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Designation: Last updated: Source: Editor: awropo09a-14 8/2/23 Holzforschung Austria HFA, PLB

External wall - awropo09a-14

external wall, timber frame construction, not ventilated, without dry lining, with rendering, other surface

Performance ratin	g			
Fire protection	REI from inside	60		
performance	KEI from outside	00		
Classified by HFA	= 3 m; maximum load E _{d,i}	_{fi} = 32,0 kN∕m		
Classified by HFA				
Germany				
F60 (from inside/from ou	utside)			
Load $E_{d,fi}$ according to the	e German certification do	cument		
Corresponding proof: man	nufacturer-specific			
Thermal performance	U	0.17 W/(m ² K)		
Calculated by TUM	Diffusion	suitable		
Acoustic performance	R _w (C;C _{tr}) L _{n.w} (C _l)	51(-3;-11) dB		
Assessed by Müller-BBM	,			
Mass per unit area	m	62.50 kg∕m ²	_	
Coloulation based on our		F		

Calculation based on gypsum plaster board type DF

Register of building materials used for this application, cross-section (from outside to inside, dimensions in mm)

	Thickness	Building material Thermal		rformance	Reaction to fire		
			λ	µ min – max	ρ	с	EN
А	7.0	plaster	1.000	10 - 35	2000	1.130	A1
В	60.0	wood-fibre insulation board WF-PT [045; 180]	0.045	5 - 7	180	2.100	E
С	200.0	construction timber (60/; e=625)	0.120	50	450	1.600	D
D	200.0	Wood fibre insulation [039; 45]	0.039	1 - 2	45	2.100	E
Е	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
F	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
F	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

0I3 _{Kon}	32.0	Built-in renewable materials	kg	42.210
Calculated by HEA		Biogenic carbon in kg CO ₂ -e.	kg CO ₂	61.720
		Energy use of Primary Energy	MJ	990.680
		Share of renewable PE	%	37.00
		Calculated by TUM		

Database GaBi (ÖKOBAUDAT)

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Details of sustainability rating

Database ecoinvent

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO ₂ -e.]	[kg SO ₂ -e.]	[kg PO ₄ -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.140	0.062	2,87E-6	0.022	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[M]	[MJ]	[M]	[LM]	[MJ]	[MJ]
A1 - A3	106.766	698.008	804.774	526.540	48.617	575.157

Database GaBi (ÖKOBAUDAT)

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO ₂ -e.]	[kg SO ₂ -e.]	[kg PO ₄ -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.111	0.023	5,44E-7	0.029	
C1 - C4		0.003	0.000	4,64E-8	0.000	
A1 - C4		0.116	0.024	5,97E-7	0.029	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[M]	[M]	[MJ]	[MJ]	[MJ]	[LM]
A1 - A3	364.185	932.666	1297.619	595.349	50.603	646.040
C1 - C4	2.023	-927.452	-925.265	23.511	-49.010	-23.300
A1 - C4	366.588	5.473	373.196	624.089	1.645	631.390