

# Ol3 Statement

Result sheet building – new building



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Ökobilanz für Gebäude

Project name: CLT

## building overall

<b>*Ol3 BG3 ref. Area:</b>	300 points	<b>GFA:</b>	3.000 m <sup>2</sup>
<b>EI10:</b>	20,69 points	<b>ref. area<sub>Ol</sub>:</b>	3.000 m <sup>2</sup>
<b>PENRT:</b>	4.488 MJ / (m <sup>2</sup> ref. area <sub>Ol</sub> )	<b>catalog of LCA indicators:</b>	IBO benchmarks 2012
<b>GWP-total:</b>	-54,6 kg CO <sub>2</sub> equ. / (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>AP:</b>	1,19 kg SO <sub>2</sub> equ. / (m <sup>2</sup> ref. area <sub>Ol</sub> )	<b>study period:</b>	150 years
<b>Guide version Ol3:</b>	V4.0 (September 2018)	<b>service life catalog:</b>	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

quantity	building element	$\Delta$ Ol3		PENRT MJ	GWP-total kg CO <sub>2</sub> equ. per m <sup>2</sup> ref. area <sub>Ol</sub>	AP kg SO <sub>2</sub> equ. per m <sup>2</sup> ref. area <sub>Ol</sub>	EI <sub>KON</sub> per m <sup>2</sup>
		BG3, ref. Area	per m <sup>2</sup>				
1.715,00 m <sup>2</sup>	F1_F1-8_in	102	178	1.493	-19,7	0,41	1,06
190,00 m <sup>2</sup>	F2_F1-8_ex	8	134	124	-5,0	0,04	0,26
268,00 m <sup>2</sup>	R1	21	234	335	2,6	0,07	1,30
30,00 m <sup>2</sup>	R2	1	120	18	-0,7	0,01	0,13
212,00 m <sup>2</sup>	W1_F1_L_ex	11	152	159	0,2	0,04	1,26
178,00 m <sup>2</sup>	W2_F1_L_in	9	153	138	-3,1	0,04	1,26
1.035,00 m <sup>2</sup>	W3_F2-8_L_ex1	51	148	756	2,4	0,19	1,28
219,00 m <sup>2</sup>	W4_F2-8_L_ex2	10	131	145	-6,9	0,04	0,83
77,00 m <sup>2</sup>	W5_F2-8_L_ex3	4	147	56	-0,4	0,01	1,16
925,00 m <sup>2</sup>	W6_F2-8_L_in	44	143	673	-13,9	0,18	1,25
211,00 m <sup>2</sup>	W7_F1-8_L_in	9	126	131	1,4	0,03	1,19
sum				4.027	-43,2	1,07	

## interior walls

quantity	building element	$\Delta$ Ol3		PENRT MJ	GWP-total kg CO <sub>2</sub> equ. per m <sup>2</sup> ref. area <sub>Ol</sub>	AP kg SO <sub>2</sub> equ. per m <sup>2</sup> ref. area <sub>Ol</sub>	EI <sub>KON</sub> per m <sup>2</sup>
		BG3, ref. Area	per m <sup>2</sup>				
538,00 m <sup>2</sup>	stair	5	28	75	-3,4	0,023	0,03
406,00 m <sup>2</sup>	W8_F1-8_N_in	13	98	204	-3,9	0,053	0,53
303,00 m <sup>2</sup>	W9_F1-8_N_in	12	117	181	-4,2	0,048	0,55
sum				461	-11,4	0,124	

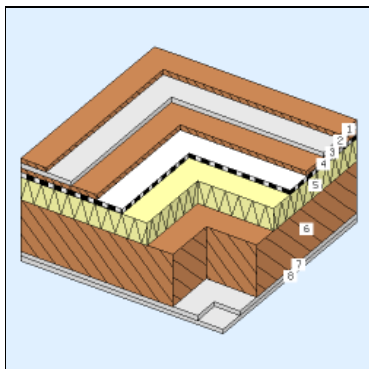
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## graphic details of solid and transparent building elements

