

COMPONENT- CATALOGUE

NOTES

The stated components are according to the acoustic test report and may refer to material that is no longer available or the best possible solution. In that case it is necessary to adapt the build-up with suitable alternatives.

The fire protection specifies possible variants, panel plus any necessary planking, for the requirements (R)EI 30 to 90 minutes. The variants listed are based on the KLH preliminary dimensioning tables and must be adapted to the actual structural requirements. This is the lowest load combination; the actual loads can be significantly higher. The basic conditions can be found in the KLH preliminary dimensioning tables.

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TERMS OF USE

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KLH® ELEMENTS

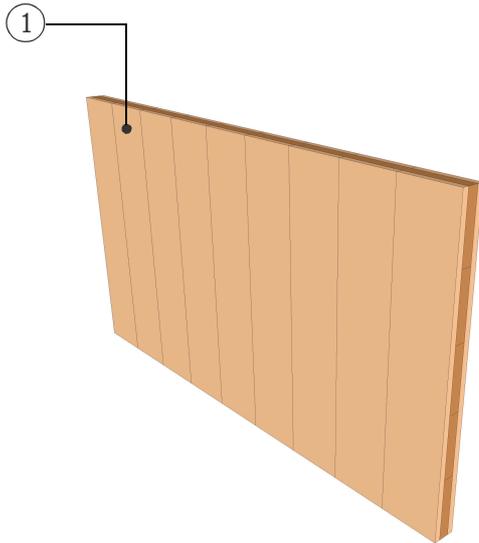
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w(C;C_{tr}) / D_{nT,w}(C;C_{tr})$	$L_{n,w}(C) / L'_{nT,w}(C)$
	[mm]	[kg/m ²]		[dB]	[dB]
KLH18.01	60.0	28	Yes	29	
KLH12.04	160.0	75	Yes	39	
KLH12.03	130.0	61	Yes	36	
KLH12.02	100.0	47	Yes	33	
KLH12.01	70.0	33	Yes	30	
KLH08.02	140.0	66	Yes	34	85
KLH08.01	160.0	75	Yes	33	79

DATASHEET

KLH 3S 60 TT

KLH18.01

WALL SLAB



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 3s 80 TT+15 Gt-F
R*EI 90	> 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	29 (-1;-3) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	1,49 [W/m ² K]
m_{w,B,A}	22 [kg/m ²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	60.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 60,0 [mm]

Mass per squaremeter ca. 28 [kg/m²]

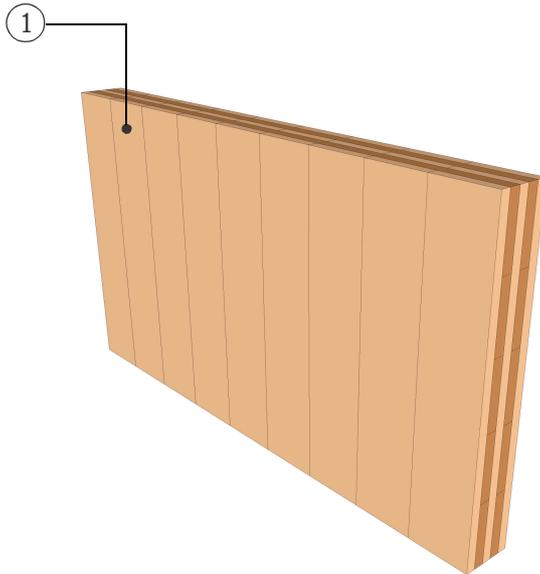
Test report sound: HFA_21082018
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

KLH 5S 160 TT

KLH12.04

WALL SLAB



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 39 (-1;-4) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,67 [W/m²K]

$m_{w,B,A}$ 35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	160.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 160,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

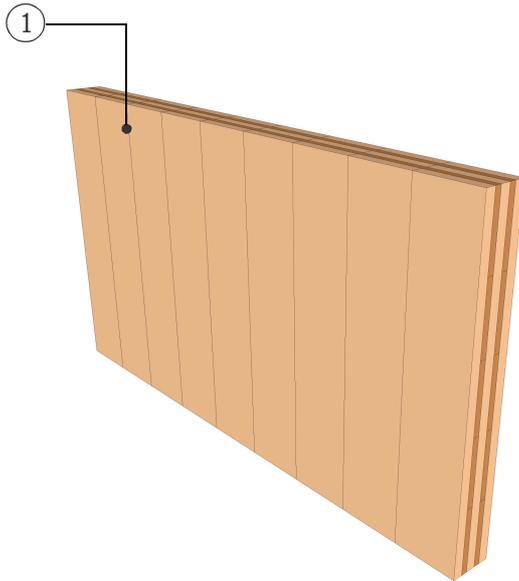
Test report sound: HFA 1101/2012-BB/P 3.13
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

KLH 5S 130 TT

KLH12.03

WALL SLAB



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 36 (-1;-3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,80 [W/m²K]

m_{w,B,A} 34 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	130.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 130,0 [mm]

Mass per squaremeter ca. 61 [kg/m²]

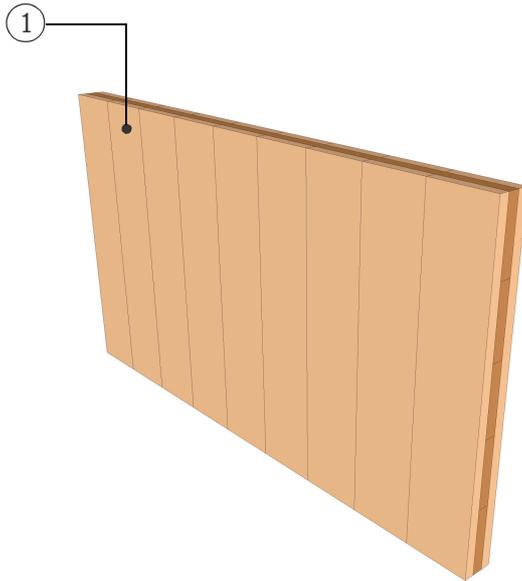
Test report sound: HFA 1101/2012-BB/P 3.11
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

KLH 3S 100 TT

KLH12.02

WALL SLAB



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 33 (-1;-3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 1,00 [W/m²K]

m_{w,B,A} 31 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	100.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 100,0 [mm]

Mass per squaremeter ca. 47 [kg/m²]

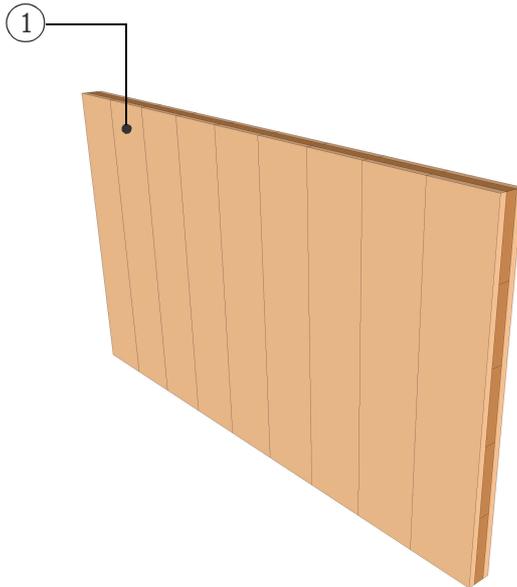
Test report sound: HFA 1101/2012-BB/P 3.11
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

KLH 3S 70 TT

KLH12.01

WALL SLAB



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 30 (-1;-3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 1,33 [W/m²K]

$m_{w,B,A}$ 26 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	70.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 70,0 [mm]

Mass per squaremeter ca. 33 [kg/m²]

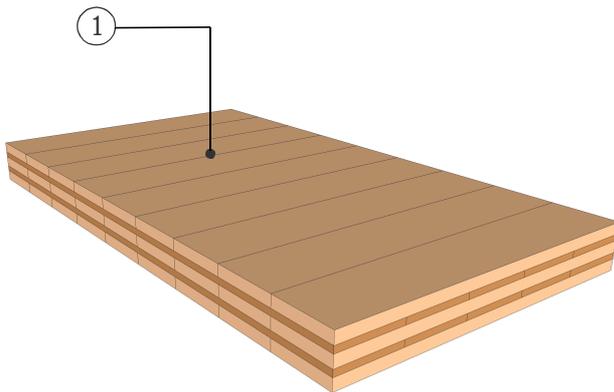
Test report sound: HFA 1101/2012-BB/P 3.11
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

KLH 5S 140 TL

KLH08.02

FLOOR SLAB



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 34 (0;-3) [dB]

$L'_{nT,w}$ (C_i) 85 (-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,75 [W/m²K]

$m_{w,B,A}$ 34 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	140.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 140,0 [mm]

Mass per squaremeter ca. 66 [kg/m²]

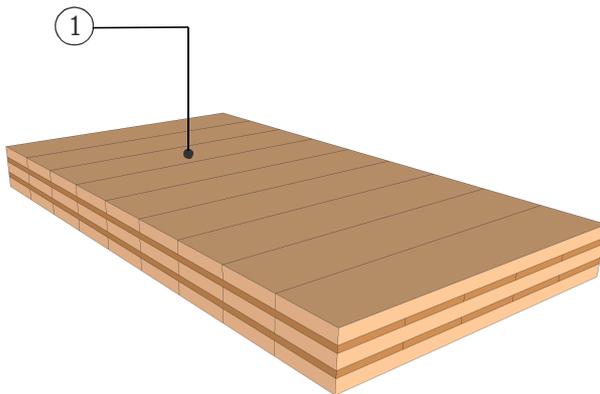
Prüfbericht Schall: HFA 2151/2008/1-BG
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

KLH 5S 160 TL

KLH08.01

FLOOR SLAB



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 33 (-1;-2) [dB]

$L'_{nT,w}$ (C_i) 79 (-4) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,67 [W/m²K]

$m_{w,B,A}$ 35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 160,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

Test report sound: HFA 2151/2008/1-BG
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

EXTERIOR WALLS

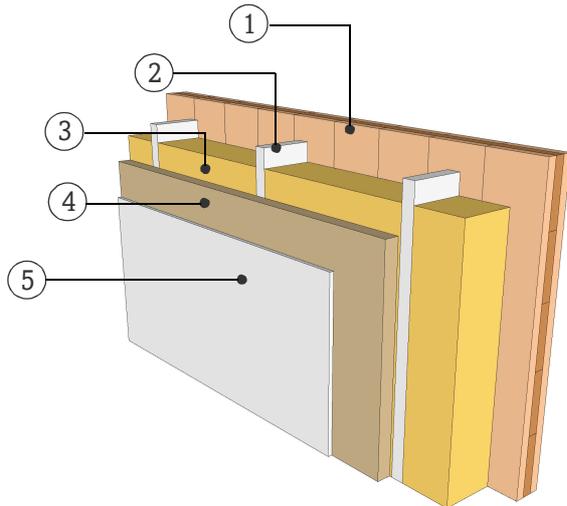
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$
	[mm]	[kg/m ²]		[dB]
AW18.03	280.0	80	Yes	48
AW18.02	406.0	115	Yes	46
AW18.01	454.0	135	No	59
AW15.01	373.5	100	No	46
AW14.07b	394.0	145	No	47
AW14.07a	334.0	105	No	45
AW14.06	342.5	105	Yes	59
AW14.05	342.5	110	Yes	53
AW14.04	415.0	105	No	69
AW14.03	362.0	130	No	58
AW14.02	322.5	95	No	55
AW14.01	310.0	85	Yes	54
AW13.05	186.5	105	No	48
AW13.04	359.0	80	No	44
AW13.02	375.5	85	No	47
AW12.05	499.0	90	No	57
AW12.04	402.5	90	Yes	57
AW12.03	390.5	85	Yes	56
AW12.02	402.5	90	Yes	46
AW12.01	390.5	85	Yes	46
AW11.01	322.0	115	No	43
AW10.04	333.5	110	No	43
AW10.03	366.5	110	No	43
AW.02.01	351.5	75	No	51
AW00.01	284.0	80	No	57
AW96.01	273.0	75	Yes	52

DATASHEET

PLASTERING, ON WOOD WOOL

AW18.03

TIMBER BATTENS, INBETWEEN INSULATION



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 48 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

m_{w,B,A} 38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	160.0	Timber batten					D
③	160.0	Mineral wool (glasfiber)	0.036	1	20 - 70	1	A1
④	50.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
⑤	10.0	Plaster (light and normal)	0.2 - 0.7	10	<1800	1.1	A1

Thickness 280,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

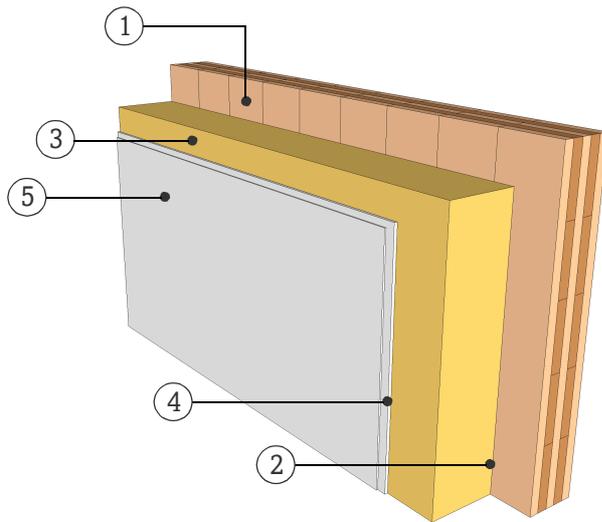
Test report sound: HFA_21082018
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

