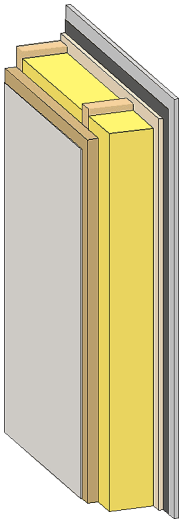
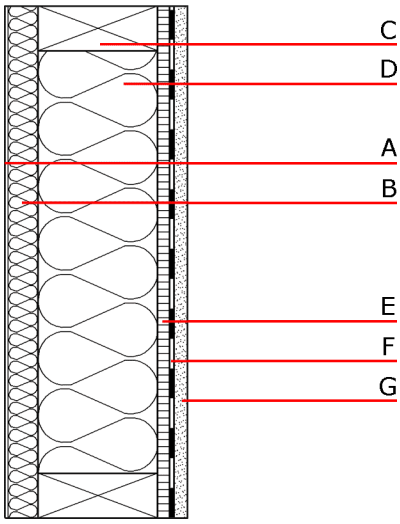
external wall - timber frame construction, not ventilated, without dry lining, with rendering





Performance rating

Fire protection performance	REI	60

maximum ceiling height = 3 m; maximum load $E_{d,fi}$ = 32,0 kN/m
Classified by MA39

Thermal performance	U[W/m²K]	0,15
	Diffusion adequate	adequate
	$m_{w,B,A}$[kg/m²]	35,7

Calculated by HFA

Acoustic performance	R_w ($C;C_{tr}$)	51 (-2; -7)
	$L_{n,w}$ (C_I)	–

Assessed by MA39

Sustainability*	$OI3_{Kon}$	21,8

Calculated by IBO

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	7,0	plaster	1,000	10 - 35	2000	1,130	A1
B	60,0	wood-fibre insulation board	0,055	5 - 7	200	2,100	E
C	240,0	finger-jointed solid construction timber (60/..; e=625)	0,130	50	500	1,600	D
D	240,0	glass wool [0,0040; R=16]	0,040	1	16	1,030	A1
E	19,0	particleboard	0,130	50 - 100	700	1,700	D
F		vapour barrier sd≥ 2m			1000		
G	15,0	gypsum plasterboards with improved properties at high temperatures (fire) or	0,250	10	800	1,050	A2
G	15,0	gypsum fibre board	0,320	21	1000	1,100	A2

***Details of sustainability rating**

GWP	AP	PEI ne	PEI e	EP	POCP
[kg CO_2 Äqv.]	[kg SO_2 Äqv.]	[MJ]	[MJ]	[kg PO_4 Äqv.]	[kg C_2H_4 Äqv.]
-22,5	0,247	866,6	809,0	0,029	0,014

Mass per unit area

m	calculation based on
[kg/m²]	
71,90	gypsum plasterboard (DF)