## Project name: CLT

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



**ΣΔOI3:** 178 points/m<sup>2</sup>

**El<sub>KON</sub>:** 1,06 points/m<sup>2</sup>

**mass:** 164,6 kg/m<sup>2</sup>

**PENRT:** 2.611 MJ/m<sup>2</sup>

**GWP-total:** -34,5 kg CO<sub>2</sub> equ./m<sup>2</sup>

**AP:** 0,722 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) (Timber (525 kg/m <sup>3</sup> - e.g. larch) - rough, technically drier)	1,30	50	3	1	1
2 Rigidur Estrichelement (Rigips Feuerschutzplatte)	1,25	50	6	4	3
3 Splittschüttung gebunden (MDF panels semi-dense fibreboard (400 kg/m <sup>3</sup> ))	2,20	50	25	3	3
4 Rieselschutz (Sisalex™ 30)	0,01	<sup>1</sup> 50	<sup>2</sup> 0	3	3
5 Brettsperrholz BBS (5-lagig) (Mineral thermal insulating panel (93 kg/m <sup>3</sup> ))	10,00	50	24	2	3
6 schallentkoppelte U-Direktabhänger mit Rigips CD Profil / Mineralwolle (z. B. Isover Trennwand Filz)	23,00	100	108	1	1
7 Rigips Feuerschutzplatte	1,25	50	6	4	3
8 Rigips Feuerschutzplatte	1,25	50	6	4	3
<b>building element</b>	<b>40,26</b>				

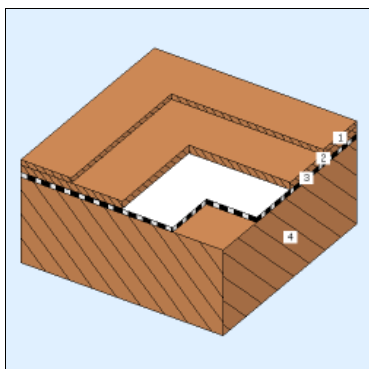
**annotations:** Importiert am 06. 03. 2022: Bauteil "DE06e\_" aus Gebäude ""

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

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

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



**ΣΔOI3:** 134 points/m<sup>2</sup>

**El<sub>KON</sub>:** 0,26 points/m<sup>2</sup>

**mass:** 124,2 kg/m<sup>2</sup>

**PENRT:** 1.958 MJ/m<sup>2</sup>

**GWP-total:** -79,5 kg CO<sub>2</sub> equ./m<sup>2</sup>

**AP:** 0,616 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) (Timber (525 kg/m <sup>3</sup> - e.g. larch) - rough, technically drier)	1,30	50	3	1	1
2 Splittschüttung gebunden (MDF panels semi-dense fibreboard (400 kg/m <sup>3</sup> ))	2,00	50	23	3	3
3 Rieselschutz (Sisalex™ 30)	0,01	<sup>1</sup> 50	<sup>2</sup> 0	3	3
4 schallentkoppelte U-Direktabhänger mit Rigips CD Profil / Mineralwolle (z. B. Isover Trennwand Filz)	23,00	100	108	1	1
<b>building element</b>	<b>26,31</b>				

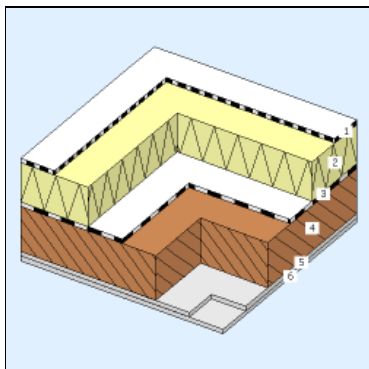
**annotations:** Importiert am 06. 03. 2022: Bauteil "DE06e\_" aus Gebäude ""

<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)



$\Sigma\Delta OI3$ : 234 points/m<sup>2</sup>

$E_{kON}$ : 1,30 points/m<sup>2</sup>

mass: 152,3 kg/m<sup>2</sup>

PENRT: 3.748 MJ/m<sup>2</sup>

GWP-total: 29,4 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,783 kg SO<sub>2</sub> equ./m<sup>2</sup>

