OI3 Statement

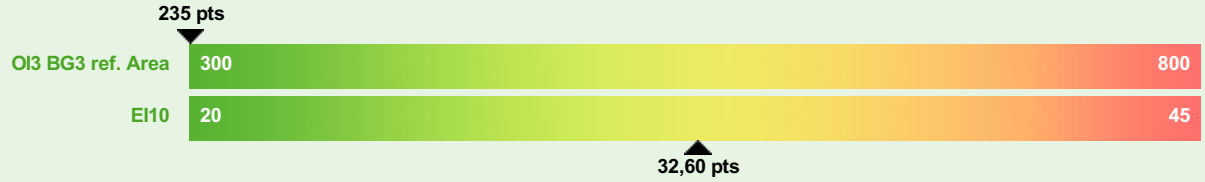
Result sheet building – new building

www.baubook.at/eco2soft
Ökobilanz für Gebäude

Project name: **copy of RC**

building overall

*OI3 BG3 ref. Area:	235 points	GFA:	3.000 m²
EI10:	32,60 points	ref. area$_{OI}$:	3.000 m²
PENRT:	3.142 MJ / (m² ref. area$_{OI}$)	catalog of LCA indicators:	IBO benchmarks 2012
GWP-total:	221 kg CO_2 equ. / (m² ref. area$_{OI}$)	useful life considered:	yes, replacements rates with whole numbers (according to EN 15804 standard)
AP:	0,702 kg SO_2 equ. / (m² ref. area$_{OI}$)	study period:	100 years
Guide version OI3:	V4.0 (September 2018)	service life catalog:	2018
Guide version EI10:	V2, 2018		



** Taking into account the manufacturing phase (A1-A3) and the use phase (B1-B4) of EN 15804*

components from the energy certificate

quantity	building element	ΔOI3 BG3, ref. Area	ΔOI3 per m²	PENRT MJ	GWP-total kg CO_2 equ. per m² ref. area$_{OI}$	AP kg SO_2 equ.	EI_{KON} per m²
1.442,00 m²	F1_F1-8_in	75	155	993	65	0,231	2,36
194,00 m²	F2_F1-8_ex	4	66	51	4	0,014	0,46
268,00 m²	R1	18	200	268	16	0,048	4,17
1.132,00 m²	W1_F1-8_N_ex	52	138	745	43	0,150	3,66
537,00 m²	W2_F1-8_L_in	33	184	456	29	0,097	3,66
	sum			**2.513**	**157**	**0,539**	

interior walls

quantity	building element	ΔOI3 BG3, ref. Area	ΔOI3 per m²	PENRT MJ	GWP-total kg CO_2 equ. per m² ref. area$_{OI}$	AP kg SO_2 equ.	EI_{KON} per m²
2.142,00 m²	B1	26	37	314	30,7	0,081	0,12
700,00 m²	C1	7	30	82	8,1	0,021	0,09
538,00 m²	S1	3	19	40	3,9	0,010	0,06
1.201,00 m²	W3_F1-8_N_in	16	40	185	20,4	0,049	0,34
	sum			**621**	**63,0**	**0,161**	

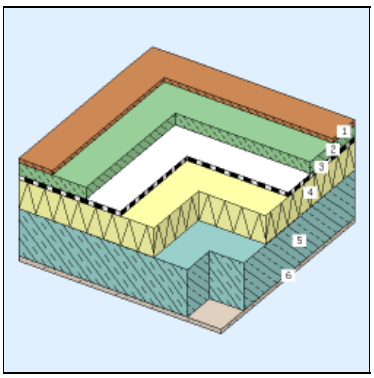
old component type

quantity	building element	ΔOI3 BG3, ref. Area	ΔOI3 per m²	PENRT MJ	GWP-total kg CO_2 equ. per m² ref. area$_{OI}$	AP kg SO_2 equ.	EI_{KON} per m²
30,00 m²	R2	1	64	7,48	0,768	0,00196	0,45
	sum			**7,48**	**0,768**	**0,00196**	

graphic details of solid and transparent building elements

Project name: copy of RC

F1_F1-8_in (components from the energy certificate, BG3)



ΣΔOI3: 155 points/m²
EI_{KON}: 2,36 points/m²
mass: 586,5 kg/m²
PENRT: 2.066 MJ/m²
GWP-total: 134 kg CO_2 equ./m²
AP: 0,480 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

