CEILING

SOLID TIMBER MANUAL 2.0

binderholz

Rigips SAINT-GOBAIN

1st edition, May 2019

All information in this document reflects the latest state of development and has been prepared for you according to the best of knowledge and good faith. As we always strive to offer the best possible solutions for you, changes are reserved due to improvements in terms of application or production technology. Ensure yourself that you have the most recent edition of this document available. Printing errors cannot be ruled out.

This publication is targeted at trained specialists. Any illustrations of executing activities contained in it are not understood to be any processing instructions, unless expressly marked as such. Renderings and sectional views of the individual assemblies are not depicted on scale; they serve merely as illustration.

Our products and systems are aligned to each other. Their interaction has been confirmed by internal and external testing. All information is generally based on the exclusive use of our products. Unless described otherwise, the information does not permit any conclusions as to the combinability with third-party systems or exchangeability of individual parts by external products; to this end, no warranty or liability can be extended.

Please also note that our business relationships are exclusively subject to our general terms of sale, delivery and payment (GTC) in the current version. You can receive our GTC on request or find them online at www.binderholz.com and www.rigips.com.

We are looking forward to a good cooperation and wish you great success with all of our system solutions.

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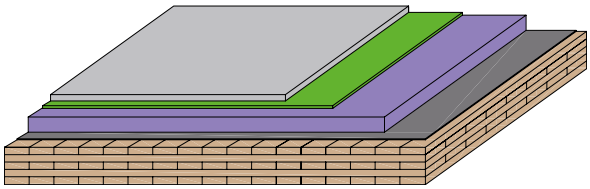
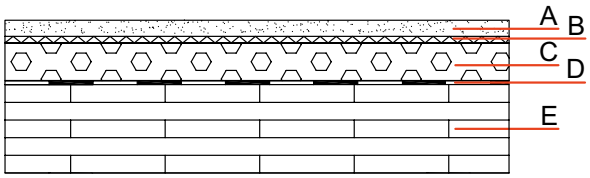
CONTENT

Designation	Fire resistance REI	Thickness [cm]	Footfall sound insulation [dB]	Air-borne sound insulation [dB]	Heat insulation [W/m²K]	Page
DE01 b ceiling	60	23.50	62	56	0.445	4
DE06 e ceiling	90	34.45	38	76	0.247	5
DE07 b ceiling	60	34.00	40	77	0.349	6
DE07 c ceiling	90	35.25	40	77	0.343	7
DE11 b ceiling	90	24.50	60	56	0.429	8
DE16 e ceiling	90	35.45	36	76	0.242	9
DE17 b ceiling	90	35.00	38	77	0.339	10
DE19 e ceiling	60	29.00	57	64	0.381	11
DE19 b ceiling	90	30.25	57	64	0.374	12
DE20 e ceiling	60	29.00	58	64	0.324	13
DE20 b ceiling	90	30.25	58	64	0.319	14
DE21 e ceiling	90	30.00	55	64	0.370	15
DE21 b ceiling	90	31.25	55	64	0.363	16
DE22 ceiling	90	30.00	56	64	0.315	17
DE23 ceiling	90	35.00	42	73	0.339	18
DE24 e ceiling	90	35.00	38	77	0.336	19
DE24 b ceiling	90	34.00	43	75	0.389	20
DE24 c ceiling	90	34.00	39	76	0.381	21
DE25 ceiling	60	31.25	47	70	0.369	22
DE26 ceiling	60	28.25	57	64	0.399	23
DE27 ceiling	60	28.25	58	64	0.336	24
DE28 ceiling	90	39.75	40	75	0.210	25
DE29 ceiling	90	39.75	40	75	0.191	26
DE30 ceiling	90	40.75	38	75	0.206	27
DE31 ceiling	90	40.75	38	75	0.188	28
DE32 ceiling	90	45.75	38	75	0.197	29
DE33 ceiling	90	42.00	33	75	0.204	30
DE34 ceiling	60	24.50	64	55	0.428	31
DE35 ceiling	90	25.50	62	55	0.413	32
DE36 ceiling	60	33.25	60	55	0.232	33

Ceiling – solid timber construction, visual surface quality, dry: DE01 b





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,d}$) = 7 [kN/m²]		
Heat insulation	U [W/m²K]	0.445
Sound insulation	R_w [dB]	56
	$L_{n,w}$ [dB]	62
Ecology	ΔOI3	46

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	25	Rigidur or Rigiplan screed element	0.35	1,200	A2
B	10	Footfall sound insulation MW-T, s' ≤ 35 MN/m³, laminated or loose	0.035	185	A2
C	60	Rigips loose balancing filling	0.16	460	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
Total	**23.50 cm**			**122.45 kg/m²**	

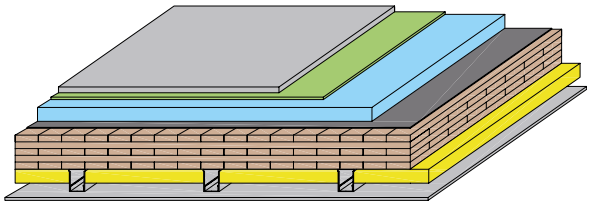
Ecological rating in detail | www.baubook.info/massivholzhandbuch

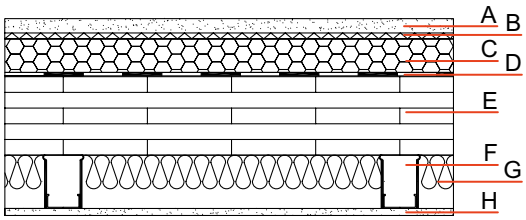
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
732	-54.8	0.228

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspended, dry: DE06 e





Building physical and ecological rating

Fire protection	REI	90
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 7 [kN/m²]		
Heat insulation	U [W/m²K]	0.247
Sound insulation	R_w [dB]	76
	$L_{n,w}$ [dB]	38
Ecology	ΔOI3	83

