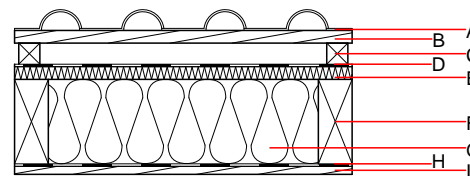
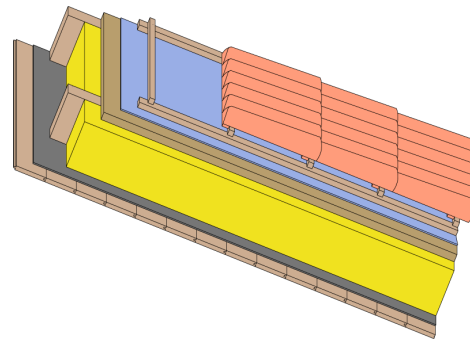


### Pitched roof - sdrho04a-02

pitched roof, timber frame construction, ventilated, without dry lining, directly, wooden surface

#### Performance rating

<b>Fire protection performance</b>	REI	30
maximum span = 5 m; maximum load $E_{d,fi} = 4,5 \text{ kN/m}^2$ Classified by HFA		
<b>Thermal performance</b>	U Diffusion	0.14 $\text{W}/(\text{m}^2\text{K})$ suitable
Calculated by HFA		
<b>Acoustic performance</b>	$R_w (C; C_{tr})$ $L_{n,w} (C_i)$	49(-4;-10) dB
Assessed by TGM		
<b>Mass per unit area</b>	m	85.10 $\text{kg}/\text{m}^2$



**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 $s_d \leq 0,3\text{m}$			1000		E
E 35.0	softboard [045; 250] - rigid underlay	0.045	5	250	2.100	E
F 280.0	construction timber (80/..; e=800)	0.120	50	450	1.600	D
G 280.0	mineral wool [038; ≥33; ≥1000°C]	0.038	1	33	1.030	A1
H	vapour barrier $s_d \geq 11\text{m}$			1000		
I 19.0	planking profile C	0.120	50	450	1.600	

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

##### Database ecoinvent

$O13_{kon}$  42.2

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		0.202	0.071	2,67E-6	0.071	

Lifecycle (Phases)	PERE [MJ]	PERM [MJ]	PERT [MJ]	PENRE [MJ]	PENRM [MJ]	PENRT [MJ]
A1 - A3	106.374	611.505	717.878	525.781	24.418	550.199