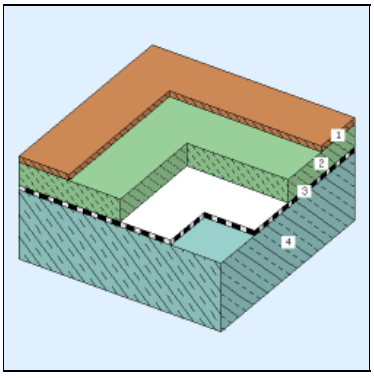
no.	layer	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Trittschalldämmung (Isover Akustic EP3) *(Timber (525 kg/m³ - e.g. larch) - rough, technically driec*	1,30	50	1	1	1
2	Rigidur Estrichelement *(Cement and cement flowing screed (1800 kg/m³))*	5,00	50	16	3	4
3	Rieselschutz *(Sisalex™ 30)*	0,01	[1]50	[2] 0	3	3
4	Brettsperrholz BBS (5-lagig) *(EPS-F grey/black (by 2010) (16.5 kg/m³))*	12,00	35	36	5	4
5	schallentkoppelte U-Direktabhänger mit Rigips CD Profil / Mineralwolle (z. B. Isover Trennwand Filz	20,00	100	63	2	2
6	Silicate plaster with synthetic resin additive, reinforced	0,70	35	38	2	5
	building element	**39,01**				

annotations: Importiert am 06. 03. 2022: Bauteil "DE06e_" aus Gebäude ""
[1] self-entered value [2] layer is OI-relevant from BG1

16. 05. 2022, Qiming SUN (Tianjin University)

Project name: copy of RC

F2_F1-8_ex (components from the energy certificate, BG3)



ΣΔOI3: 66 points/m²
EI_{KON}: 0,46 points/m²
mass: 453,2 kg/m²
PENRT: 789 MJ/m²
GWP-total: 66,7 kg CO_2 equ./m²
AP: 0,211 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

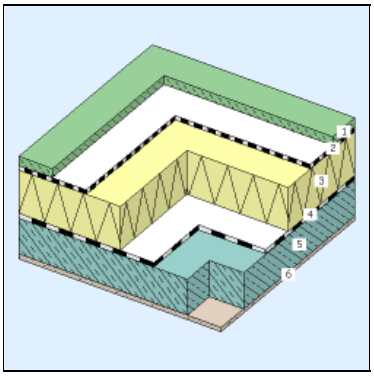
no.	layer	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Trittschalldämmung (Isover Akustic EP3) *(Timber (525 kg/m³ - e.g. larch) - rough, technically driec*	1,30	50	1	1	1
2	Splittschüttung gebunden *(Cement and cement flowing screed (1800 kg/m³))*	5,00	50	16	3	4
3	Rieselschutz *(Sisalex™ 30)*	0,01	[1]50	[2] 0	3	3
4	schallentkoppelte U-Direktabhänger mit Rigips CD Profil / Mineralwolle (z. B. Isover Trennwand Filz	15,00	100	47	2	2
	building element	**21,31**				

annotations: Importiert am 06. 03. 2022: Bauteil "DE06e_" aus Gebäude ""
[1] self-entered value [2] layer is OI-relevant from BG1

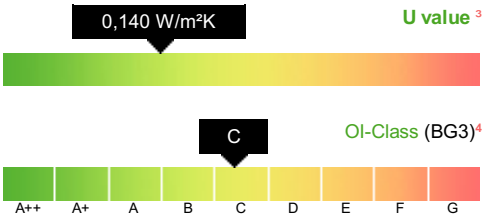
16. 05. 2022, Qiming SUN (Tianjin University)

Project name: **copy of RC**

R1 (components from the energy certificate, BG3)



ΣΔOI3: 200 points/m²
EI_{KON}: 4,17 points/m²
mass: 583,6 kg/m²
PENRT: 3.005 MJ/m²
GWP-total: 174 kg CO_2 equ./m²
AP: 0,535 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)



no.	layer	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Cement and cement flowing screed (1800 kg/m³)	5,00	50	16	3	4
2	gewebearmierte Kunststoff-Schweißbahn (>1,7 kg/m2) *(Polyethylene (PE) sealing sheeting)*	0,25	25	[1] 37	3	4
3	Expandiertes Polystyrol (Gefälledämmung) *(EPS-F grey/black (by 2010) (16.5 kg/m³))*	24,00	35	71	5	4
4	Abdichtungsbahn (sd=220m) *(Bauder TEC KSD, Bauder TEC KSD DUO)*	0,15	[2]50	[1] 8	3	5
5	Brettsperrholz BBS (5-lagig) *(Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%))*	20,00	100	63	2	2
6	Brettsperrholz BBS (5-lagig) *(Normal plastering mortar GP lime (1500 kg/m³))*	0,70	35	5	2	3
	building element	**50,10**				