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	25	Rigidur screed element	0.35	1,200	A2
B	12	Footfall sound insulation s' ≤ 26 MN/m³, e.g. Isover Akustic EP3*	0.039	150	A1
C	60	Lime chippings filling, bonded	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**34.45 cm**			**197.24 kg/m²**	

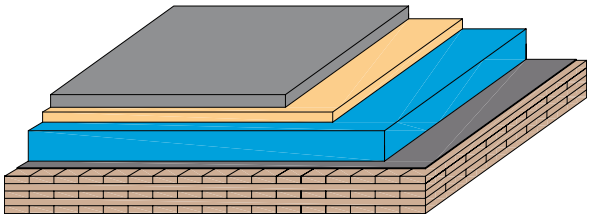
Ecological rating in detail | www.baubook.info/massivholzhandbuch

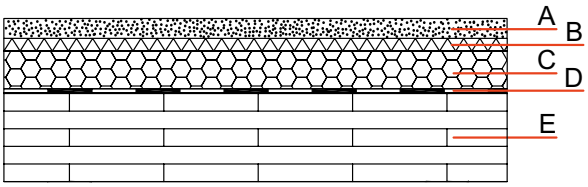
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,137	-17.4	0.358

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE07 b





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,d}$) = 7 [kN/m²]		
Heat insulation	U [W/m²K]	0.349
Sound insulation	R_w [dB]	77
	$L_{n,w}$ [dB]	40
Ecology	ΔOI3	84

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	100	Lime chippings filling, bonded with Köhnke K101	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
Total	**34 cm**			**336.20 kg/m²**	

Ecological rating in detail | www.baubook.info/massivholzhandbuch

PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,110	4.72	0.345

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

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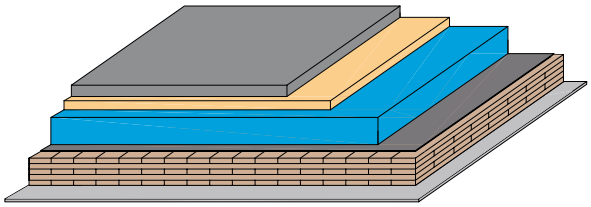
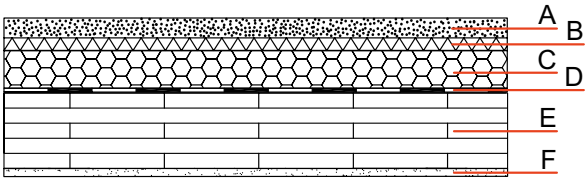
Ceiling – solid timber construction, wet: DE07 c





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.7 m; max. load ($q_{fi,d}$) = 5 [kN/m²]		
Heat insulation	U [W/m²K]	0.343
Sound insulation	R_w [dB]	77
	$L_{n,w}$ [dB]	40
Ecology	ΔOI3	86

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	100	Lime chippings filling, bonded with Köhnke K101	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**35.25 cm**			**346.20 kg/m²**	

Ecological rating in detail | www.baubook.info/massivholzhandbuch

PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,145	6.27	0.349

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs.
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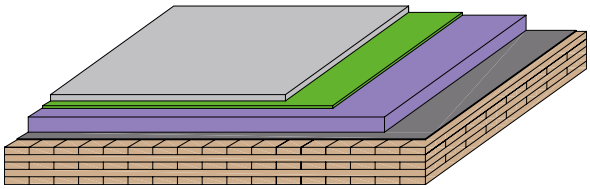
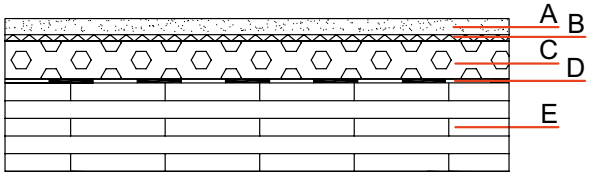
Ceiling – solid timber construction, visual surface quality, dry: DE11 b





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.429
Sound insulation	R_w [dB]	56
	$L_{n,w}$ [dB]	60
Ecology	ΔOI3	47

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	25	Rigidur or Rigiplan screed element	0.35	1,200	A2
B	10	Footfall sound insulation MW-T, s' ≤ 35 MN/m³, laminated or loose	0.035	185	A2
C	60	Rigips loose balancing filling	0.16	460	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**24.50 cm**			**126.95 kg/m²**	

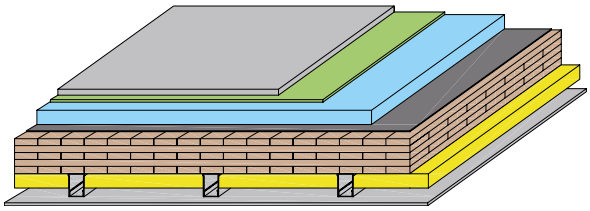
Ecological rating in detail | www.baubook.info/massivholzhandbuch

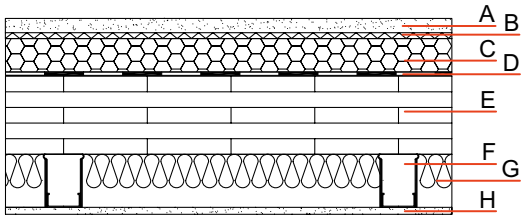
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
765	-59.8	0.238

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspended, dry: DE16 e





Building physical and ecological rating

Fire protection	REI	90
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 9.75 [kN/m²]		
Heat insulation	U [W/m²K]	0.242
Sound insulation	R_w [dB]	76
	$L_{n,w}$ [dB]	36
Ecology	ΔOI3	84