MINERAL WOOL ETICS

AW18.02

PLASTERING, FULLY GLUED



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 46 (-2;-6) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,11 [W/m²K]

m_{w,B,A} 35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	130.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	5.0	Adhesive	0.8	25	1500	1	
③	260.0	Baseboard insulation, s' ≤ 4 MN/m³	0.04	1	90	1	A1
④	7.0	Reinforcing mortar with fibernet	0.7	200	1500	1.1	A2
⑤	4.0	Plaster silicone	0.7	40	1800	0.93	B

Thickness 406 [mm]

Mass per squaremeter ca. 115 [kg/m²]

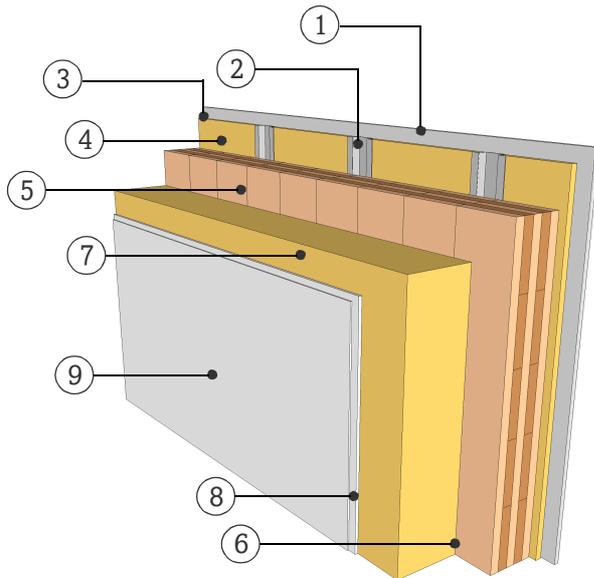
Test report sound: HFA_1122/2018-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

MINERAL WOOL ETICS

AW18.01

PLASTERING, FULLY GLUED, LIGHT WEIGHT PROFILES



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 59 (-8;-16) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,10 [W/m²K]

m_{w,B,A} 24 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	18.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1
②	30.0	Light weight profiles					A1
③	10.0	Air gap					
④	20.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑤	130.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	5.0	Adhesive	0.8	25	1500	1	
⑦	260.0	Baseboard insulation, s' ≤ 4 MN/m³	0.04	1	90	1	A1
⑧	7.0	Reinforcing mortar with fibernet	0.7	200	1500	1.1	A2
⑨	4.0	Plaster silicone	0.7	40	1800	0.93	B

Thickness 448,5 [mm]

Mass per squaremeter ca. 135 [kg/m²]

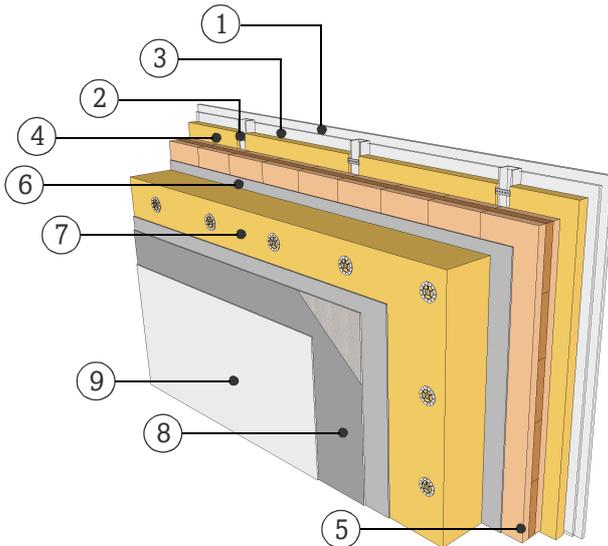
Test report sound: HFA_1122/2018-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

MINERAL WOOL ETICS

AW15.01

FACING FORMWORK MOUNTED ON KLH



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 46 (-5;-12) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,14 [W/m²K]

$m_{w,B,A}$ 13 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Light weight C-profiles, mounted on connectors					A1
③	10.0	Air gap					
④	40.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑤	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	3.0	Adhesive	0.8	25	1500	1	
⑦	200.0	Baseboard insulation	0.04	1	100 - 110	1	A1
⑧	6.0	Reinforcing mortar with fibernet	0.7	200	1500	1.1	A2
⑨	2.0	Plaster silicate	0.8	10	1800	1	A1

Thickness 373,5 [mm]

Mass per squaremeter ca. 100 [kg/m²]

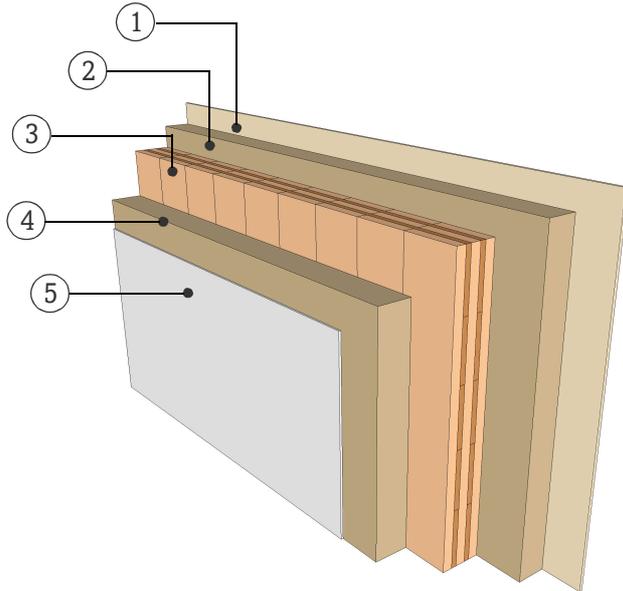
Test report sound: HFA 169/2015-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

WOOD FIBER ETICS

AW14.07B

INSULATION INSIDE AND OUTSIDE, PLASTERING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 47 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,15 [W/m²K]

m_{w,B,A} 20 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2
②	100.0	Wood fiberboard	0.042	5	140	2.1	D
③	160.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	120.0	Wood fiberboard, wall	0.042	5	140	2.5	
⑤	8.0	Plaster system					

Thickness 394,0 [mm]

Mass per squaremeter ca. 145 [kg/m²]

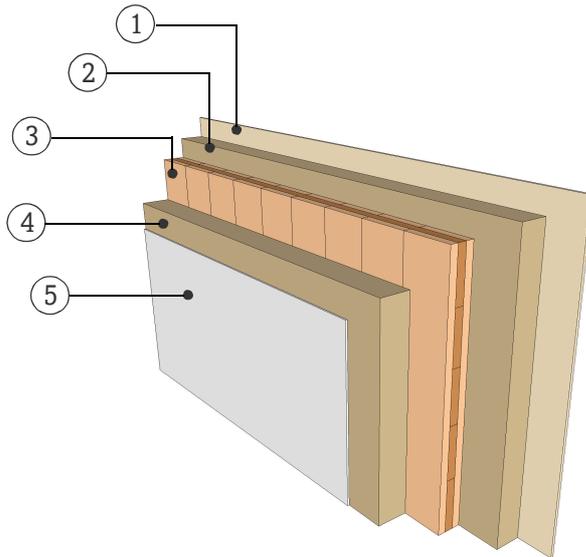
Test report sound: HFA 2376/2014 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

WOOD FIBER ETICS

AW14.07A

INSULATION INSIDE AND OUTSIDE, PLASTERING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 45 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,16 [W/m²K]

m_{w,B,A} 20 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2
②	100.0	Wood fiberboard	0.042	5	140	2.1	D
③	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	120.0	Wood fiberboard, wall	0.042	5	140	2.5	
⑤	8.0	Plaster system					

Thickness 334,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

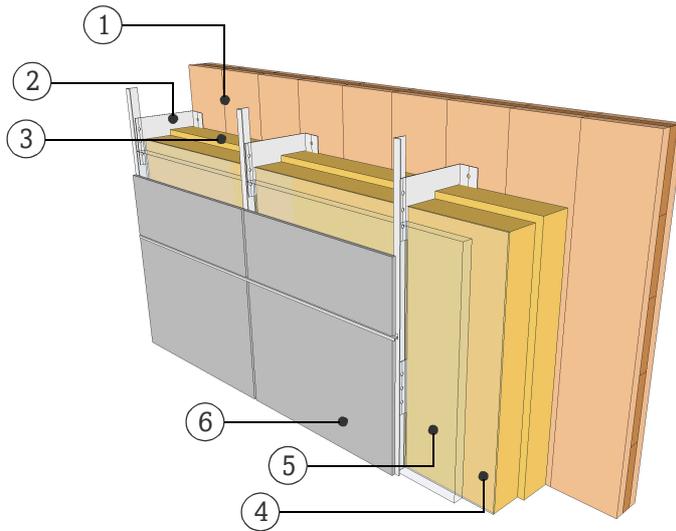
Test report sound: HFA 2376/2014 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

CETRIS FACADE

AW14.06

VENTILATED, METAL SUBSTRUCTURE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 59 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,17 [W/m²K]

m_{w,B,A} 32 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	230.0	Connectionsystem, Hafix					A1
③	100.0	Baseboard insulation	0.04	1	100 - 110	1	A1
④	100.0	Baseboard insulation	0.04	1	100 - 110	1	A1
⑤	30.0	Air gap					
⑥	12.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5	A2

Thickness 342,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

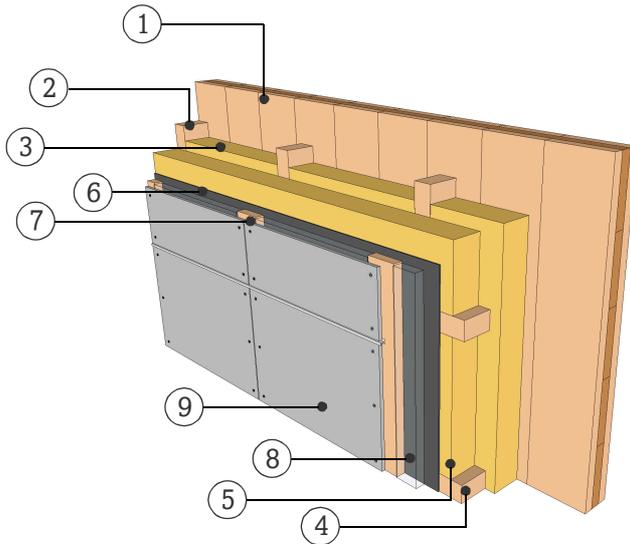
Test report sound: HFA 1645/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

CETRIS FACADE

AW14.05

VENTILATED, TIMBER SUBSTRUCTURE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 53 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 32 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	0.12	50 - 300	470	1.6	D
②	100.0					D
③	100.0	0.038	1	40	0.9	A1
④	100.0					D
⑤	100.0	0.038	1	40	0.9	A1
⑥						
⑦	30.0					D
⑧						
⑨	12.0	0.27	60	1350	1.5	A2

Thickness 342,0 [mm]

Mass per squaremeter ca. 110 [kg/m²]

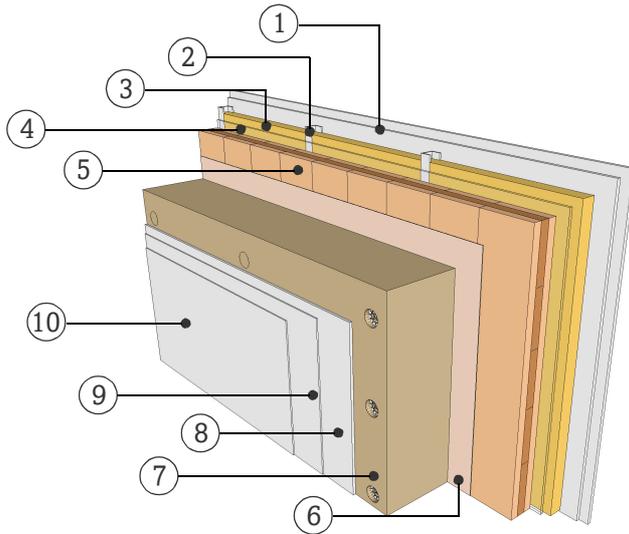
Test report sound: HFA 1645/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

HEMP ETICS

AW14.04

PLASTERING, SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	69 (-6;-14) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,13 [W/m²K]
m_{w,B,A}	18 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Lightweight C-profiles					A1
③	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
④	30.0	Air gap					
⑤	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	3.0	Adhesive	0.8	25	1500	1	
⑦	200.0	Hemp insulation	0.04	3.9	100	1.7	E
⑧	5.0	Adhesive	0.8	25	1500	1	
⑨		Reinforcing material					
⑩	2.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 415,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