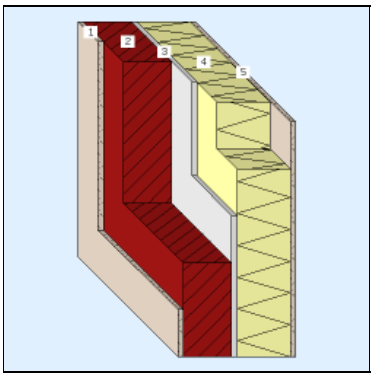
annotations: Importiert am 06. 03. 2022: Bauteil "DA05a_" aus Gebäude ""

[1] layer is OI-relevant from BG1 [2] self-entered value [3] U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. [4] For the OI class, the U-value of the component is taken into account in addition to the ecological key figures

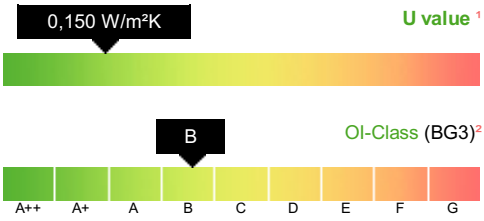
16. 05. 2022, Qiming SUN (Tianjin University)

Project name: **copy of RC**

W1_F1-8_N_ex (components from the energy certificate, BG3)



ΣΔOI3: 138 points/m²
EI_{KON}: 3,66 points/m²
mass: 327,7 kg/m²
PENRT: 1.974 MJ/m²
GWP-total: 115 kg CO_2 equ./m²
AP: 0,398 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)



no.	layer (from inside to outside)	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Normal plastering mortar GP lime (1500 kg/m³)	1,50	35	11	2	3
2	Hollow concrete blocks (1400 kg/m³)	20,00	100	17	2	2
3	Mineral adhesive	0,50	50	6	3	5
4	EPS-F grey/black (by 2010) (16.5 kg/m³)	22,00	35	65	5	4
5	Silicate plaster with synthetic resin additive, reinforced	0,70	35	38	2	5
	building element	**44,70**				

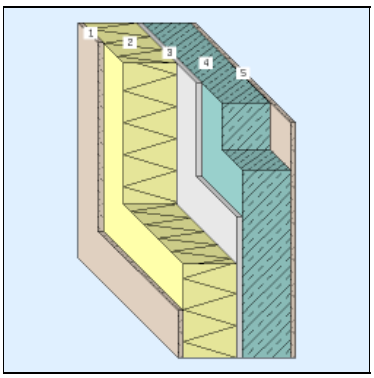
annotations: Importiert am 06. 03. 2022: Bauteil "AW 00a Betonhohlsteinmauerwerk mit Innen- und Außenputz (EPS)" aus Gebäude ""

[1] U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. [2] For the OI class, the U-value of the component is taken into account in addition to the ecological key figures

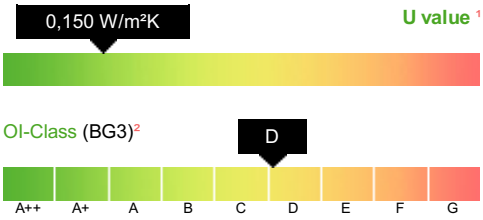
16. 05. 2022, Qiming SUN (Tianjin University)

Project name: copy of RC

W2_F1-8_L_in (components from the energy certificate, BG3)



ΣΔOI3: 184 points/m²
EI_{KON}: 3,66 points/m²
mass: 522,7 kg/m²
PENRT: 2.547 MJ/m²
GWP-total: 162 kg CO_2 equ./m²
AP: 0,541 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)



no.	layer (from inside to outside)	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Silicate plaster with synthetic resin additive, reinforced	0,70	35	38	2	5
2	EPS-F grey/black (by 2010) (16.5 kg/m³)	22,00	35	65	5	4
3	Mineral adhesive	0,50	50	6	3	5
4	Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%)	20,00	100	63	2	2
5	Normal plastering mortar GP lime (1500 kg/m³)	1,50	35	11	2	3
	building element	**44,70**				

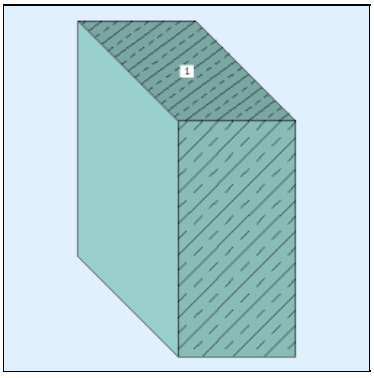
annotations: Importiert am 06. 03. 2022: Bauteil "AW 00a Betonhohlsteinmauerwerk mit Innen- und Außenputz (EPS)" aus Gebäude ""