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	Building material	Heat conductivity λ [W/(m · K)]	Gross density ρ [kg/m³]	Flammability class EN 13501-1
A	25	Rigidur screed element	0.35	1,200	A2
B	12	Footfall sound insulation s' ≤ 26 MN/m³, e.g. Isover Akustic EP3*	0.039	150	A1
C	60	Lime chippings filling, bonded	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**35.45 cm**			**201.74 kg/m²**	

Ecological rating in detail | www.baubook.info/massivholzhandbuch

PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,170	-22.4	0.368

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
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Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

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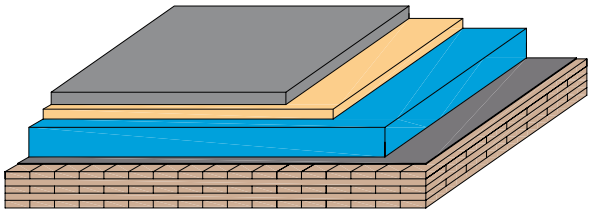
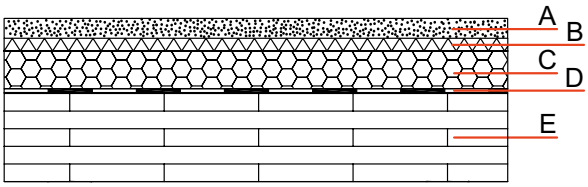
Ceiling – solid timber construction, visual surface quality, wet: DE17 b





Building physical and ecological rating

	Fire protection	REI	90
	max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
	Heat insulation	U [W/m²K]	0.339
	Sound insulation	R_w [dB]	77
		$L_{n,w}$ [dB]	38
	Ecology	ΔOI3	85

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	100	Lime chippings filling, bonded with Köhnke K101	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**35 cm**			**340.70 kg/m²**	

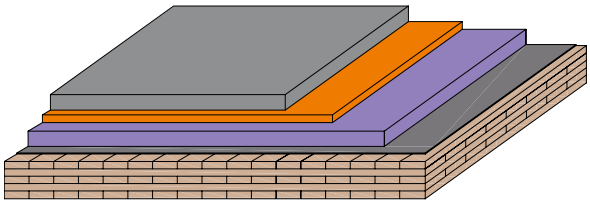
Ecological rating in detail | www.baubook.info/massivholzhandbuch

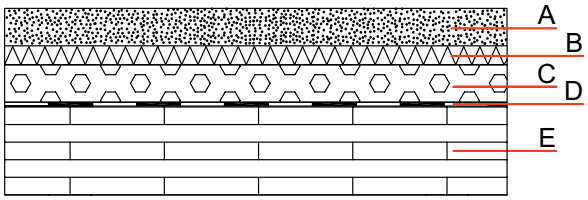
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,143	-0.246	0.355

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE19 a





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 7 [kN/m²]		
Heat insulation	U [W/m²K]	0.381
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	57
Ecology	ΔOI3	54

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
Total	**29 cm**			**223.50 kg/m²**	

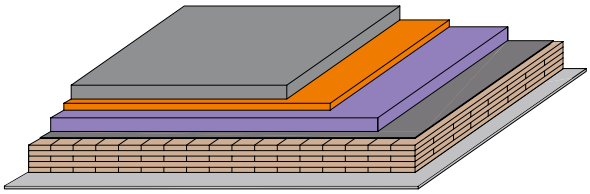
Ecological rating in detail | www.baubook.info/massivholzhandbuch

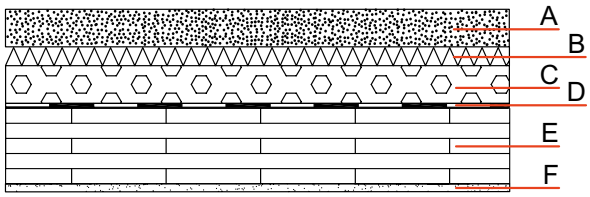
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
768	-35.1	0.260

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

Equal fire resistance and sound insulation when using ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, wet: DE19 b





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.7 m; max. load ($q_{fi,d}$) = 5 [kN/m²]		
Heat insulation	U [W/m²K]	0.374
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	57
Ecology	ΔOI3	56

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**30.25 cm**			**233.50 kg/m²**	

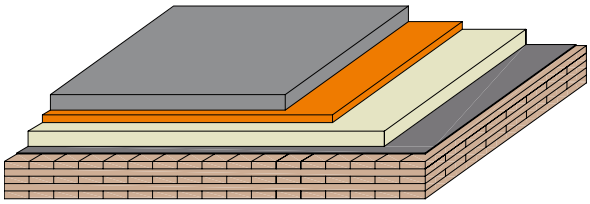
Ecological rating in detail | www.baubook.info/massivholzhandbuch

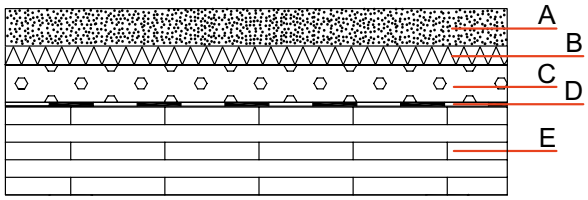
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
803	-33.5	0.263

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE20 a





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 7 [kN/m²]		
Heat insulation	U [W/m²K]	0.324
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	58
Ecology	ΔOI3	51

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Balancing filling weber.floor 4520, cement-bonded	0.05	165	E
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
Total	**29 cm**			**197.40 kg/m²**	

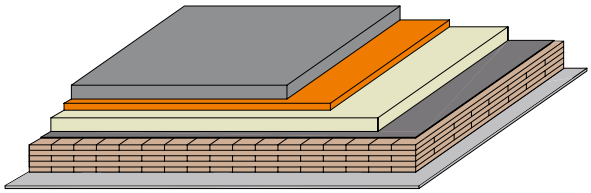
Ecological rating in detail | www.baubook.info/massivholzhandbuch

