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Designation: awropo01b-10
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

External wall - awropo01b-10

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

Performance rating

Fire protection performance	**REI from inside**	60
	REI from outside	60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 50,0 kN/m
Classified by HFA

Thermal performance	**U**	0.20 W/(m²K)
	Diffusion	suitable

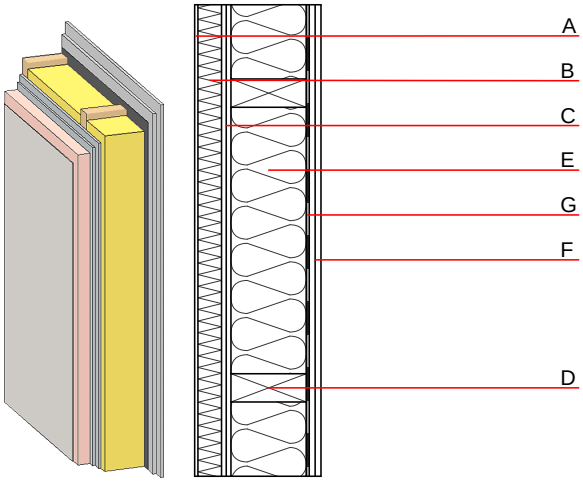
Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	50(-2;-6) dB
	$L_{n,w}$ (C_I)	

EPS-F with a dynamic stiffness of s' =20MN/m³.
Assessed by MA39

Mass per unit area	**m**	57.70 kg/m²

Calculation based on GF



Note: e=625; B=e. polystyrene

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	4.0	plaster	1.000	10 - 35	2000	1.130	A1
B	50.0	Polystyrene EPS-F [0,040]	0.040	20 - 50	17	1.450	E
C	20.0	gypsum fibre board (2x10 mm)	0.320	21	1000	1.100	A2
D	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
E	160.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
F		vapour barrier sd≥ 13m			1000		
G	25.0	gypsum fibre board (2x12,5 mm) or	0.320	21	1000	1.100	A2
G	25.0	gypsum plaster board type DF (2x12,5 mm)	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	30.1

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		0.099	0.042	2,40E-6	0.020	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	59.126	125.783	184.909	413.454	38.764	452.218