

# Ol3 Statement

Result sheet building – new building



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Ökobilanz für Gebäude

Project name: copy of RC

## building overall

<b>*Ol3 BG3 ref.</b>	423 points	<b>GFA:</b>	3.000 m <sup>2</sup>
<b>Area:</b>		<b>ref. area<sub>Ol</sub>:</b>	3.000 m <sup>2</sup>
<b>EI10:</b>	55,24 points	<b>catalog of LCA indicators:</b>	IBO benchmarks 2012
<b>PENRT:</b>	5.587 MJ / (m <sup>2</sup> ref. area <sub>Ol</sub> )	<b>useful life considered:</b>	yes, replacements rates with whole numbers (according to EN 15804 standard)
<b>GWP-total:</b>	410 kg CO <sub>2</sub> equ. / (m <sup>2</sup> ref. area <sub>Ol</sub> )	<b>study period:</b>	150 years
<b>AP:</b>	1,26 kg SO <sub>2</sub> equ. / (m <sup>2</sup> ref. area <sub>Ol</sub> )	<b>service life catalog:</b>	2018
<b>Guide version Ol3:</b>	V4.0 (September 2018)		
<b>Guide version EI10:</b>	V2, 2018		



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

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## components from the energy certificate

		<b>ΔOl3</b>		<b>PENRT</b>	<b>GWP-total</b>	<b>AP</b>	<b>EI<sub>KON</sub></b>
quantity	building element	BG3, ref. Area	per m <sup>2</sup>	MJ	kg CO <sub>2</sub> equ.	kg SO <sub>2</sub> equ.	per m <sup>2</sup>
1.442,00 m <sup>2</sup>	F1_F1-8_in	134	278	1.758	122	0,411	3,95
194,00 m <sup>2</sup>	F2_F1-8_ex	8	123	95	9	0,025	0,76
268,00 m <sup>2</sup>	R1	31	345	455	27	0,083	6,96
1.132,00 m <sup>2</sup>	W1_F1-8_N_ex	89	235	1.259	75	0,255	6,16
537,00 m <sup>2</sup>	W2_F1-8_L_in	59	327	802	52	0,173	6,16
<b>sum</b>				<b>4.368</b>	<b>285</b>	<b>0,947</b>	

## interior walls

		<b>ΔOl3</b>		<b>PENRT</b>	<b>GWP-total</b>	<b>AP</b>	<b>EI<sub>KON</sub></b>
quantity	building element	BG3, ref. Area	per m <sup>2</sup>	MJ	kg CO <sub>2</sub> equ.	kg SO <sub>2</sub> equ.	per m <sup>2</sup>
2.142,00 m <sup>2</sup>	B1	53	74	627	61	0,162	0,23
700,00 m <sup>2</sup>	C1	14	59	165	16	0,043	0,19
538,00 m <sup>2</sup>	S1	7	37	79	8	0,021	0,12
1.201,00 m <sup>2</sup>	W3_F1-8_N_in	29	73	333	38	0,088	0,63
<b>sum</b>				<b>1.205</b>	<b>123</b>	<b>0,313</b>	

## old component type

		<b>ΔOl3</b>		<b>PENRT</b>	<b>GWP-total</b>	<b>AP</b>	<b>EI<sub>KON</sub></b>
quantity	building element	BG3, ref. Area	per m <sup>2</sup>	MJ	kg CO <sub>2</sub> equ.	kg SO <sub>2</sub> equ.	per m <sup>2</sup>
30,00 m <sup>2</sup>	R2	1	119	14,0	1,43	0,00366	0,75
<b>sum</b>				<b>14,0</b>	<b>1,43</b>	<b>0,00366</b>	

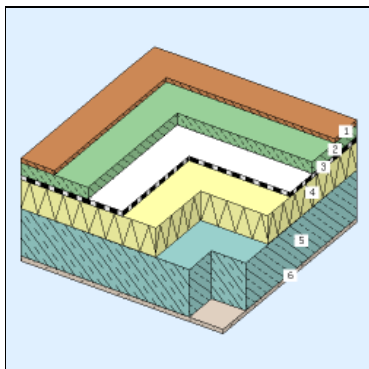
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## graphic details of solid and transparent building elements