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

0,142 W/m<sup>2</sup>K

U value <sup>3</sup>



OI-Class (BG3) <sup>4</sup>

D



no. layer	d cm	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 gewebearmierte Kunststoff-Schweißbahn (>1,7 kg/m <sup>2</sup> ) (Polyethylene (PE) sealing sheeting)	0,25	25	<sup>1</sup> 55	3	4
2 Expandiertes Polystyrol (Gefälledämmung) (Mineral thermal insulating panel (93 kg/m <sup>3</sup> ))	20,00	50	48	2	3
3 Abdichtungsbahn (sd=220m) (Bauder TEC KSD, Bauder TEC KSD DUO)	0,15	<sup>2</sup> 50	<sup>1</sup> 12	3	5
4 Brettsperrholz BBS (5-lagig) (KLH® - CLT)	23,00	100	108	1	1
5 Brettsperrholz BBS (5-lagig) (Rigips Feuerschutzplatte)	1,25	50	6	4	3
6 Brettsperrholz BBS (5-lagig) (Rigips Feuerschutzplatte)	1,25	50	6	4	3
<b>building element</b>	<b>45,90</b>				

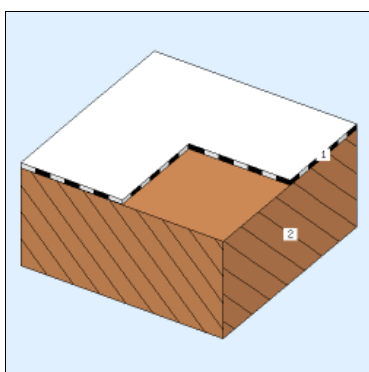
annotations: Importiert am 06. 03. 2022: Bauteil "DA05a\_" aus Gebäude ""

<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

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

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### R2 (components from the energy certificate, BG3)



$\Sigma\Delta OI3$ : 120 points/m<sup>2</sup>

$E_{kON}$ : 0,13 points/m<sup>2</sup>

mass: 111,0 kg/m<sup>2</sup>

PENRT: 1.846 MJ/m<sup>2</sup>

GWP-total: -68,7 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,523 kg SO<sub>2</sub> equ./m<sup>2</sup>

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

U value <sup>3</sup>

0,484 W/m<sup>2</sup>K



OI-Class (BG3) <sup>4</sup>

D



no. layer	d cm	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1 Abdichtungsbahn (sd=220m) (Bauder TEC KSD, Bauder TEC KSD DUO)	0,15	<sup>1</sup> 50	<sup>2</sup> 12	3	5
2 Brettsperrholz BBS (5-lagig) (KLH® - CLT)	23,00	100	108	1	1
<b>building element</b>	<b>23,15</b>				

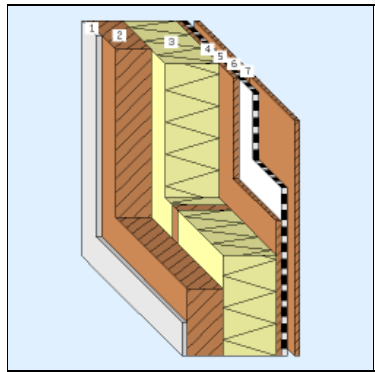
annotations: Importiert am 06. 03. 2022: Bauteil "DA05a\_" aus Gebäude ""

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

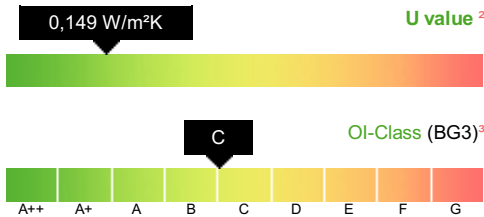
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W1\_F1\_L\_ex (components from the energy certificate, BG3)



$\Sigma\Delta OI3$ : 152 points/m<sup>2</sup>  
 $E_{l_{kon}}$ : 1,26 points/m<sup>2</sup>  
**mass**: 120,3 kg/m<sup>2</sup>  
**PENRT**: 2.244 MJ/m<sup>2</sup>  
**GWP-total**: 2,58 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP**: 0,576 kg SO<sub>2</sub> equ./m<sup>2</sup>  
**service life**: yes, replacements rates with whole numbers (according to EN 15804 standard)