[1] U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. [2] For the OI class, the U-value of the component is taken into account in addition to the ecological key figures

16. 05. 2022, Qiming SUN (Tianjin University)

Project name: copy of RC

B1 (interior walls, BG3)



ΣΔOI3: 37 points/m²
EI_{KON}: 0,12 points/m²
mass: 277,9 kg/m²
PENRT: 439 MJ/m²
GWP-total: 43,0 kg CO_2 equ./m²
AP: 0,114 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

no.	layer (from inside to outside)	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Brettsperrholz BBS (3-lagig) *(Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%))*	11,70	100	[1] 37	2	2
	building element	**11,70**				

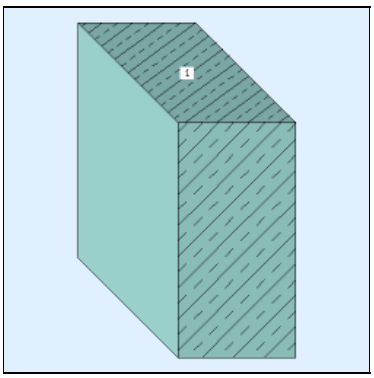
annotations: Importiert am 06. 03. 2022: Bauteil "IW01b_" aus Gebäude ""

[1] layer is OI-relevant from BG3

16. 05. 2022, Qiming SUN (Tianjin University)

Project name: **copy of RC**

C1 (interior walls, BG3)



ΣΔOI3: 30 points/m²
EI_{KON}: 0,09 points/m²
mass: 223,3 kg/m²
PENRT: 353 MJ/m²
GWP-total: 34,5 kg CO_2 equ./m²
AP: 0,0913 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

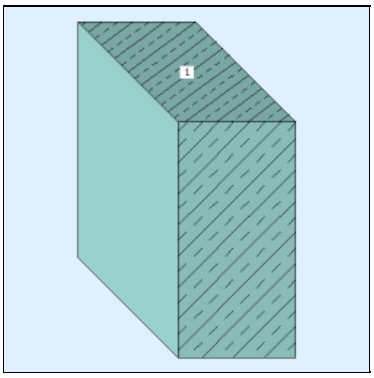
no.	layer (from inside to outside)	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Brettsperrholz BBS (3-lagig) *(Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%))*	9,40	100	[1] 30	2	2
	building element	**9,40**				

annotations: Importiert am 06. 03. 2022: Bauteil "IW01b_" aus Gebäude ""
[1] layer is OI-relevant from BG3

16. 05. 2022, Qiming SUN (Tianjin University)

Project name: **copy of RC**

S1 (interior walls, BG3)



ΣΔOI3: 19 points/m²
EI_{KON}: 0,06 points/m²
mass: 140,1 kg/m²
PENRT: 222 MJ/m²
GWP-total: 21,7 kg CO_2 equ./m²
AP: 0,0573 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

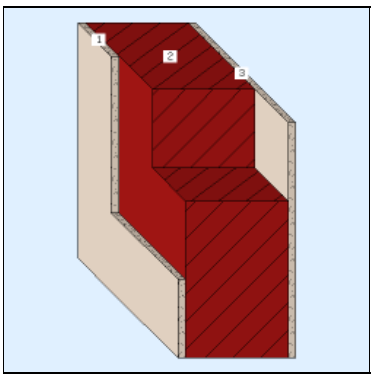
no.	layer (from inside to outside)	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Brettsperrholz BBS (3-lagig) *(Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%))*	5,90	100	[1] 19	2	2
	building element	**5,90**				

annotations: Importiert am 06. 03. 2022: Bauteil "IW01b_" aus Gebäude ""
[1] layer is OI-relevant from BG3

16. 05. 2022, Qiming SUN (Tianjin University)

Project name: copy of RC

W3_F1-8_N_in (interior walls, BG3)



ΣΔOI3: 40 points/m²
EI_{KON}: 0,34 points/m²
mass: 325,0 kg/m²
PENRT: 463 MJ/m²
GWP-total: 50,9 kg CO_2 equ./m²
AP: 0,121 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

no.	layer (from inside to outside)	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Rigips Feuerschutzplatte *(Normal plastering mortar GP lime (1500 kg/m³))*	1,50	35	[1] 11	2	3
2	Brettsperrholz BBS (3-lagig) *(Hollow concrete blocks (1400 kg/m³))*	20,00	100	[1] 17	2	2
3	Rigips Feuerschutzplatte *(Normal plastering mortar GP lime (1500 kg/m³))*	1,50	35	[1] 11	2	3
	building element	**23,00**				

