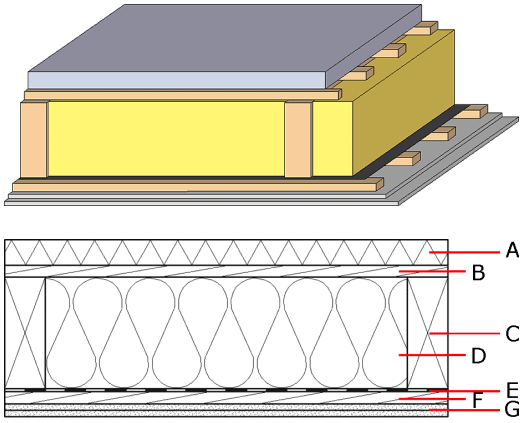
floor towards attic (uninhabitable) - timber frame construction, not suspended, dry



Performance rating

Fire protection performance	REI	60

maximum span = 5 m; maximum load $E_{d,fi}$ = 3,66 kN/m2
Classified by IBS

Thermal performance	U[W/m^{2}K]	0,20
	Diffusion adequate	adequate
	$m_{w,B,A}$[kg/m^2]	27,2

Calculated by HFA

Acoustic performance	R_w ($C;C_{tr}$)	40 (-3; -7)
	$L_{n,w}$ (C_I)	–

Assessed by TGM

Sustainability*	$OI3_{Kon}$	-6,1

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	50,0	Magnesite-bound lightweight wood wool board	0,120	2 - 5	700	1,400	
B	24,0	spruce wood cladding with spacing of cladding boards(24/100); a=400	0,130	50	500	1,600	D
C	220,0	finger-jointed solid construction timber (80/..; e=400)	0,130	50	500	1,600	D
D	220,0	glass wool [0,0040; R=16]	0,040	1	16	1,030	A1
E		vapour barrier sd≥ 2m			1000		
F	24,0	spruce wood cladding with spacing of cladding boards(24/100); a=400	0,130	50	500	1,600	D
G	25,0	gypsum plasterboards with improved properties at high temperatures (fire) (2x12,5 mm) or	0,250	10	800	1,050	A2
G	25,0	gypsum fibre board (2x12,5 mm)	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.]
-35,0	0,147	494,2	833,7	0,022	0,009

Mass per unit area

m	calculation based on
[kg/m^2]	
84,10	gypsum plasterboard (DF)