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### F1\_F1-8\_in (components from the energy certificate, BG3)



**ΣΔOI3:** 278 points/m<sup>2</sup>

**El<sub>KON</sub>:** 3,95 points/m<sup>2</sup>

**mass:** 586,5 kg/m<sup>2</sup>

**PENRT:** 3.657 MJ/m<sup>2</sup>

**GWP-total:** 253 kg CO<sub>2</sub> equ./m<sup>2</sup>

**AP:** 0,854 kg SO<sub>2</sub> equ./m<sup>2</sup>

**service life:** yes, replacements rates with whole numbers (according to EN 15804 standard)

no. layer	d <sub>cm</sub>	Useful life >b	ΔOI3 pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Trittschalldämmung (Isover Akustic EP3) ( <i>Timber (525 kg/m<sup>3</sup> - e.g. larch) - rough, technically drier</i> )	1,30	50	3	1	1
2 Rigidur Estrichelement ( <i>Cement and cement flowing screed (1800 kg/m<sup>3</sup>)</i> )	5,00	50	25	3	4
3 Rieselschutz ( <i>Sisalex™ 30</i> )	0,01	<sup>1</sup> 50	<sup>2</sup> 0	3	3
4 Brettspertholz BBS (5-lagig) ( <i>EPS-F grey/black (by 2010) (16.5 kg/m<sup>3</sup>)</i> )	12,00	35	59	5	4
5 schallentkoppelte U-Direktabhängiger mit Rigips CD Profil / Mineralwolle (z. B. Isover Trennwand Filz)	20,00	100	126	2	2
6 Silicate plaster with synthetic resin additive, reinforced	0,70	35	64	2	5
<b>building element</b>	<b>39,01</b>				

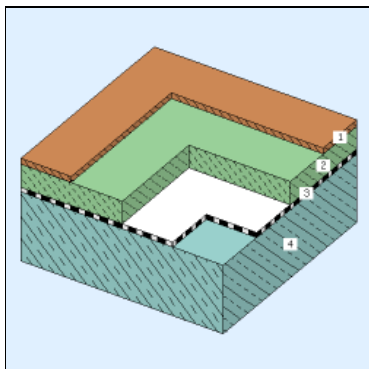
**annotations:** Importiert am 06. 03. 2022: Bauteil "DE06e\_" aus Gebäude ""

<sup>1</sup> self-entered value <sup>2</sup> layer is OI-relevant from BG1

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### F2\_F1-8\_ex (components from the energy certificate, BG3)



**ΣΔOI3:** 123 points/m<sup>2</sup>

**El<sub>KON</sub>:** 0,76 points/m<sup>2</sup>

**mass:** 453,2 kg/m<sup>2</sup>

**PENRT:** 1.464 MJ/m<sup>2</sup>

**GWP-total:** 134 kg CO<sub>2</sub> equ./m<sup>2</sup>

**AP:** 0,389 kg SO<sub>2</sub> equ./m<sup>2</sup>

**service life:** yes, replacements rates with whole numbers (according to EN 15804 standard)

no. layer	d <sub>cm</sub>	Useful life >b	ΔOI3 pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Trittschalldämmung (Isover Akustic EP3) ( <i>Timber (525 kg/m<sup>3</sup> - e.g. larch) - rough, technically drier</i> )	1,30	50	3	1	1
2 Splittschüttung gebunden ( <i>Cement and cement flowing screed (1800 kg/m<sup>3</sup>)</i> )	5,00	50	25	3	4
3 Rieselschutz ( <i>Sisalex™ 30</i> )	0,01	<sup>1</sup> 50	<sup>2</sup> 0	3	3
4 schallentkoppelte U-Direktabhängiger mit Rigips CD Profil / Mineralwolle (z. B. Isover Trennwand Filz)	15,00	100	95	2	2
<b>building element</b>	<b>21,31</b>				