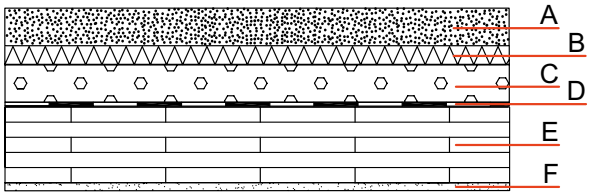
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
759	-41.3	0.244

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

Equal fire resistance and sound insulation when using ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, wet: DE20 b





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.7 m; max. load ($q_{fi,d}$) = 5 [kN/m²]		
Heat insulation	U [W/m²K]	0.319
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	58
Ecology	ΔOI3	53

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Balancing filling weber.floor 4520, cement-bonded	0.05	165	E
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**30.25 cm**			**207.40 kg/m²**	

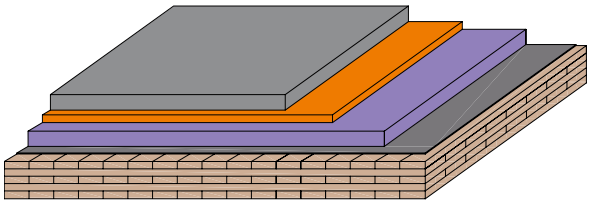
Ecological rating in detail | www.baubook.info/massivholzhandbuch

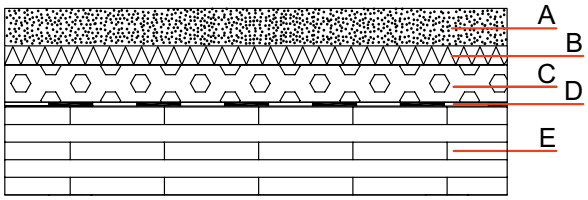
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
794	-39.8	0.248

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE21 a





Building physical and ecological rating

	Fire protection	REI	90
	max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
	Heat insulation	U [W/m²K]	0.370
	Sound insulation	R_w [dB]	64
		$L_{n,w}$ [dB]	55
	Ecology	ΔOI3	56

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**30 cm**			**228 kg/m²**	

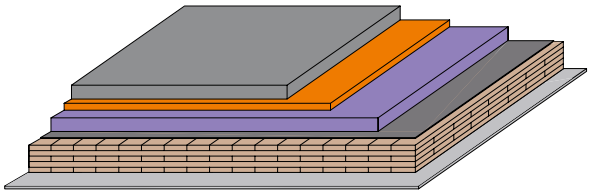
Ecological rating in detail | www.baubook.info/massivholzhandbuch

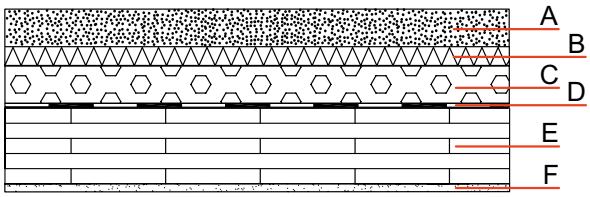
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
802	-40	0.270

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

Equal fire resistance and sound insulation when using ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, wet: DE21 b





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.363
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	55
Ecology	ΔOI3	58

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**31.25 cm**			**238 kg/m²**	

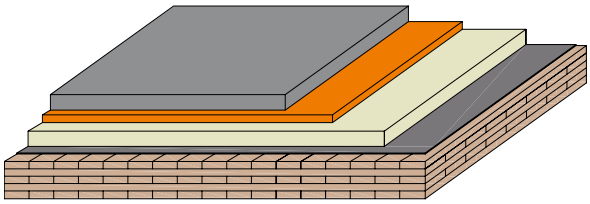
Ecological rating in detail | www.baubook.info/massivholzhandbuch

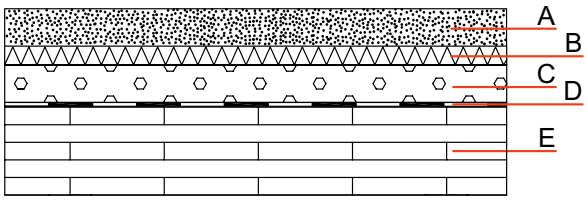
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
836	-38.5	0.274

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE22





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.315
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	56
Ecology	ΔOI3	53

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Balancing filling weber.floor 4520, cement-bonded	0.05	165	E
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**30 cm**			**201.90 kg/m²**	

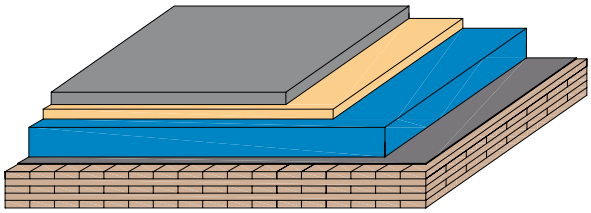
Ecological rating in detail | www.baubook.info/massivholzhandbuch

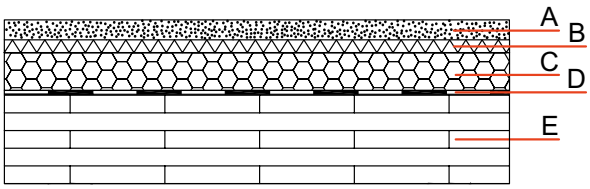
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
792	-46.3	0.254

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

Equal fire resistance and sound insulation when using ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE23





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.339
Sound insulation	R_w [dB]	73
	$L_{n,w}$ [dB]	42
Ecology	ΔOI3	85

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	100	Lime chippings filling, bonded with StoPrefa Coll SB	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**35 cm**			**340.70 kg/m²**	