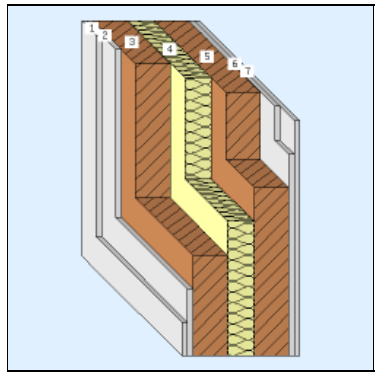
no.	layer (from inside to outside)	d cm	Useful life >b	$\Delta OI3$ pts/m <sup>2</sup>	Disposal- classification	Exploitation potential
1	Rigips Feuerschutzplatte ( <i>Rigips Feuerschutzplatte</i> )	1,25	50	6	4	3
2	Brettsperrholz BBS (3-lagig) ( <i>KLH® - CLT</i> )	14,50	100	68	1	1
3	<i>inhomogeneous (parts vertical)</i>	22,00				
	115 cm (96%) Mineral thermal insulating panel (93 kg/m <sup>3</sup> )	22,00	50	51	2	3
	5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	22,00	100	1	1	1
4	MDF panels semi-dense fibreboard (400 kg/m <sup>3</sup> )	1,50	50	17	3	3
5	Unterspannbahn ( <i>Polyethylene (PE) sealing sheeting</i> )	0,02	25	<sup>1</sup> 4	3	4
6	<i>inhomogeneous (parts vertical)</i>	3,00				
	115 cm (96%) Vertical air layer, heat flow down 26 < d <= 30 mm	3,00		<sup>1</sup> 0	0	0
	5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	3,00	50	<sup>1</sup> 0	1	1
7	Holz Außenwandverkleidung ( <i>Timber (525 kg/m<sup>3</sup> - e.g. larch) - rough, technically dried</i> )	2,00	50	<sup>1</sup> 5	1	1
<b>building element</b>		<b>44,27</b>				

**annotations:** Importiert am 01. 03. 2022: Bauteil "AW10d\_" aus Gebäude ""  
<sup>1</sup> layer is OI-relevant from BG1   <sup>2</sup> U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946.   <sup>3</sup> 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: CLT

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



**ΣΔOI3:** 153 points/m²  
**El<sub>KON</sub>:** 1,26 points/m²  
**mass:** 165,8 kg/m²  
**PENRT:** 2.326 MJ/m²  
**GWP-total:** -51,5 kg CO<sub>2</sub> equ./m²  
**AP:** 0,630 kg SO<sub>2</sub> equ./m²  
**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	ΔOI3 pts/m²	Disposal- classification	Exploitation potential
1	Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
2	Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
3	Brettsper Holz BBS (3-lagig) (KLH® - CLT)	13,00	100	<sup>1</sup> 61	1	1
4	Sheep's wool - insulation felt (18 kg/m³)	10,00	50	<sup>1</sup> 8	3	3
5	Brettsper Holz BBS (3-lagig) (KLH® - CLT)	13,00	100	<sup>1</sup> 61	1	1
6	Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
7	Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
building element		41,00				

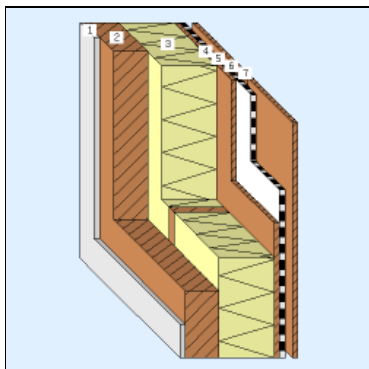
annotations: Importiert am 06. 03. 2022: Bauteil "IW11b\_" aus Gebäude ""

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

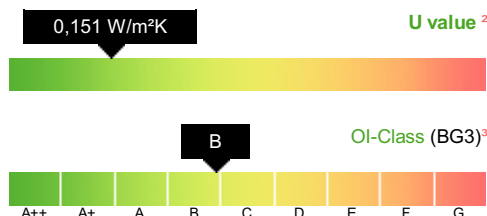
16. 05. 2022, Qiming SUN (Tianjin University)