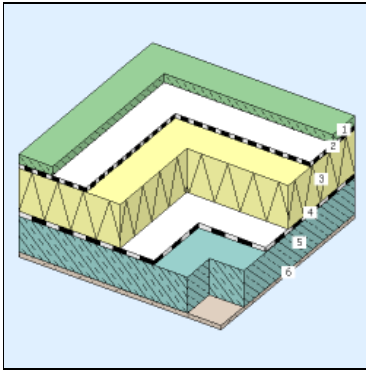
**annotations:** Importiert am 06. 03. 2022: Bauteil "DE06e\_" aus Gebäude ""

<sup>1</sup> self-entered value <sup>2</sup> layer is OI-relevant from BG1

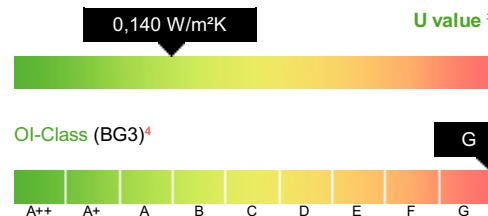
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### R1 (components from the energy certificate, BG3)



**$\Sigma \Delta OI3$ :** 345 points/m<sup>2</sup>  
 **$E_{l,KON}$ :** 6,96 points/m<sup>2</sup>  
**mass:** 583,6 kg/m<sup>2</sup>  
**PENRT:** 5.090 MJ/m<sup>2</sup>  
**GWP-total:** 307 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP:** 0,931 kg SO<sub>2</sub> equ./m<sup>2</sup>  
**service life:** yes, replacements rates with whole numbers (according to EN 15804 standard)



no. layer	d <sub>cm</sub>	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Cement and cement flowing screed (1800 kg/m <sup>3</sup> )	5,00	50	25	3	4
2 gewebearmierte Kunststoff-Schweißbahn (>1,7 kg/m <sup>2</sup> ) (Polyethylene (PE) sealing sheeting)	0,25	25	<sup>1</sup> 55	3	4
3 Expandiertes Polystyrol (Gefälledämmung) (EPS-F grey/black (by 2010) (16.5 kg/m <sup>3</sup> ))	24,00	35	118	5	4
4 Abdichtungsbahn (sd=220m) (Bauder TEC KSD, Bauder TEC KSD DUO)	0,15	<sup>2</sup> 50	<sup>1</sup> 12	3	5
5 Brettsperrholz BBS (5-lagig) (Reinforced concrete 140 kg/m <sup>3</sup> reinforcing steel (1.75 vol.%))	20,00	100	126	2	2
6 Brettsperrholz BBS (5-lagig) (Normal plastering mortar GP lime (1500 kg/m <sup>3</sup> ))	0,70	35	9	2	3
<b>building element</b>	<b>50,10</b>				

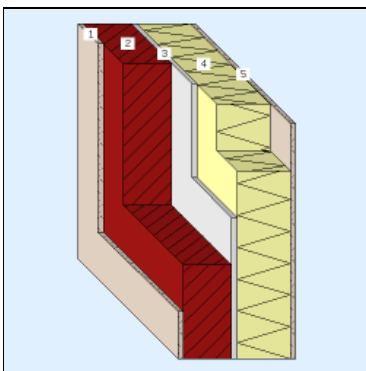
**annotations:** Importiert am 06. 03. 2022: Bauteil "DA05a\_" aus Gebäude ""

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

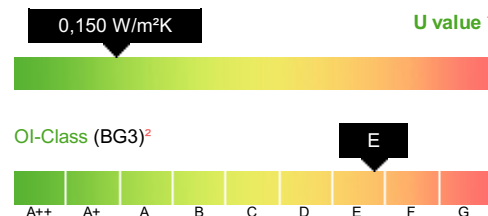
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### W1\_F1-8\_N\_ex (components from the energy certificate, BG3)