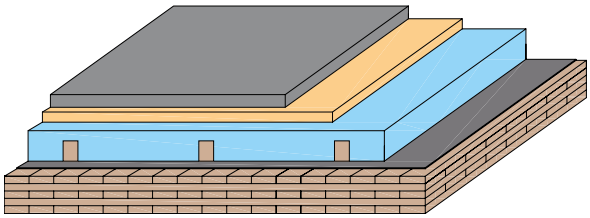
Ecological rating in detail | www.baubook.info/massivholzhandbuch

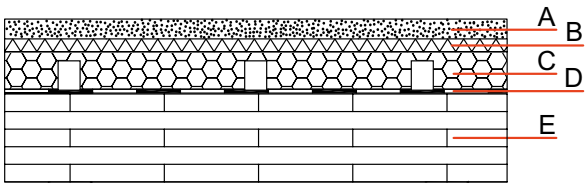
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,143	-0.246	0.355

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE24 a





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.336
Sound insulation	R_w [dB]	77
	$L_{n,w}$ [dB]	38
Ecology	ΔOI3	82

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	100	Lime chippings filling in squared timber 60 x 80 (e = 660 mm)	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**35 cm**			**340.70 kg/m²**	

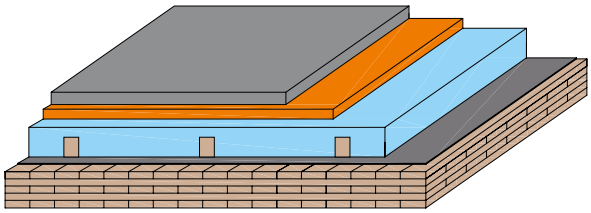
Ecological rating in detail | www.baubook.info/massivholzhandbuch

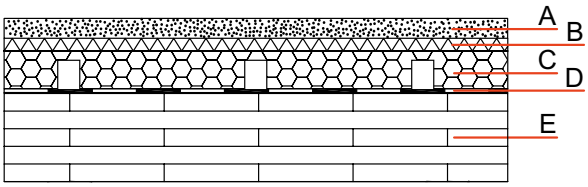
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,119	-11.6	0.347

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE24 b





Building physical and ecological rating

	Fire protection	REI	90
	max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
	Heat insulation	U [W/m²K]	0.389
	Sound insulation	R_w [dB]	75
		$L_{n,w}$ [dB]	43
	Ecology	ΔOI3	82

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	100	Lime chippings filling in squared timber 60 x 80 (e = 660 mm)	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**34 cm**			**342 kg/m²**	

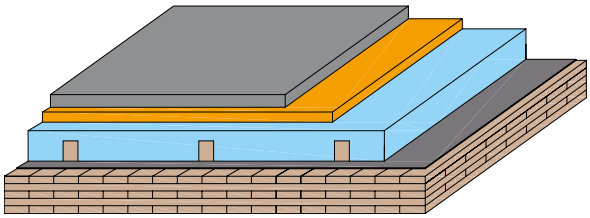
Ecological rating in detail | www.baubook.info/massivholzhandbuch

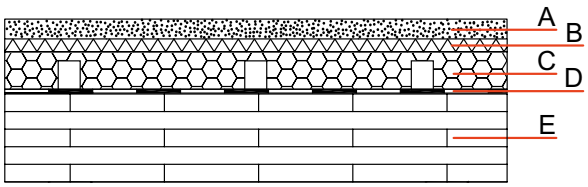
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,075	-10.9	0.359

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

Equal fire resistance and sound insulation when using ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, wet: DE24 c





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.55 m; max. load ($q_{fi,d}$) = 4.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.381
Sound insulation	R_w [dB]	76
	$L_{n,w}$ [dB]	39
Ecology	ΔOI3	79

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover TDPS s' ≤ 7 MN/m³	0.033	80	A2
C	100	Lime chippings filling in squared timber 60 x 80 (e = 660 mm)	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**34 cm**			**339.90 kg/m²**	

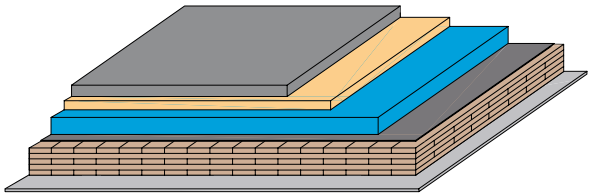
Ecological rating in detail | www.baubook.info/massivholzhandbuch

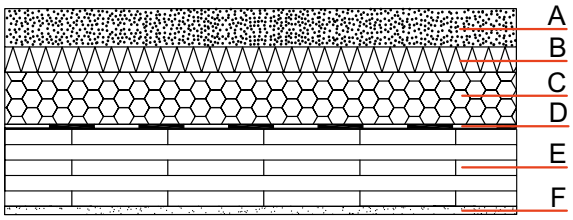
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,093	-12.9	0.339

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, wet: DE25





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,d}$) = 5.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.369
Sound insulation	R_w [dB]	70
	$L_{n,w}$ [dB]	47
Ecology	ΔOI3	75

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	80	Lime chippings filling, bonded with Köhnke K101	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	120	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**31.25 cm**			**307.20 kg/m²**	

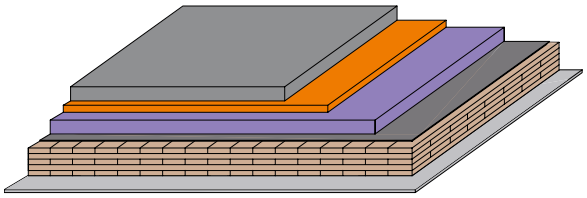
Ecological rating in detail | www.baubook.info/massivholzhandbuch

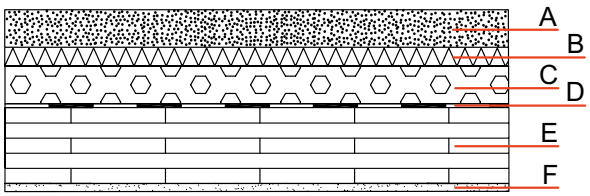
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
999	5.55	0.303