## Project name: CLT

### W3\_F2-8\_L\_ex1 (components from the energy certificate, BG3)



$\Sigma \Delta OI3$ : 148 points/m<sup>2</sup>  
 $E_{l_{kon}}$ : 1,28 points/m<sup>2</sup>  
**mass**: 117,6 kg/m<sup>2</sup>  
**PENRT**: 2.192 MJ/m<sup>2</sup>  
**GWP-total**: 6,86 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP**: 0,557 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 Rigips Feuerschutzplatte ( <i>Rigips Feuerschutzplatte</i> )	1,50	50	7	4	3
2 Brettsperrholz BBS (3-lagig) ( <i>KLH® - CLT</i> )	13,50	100	63	1	1
3 <i>inhomogeneous (parts vertical)</i>	22,00				
115 cm (96%) Mineral thermal insulating panel (93 kg/m <sup>3</sup> )	22,00	50	51	2	3
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	22,00	100	1	1	1
4 MDF panels semi-dense fibreboard (400 kg/m <sup>3</sup> )	1,50	50	17	3	3
5 Unterspännbahn ( <i>Polyethylene (PE) sealing sheeting</i> )	0,02	25	<sup>1</sup> 4	3	4
6 <i>inhomogeneous (parts vertical)</i>	3,00				
115 cm (96%) Vertical air layer, heat flow down 26 < d ≤ 30 mm	3,00		<sup>1</sup> 0	0	0
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	3,00	50	<sup>1</sup> 0	1	1
7 Holz Außenwandverkleidung ( <i>Timber (525 kg/m<sup>3</sup> - e.g. larch) - rough, technically dried</i> )	2,00	50	<sup>1</sup> 5	1	1
<b>building element</b>	<b>43,52</b>				

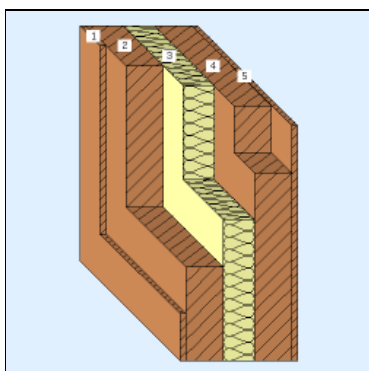
annotations: Importiert am 01. 03. 2022: Bauteil "AW10d\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG1 <sup>2</sup> U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. <sup>3</sup> 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: CLT

### W4\_F2-8\_L\_ex2 (components from the energy certificate, BG3)



$\Sigma \Delta OI3$ : 131 points/m<sup>2</sup>  
 $E_{l_{kon}}$ : 0,83 points/m<sup>2</sup>  
**mass**: 136,8 kg/m<sup>2</sup>  
**PENRT**: 1.983 MJ/m<sup>2</sup>  
**GWP-total**: -95,1 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP**: 0,604 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 Timber (525 kg/m <sup>3</sup> - e.g. larch) - rough, technically dried	2,00	50	<sup>1</sup> 5	1	1
2 Brettsperrholz BBS (3-lagig) ( <i>KLH® - CLT</i> )	12,00	100	<sup>1</sup> 56	1	1
3 Sheep's wool - insulation felt (18 kg/m <sup>3</sup> )	10,00	50	<sup>1</sup> 8	3	3
4 Brettsperrholz BBS (3-lagig) ( <i>KLH® - CLT</i> )	12,00	100	<sup>1</sup> 56	1	1
5 Timber (525 kg/m <sup>3</sup> - e.g. larch) - rough, technically dried	2,00	50	<sup>1</sup> 5	1	1
<b>building element</b>	<b>38,00</b>				

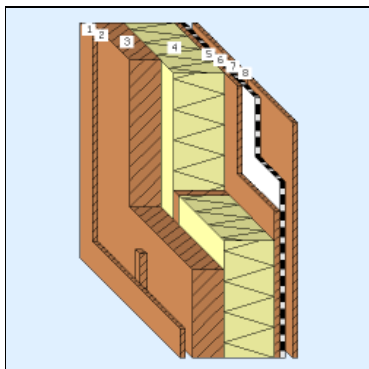
annotations: Importiert am 06. 03. 2022: Bauteil "IW11b\_" aus Gebäude ""

