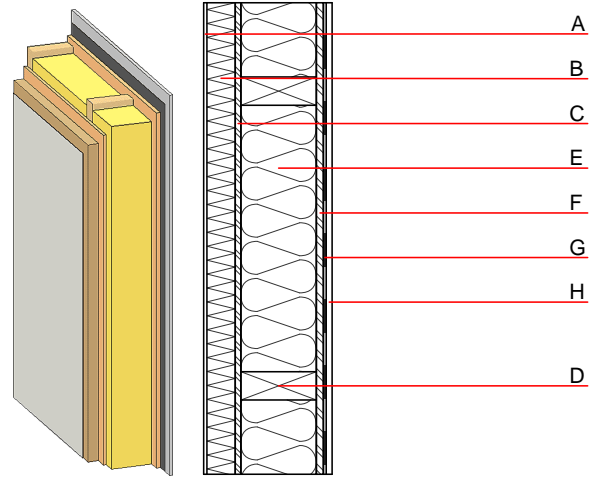


**External wall - awropo20a-07**

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

**Performance rating**

<b>Fire protection performance</b>	REI from inside REI from outside	60 60
maximum ceiling height = 3 m; maximum load $E_{d,fi} = 32,0 \text{ kN/m}$ Classified by HFA		
<b>Thermal performance</b>	U Diffusion	0.21 $\text{W}/(\text{m}^2\text{K})$ suitable
Calculated by HFA		
<b>Acoustic performance</b>	$R_w (C; C_{tr})$ $L_{n,w} (C_i)$	51 (-3;-9) dB
Assessed by MA39		
<b>Mass per unit area</b>	m	66.80 $\text{kg}/\text{m}^2$
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 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	12.0	OSB	0.130	200	600	1.700	D
D	160.0	construction timber (60/..; e=*)	0.120	50	450	1.600	D
E	160.0	sheep wool [0,041; R=26]	0.041	1	30	1.720	E
F	15.0	OSB	0.130	200	600	1.700	D
G		vapour barrier $s_d \geq 9\text{m}$			1000		
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  $\text{m}^2$ )

**Database ecoinvent**

$O13_{kon}$  30.3

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		0.128	0.055	2,86E-6	0.022	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	106.738	677.400	784.137	500.178	43.732	543.910