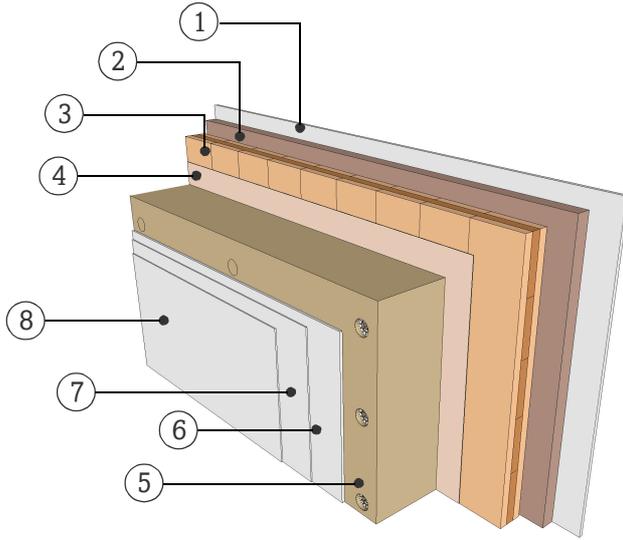
Test report sound: HFA 1331/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

HEMP ETICS

AW14.03

PLASTERING, PLASTER BASE INSULATION INSIDE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	58 (-2;-8) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,15 [W/m²K]
m_{w,B,A}	53 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	17.0	Plaster (light and normal)	0.2 - 0.7	10	<1800	1.1	A1
②	35.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
③	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	3.0	Adhesive	0.8	25	1500	1	
⑤	200.0	Hemp insulation	0.04	3.9	100	1.7	E
⑥	5.0	Adhesive	0.8	25	1500	1	
⑦		Reinforcing material					
⑧	2.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 362,0 [mm]

Mass per squaremeter ca. 130 [kg/m²]

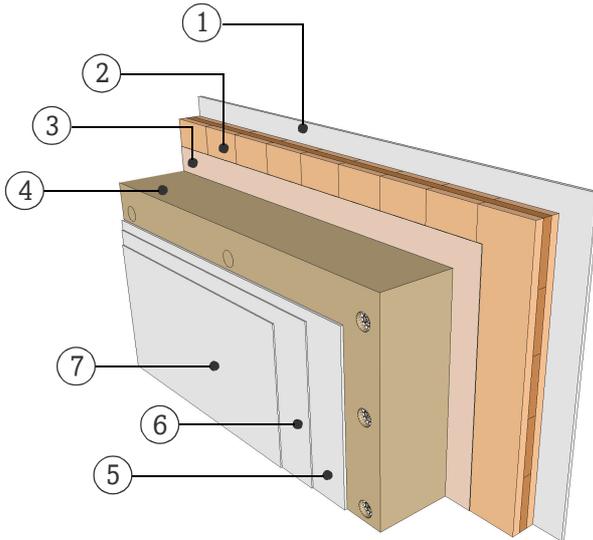
Test report sound: HFA 1331/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

HEMP ETICS

AW14.02

PLASTERING, GYPSUM FIBERBOARD INSIDE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	55 (-2;-7) [dB]
---	-----------------

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,16 [W/m²K]
m_{w,B,A}	39 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum fiberboard	0.21	8	900	1.05	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	3.0	Adhesive	0.8	25	1500	1	
④	200.0	Hemp insulation	0.04	3.9	100	1.7	E
⑤	5.0	Adhesive	0.8	25	1500	1	
⑥		Reinforcing material					
⑦	2.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 322,5 [mm]

Mass per squaremeter ca. 95 [kg/m²]

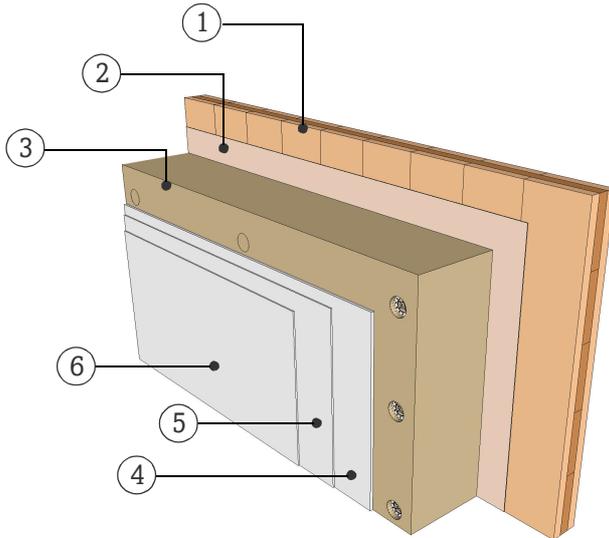
Test report sound: HFA 1331/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

HEMP ETICS

AW14.01

PLASTERING, VISIBLE KLH



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 54 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,17 [W/m²K]

m_{w,B,A} 39 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]		
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	3.0	Adhesive	0.8	25	1500	1	
③	200.0	Hemp insulation	0.04	3.9	100	1.7	E
④	5.0	Adhesive	0.8	25	1500	1	
⑤		Reinforcing material					
⑥	2.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 310,0 [mm]

Mass per squaremeter ca. 85 [kg/m²]

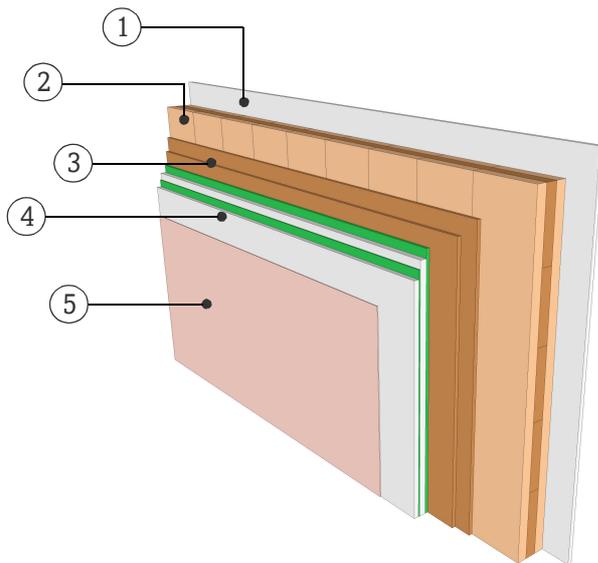
Test report sound: HFA 1331/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

VACUUM INSULATION

AW13.05

PLASTERING, VARIOTEC SANDWICH ELEMENT



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 48 (-1;-6) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,23 [W/m²K]

$m_{w,B,A}$ 37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	21.0	Schallfresser Silencium	0.19	5	1425	1	A2
④	50.0	Vacuum insulation	0.007		200	1	B
⑤	3.0	Plaster silicate	0.8	10	1800	1	A1

Thickness 186,5 [mm]

Mass per squaremeter ca. 110 [kg/m²]

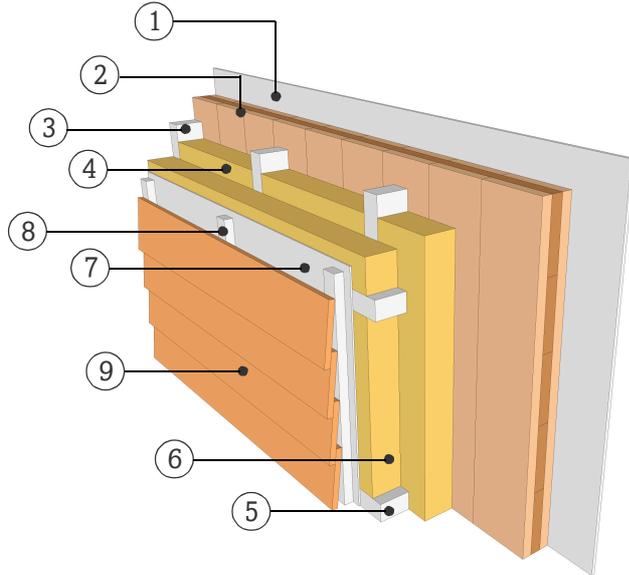
Test report sound: HFA 243/2013/2_3-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW13.04

GYPSUM PLASTERBOARD INSIDE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 44 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

$m_{w,B,A}$ 40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	10.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	100.0	Timber batten					D
④	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑤	100.0	Timber batten					D
⑥	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑦		Wind barrier					
⑧	30.0	Timber batten (spruce) vertical, 3x5 cm					D
⑨	19.0	Weather boarding					D

Thickness 359,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

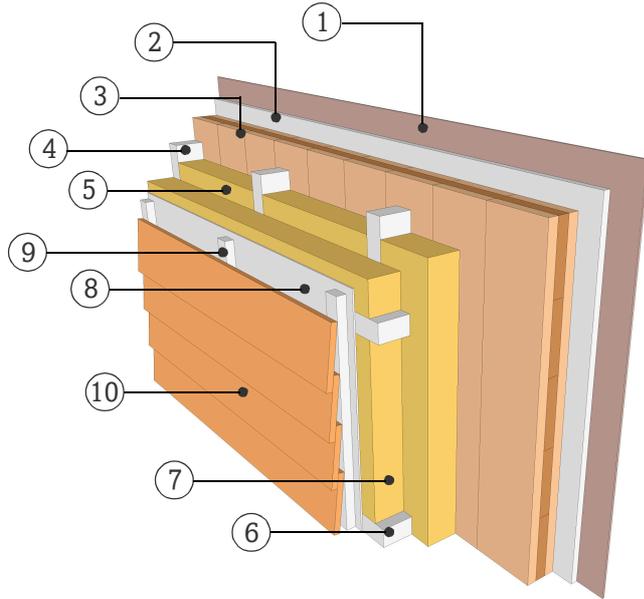
Test report sound: HFA 243/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW13.02

CALY PLASTER ON WOOD FIBER BOARD



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 47 (-2;-6) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,17 [W/m²K]

m_{w,B,A} 25 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2
②	20.0	Wood fiberboard	0.042	5	< 180	2.1	E
③	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	100.0	Timber batten					D
⑤	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑥	100.0	Timber batten					D
⑦	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑧		Wind barrier					
⑨	30.0	Timber batten (spruce) vertical, 3x5 cm					D
⑩	19.0	Weather boarding					D

Thickness 375,0 [mm]

Mass per squaremeter ca. 85 [kg/m²]

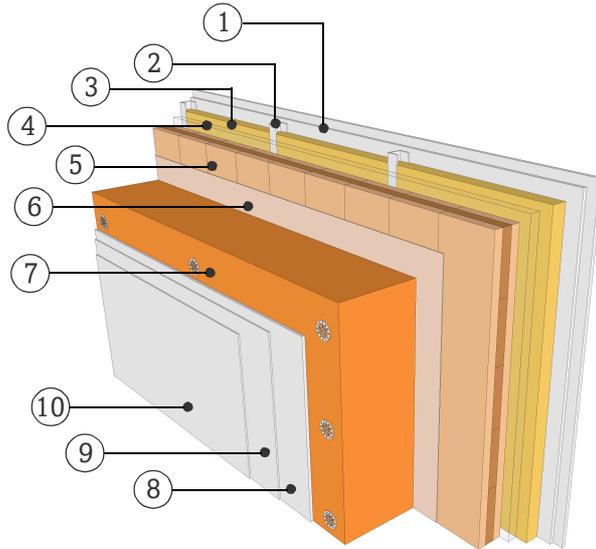
Test report sound: HFA 243/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

EPS ETICS

AW12.05

PLASTERING, SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	57 (-4;-10) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,10 [W/m²K]
m_{w,B,A}	19 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Lightweight C-profiles					A1
③	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
④	35.0	Air gap					
⑤	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	3.0	Adhesive	0.8	25	1500	1	
⑦	280.0	Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
⑧	3.0	Mineral based Adhesive	0.8	30	1650	1.1	
⑨		Reinforcing material					
⑩	3.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 501,0 [mm]

Mass per squaremeter ca. 90 [kg/m²]

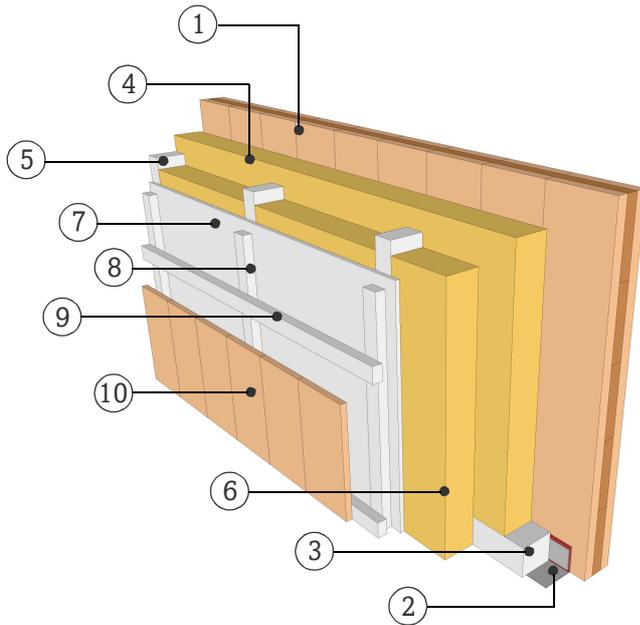
Test report sound: HFA 1101/2012-BB/P 3.2/Beilage 2
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW12.04