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

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

## Project name: CLT

### W5\_F2-8\_L\_ex3 (components from the energy certificate, BG3)



$\Sigma \Delta OI3$ : 147 points/m<sup>2</sup>

$E_{l_{kon}}$ : 1,16 points/m<sup>2</sup>

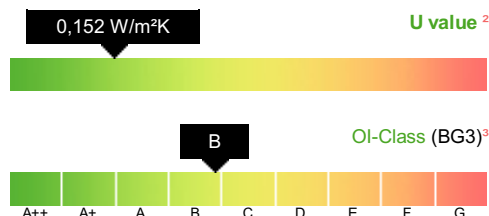
mass: 116,5 kg/m<sup>2</sup>

PENRT: 2.171 MJ/m<sup>2</sup>

GWP-total: -14,4 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,577 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 Holz Außenwandverkleidung (Timber (525 kg/m <sup>3</sup> - e.g. larch) - rough, technically dried)	2,00	50	<sup>1</sup> 5	1	1
2 inhomogeneous (parts vertical)	3,00				
115 cm (96%) Vertical air layer, heat flow down 26 < d <= 30 mm	3,00		<sup>1</sup> 0	0	0
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	3,00	50	<sup>1</sup> 0	1	1
3 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	13,50	100	63	1	1
4 inhomogeneous (parts vertical)	22,00				
115 cm (96%) Mineral thermal insulating panel (93 kg/m <sup>3</sup> )	22,00	50	51	2	3
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	22,00	100	1	1	1
5 MDF panels semi-dense fibreboard (400 kg/m <sup>3</sup> )	1,50	50	17	3	3
6 Unterspännbahn (Polyethylene (PE) sealing sheeting)	0,02	25	<sup>1</sup> 4	3	4
7 inhomogeneous (parts vertical)	3,00				
115 cm (96%) Vertical air layer, heat flow down 26 < d <= 30 mm	3,00		<sup>1</sup> 0	0	0
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	3,00	50	<sup>1</sup> 0	1	1
8 Holz Außenwandverkleidung (Timber (525 kg/m <sup>3</sup> - e.g. larch) - rough, technically dried)	2,00	50	<sup>1</sup> 5	1	1
<b>building element</b>	<b>47,02</b>				

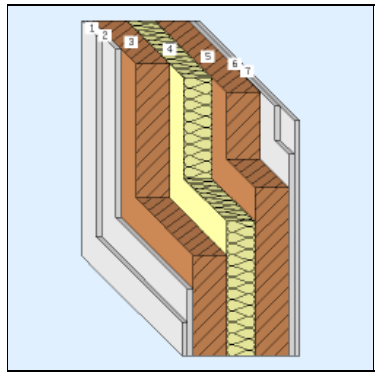
annotations: Importiert am 01. 03. 2022: Bauteil "AW10d\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG1 <sup>2</sup> U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. <sup>3</sup> 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: CLT

W6\_F2-8\_L\_in (components from the energy certificate, BG3)



$\Sigma \Delta OI3$ : 143 points/m<sup>2</sup>  
 $E_{l_{kon}}$ : 1,25 points/m<sup>2</sup>  
**mass**: 156,3 kg/m<sup>2</sup>  
**PENRT**: 2.184 MJ/m<sup>2</sup>  
**GWP-total**: -45,2 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP**: 0,587 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	1,25	50	<sup>1</sup> 6	4	3
2 Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
3 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	12,00	100	<sup>1</sup> 56	1	1
4 Sheep's wool - insulation felt (18 kg/m <sup>3</sup> )	10,00	50	<sup>1</sup> 8	3	3
5 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	12,00	100	<sup>1</sup> 56	1	1
6 Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
7 Rigips Feuerschutzplatte	1,25	50	<sup>1</sup> 6	4	3
building element	39,00				

annotations: Importiert am 06. 03. 2022: Bauteil "IW11b\_" aus Gebäude ""

