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Designation: awshhi01a-00
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, PLB

External wall - awshhi01a-00

external wall, timber frame construction, ventilated, with dry lining, with cladding, other surface

Performance rating

Fire protection performance	**REI from inside**	60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 22,5 kN/lfm
Classified by HFA

Thermal performance	**U**	0.11 W/(m²K)
	Diffusion	suitable

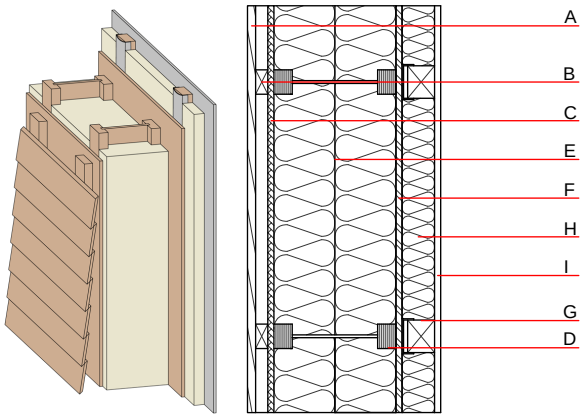
The stated thermal characteristics in the product data sheet are specified for the hard board intermediate web; the flanges are calculated with solid wood.
Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	55 dB
	$L_{n,w}$ (C_I)	

without resilient clips Rw ≥ 52 dB
Assessed by HFA

Mass per unit area	**m**	71.70 kg/m²

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 performance				Reaction to fire
			λ	μ min – max	ρ	c	EN
A	20.0	larch wood external wall cladding	0.155	150	600	1.600	D
B	30.0	spruce wood battens offset (30/60) - ventilation	0.120	50	450	1.600	D
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	300.0	Light composite wood-based beams (I-beams) with solid wood flanges (60/45) and hard board intermediate web (≥ 6,7) e=625	0.400	20 - 30	800	1.700	D
E	300.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
F	15.0	OSB	0.130	200	600	1.700	D
G	80.0	spruce wood battens on resilient clips (50/80; e=625)	0.120	50	450	1.600	D
H	80.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
I	15.0	gypsum plaster board type DF or	0.250	10	800	1.050	A2
I	15.0	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	23.7

Calculated with gypsum plaster fire protection board (GKF/DF)
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		0.138	0.059	2,15E-6	0.022	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	121.498	849.864	971.362	407.136	29.898	437.034