**$\Sigma \Delta OI3$ :** 235 points/m<sup>2</sup>  
 **$E_{l,KON}$ :** 6,16 points/m<sup>2</sup>  
**mass:** 327,7 kg/m<sup>2</sup>  
**PENRT:** 3.336 MJ/m<sup>2</sup>  
**GWP-total:** 199 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP:** 0,677 kg SO<sub>2</sub> equ./m<sup>2</sup>  
**service life:** yes, replacements rates with whole numbers (according to EN 15804 standard)



no. layer (from inside to outside)	d <sub>cm</sub>	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Normal plastering mortar GP lime (1500 kg/m <sup>3</sup> )	1,50	35	19	2	3
2 Hollow concrete blocks (1400 kg/m <sup>3</sup> )	20,00	100	34	2	2
3 Mineral adhesive	0,50	50	9	3	5
4 EPS-F grey/black (by 2010) (16.5 kg/m <sup>3</sup> )	22,00	35	109	5	4
5 Silicate plaster with synthetic resin additive, reinforced	0,70	35	64	2	5
<b>building element</b>	<b>44,70</b>				

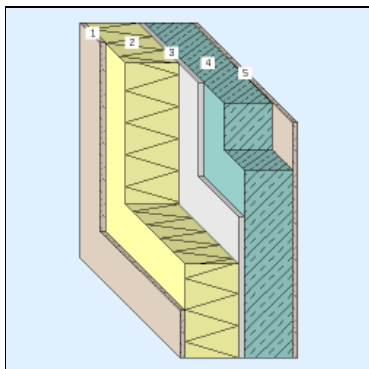
**annotations:** Importiert am 06. 03. 2022: Bauteil "AW 00a Betonhohlsteinmauerwerk mit Innen- und Außenputz (EPS)" aus Gebäude ""

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

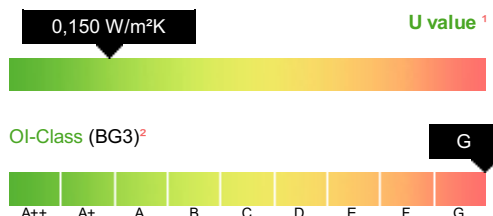
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### W2\_F1-8\_L\_in (components from the energy certificate, BG3)



$\Sigma \Delta OI3$ : 327 points/m<sup>2</sup>  
 $E_{l_{KON}}$ : 6,16 points/m<sup>2</sup>  
**mass**: 522,7 kg/m<sup>2</sup>  
**PENRT**: 4.482 MJ/m<sup>2</sup>  
**GWP-total**: 293 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP**: 0,964 kg SO<sub>2</sub> equ./m<sup>2</sup>  
**service life**: yes, replacements rates with whole numbers (according to EN 15804 standard)



no. layer (from inside to outside)	d cm	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Silicate plaster with synthetic resin additive, reinforced	0,70	35	64	2	5
2 EPS-F grey/black (by 2010) (16.5 kg/m <sup>3</sup> )	22,00	35	109	5	4
3 Mineral adhesive	0,50	50	9	3	5
4 Reinforced concrete 140 kg/m <sup>3</sup> reinforcing steel (1.75 vol.%)	20,00	100	126	2	2
5 Normal plastering mortar GP lime (1500 kg/m <sup>3</sup> )	1,50	35	19	2	3
<b>building element</b>	<b>44,70</b>				

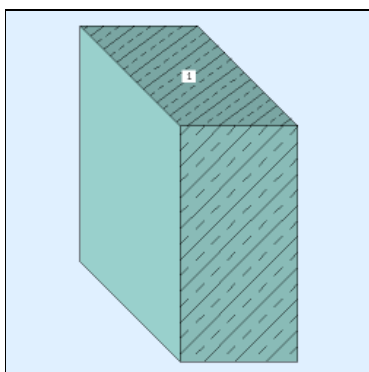
**annotations:** Importiert am 06. 03. 2022: Bauteil "AW 00a Betonhohlsteinmauerwerk mit Innen- und Außenputz (EPS)" aus Gebäude ""

