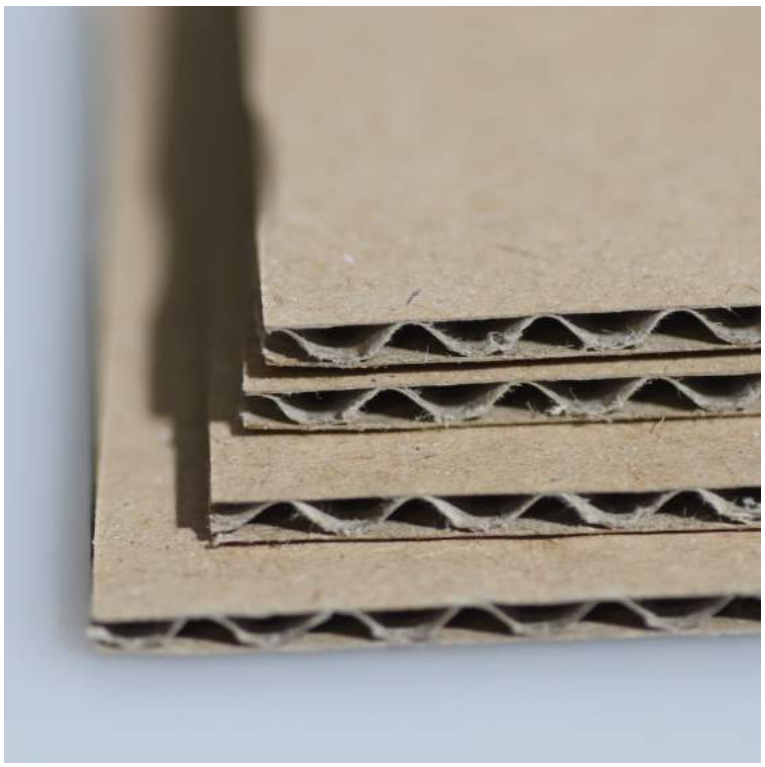
Tab. 3 B: Material data sheet, PVAc dispersion adhesive, D3, specific[10][11]

General description		
Certifications/Information	ISO 9001, ISO 14001, ISO 50001	
Emission class (formaldehyde)	Formaldehyde-free	
Delivery forms	Liquid	
Color	Whitish (transparent in cured form)	
Texture	Glossy	
Life cycle assessment data Dispersion-based solvent-free adhesives, coatings and sealants (GER)		10
Resource input per kg	**A1-A3**	
Total non-renewable primary energy (PENRT)	26,7 MJ	10
Use of freshwater resources (FW)	0,00758 m^3	10
Environmental impact per kg	**A1-A3**	
Global Warming Potential (GWP)	0,955 Kg CO_2-eqv.	10
Environmental impact Transport, per 1000 kgkm		6,5
Production site: Germany/ZEITRAUM		
Truck - ca. 200 km	A4	10
Total non-renewable primary energy (PENRT)	172,12 MJ	
Use of freshwater resources (FW)	0,012106 m^3	
Global Warming Potential (GWP)	12,822 Kg CO_2-eqv.	
Main raw material origin: n.a./production site		
n.a. - ø > 7000 km	A4	3
Total non-renewable primary energy (PENRT)	8456 MJ	
Use of freshwater resources (FW)	0,44716 m^3	
Global Warming Potential (GWP)	627,83 Kg CO_2-eqv.	
Sustainability Assessment		
Longevity	Very durable/moderately repairable (> 20 years)	9
Biological reproduction/ recycled material	0 %	0
Circulation potential	Only thermally recyclable	4
Socially compatible	Yes	9

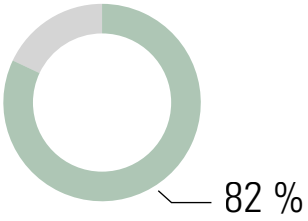
[10] BMI 2021: Oekobaudat. Database <https://www.oekobaudat.de/no_cache/en/database/search.html> Accessed, on 10/27/2021

[11] MATERIALARCHIV (2019) - Materialarchiv <http://www.materialarchiv.ch/app-tablet/#search> Accessed, on 03/01/2019

Total average rating		**6,41**
Processing		
Adhesion	With brush, spatula or glue roller	
Properties		
Density	1,1 g/cm³	
PH level	3	
Consistency	Medium viscosity	
Moisture resistance	D3	
Heat resistance	Up to 120 °C	
Notes	PVAc adhesive is available solvent-free and solvent-based	