SUBSTRUCTURE DECOUPLED WITH RESILIENT BRACKET



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 57 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②		Brackets with resilient layer					
③	100.0	Timber batten					D
④	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑤	100.0	Timber batten					D
⑥	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑦	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
⑧	30.0	Timber batten (spruce) vertical, 3x5 cm					D
⑨	30.0	Timber batten (spruce) horizontal, 3x5 cm					D
⑩	30.0	Closed Spruce formwork					D

Thickness 402,5 [mm]

Mass per squaremeter ca. 90 [kg/m²]

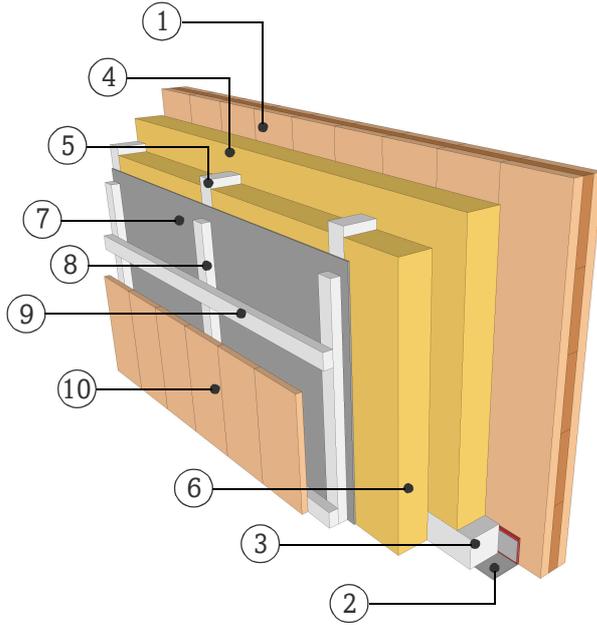
Test report sound: 1101/2012-BB/P 3.1/Beilage 1
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW12.03

SUBSTRUCTURE DECOUPLED WITH RESILIENT BRACKET



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 56 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②		Brackets with resilient layer					
③	100.0	Timber batten					D
④	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑤	100.0	Timber batten					D
⑥	100.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑦		Wind barrier					
⑧	30.0	Timber batten (spruce) vertical, 3x5 cm					D
⑨	30.0	Timber batten (spruce) horizontal, 3x5 cm					D
⑩	30.0	Closed Spruce formwork					D

Thickness 390,0 [mm]

Mass per squaremeter ca. 85 [kg/m²]

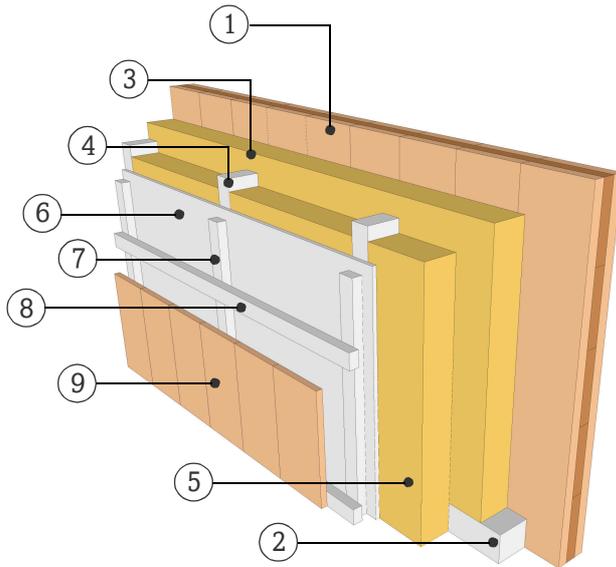
Test report sound: 1252/2012-BB/P 3.15/Beilage 15
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW12.02

SUBSTRUCTURE SCREW FIXED ON KLH PANEL



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 46 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	0.12	50 - 300	470	1.6	D
②	100.0					D
③	100.0	0.038	1	40	0.9	A1
④	100.0					D
⑤	100.0	0.038	1	40	0.9	A1
⑥	12.5	0.25	10	680	0.96	A2
⑦	30.0					D
⑧	30.0					D
⑨	30.0					D

Thickness 402,5 [mm]

Mass per squaremeter ca. 90 [kg/m²]

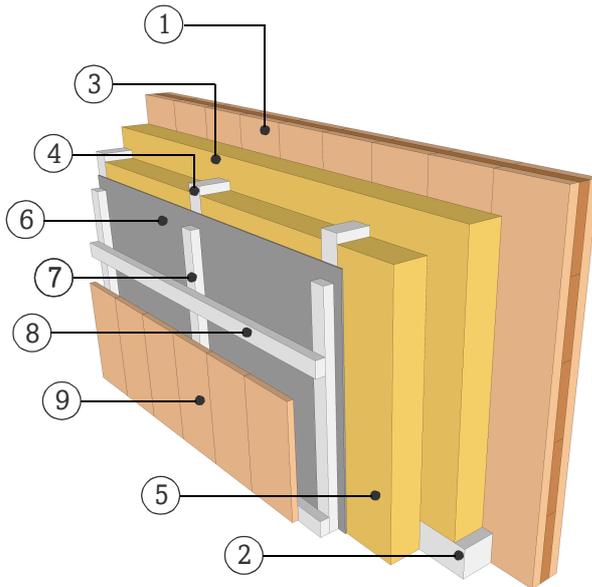
Test report sound: 1101/2012-BB/P 3.14/Beilage 14
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW12.01

SUBSTRUCTURE SCREW FIXED ON THE KLH PANEL



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 46 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	0.12	50 - 300	470	1.6	D
②	100.0					D
③	100.0	0.038	1	40	0.9	A1
④	100.0					D
⑤	100.0	0.038	1	40	0.9	A1
⑥						
⑦	30.0					D
⑧	30.0					D
⑨	30.0					D

Thickness 390,0 [mm]

Mass per squaremeter ca. 85 [kg/m²]

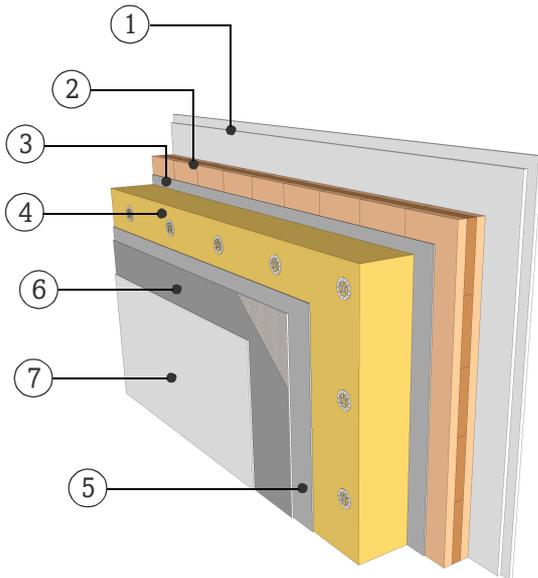
Test report sound: 1252/2012-BB/P 3.16/Beilage 16
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

MINERAL WOOL ETICS

AW11.01

PLASTERING, GYPSUM FIBERBOARD INSIDE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 43 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,17 [W/m²K]

m_{w,B,A} 45 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	30.0	Gypsum fiberboard	0.21	8	900	1.05	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	3.0	Adhesive	0.8	25	1500	1	
④	180.0	Baseboard insulation	0.04	1	100 - 110	1	A1
⑤	4.0	Adhesive	0.8	25	1500	1	
⑥	3.5	Reinforcing mortar with fibernet	0.7	200	1500	1.1	A2
⑦	1.5	Plaster silicone	0.7	40	1800	0.93	B

Thickness 322,0 [mm]

Mass per squaremeter ca. 115 [kg/m²]

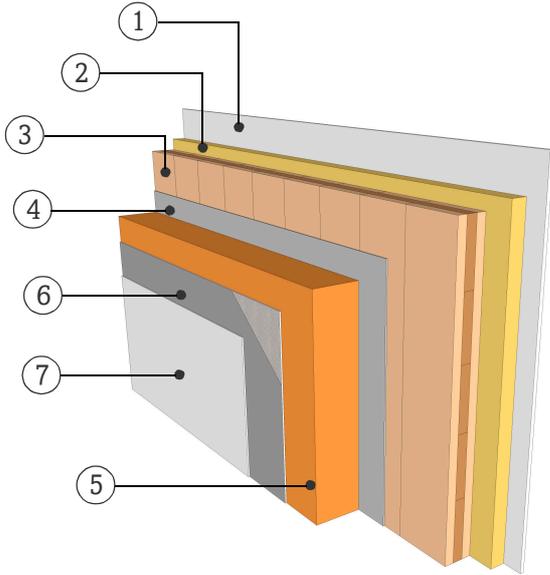
Test report sound: MA 39-VFA 2011-0489.01
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

EPS ETICS

AW10.04

PLASTERING, COMPOUND INSULATION INSIDE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 43 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,18 [W/m²K]

m_{w,B,A} 33 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
③	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	6.0	Adhesive	0.8	25	1500	1	
⑤	160.0	Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
⑥	3.0	Reinforcing mortar with fibernet	0.7	200	1500	1.1	A2
⑦	2.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 333,5 [mm]

Mass per squaremeter ca. 110 [kg/m²]

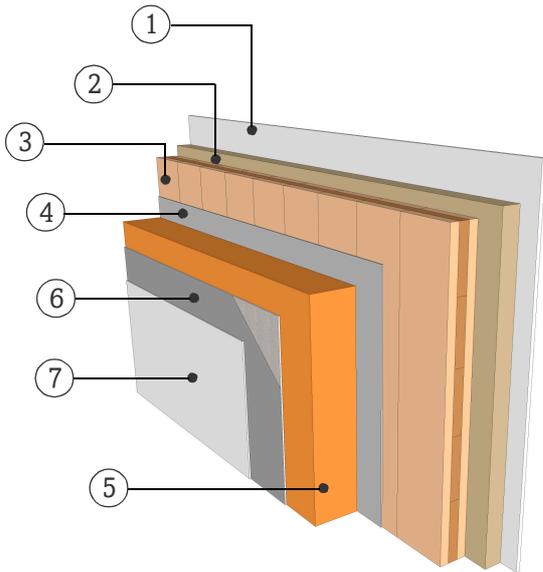
Test report sound: GZ 10119_09072010_AW1002_03_04
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

EPS ETICS

AW10.03

PLASTERING, WOOD FIBER INSULATION INSIDE



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 43 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,15 [W/m²K]

m_{w,B,A} 18 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	60.0	Wood fiberboard	0.042	5	< 180	2.1	E
③	120.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	6.0	Adhesive	0.8	25	1500	1	
⑤	160.0	Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
⑥	5.0	Reinforcing mortar with fibernet	0.7	200	1500	1.1	A2
⑦	3.0	Plaster finish	0.75	50	1800	0.85	A1

Thickness 366,5 [mm]

Mass per squaremeter ca. 110 [kg/m²]

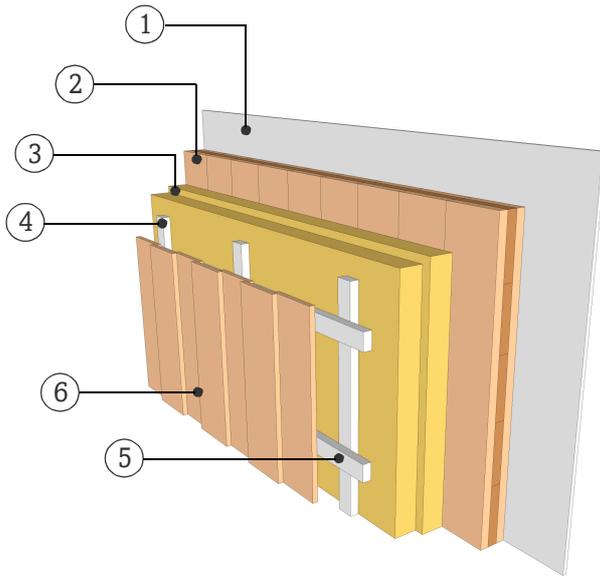
Test report sound: GZ 10119_09072010_AW1002_03_04
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW02.01

SUBSTRUCTURE ON COMPOUND INSULATION



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	51 (-2;-7) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,20 [W/m²K]
m_{w,B,A}	40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum fiberboard	0.21	8	900	1.05	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	160.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
④	30.0	Timber batten (spruce) vertical, 3x5 cm					D
⑤	30.0	Timber batten (spruce) horizontal, 3x5 cm					D
⑥	19.0	Tongue and groove formwork vertical					D

Thickness 351,5 [mm]

Mass per squaremeter ca. 75 [kg/m²]

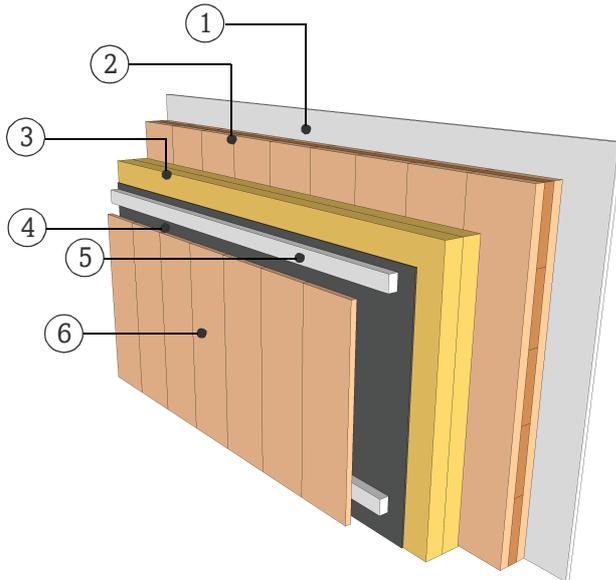
Test report sound: B02.851.014.322
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW00.01

