

**External wall - awropo22a-05**

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

**Performance rating**

<b>Fire protection performance</b>	REI from inside	45
	REI from outside	90

maximum ceiling height = 3 m; maximum load  $E_{d,fi} = 32,0 \text{ kN/m}$   
 Classified by HFA

<b>Thermal performance</b>	U	0.20 $\text{W}/(\text{m}^2\text{K})$
	Diffusion	suitable

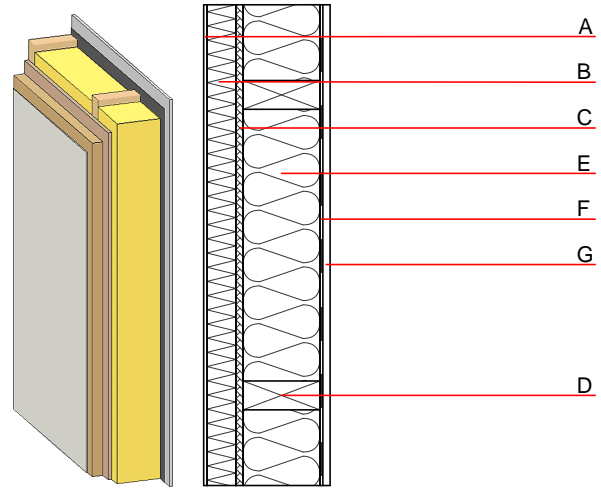
Calculated by HFA

<b>Acoustic performance</b>	$R_w (C; C_{tr})$	50(-3;-9) dB
	$L_{n,w} (C_i)$	

Assessed by MA39

<b>Mass per unit area</b>	m	65.50 $\text{kg}/\text{m}^2$
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Calculation based on GF



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 EN
			$\lambda$	$\mu$ min - max	$\rho$	c	
A	7.0	plaster	1.000	10 - 35	2000	1.130	A1
B	60.0	wood-fibre insulation board WF-PT [045; 180]	0.045	5 - 7	180	2.100	E
C	15.0	fibreboard (MDF)	0.140	11	600	1.700	D
D	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
E	160.0	mineral wool [038; ≥33; ≥1000°C]	0.038	1	33	1.030	A1
F		vapour barrier $s_d \geq 3\text{m}$			1000		
G	15.0	gypsum fibre board or	0.320	21	1000	1.100	A2
G	15.0	gypsum plaster board type DF	0.250	10	800	1.050	A2

**Sustainability rating** (per  $\text{m}^2$ )

**Database ecoinvent**

$OI3_{kon}$  37.7

Calculated by HFA

**Details of sustainability rating**

Database ecoinvent

Lifecycle (Phases)	GWP [kg CO <sub>2</sub> -e.]	AP [kg SO <sub>2</sub> -e.]	EP [kg PO <sub>4</sub> -e.]	ODP [kg R11-e.]	POCP [kg Ethen-e.]	
A1 - A3		0.165	0.061	2,31E-6	0.043	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	66.752	450.044	516.796	487.746	39.775	527.521