4 Cardboard, beds, tables & storage



Tab. 4 A: Cardboard, beds, tables & storage, general

Material group	Packaging
Name	Cardboard (GB, US); Karton (D)
Manufacturer	Monowell GmbH & Co. KG
Manufactured in	Germany (GER)
Use	Packing material for individual wrapping of the furniture

Tab. 4 B: Cardboard, beds, tables & storage, specific[12][13]

General description		
Certifications/Information	ISO 9001, ISO 50001, ISO 22000 DE, ISO 22000 EN, FSC	
Color	Brown	
Texture	matt	
Contents		
60 %	Recycled paper	
40 %	Primary raw material	
Life cycle assessment data „Kraftpapier" (GER)		10
Resource input per kg	**A1-A3**	
Total non-renewable primary energy (PENRT)	5,888 MJ	
Use of freshwater resources (FW)	0,004899 m^3	
Environmental impact per kg	**A1-A3**	
Global Warming Potential (GWP)	-0,8973 Kg CO_2-eqv.	
Environmental impact Transport, per 1000 kgkm		9
Production site: Germany/ZEITRAUM		
Truck - ca. 200 km	A4	10
Total non-renewable primary energy (PENRT)	172,12 MJ	
Use of freshwater resources (FW)	0,012106 m^3	
Global Warming Potential (GWP)	12,822 Kg CO_2-eqv.	
Main raw material origin: Germany, Central Europe/Production site		
Truck - ca. 1500 km	A4	8
Total non-renewable primary energy (PENRT)	1812 MJ	
Use of freshwater resources (FW)	0,09582 m^3	
Global Warming Potential (GWP)	134,535 Kg CO_2-eqv.	
Sustainability Assessment		
Longevity	Moderately durable/repairable (< 10 years)	4
Biological reproduction/ recycled material	60 %	6
Circulation potential	100 % (technological)	10

[12] BMI 2021: Oekobaudat. Database <https://www.oekobaudat.de/no_cache/en/database/search.html> Accessed, on 10/27/2021

[13] MATERIALARCHIV (2019) - Materialarchiv <http://www.materialarchiv.ch/app-tablet/#search> Accessed, on 03/01/2019

Socially compatible	Yes	10
Total average rating		**8,16**
Disposal note	Waste paper	

5 Polyester fleece

56 %

Tab. 5 A: Material data sheet, polyester fleece, general

Material group	Packaging
Name	Polyester fleece (GB); Polyestervlies (D)
Material abbreviation	PES
Manufactured in	Germany (GER)
Use	Packing material for protection

Tab. 5 B: Material data sheet, polyester fleece, specific[14][15]

General description		
Certifications/Information	n.a.	
Delivery form	Mats, wadding, etc.	
Texture	soft, fibrous	
Life cycle assessment data Comparative material for PE wadding (no data available) - PE nonwoven (GER)		3
Resource input per kg	**A1-A3**	
Total non-renewable primary energy (PENRT)	22 MJ	
Use of freshwater resources (FW)	0,00252 m^3	
Environmental impact per kg	**A1-A3**	
Global Warming Potential (GWP)	0,73 Kg CO_2-eqv.	
Environmental impact Transport, per 1000 kgkm (approx. 0.5 kg/m^2)		6,5
Production site: Germany/ZEITRAUM		
Truck - ca. 500 km	A4	10
Total non-renewable primary energy (PENRT)	430,3 MJ	
Use of freshwater resources (FW)	0,030265 m^3	
Global Warming Potential (GWP)	32,055 Kg CO_2-eqv.	
Main raw material origin: n.a./production site		3
n.a. - ø > 7000 km	A4	
Total non-renewable primary energy (PENRT)	8456 MJ	
Use of freshwater resources (FW)	0,44716 m^3	
Global Warming Potential (GWP)	627,83 Kg CO_2-eqv.	
Sustainability Assessment		
Longevity	Durable (10 - 20 years)	5
Biological reproduction/ recycled material	0 %	0
Circulation potential	100 % (technological)	10
Socially compatible	Yes	9
Total average rating		**5,58**

[14] BMI 2021: Oekobaudat. Database <https://www.oekobaudat.de/no_cache/en/database/search.html> Accessed, on 10/27/2021

[15] MATERIALARCHIV (2019) - Materialarchiv <http://www.materialarchiv.ch/app-tablet/#search> Accessed, on 03/01/2019

Disposal note	Recyclable waste	

Information on all materials used by ZEITRAUM
can be found in our material library at:

www.zeitraum-moebel.com

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