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

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### B1 (interior walls, BG3)



$\Sigma \Delta OI3$ : 74 points/m<sup>2</sup>  
 $E_{l_{KON}}$ : 0,23 points/m<sup>2</sup>  
**mass**: 277,9 kg/m<sup>2</sup>  
**PENRT**: 879 MJ/m<sup>2</sup>  
**GWP-total**: 86,1 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP**: 0,227 kg SO<sub>2</sub> equ./m<sup>2</sup>  
**service life**: yes, replacements rates with whole numbers (according to EN 15804 standard)

no. layer (from inside to outside)	d cm	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Brettsperrholz BBS (3-lagig) (Reinforced concrete 140 kg/m <sup>3</sup> reinforcing steel (1.75 vol.%))	11,70	100	<sup>1</sup> 74	2	2
<b>building element</b>	<b>11,70</b>				

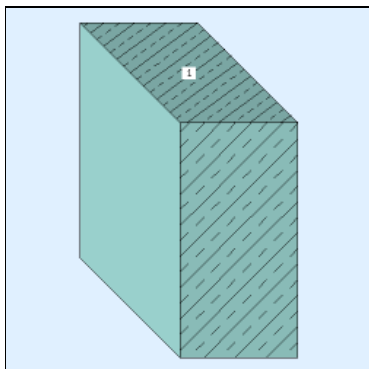
**annotations:** Importiert am 06. 03. 2022: Bauteil "IW01b\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG3

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### C1 (interior walls, BG3)



**$\Sigma\Delta\text{OI3}$ :** 59 points/m<sup>2</sup>

**$\text{EI}_{\text{KON}}$ :** 0,19 points/m<sup>2</sup>

**mass:** 223,3 kg/m<sup>2</sup>

**PENRT:** 706 MJ/m<sup>2</sup>

**GWP-total:** 69,2 kg CO<sub>2</sub> equ./m<sup>2</sup>

**AP:** 0,183 kg SO<sub>2</sub> equ./m<sup>2</sup>

**service life:** yes, replacements rates with whole numbers (according to EN 15804 standard)

no.	layer (from inside to outside)	d cm	Useful life >b	$\Delta\text{OI3}$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1	Brettsper Holz BBS (3-lagig) (Reinforced concrete 140 kg/m <sup>3</sup> reinforcing steel (1.75 vol.%))	9,40	100	<sup>1</sup> 59	2	2
<b>building element</b>		<b>9,40</b>				

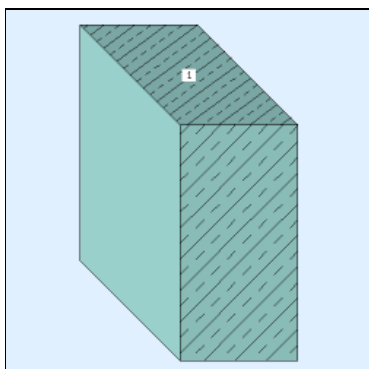
**annotations:** Importiert am 06. 03. 2022: Bauteil "IW01b\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG3

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### S1 (interior walls, BG3)



**$\Sigma\Delta\text{OI3}$ :** 37 points/m<sup>2</sup>

**$\text{EI}_{\text{KON}}$ :** 0,12 points/m<sup>2</sup>

**mass:** 140,1 kg/m<sup>2</sup>

**PENRT:** 443 MJ/m<sup>2</sup>

**GWP-total:** 43,4 kg CO<sub>2</sub> equ./m<sup>2</sup>

**AP:** 0,115 kg SO<sub>2</sub> equ./m<sup>2</sup>

**service life:** yes, replacements rates with whole numbers (according to EN 15804 standard)

no.	layer (from inside to outside)	d cm	Useful life >b	$\Delta\text{OI3}$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1	Brettsper Holz BBS (3-lagig) (Reinforced concrete 140 kg/m <sup>3</sup> reinforcing steel (1.75 vol.%))	5,90	100	<sup>1</sup> 37	2	2
<b>building element</b>		<b>5,90</b>				