SUBSTRUCTURE ON COMPOUND INSULATION



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 57 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

m_{w,B,A} 41 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	15.0	Gypsum fiberboard	0.21	8	900	1.05	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	120.0	Minerally bonded wood wool insulation, Tektalan	0.041	2	180	1	A2
④		Wind barrier					
⑤	30.0	Timber batten (spruce) horizontal, 3x5 cm					D
⑥	19.0	Tongue and groove formwork vertical					D

Thickness 284,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

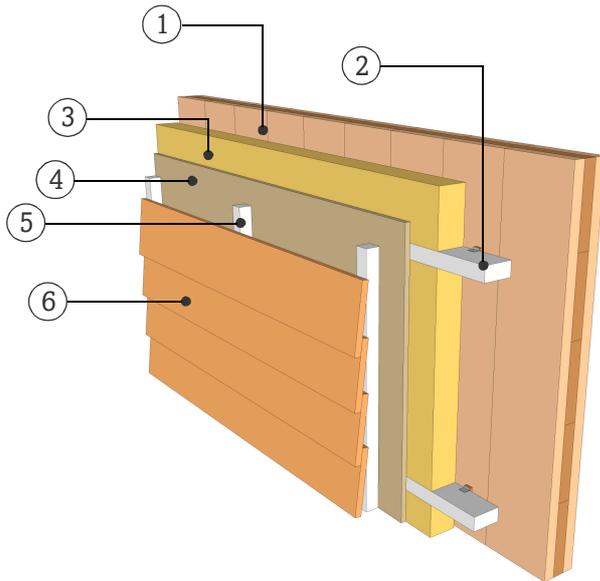
Test report sound: B00.851.007.310
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

TIMBER FACADE

AW96.01

SUBSTRUCTURE ON SWINGING HOOPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 52 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,34 [W/m²K]

m_{w,B,A} 37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]		
①	90.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	90.0	Battens (spruce) horizontal, on resilient clips					D
③	90.0	Mineral wool, low density	0.038	1	40	0.9	A1
④	15.0	OSB	0.12	240	<680	1.7	D
⑤	40.0	Timber batten (spruce) vertical, 3x5 cm					D
⑥	19.0	Weather boarding					D

Thickness 273,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

Test report sound: B96.808.006.310
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

INTERIOR WALLS

NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$
	[mm]	[kg/m ²]		[dB]
IW18.03	230.0	75.00	No	64
IW18.02	139.0	60.00	Yes	43
IW18.01	132.5	60.00	Yes	44
IW15.01	162.5	60.00	Yes	47
IW14.04B	212.0	110.00	No	47
IW14.04A	152.0	70.00	No	44
IW14.03B	186.0	90.00	Yes	46
IW14.03A	126.0	60.00	Yes	43
IW14.02	225.0	75.00	No	56
IW14.01	245.0	105.00	No	67
IW13.16	193.0	85.00	Yes	59
IW13.14	200.0	110.00	No	64
IW13.13	150.0	80.00	Yes	53
IW13.12	150.0	90.00	Yes	51
IW13.11	165.0	105.00	No	55
IW13.10	180.0	125.00	No	57
IW13.09	145.0	75.00	Yes	50
IW13.08	157.5	85.00	No	52
IW13.07	170.0	95.00	No	53
IW13.02	150.0	80	Yes	51
IW13.01	150.0	80	Yes	52
IW12.12	220.0	105	Yes	51
IW12.11	245.0	105	Yes	56
IW12.10	245.0	105	Yes	53
IW12.09	125.0	65	No	36
IW12.08	125.0	65	Yes	39
IW12.07	112.5	56	Yes	37
IW12.06	320.0	90.00	No	71
IW12.05	290.0	80.00	No	68
IW12.04	270.0	105.00	Yes	65

INTERIOR WALLS

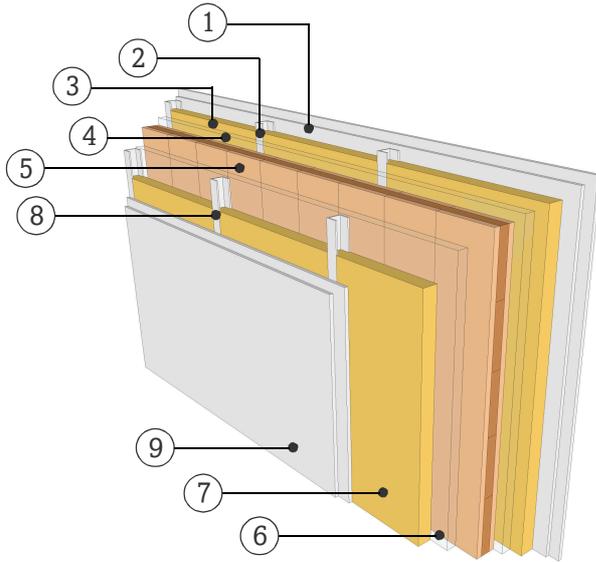
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$
	[mm]	[kg/m ²]		[dB]
IW12.03	240.0	90.00	Yes	62
IW12.02	210.0	70.00	Yes	61
IW12.01	180.0	60.00	Yes	59
IW04.01	302.0	135.00	No	68
IW02.01	275.0	130.00	No	60

DATASHEET

INTERIOR WALL

IW18.03

SELF SUPPORTING FORMWORK ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 60 TT+12.5 Gt-F

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 64 (-6;-14) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,29 [W/m²K]

m_{w,B,A} 19/19 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Lightweight C-profiles					A1
③	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
④	10.0	Air gap					
⑤	60.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	10.0	Air gap					
⑦	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑧	50.0	Lightweight C-profiles					A1
⑨	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 230,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

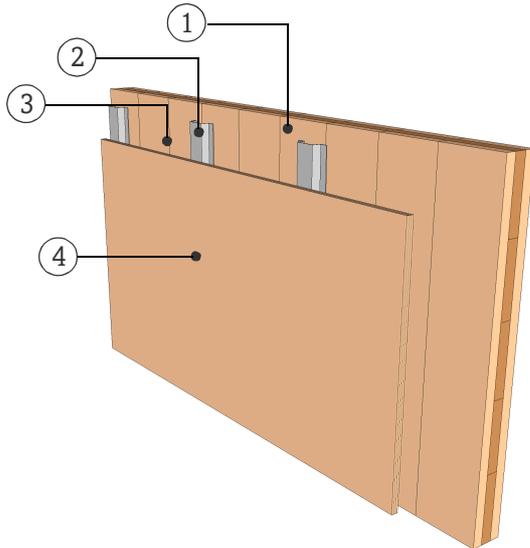
Test report sound: HFA 1712/2018-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW18.02

FORMWORK ON RESILIENT PROFILE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 43 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,76 [W/m²K]

m_{w,B,A} 26/34 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	20.0	Light weight profiles					A1
③	20.0	Air gap					
④	19.0	3-layer panel, timber (spruce)	0.12	25-200	460	1.6	D

Thickness 134,0 [mm]

Mass per squaremeter ca. 60 [kg/m²]

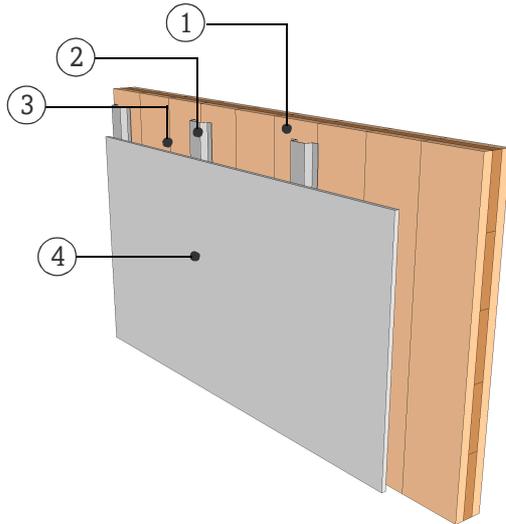
Test report sound: HFA_2440/2017/2-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW18.01

FORMWORK ON RESILIENT FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 44 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,83 [W/m²K]

m_{w,B,A} 26/34 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	20.0	Light weight profiles					A1
③	20.0	Air gap					
④	12.5	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 127,5 [mm]

Mass per squaremeter ca. 60 [kg/m²]

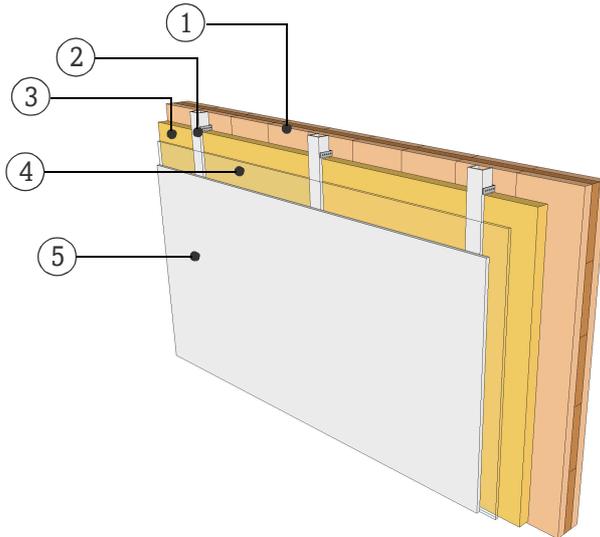
Test report sound: HFA_2440/2017/2-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW15.01

FORMWORK MOUNTED ON KLH PANEL



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 47 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,47 [W/m²K]

$m_{w,B,A}$ 13/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	100.0	0.12	50 - 300	470	1.6	D
②	50.0					A1
③	40.0	0.04	1	15-30	1	A1
④	10.0					
⑤	12.5	0.25	10	680	0.96	A2

Thickness 157,5 [mm]

Mass per squaremeter ca. 60 [kg/m²]

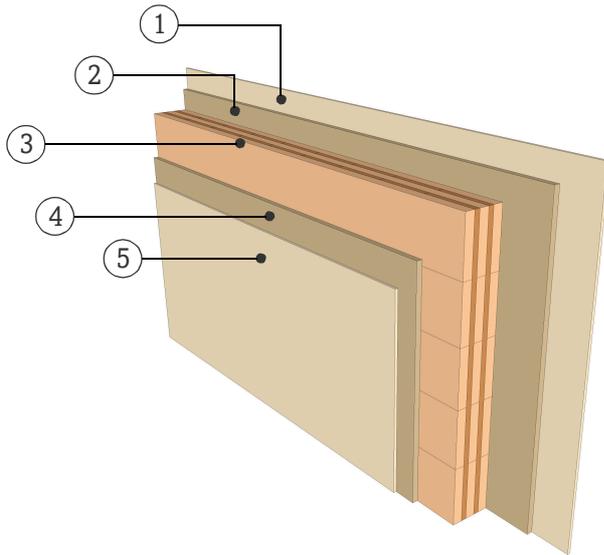
Test report sound: HFA 169/2015-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW14.04B

CLAY PLASTER SYSTEM



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 47 (-7;-13) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,40 [W/m²K]

$m_{w,B,A}$ 24/24 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2
②	20.0	Wood fiberboard	0.042	5	110	2.1	D
③	160.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	20.0	Wood fiberboard	0.042	5	110	2.1	D
⑤	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2

Thickness 212,0 [mm]

Mass per squaremeter ca. 110 [kg/m²]

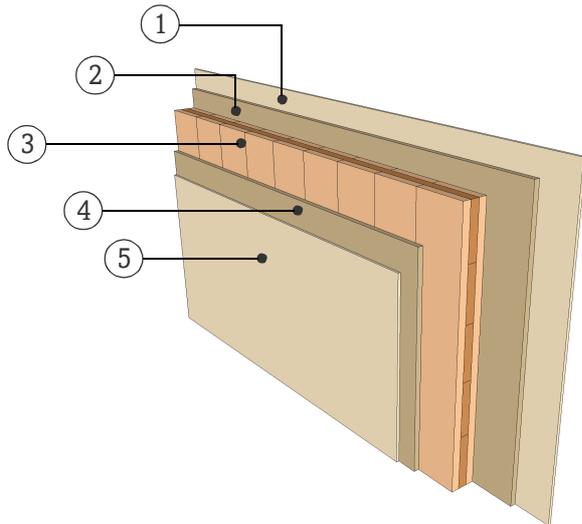
Test report sound: assessment HFA 2376/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW14.04A

CLAY PLASTER SYSTEM



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 44 (-6;-12) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,52 [W/m²K]

m_{w,B,A} 24/24 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2
②	20.0	Wood fiberboard	0.042	5	110	2.1	D
③	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	20.0	Wood fiberboard	0.042	5	110	2.1	D
⑤	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2

