

## Pitched roof - sdrhzi06a-02

pitched roof, timber frame construction, ventilated, with dry lining, not suspended, other surface

### Performance rating

**Fire protection performance** REI 30

maximum span = 5 m; maximum load  $E_{d,fi}$  = 2,62 kN/m<sup>2</sup>  
Classified by HFA

**Thermal performance** U 0.16 W/(m<sup>2</sup>K)  
Diffusion suitable

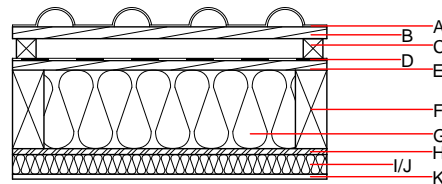
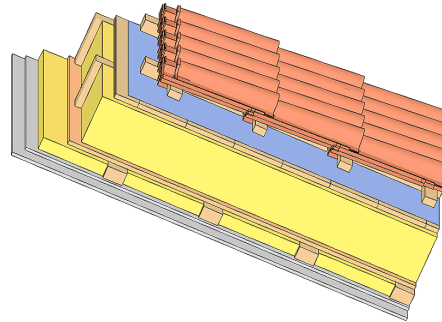
Calculated by HFA

**Acoustic performance**  $R_w$  (C;C<sub>tr</sub>) 52(-2;-8) dB  
 $L_{n,w}$  (C<sub>i</sub>)

with a tiled roof  $R_w$  = 51 dB  
Assessed by TGM

**Mass per unit area** m 51.80 kg/m<sup>2</sup>

Calculation based on gypsum plaster board type DF



**Note:** The design of the under-roof construction and of the counter-battens have to be specified according to the roof pitch and the national requirements.

### 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		concrete roof tile or tiled roof			2100		A1
B	30.0	spruce wood battens (30/50)	0.120	50	450	1.600	D
C	50.0	spruce wood counter battens (minimum height 50 mm)	0.120	50	450	1.600	D
D		sarking membrane sd ≤ 0,3m			1000		E
E	24.0	planking spruce wood closed cladding without spacing of cladding boards	0.120	50	450	1.600	D
F	220.0	construction timber (80/...; e=800)	0.120	50	450	1.600	D
G	220.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
H	15.0	OSB (sealed with airtight tape)	0.130	200	600	1.700	D
I	50.0	spruce wood cross battens (50/80;a=400)	0.120	50	450	1.600	D
J	50.0	mineral wool [040; ≥16; <1000°C]	0.040	1	16	1.030	A1
K	12.5	gypsum plaster board type DF or	0.250	10	800	1.050	A2
K	12.5	gypsum fibre board	0.320	21	1000	1.100	A2

### Sustainability rating (per m<sup>2</sup>)

#### Database ecoinvent

013<sub>Kon</sub> 30.1

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		0.141	0.065	3,10E-6	0.029	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	128.438	688.216	816.654	491.882	17.244	509.126