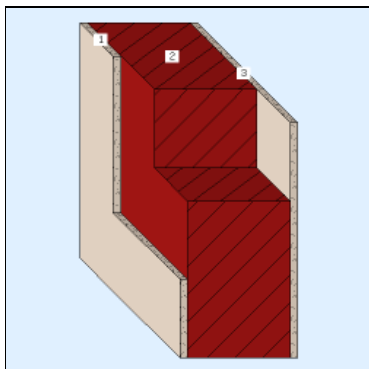
**annotations:** Importiert am 06. 03. 2022: Bauteil "IW01b\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG3

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### W3\_F1-8\_N\_in (interior walls, BG3)



$\Sigma\Delta OI3$ : 73 points/m<sup>2</sup>

$E_{kON}$ : 0,63 points/m<sup>2</sup>

mass: 325,0 kg/m<sup>2</sup>

PENRT: 832 MJ/m<sup>2</sup>

GWP-total: 93,7 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,219 kg SO<sub>2</sub> equ./m<sup>2</sup>

service life: yes, replacements rates with whole numbers (according to EN 15804 standard)

no. layer (from inside to outside)	d <sub>cm</sub>	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Rigips Feuerschutzplatte (Normal plastering mortar GP lime (1500 kg/m <sup>3</sup> ))	1,50	35	<sup>1</sup> 19	2	3
2 Brettsperrholz BBS (3-lagig) (Hollow concrete blocks (1400 kg/m <sup>3</sup> ))	20,00	100	<sup>1</sup> 34	2	2
3 Rigips Feuerschutzplatte (Normal plastering mortar GP lime (1500 kg/m <sup>3</sup> ))	1,50	35	<sup>1</sup> 19	2	3
<b>building element</b>	<b>23,00</b>				

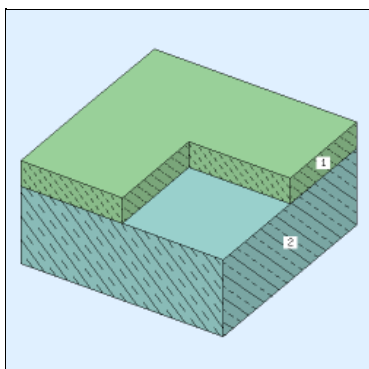
annotations: Importiert am 06. 03. 2022: Bauteil "AW15b\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG2

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### R2 (old component type, BG3)



$\Sigma\Delta OI3$ : 119 points/m<sup>2</sup>

$E_{kON}$ : 0,75 points/m<sup>2</sup>

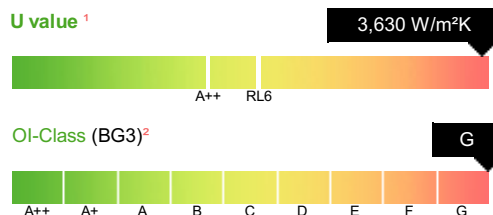
mass: 446,3 kg/m<sup>2</sup>

PENRT: 1.404 MJ/m<sup>2</sup>

GWP-total: 143 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,366 kg SO<sub>2</sub> equ./m<sup>2</sup>

service life: yes, replacements rates with whole numbers (according to EN 15804 standard)



no. layer	d <sub>cm</sub>	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Cement and cement flowing screed (1800 kg/m <sup>3</sup> )	5,00	50	25	3	4
2 Reinforced concrete 140 kg/m <sup>3</sup> reinforcing steel (1.75 vol.%)	15,00	100	95	2	2
<b>building element</b>	<b>20,00</b>				

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

<sup>1</sup> U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. A++: U-Werte im Bereich der Markierung A++ (0,14 W/m<sup>2</sup>K) 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/m<sup>2</sup>K) für alle Neubauten sowie instandgesetzte bzw. erneuerte Bauteile. <sup>2</sup> For the OI class, the U-value of the component is taken into account in addition to the ecological key figures

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## 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 CO₂ equ./FU (functional unit)	AP kg SO₂ 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