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Designation: Last updated: Source: Editor:

sdmhbi02a-02 8/2/23 Holzforschung Austria HFA, PLB

Pitched roof - sdmhbi02a-02

pitched roof, solid wood construction, ventilated, with dry lining, not suspended, other surface

Performance rating

Fire protection performance	REI	60						
maximum span = 5 m; ma Classified by HFA	ximum load E _{d,fi} = 5	kN/m^2 (without roof structure)						
Germany								
REI60								
Load E _{d,fi} according to the	Load E _{d fi} according to the German certification document							
Corresponding proof: man	ufacturer-specific							
Thermal performance	U Diffusion	0.13 W/(m ² K) suitable						
Calculated by TUM								
Acoustic performance	R _w (C;C _{tr}) L _{n,w} (C _l)	50(-1;-6) dB						
Assessed by Müller-BBM								
Mass per unit area	m	124.50 kg/m ²						



Note: The design of the under-roof construction and of the counterbattens 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 per	Reaction to fire			
			λ	µ min – max	ρ	с	EN
А		sheet metal roofing structured separation layer			7800		A1
В	24.0	spruce wood formwork	0.120	50	450	1.600	D
С	80.0	spruce wood counter battens (40/80)	0.120	50	450	1.600	D
D		sarking membrane sd \leq 0,3m			1000		E
Е	24.0	planking spruce wood full formwork	0.120	50	450	1.600	D
F	240.0	construction timber (80/; e=800)	0.120	50	450	1.600	D
G	240.0	Cellulose fibre [040; 50]	0.040	1	50	2.000	E
Н	0.2	sealing sheet (air tight)					
I	120.0	cross laminated timber	0.130	50	500	1.600	D
J	60.0	spruce wood (battens 60/60; e=400)	0.120	50	450	1.600	D
К	60.0	mineral wool [040; 11; <1000°C]	0.040	1	11	1.030	A1
L	12.5	gypsum plaster board type DF	0.250	10	800	1.050	A2

Sustainability rating (per m²)

Database ecoinvent		Database GaBi (ÖKOBAUDAT)			
OI3 _{Kon} Calculated by HFA	43.9	Built-in renewable materials	kg	118.210	
		Energy use of Primary Energy	MJ	1285.880	
		Share of renewable PE	%	36.55	
		Calculated by TUM			

dataholz.eu - Catalogue of timber building materials, components and component connections reviewed to consider thermal, acoustic, fire performance requirements and ecological drivers for timber construction released by accredited testing institutes. These datasheets will generally be accepted as proofs of compliance by building authorities.

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Details of sustainability rating

Database ecoinvent

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO ₂ -e.]	[kg SO ₂ -e.]	[kg PO ₄ -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.275	0.120	4,29E-6	0.079	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[LM]	[M]	[M]	[LM]	[MJ]	[MJ]
A1 - A3	187.035	1818.262	2005.298	835.173	33.300	868.473

Database GaBi (ÖKOBAUDAT)

Lifecycle	GWP	AP	EP	ODP	POCP	
(Phases)	[kg CO ₂ -e.]	[kg SO ₂ -e.]	[kg PO ₄ -e.]	[kg R11-e.]	[kg Ethen-e.]	
A1 - A3		0.190	0.032	4,21E-6	0.033	
C1 - C4		0.007	0.008	3,01E-7	0.001	
A1 - C4		0.199	0.041	4,52E-6	0.034	
Lifecycle	PERE	PERM	PERT	PENRE	PENRM	PENRT
(Phases)	[M]	[LM]	[M]	[LM]	[MJ]	[LM]
A1 - A3	468.500	1967.311	2436.626	781.910	84.534	865.920
C1 - C4	1.154	-1789.162	-1788.008	28.393	-0.159	28.234
A1 - C4	470.035	178.408	649.258	815.846	84.426	899.748