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Designation: awropi05a-01
Last updated: 8/2/23
Source: Holzforschung Austria
Editor: HFA, SP

External wall - awropi05a-01

external wall, timber frame construction, not ventilated, with 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 $E_{d,fi}$ = 32,0 kN/m
Classified by HFA

Thermal performance	**U**	0.23 W/(m²K)
	Diffusion	suitable

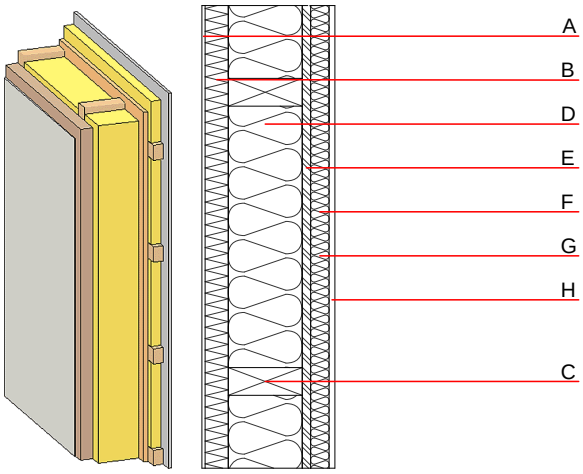
Calculated by HFA

Acoustic performance	**R_w ($C;C_{tr}$)**	52(-3;-10) dB
	$L_{n,w}$ (C_I)	

vertical battens for the dry lining screwed onto the structural timber lead to an Rw(C;Ctr)=50(-3;-10) dB
Assessed by MA39

Mass per unit area	**m**	56.10 kg/m²

Calculation based on gypsum plaster board type DF



Note: e=625

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	10.0	plaster	1.000	10 - 35	2000	1.130	A1
B	50.0	wood wool composite boards	0.090	2 - 5	370	2.000	B
C	120.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
D	120.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
E	18.0	OSB	0.130	200	600	1.700	D
F	40.0	spruce wood cross battens (a=400) or battens offset)	0.120	50	450	1.600	D
G	40.0	mineral wool [040; ≥16; <1000°C] or air layer in type 02	0.040	1	16	1.030	A1
H	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
H	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

Sustainability rating (per m²)

Database ecoinvent

$OI3_{Kon}$	24.5

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		0.106	0.044	2,20E-6	0.017	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	77.328	411.143	488.471	379.652	13.314	392.966