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, wet: DE26





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,\ d}$) = 5.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.399
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	57
Ecology	ΔOI3	53

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	120	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**28.25 cm**			**224.50 kg/m²**	

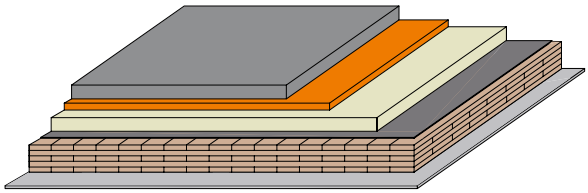
Ecological rating in detail | www.baubook.info/massivholzhandbuch

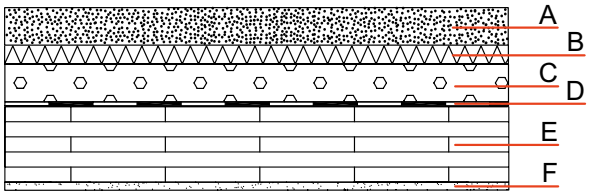
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
736	-23.6	0.243

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, wet: DE27





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,d}$) = 5.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.336
Sound insulation	R_w [dB]	64
	$L_{n,w}$ [dB]	58
Ecology	ΔOI3	50

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Balancing filling weber.floor 4520, cement-bonded	0.05	165	E
D	—	Penetration shielding	0.2	636	E
E	120	CLT BBS, 5-layered	0.12	450	D
F	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**28.25 cm**			**198.40 kg/m²**	

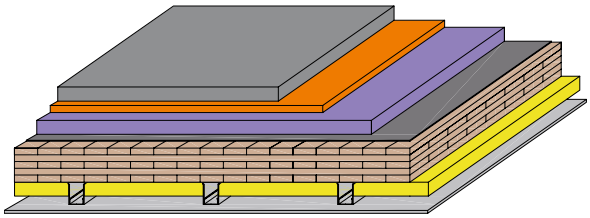
Ecological rating in detail | www.baubook.info/massivholzhandbuch

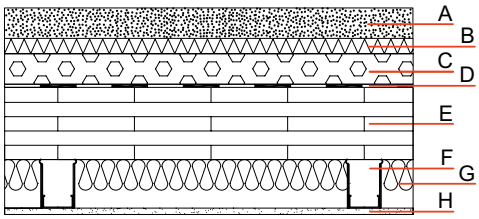
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
727	-29.9	0.228

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspendedy, wet: DE28





Building physical and ecological rating

Fire protection	REI	90
max. width l = 4.70 m; max. load ($q_{fi,d}$) = 5 [kN/m²]		
Heat insulation	U [W/m²K]	0.210
Sound insulation	R_w [dB]	75
	$L_{n,w}$ [dB]	40
Ecology	ΔOI3	61

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**39.75 cm**			**235.94 kg/m²**	

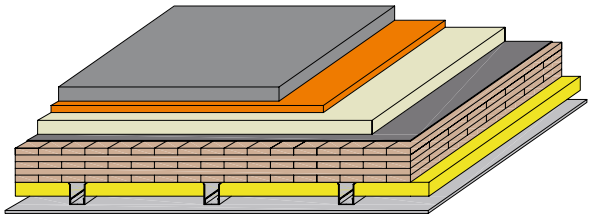
Ecological rating in detail | www.baubook.info/massivholzhandbuch

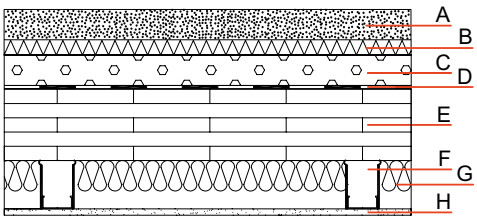
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
858	-30.5	0.282

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspendedy, wet: DE29





Building physical and ecological rating

	Fire protection	REI	90
	max. width l = 4.70 m; max. load ($q_{fi,d}$) = 5 [kN/m²]		
	Heat insulation	U [W/m²K]	0.191
	Sound insulation	R_w [dB]	75
		$L_{n,w}$ [dB]	40
	Ecology	ΔOI3	58

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Balancing filling weber.floor 4520, cement-bonded	0.05	165	E
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**39.75 cm**			**209.84 kg/m²**	

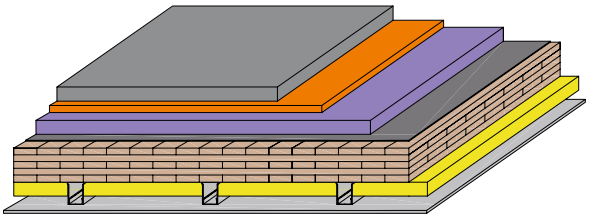
Ecological rating in detail | www.baubook.info/massivholzhandbuch

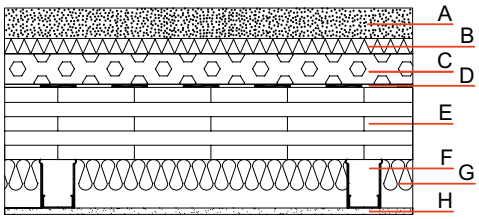
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
849	-36.8	0.266

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspendedy, wet: DE30





Building physical and ecological rating

Fire protection	REI	90
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 9.75 [kN/m²]		
Heat insulation	U [W/m²K]	0.206
Sound insulation	R_w [dB]	75
	$L_{n,w}$ [dB]	38
Ecology	ΔOI3	63

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	Building material	Heat conductivity λ [W/(m · K)]	Gross density ρ [kg/m³]	Flammability class EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**40.75 cm**			**240.44 kg/m²**	