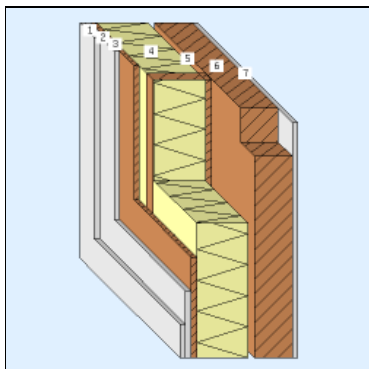
<sup>1</sup> layer is OI-relevant from BG3

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

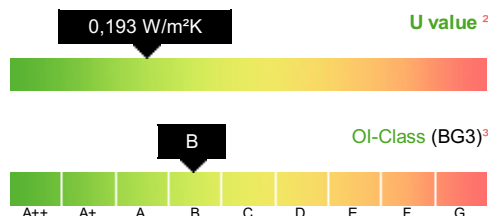


## Project name: CLT

### W7\_F1-8\_L\_in (components from the energy certificate, BG3)



**$\Sigma\Delta\text{OI3}$ :** 126 points/m<sup>2</sup>  
 **$\text{EI}_{\text{KON}}$ :** 1,19 points/m<sup>2</sup>  
**mass:** 110,6 kg/m<sup>2</sup>  
**PENRT:** 1.856 MJ/m<sup>2</sup>  
**GWP-total:** 19,5 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP:** 0,455 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 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	6	4	3
2 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	6	4	3
3 Holz Außenwandverkleidung (MDF panels semi-dense fibreboard (400 kg/m <sup>3</sup> ))	1,20	50	<sup>1</sup> 14	3	3
4 inhomogeneous (parts vertical)	16,50				
115 cm (96%) Mineral thermal insulating panel (93 kg/m <sup>3</sup> )	16,50	50	38	2	3
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	16,50	100	1	1	1
5 inhomogeneous (parts vertical)	2,00				
115 cm (96%) Vertical air layer, heat flow down 16 < d <= 20 mm	2,00		<sup>1</sup> 0	0	0
5 cm (4%) Timber (475 kg/m <sup>3</sup> - e.g. spruce/fir) - rough, technically dried	2,00	100	<sup>1</sup> 0	1	1
6 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	12,00	100	56	1	1
7 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	6	4	3
<b>building element</b>	<b>35,45</b>				

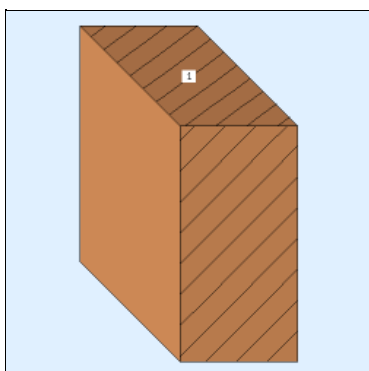
annotations: Importiert am 01. 03. 2022: Bauteil "AW10d\_" aus Gebäude ""

<sup>1</sup> layer is OI-relevant from BG1 <sup>2</sup> U value (Heat transfer coefficient) calculated according to ÖNORM EN ISO 6946. <sup>3</sup> 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: CLT

### stair (interior walls, BG3)



**$\Sigma\Delta\text{OI3}$ :** 28 points/m<sup>2</sup>  
 **$\text{EI}_{\text{KON}}$ :** 0,03 points/m<sup>2</sup>  
**mass:** 28,0 kg/m<sup>2</sup>  
**PENRT:** 418 MJ/m<sup>2</sup>  
**GWP-total:** -18,7 kg CO<sub>2</sub> equ./m<sup>2</sup>  
**AP:** 0,127 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 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	5,90	100	<sup>1</sup> 28	1	1
<b>building element</b>	<b>5,90</b>				

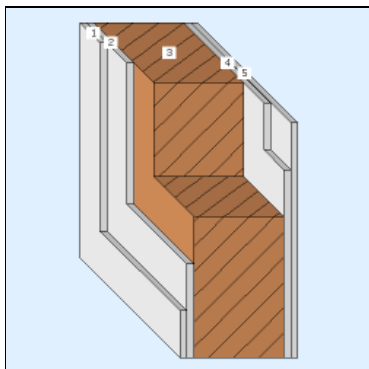
annotations: Importiert am 06. 03. 2022: Bauteil "IW01b\_" aus Gebäude ""