Thickness 147,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

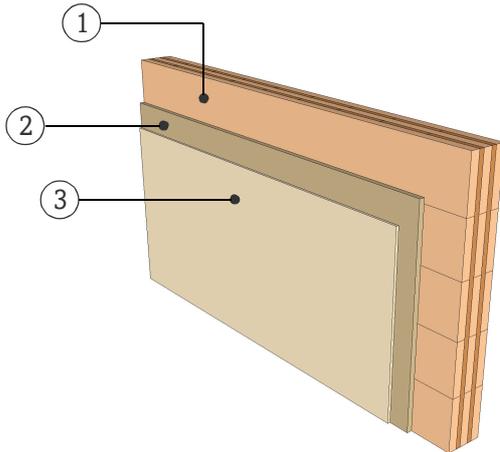
Test report sound: HFA 2376/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW14.03B

CLAY PLASTER SYSTEM



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 46 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,51 [W/m²K]

m_{w,B,A} 24/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	160.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	20.0	Wood fiberboard	0.042	5	110	2.1	D
③	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2

Thickness 186,0 [mm]

Mass per squaremeter ca. 90 [kg/m²]

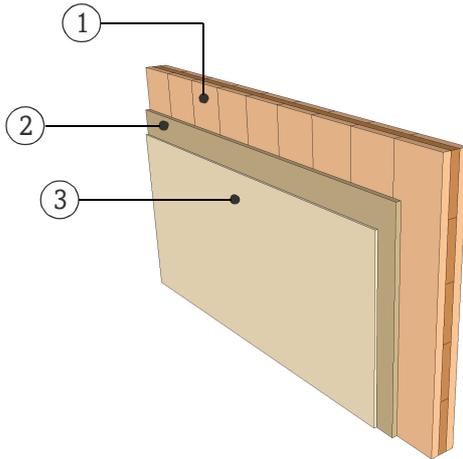
Test report sound: assessment HFA 2376/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW14.03A

CLAY PLASTER SYSTEM



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 43 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,70 [W/m²K]

$m_{w,B,A}$ 23/33 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	20.0	Wood fiberboard	0.042	5	110	2.1	D
③	6.0	BiosLehm clay plaster	0.81	10	2000	0.936	A2

Thickness 121,0 [mm]

Mass per squaremeter ca. 60 [kg/m²]

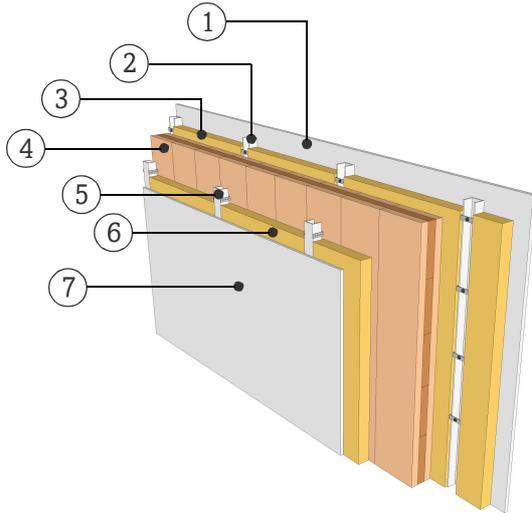
Test report sound: HFA 2376/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW14.02

DECOUPLED FORMWORK ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 56 (-7;-15) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,28 [W/m²K]

m_{w,B,A} 17/17 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2
②	50.0	Light weight C-profiles on resilient clips					A1
③	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
④	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	50.0	Light weight C-profiles on resilient clips					A1
⑥	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑦	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 220,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

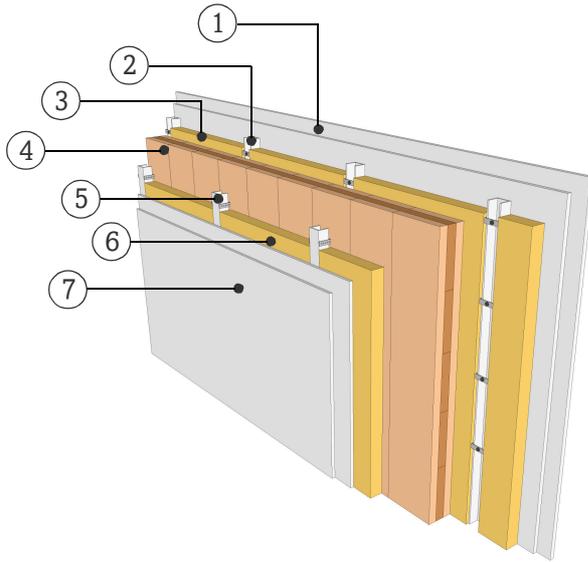
Test report sound: HFA 861/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW14.01

DECOUPLED FORMWORK ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 67 (-7;-15) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,27 [W/m²K]

m_{w,B,A} 28/28 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum fiberboard	0.25	10	1000	1.1	A2
②	50.0	Light weight C-profiles on resilient clips					A1
③	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
④	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	50.0	Light weight C-profiles on resilient clips					A1
⑥	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑦	25.0	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 250,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

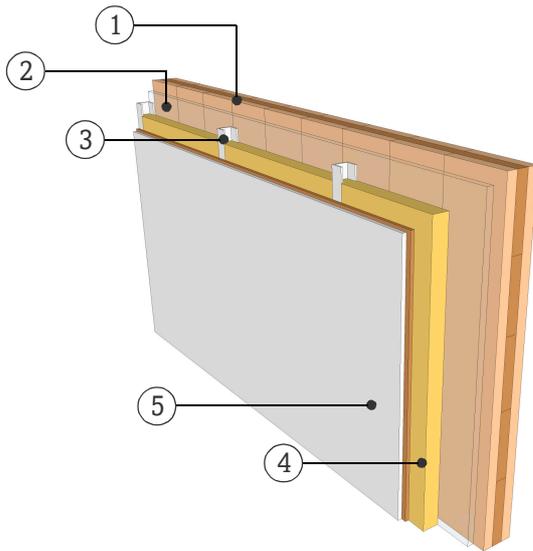
Test report sound: HFA 861/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.16

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 59 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,39 [W/m²K]

$m_{w,B,A}$ 29/38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	0.12	50 - 300	470	1.6	D
②	20.0					
③	50.0					A1
④	50.0	0.04	1	15-30	1	A1
⑤	23.0	0.19	5	1200	1	A2

Thickness 188,0 [mm]

Mass per squaremeter ca. 85 [kg/m²]

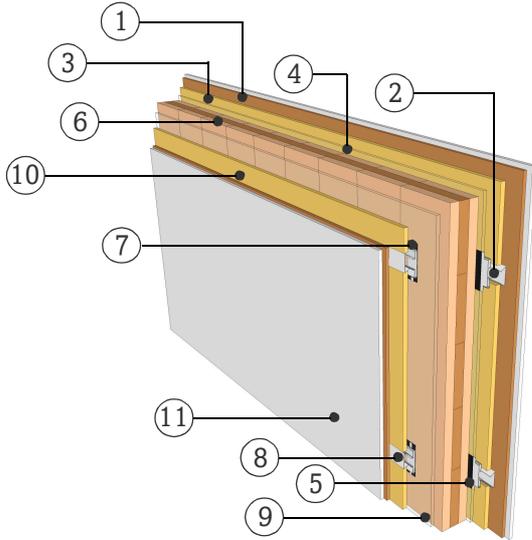
Test report sound: HFA 2324/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.14

FORMWORK ON RESILIENT HOOPS ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 64 (-8;-17) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,46 [W/m²K]

$m_{w,B,A}$ 32/32 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	23.0	Schallfresser wallboard	0.19	5	1200	1	A2
②	27.0	Light weight profiles on resilient hoops					A1
③	15.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
④	12.0	Air gap					
⑤		Elastic Tape					
⑥	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦		Elastic Tape					
⑧	27.0	Light weight profiles on resilient hoops					A1
⑨	12.0	Air gap					
⑩	15.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑪	23.0	Schallfresser wallboard	0.19	5	1200	1	A2

Thickness 195,0 [mm]

Mass per squaremeter ca. 110 [kg/m²]

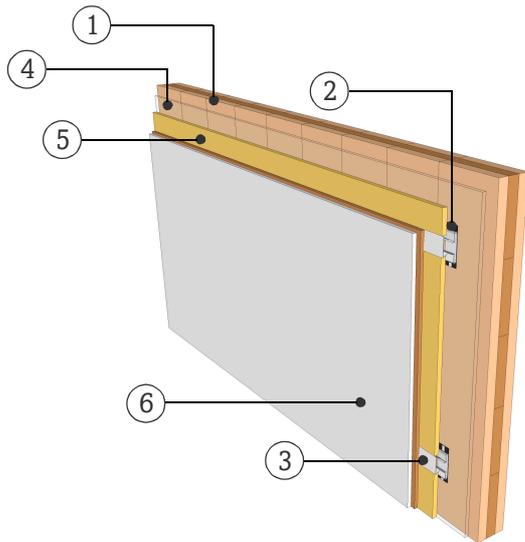
Test report sound: HFA 2324/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.13

FORMWORK ON RESILIENT HOOPS



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 53 (-2;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,63 [W/m²K]

m_{w,B,A} 31/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②		Elastic Tape					
③	27.0	Light weight profiles on resilient hoops					A1
④	12.0	Air gap					
⑤	15.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑥	23.0	Schallfresser wallboard	0.19	5	1200	1	A2

Thickness 145,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

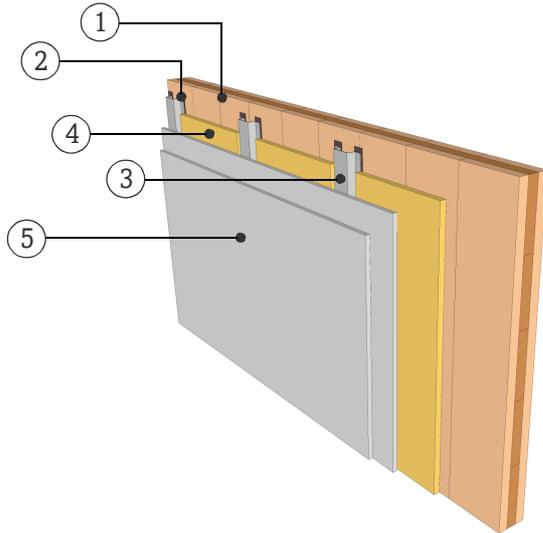
Test report sound: HFA 2324/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.12

FORMWORK ON RESILIENT PROFILE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 51 (-2;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,64 [W/m²K]

m_{w,B,A} 42/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②		Felt	0.1	1	120	1.3	
③	20.0	Light weight profiles					A1
④	20.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑤	30.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 145,0 [mm]

Mass per squaremeter ca. 90 [kg/m²]

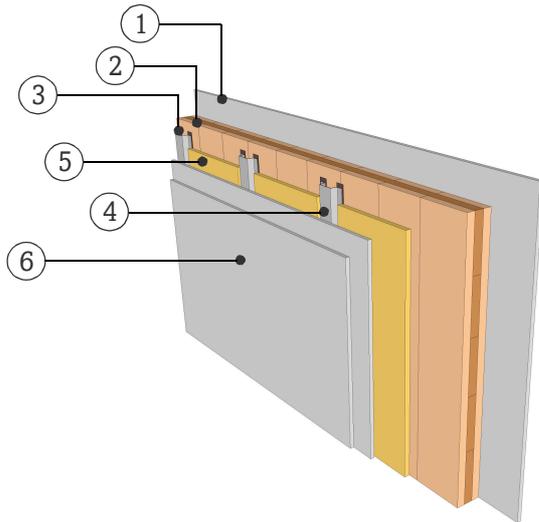
Test report sound: HFA 1143/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.11

FORMWORK ON RESILIENT PROFILES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 55 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,62 [W/m²K]

$m_{w,B,A}$ 42/58 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	15.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③		Felt	0.1	1	120	1.3	
④	20.0	Light weight profiles					A1
⑤	20.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑥	30.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 160,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

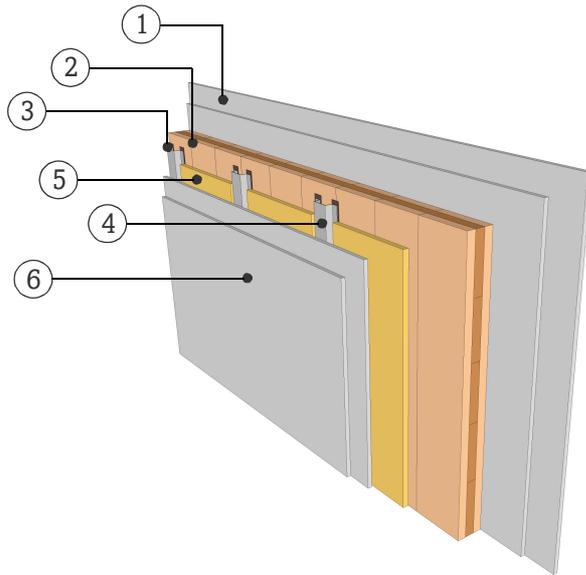
Test report sound: HFA 1143/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.10

FORMWORK ON RESILIENT PROFILES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 57 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,60 [W/m²K]

