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Designation: awrhhi10a-05
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

External wall - awrhhi10a-05

external wall, timber frame construction, not ventilated, with dry lining, with cladding, wooden surface

Performance rating

Fire protection performance	**REI from inside**	30
	REI from outside	30

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32 kN/m
Classified by HFA

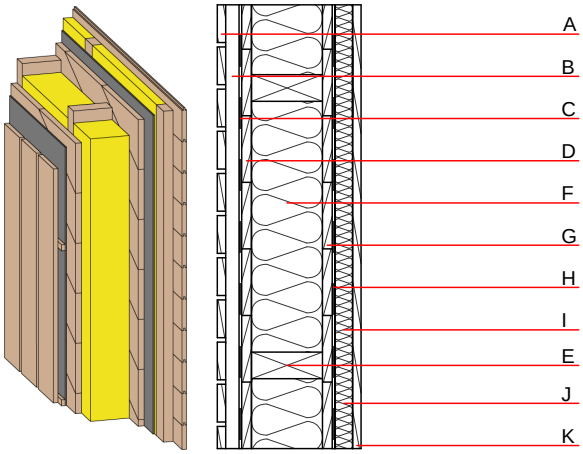
Thermal performance	**U**	0.16 W/(m²K)
	Diffusion	suitable

Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	46(-2;-7) dB
	$L_{n,w}$ (C_I)	

with closed wooden facade R_w von 49 (-3; -10)
Assessed by TGM

Mass per unit area	**m**	63.10 kg/m²



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

	Thickness	Building material	Thermal performance				Reaction to fire
			λ	μ min – max	ρ	c	EN
A	19.0	larch wood external wall cladding (open) vertical	0.155	150	600	1.600	D
B	30.0	larch wood cross battens (30/50) - ventilation	0.155	150	600	1.600	D
C		wind barrier			1000		
D	22.0	planking spruce wood diagonal	0.120	50	450	1.600	D
E	200.0	construction timber (60/..; e=625)	0.120	50	450	1.600	D
F	200.0	Wood fibre insulation [039; 50]	0.039	1 - 2	50	2.100	E
G	22.0	planking spruce wood diagonal	0.120	50	450	1.600	D
H		vapour barrier sd≥ 5m			1000		
I	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
J	40.0	Wood fibre insulation [039; 50]	0.039	1 - 2	50	2.100	E
K	19.0	planking tongue and groove	0.120	50	450	1.600	D

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	12.5

Calculated by HFA

Details of sustainability rating

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO_2-e.]	AP [kg SO_2-e.]	EP [kg PO_4-e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.111	0.047	1,68E-6	0.007	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	73.696	1093.213	1166.910	330.645	27.501	358.146