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

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

## Project name: CLT

### W8\_F1-8\_N\_in (interior walls, BG3)



$\Sigma\Delta OI3$ : 98 points/m<sup>2</sup>

$E_{l,KON}$ : 0,53 points/m<sup>2</sup>

mass: 116,5 kg/m<sup>2</sup>

PENRT: 1.510 MJ/m<sup>2</sup>

GWP-total: -28,5 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,392 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 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
2 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
3 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	16,00	100	<sup>1</sup> 75	1	1
4 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
5 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
<b>building element</b>	<b>21,00</b>				

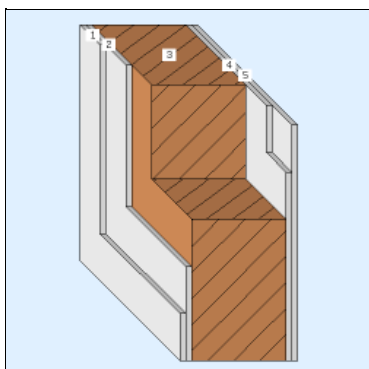
annotations: Importiert am 06. 03. 2022: Bauteil "AW15b\_" aus Gebäude ""

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

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

## Project name: CLT

### W9\_F1-8\_N\_in (interior walls, BG3)



$\Sigma\Delta OI3$ : 117 points/m<sup>2</sup>

$E_{l,KON}$ : 0,55 points/m<sup>2</sup>

mass: 135,5 kg/m<sup>2</sup>

PENRT: 1.794 MJ/m<sup>2</sup>

GWP-total: -41,2 kg CO<sub>2</sub> equ./m<sup>2</sup>

AP: 0,478 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 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
2 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
3 Brettsperrholz BBS (3-lagig) (KLH® - CLT)	20,00	100	<sup>1</sup> 94	1	1
4 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
5 Rigips Feuerschutzplatte (Rigips Feuerschutzplatte)	1,25	50	<sup>1</sup> 6	4	3
<b>building element</b>	<b>25,00</b>				

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

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

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 <sub>2</sub> equ./FU (functional unit)	AP kg SO <sub>2</sub> equ./FU (functional unit)	FU (functional unit)
KLH® - CLT	565.731	67,6%	67,6%	2142715713	475	0,120	7,46	-1,10	0,00226	kg
Rigips Feuerschutzplatte	152.037	18,2%	85,8%	2142711094	810	0,250	3,09	0,157	0,000399	kg
Mineral thermal insulating panel (93 kg/m³)	49.998	6,0%	91,7%	2142715044	93	0,041	12,3	1,01	0,00214	kg
Timber (525 kg/m³ - e.g. larch) - rough, technically dried	32.311	3,9%	95,6%	2142715293	525	0,130	2,77	-1,65	0,00104	kg
MDF panels semi-dense fibreboard (400 kg/m³)	25.569	3,1%	98,6%	2142715125	400	0,100	11,1	-1,04	0,00413	kg
Timber (475 kg/m³ - e.g. spruce/fir) - rough, technically dried	7.369	0,9%	99,5%	2142715290	475	0,120	2,52	-1,50	0,000944	kg
Sheep's wool - insulation felt (18 kg/m³)	2.380	0,3%	99,8%	2142715068	18		19,7	0,537	0,00412	kg
Polyethylene (PE) sealing sheeting	916	0,1%	99,9%	2142712507	980	0,500	69,8	2,10	0,00792	kg
Bauder TEC KSD, Bauder TEC KSD DUO	514	0,1%	100,0%	2142732461	1.150	0,170	41,6	0,819	0,00556	kg
Sisalex™ 30	152	0,0%	100,0%	2142684992	800	0,180	14,2	-0,953	0,00589	kg
Vertical air layer, heat flow down 26 < d ≤ 30 mm	48	0,0%	100,0%	2142684539	1	0,146	0,00	0,00	0,00	kg
Vertical air layer, heat flow down 16 < d ≤ 20 mm	5	0,0%	100,0%	2142684541	1	0,105	0,00	0,00	0,00	kg