$m_{w,B,A}$ 42/58 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	30.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③		Felt	0.1	1	120	1.3	
④	20.0	Light weight profiles					A1
⑤	20.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑥	30.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 175,0 [mm]

Mass per squaremeter ca. 125 [kg/m²]

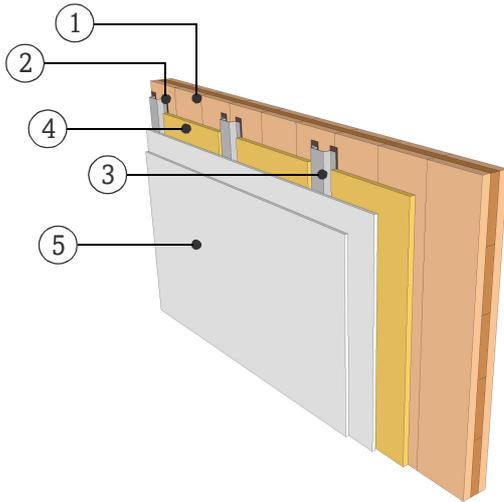
Test report sound: HFA 1143/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.09

FORMWORK ON RESILIENT PROFILES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 50 (-3;-10) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,63 [W/m²K]

m_{w,B,A} 29/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②		Felt	0.1	1	120	1.3	
③	20.0	Light weight profiles					A1
④	20.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑤	25.0	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 140,0 [mm]

Mass per squaremeter ca. 75 [kg/m²]

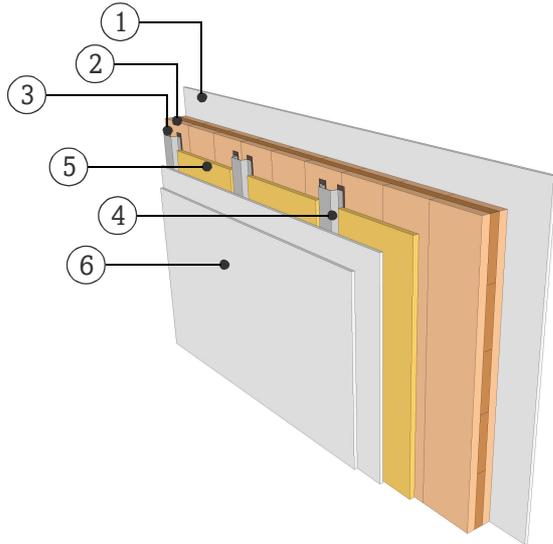
Test report sound: HFA 1143/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.08

FORMWORK ON RESILIENT PROFILES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 52 (-4;-11) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,60 [W/m²K]

$m_{w,B,A}$ 29/40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	12.5	Gypsum fiberboard	0.21	8	900	1.05	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③		Felt	0.1	1	120	1.3	
④	20.0	Light weight profiles					A1
⑤	20.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑥	25.0	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 152,5 [mm]

Mass per squaremeter ca. 85 [kg/m²]

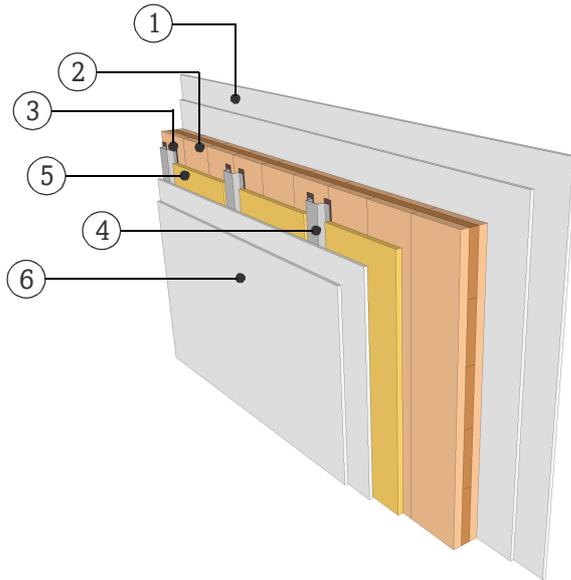
Test report sound: HFA 1143/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.07

FORMWORK ON RESILIENT PROFILES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 53 (-3;-10) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,59 [W/m²K]

m_{w,B,A} 29/45 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum fiberboard	0.21	8	900	1.05	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③		Felt	0.1	1	120	1.3	
④	20.0	Light weight profiles					A1
⑤	20.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑥	25.0	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 165,0 [mm]

Mass per squaremeter ca. 95 [kg/m²]

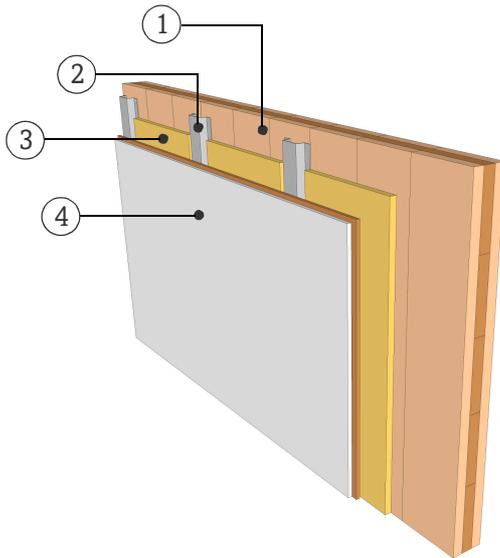
Test report sound: HFA 1143/2013-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.02

FORMWOK ON RESILIENT PROFILE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 51 (-4;-11) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,61 [W/m²K]

m_{w,B,A} 32/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	27.0	Light weight profiles					A1
③	20.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
④	23.0	Schallfresser wallboard	0.19	5	1200	1	A2

Thickness 145,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

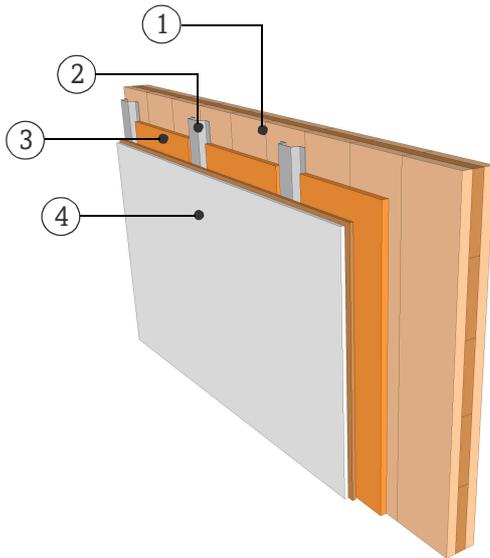
Test report sound: HFA 243/2013/7 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW13.01

FORMWORK ON RESILIENT PROFILE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 52 (-2;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,66 [W/m²K]

m_{w,B,A} 32/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	27.0	Light weight profiles					A1
③	20.0	Impact sound insulation, hemp	0.047	1.4	100	1.7	E
④	23.0	Schallfresser wallboard	0.19	5	1200	1	A2

Thickness 145,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

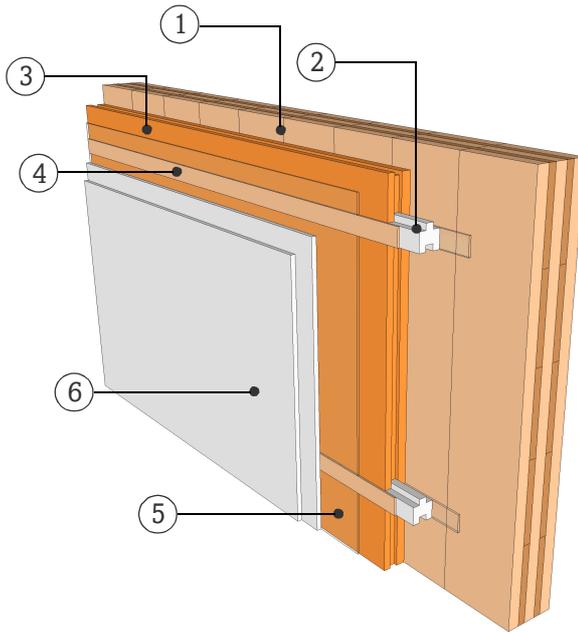
Test report sound: HFA 243/2013/6 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.12

STEICO, FALSE EDGE SUBSTRUCTURE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 51 (-2;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,35 [W/m²K]

m_{w,B,A} 20/36 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	130.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	55.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	60.0 Wood fiberboard	0.042	5	< 180	2.1	E
④	5.0 False edge, spruce					
⑤	5.0 Air gap					
⑥	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 220,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

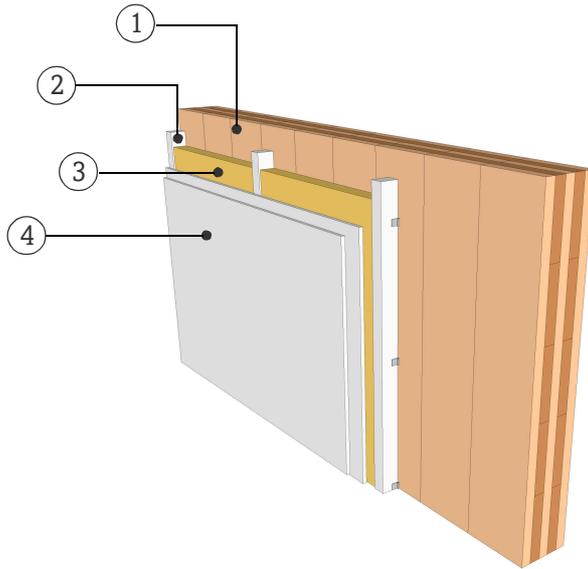
Test report sound: HFA 1252/2012-BB/P 3.09
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.11

FORMWORK ON SWINGING HOOPS



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 56 (-2;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,35 [W/m²K]

m_{w,B,A} 20/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	160.0	0.12	50 - 300	470	1.6	D
②	60.0					D
③	50.0	0.04	1	15-30	1	A1
④	25.0	0.25	10	680	0.96	A2

Thickness 245,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

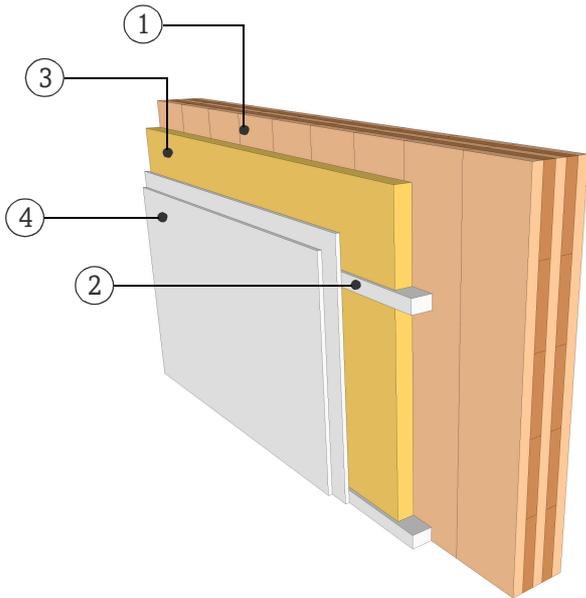
Test report sound: HFA 1252/2012-BB/P 3.08
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.10

FORMWORK RIGIDLY SCREWED



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 53 (-2;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,35 [W/m²K]

m_{w,B,A} 20/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	160.0	0.12	50 - 300	470	1.6	D
②	60.0					D
③	50.0	0.04	1	15-30	1	A1
④	25.0	0.25	10	680	0.96	A2

Thickness 245,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

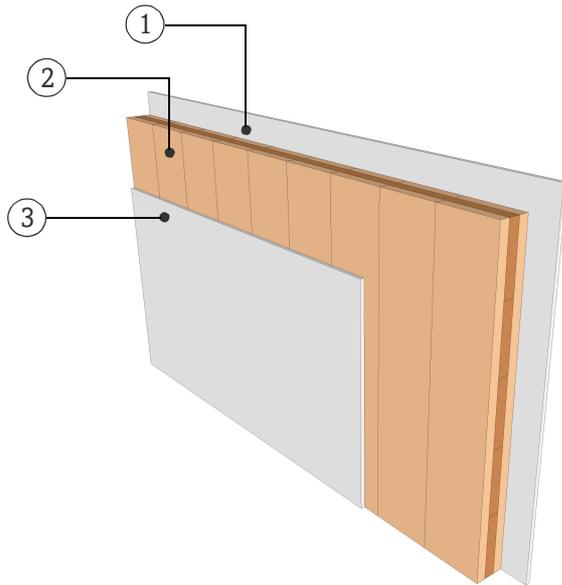
Test report sound: HFA 1252/2012-BB/P 3.07
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.09

ONE LAYER OF PLASTERBOARD ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 36 (0;-2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,94 [W/m²K]

$m_{w,B,A}$ 35/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 120,0 [mm]

Mass per squaremeter ca. 65 [kg/m²]