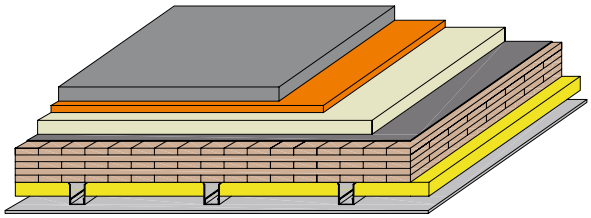
Ecological rating in detail | www.baubook.info/massivholzhandbuch

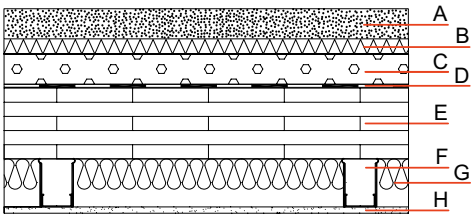
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
892	-35.5	0.292

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspendedy, wet: DE31





Building physical and ecological rating

Fire protection	REI	90
max. width l = 5 m; max. load ($q_{fi,d}$) = 9.75 [kN/m²]		
Heat insulation	U [W/m²K]	0.188
Sound insulation	R_w [dB]	75
	$L_{n,w}$ [dB]	38
Ecology	ΔOI3	59

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Balancing filling weber.floor 4520, cement-bonded	0.05	165	E
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**40.75 cm**			**214.34 kg/m²**	

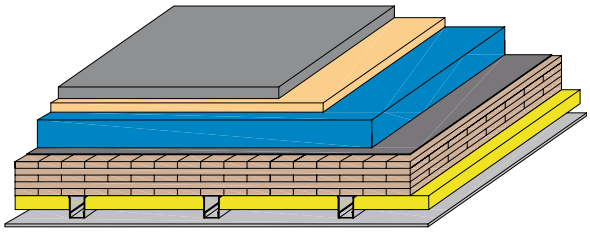
Ecological rating in detail | www.baubook.info/massivholzhandbuch

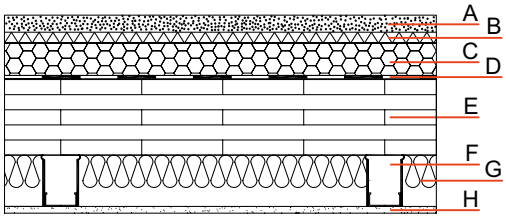
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
883	-41.8	0.277

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspendedy, wet: DE32





Building physical and ecological rating

Fire protection	REI	90
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 9.75 [kN/m²]		
Heat insulation	U [W/m²K]	0.197
Sound insulation	R_w [dB]	75
	$L_{n,w}$ [dB]	38
Ecology	ΔOI3	92

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	40	Footfall sound insulation Isover Akustic EP1 s' ≤ 7 MN/m³	0.032	80	A1
C	100	Lime chippings filling, bonded with StoPrefa Coll SB	0.7	1,500	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**45.75 cm**			**353.14 kg/m²**	

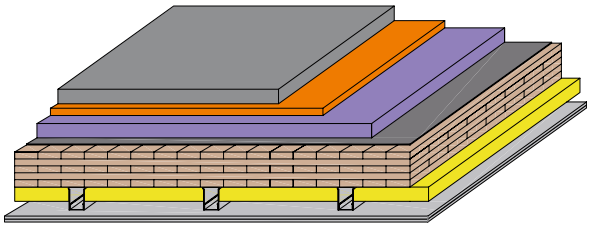
Ecological rating in detail | www.baubook.info/massivholzhandbuch

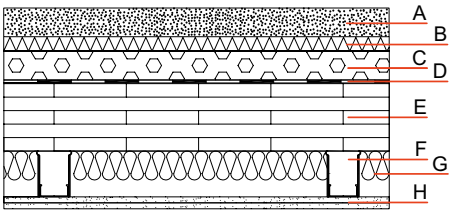
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
1,234	4.28	0.377

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspendedy, wet: DE33





Building physical and ecological rating

Fire protection	REI	90
max. width l = 5 m; max. load ($q_{fi,d}$) = 9.75 [kN/m²]		
Heat insulation	U [W/m²K]	0.204
Sound insulation	R_w [dB]	75
	$L_{n,w}$ [dB]	33
Ecology	ΔOI3	65

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	60	Concrete floor screed (alternatively calcium sulphate screed with the same mass)	1.4	2,000	A1
B	30	Footfall sound insulation Isover Akustic EP2 s' ≤ 15 MN/m³*	0.035	150	A1
C	60	Rigips loose or cement-bonded balancing filling	0.16	600	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	25	Rigips RF fire protection board* (2 x 12.5 mm)	0.25	800	A2
Total	**42 cm**			**229.50 kg/m²**	

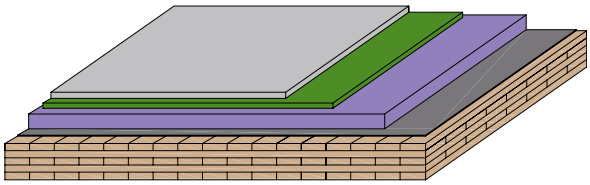
Ecological rating in detail | www.baubook.info/massivholzhandbuch

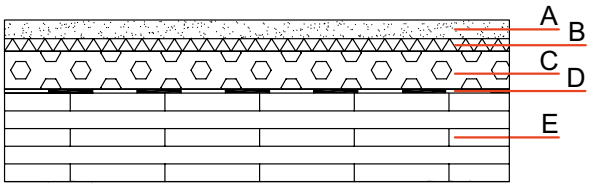
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
926	-33.9	0.296

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen [Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slabs or ISOVER footfall sound insulation boards TDPS.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, dry: DE34





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 7 [kN/m²]		
Heat insulation	U [W/m²K]	0.428
Sound insulation	R_w [dB]	55
	$L_{n,w}$ [dB]	64
Ecology	ΔOI3	53