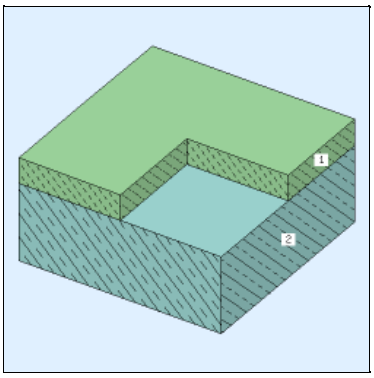
annotations: Importiert am 06. 03. 2022: Bauteil "AW15b_" aus Gebäude ""

[1] layer is OI-relevant from BG2

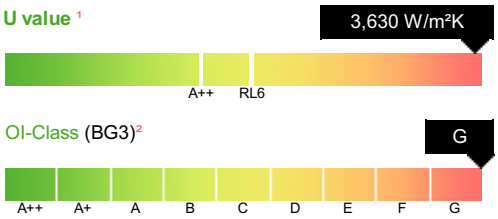
16. 05. 2022, Qiming SUN (Tianjin University)

Project name: copy of RC

R2 (old component type, BG3)



ΣΔOI3: 64 points/m²
EI_{KON}: 0,45 points/m²
mass: 446,3 kg/m²
PENRT: 748 MJ/m²
GWP-total: 76,8 kg CO_2 equ./m²
AP: 0,196 kg SO_2 equ./m²
service life: yes, replacements rates with whole numbers (according to EN 15804 standard)



no.	layer	d cm	Useful life >b	ΔOI3 pts/m²	Disposal-classification	Exploitation potential
1	Cement and cement flowing screed (1800 kg/m³)	5,00	50	16	3	4
2	Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%)	15,00	100	47	2	2
	building element	**20,00**				

annotations: Importiert am 06. 03. 2022: Bauteil "De 03: Kellerdecke, Stahlbeton" aus Gebäude ""

[1] U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. **A++:** U-Werte im Bereich der Markierung A++ (0,14 W/m²K) sind notwendig, um derartige Gebäude zu errichten. **RL6:** OIB Richtlinie 6 (April 2007); In ganz Österreich seit 1.1.08 verbindlich festgelegter max. U-Wert (0,20 W/m²K) für alle Neubauten sowie instandgesetzte bzw. erneuerte Bauteile. [2] For the OI class, the U-value of the component is taken into account in addition to the ecological key figures

16. 05. 2022, Qiming SUN (Tianjin University)

List of materials

material	mass kg	mass-percentage	cumulated percentage	Building material ID	Density kg/m³	λ-Value W/m²K	PENRT MJ/FU (functional unit)	GWP-total kg CO_2 equ./FU (functional unit)	AP kg SO_2 equ./FU (functional unit)	FU (functional unit)
Reinforced concrete 140 kg/m³ reinforcing steel (1.75 vol.%)	1.973.996	66,4%	66,4%	2142717549	2.375	2,500	1,58	0,155	0,000409	kg
Hollow concrete blocks (1400 kg/m³)	653.240	22,0%	88,4%	2142714718	1.400	1,200	0,636	0,0951	0,000181	kg
Cement and cement flowing screed (1800 kg/m³)	174.060	5,9%	94,2%	2142714882	1.800	1,100	1,03	0,120	0,000278	kg
Normal plastering mortar GP lime (1500 kg/m³)	94.412	3,2%	97,4%	2142714785	1.500	0,670	2,11	0,178	0,000524	kg
Silicate plaster with synthetic resin additive, reinforced	39.199	1,3%	98,7%	2142684396	1.800	0,800	13,3	0,651	0,00350	kg
Mineral adhesive	15.021	0,5%	99,2%	2142684362	1.800	1,000	4,07	0,341	0,000954	kg
Timber (525 kg/m³ - e.g. larch) - rough, technically dried	11.166	0,4%	99,6%	2142715293	525	0,130	2,77	-1,65	0,00104	kg
EPS-F grey/black (by 2010) (16.5 kg/m³)	9.975	0,3%	100,0%	2142714936	17	0,035	98,9	4,17	0,0149	kg
Polyethylene (PE) sealing sheeting	657	0,0%	100,0%	2142712507	980	0,500	69,8	2,10	0,00792	kg
Bauder TEC KSD, Bauder TEC KSD DUO	462	0,0%	100,0%	2142732461	1.150	0,170	41,6	0,819	0,00556	kg
Sisalex™ 30	131	0,0%	100,0%	2142684992	800	0,180	14,2	-0,953	0,00589	kg