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	25	Rigidur or Rigiplan screed element	0.35	1,200	A2
B	20	Footfall sound insulation s' ≤ 50 MN/m³, e.g. Isover Akustic EP3	0.039	150	A1
C	60	Rigips loose balancing filling	0.16	460	A1
D	—	Penetration shielding	0.2	636	E
E	140	CLT BBS, 5-layered	0.12	450	D
Total	**24.50 cm**			**123.60 kg/m²**	

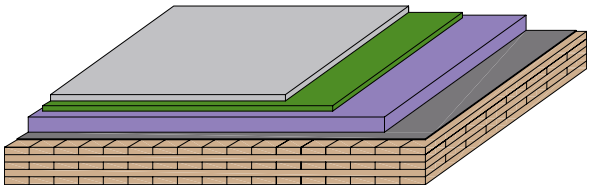
Ecological rating in detail | www.baubook.info/massivholzhandbuch

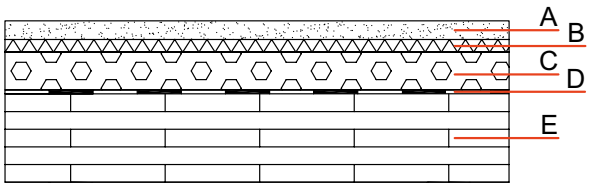
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
792	-48.3	0.260

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, visual surface quality, dry: DE35





Building physical and ecological rating

	Fire protection	REI	90
	max. width l = 4.55 m; max. load ($q_{fi,\,d}$) = 4.50 [kN/m²]		
	Heat insulation	U [W/m²K]	0.413
	Sound insulation	R_w [dB]	55
		$L_{n,w}$ [dB]	62
	Ecology	ΔOI3	55

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	**Building material**	**Heat conductivity** λ [W/(m · K)]	**Gross density** ρ [kg/m³]	**Flammability class** EN 13501-1
A	25	Rigidur or Rigiplan screed element	0.35	1,200	A2
B	20	Footfall sound insulation s' ≤ 50 MN/m³, e.g. Isover Akustic EP3	0.039	150	A1
C	60	Rigips loose balancing filling	0.16	460	A1
D	—	Penetration shielding	0.2	636	E
E	150	CLT BBS, 5-layered	0.12	450	D
Total	**25.50 cm**			**128.10 kg/m²**	

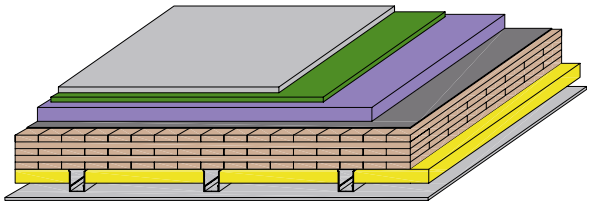
Ecological rating in detail | www.baubook.info/massivholzhandbuch

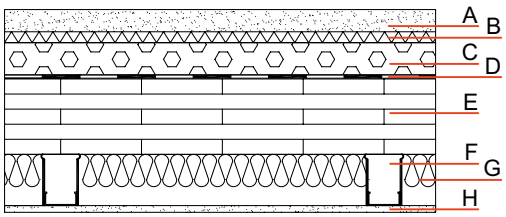
PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
825	-53.3	0.270

Rating by MFPA Leipzig – Gesellschaft für Materialforschung und Prüfungsanstalt für das Bauwesen
Society for Material Research and Testing Institute for the Construction Industry], D-04319 Leipzig
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

Ceiling – solid timber construction, suspended, dry: DE36





Building physical and ecological rating

Fire protection	REI	60
max. width l = 5 m; max. load ($q_{fi,\,d}$) = 5.50 [kN/m²]		
Heat insulation	U [W/m²K]	0.232
Sound insulation	R_w [dB]	55
	$L_{n,w}$ [dB]	60
Ecology	ΔOI3	56

Building material specifications for construction, layer structure | from top to bottom

	Thickness [mm]	Building material	Heat conductivity λ [W/(m · K)]	Gross density ρ [kg/m³]	Flammability class EN 13501-1
A	25	Rigidur or Rigiplan screed element	0.35	1,200	A2
B	20	Footfall sound insulation s' ≤ 50 MN/m³, e.g. Isover Akustic EP3	0.039	150	A1
C	60	Rigips loose balancing filling	0.16	460	A1
D	—	Penetration shielding	0.2	636	E
E	120	CLT BBS, 5-layered	0.12	450	D
F	95	U-suspending bracket with vibration decoupling and Rigips CD profile	—	—	A1
G	75	Mineral wool, e.g. Isover partition wall felt	0.039	12.5	A1
H	12.5	Rigips RF fire protection board*	0.25	800	A2
Total	**33.25 cm**			**127.04 kg/m²**	

Ecological rating in detail | www.baubook.info/massivholzhandbuch

PENRT [MJ/m²]	**GWP100 total** [kg CO_2/m²]	**AP** [kg SO_2/m²]
815	-33.9	0.262

Classification by IBS – Institut für Brandschutztechnik und Sicherheitsforschung [Institute for Fire Protection Technology and Safety Research], A-4020 Linz
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna
Rated by ift Rosenheim – Schallschutzzentrum [Sound Insulation Centre], D-83026 Rosenheim and respectively Holzforschung Austria, A-1030 Vienna
Calculation by IBO – Österreichisches Institut für Bauen und Ökologie [Austrian Institute for Construction and Ecology], A-1090 Vienna

*Equal fire resistance and sound insulation when using Rigidur H gypsum fibre boards or Riduro wooden building slab.
The assemblies shown were rated by accredited testing institutes on behalf of binderholz and Saint-Gobain Rigips Austria.

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binderholz

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