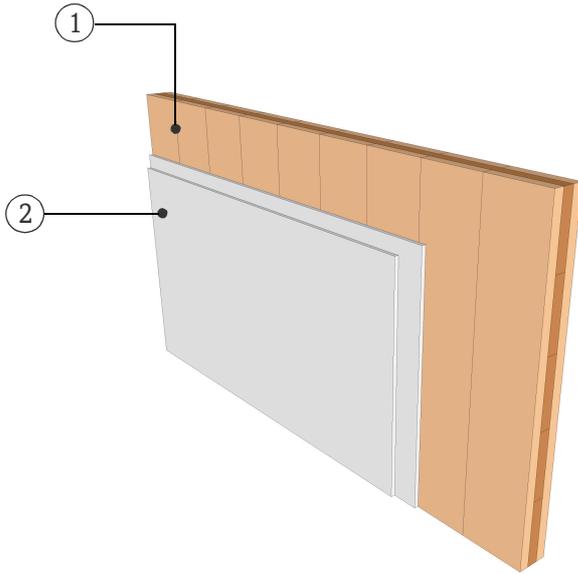
Test report sound: HFA 1252/2012-BB/P 3.11
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.08

TWO LAYER OF PLASTERBOARD TO ONE SIDE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 39 (-1;-4) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,94 [W/m²K]

$m_{w,B,A}$ 36/32 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 120,0 [mm]

Mass per squaremeter ca. 65 [kg/m²]

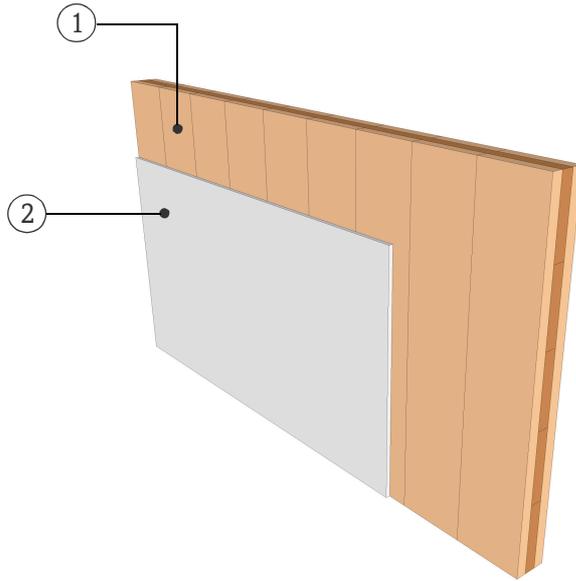
Test report sound: HFA 1252/2012-BB/P 3.14
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.07

ONE LAYER OF PLASTERBOARD TO ONE SIDE



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 37 (-1;-3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,99 [W/m²K]

$m_{w,B,A}$ 34/32 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 107,5 [mm]

Mass per squaremeter ca. 56 [kg/m²]

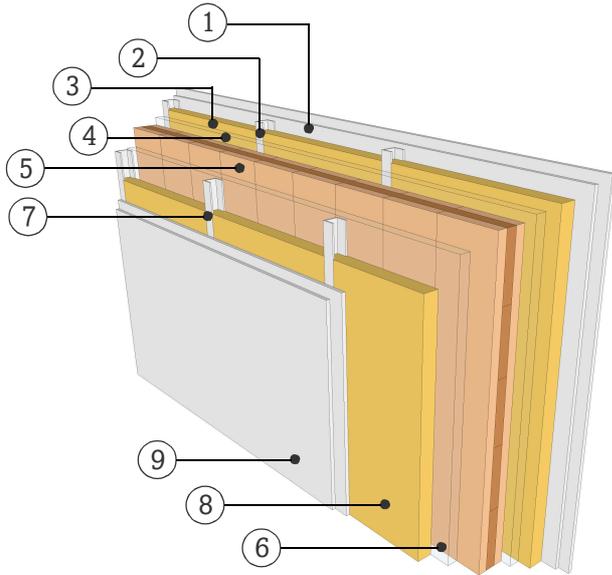
Test report sound: HFA 1252/2012-BB/P 3.12
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.06

SELF SUPPORTING FORMWORK ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 71 (-7;-14) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

m_{w,B,A} 19/19 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Lightweight C-profiles					A1
③	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
④	35.0	Air gap					
⑤	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	35.0	Air gap					
⑦	50.0	Lightweight C-profiles					A1
⑧	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 315,0 [mm]

Mass per squaremeter ca. 90 [kg/m²]

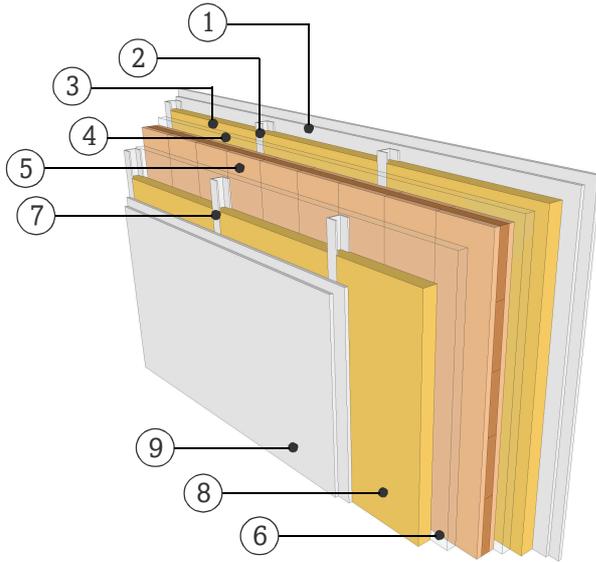
Test report sound: HFA 1101/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.05

SELF SUPPORTING FORMWORK ON BOTH SIDES



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 60 TT+12.5 Gt-F

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 68 (-7;-14) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,28 [W/m²K]

$m_{w,B,A}$ 19/19 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0	Lightweight C-profiles					A1
③	50.0	Mineral wool, low density	0.038	1	40	0.9	A1
④	35.0	Air gap					
⑤	70.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	35.0	Air gap					
⑦	50.0	Lightweight C-profiles					A1
⑧	50.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑨	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 290,0 [mm]

Mass per squaremeter ca. 80 [kg/m²]

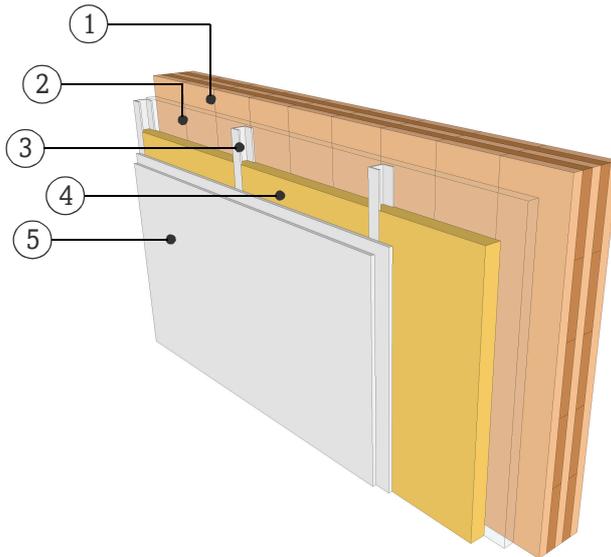
Test report sound: HFA 1101/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.04

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 65 (-5;-11) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,34 [W/m²K]

m_{w,B,A} 19/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	160.0	0.12	50 - 300	470	1.6	D
②	35.0					
③	50.0					A1
④	50.0	0.038	1	40	0.9	A1
⑤	25.0	0.25	10	680	0.96	A2

Thickness 270,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

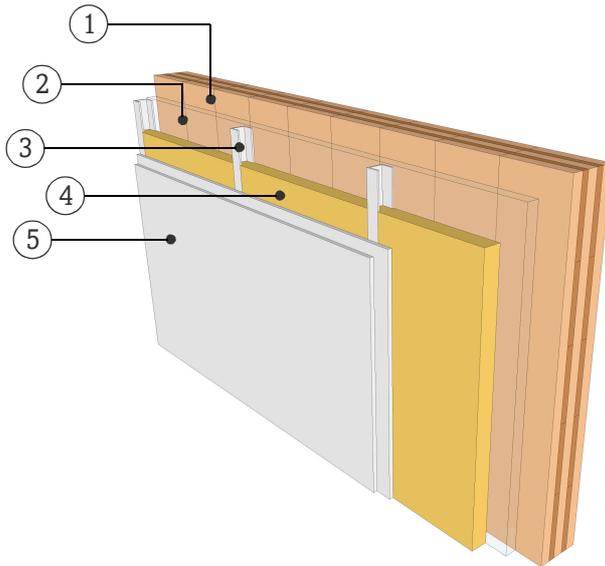
Test report sound: HFA 1101/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.03

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 62 (-2;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,37 [W/m²K]

$m_{w,B,A}$ 19/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	130.0	0.12	50 - 300	470	1.6	D
②	35.0					
③	50.0					A1
④	50.0	0.038	1	40	0.9	A1
⑤	25.0	0.25	10	680	0.96	A2

Thickness 240,0 [mm]

Mass per squaremeter ca. 90 [kg/m²]

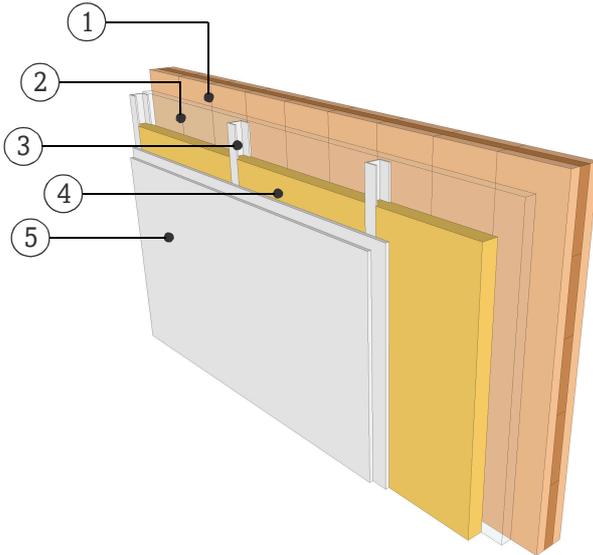
Test report sound: HFA 1101/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.02

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 61 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,42 [W/m²K]

m_{w,B,A} 19/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	0.12	50 - 300	470	1.6	D
②	35.0					
③	50.0					A1
④	50.0	0.04	1	15-30	1	A1
⑤	25.0	0.25	10	680	0.96	A2

Thickness 205,0 [mm]

Mass per squaremeter ca. 70 [kg/m²]

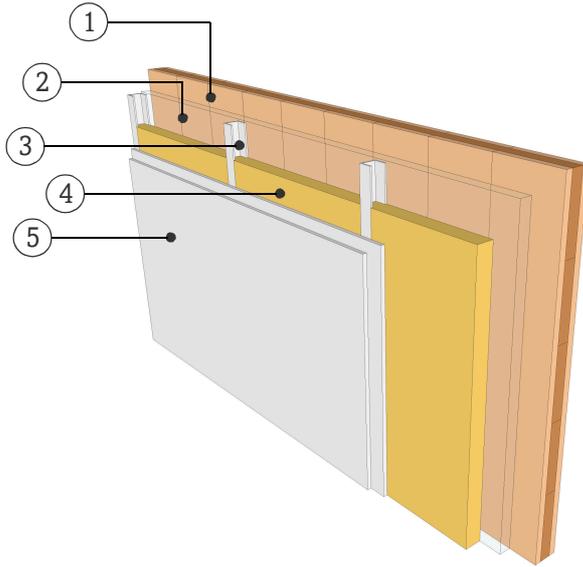
Test report sound: HFA 1101/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW12.01

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 59 (-4;-10) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,46 [W/m²K]

m_{w,B,A} 18/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	70.0	0.12	50 - 300	470	1.6	D
②	35.0					
③	50.0					A1
④	50.0	0.038	1	40	0.9	A1
⑤	25.0	0.25	10	680	0.96	A2

Thickness 180,0 [mm]

Mass per squaremeter ca. 60 [kg/m²]

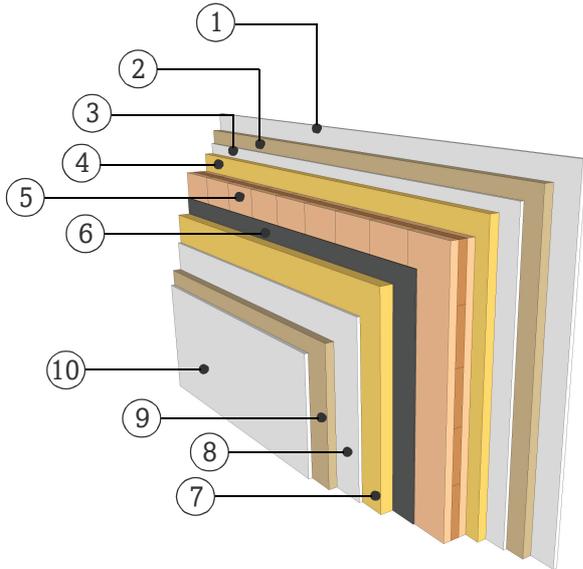
Test report sound: HFA 1101/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW04.01

FORMWORK ON BASEBOARD



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 68 (-5;-11) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,24 [W/m²K]

m_{w,B,A} 36/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	15.0	Gypsum fiberboard	0.21	8	900	1.05	A2
②	35.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
③	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
④	50.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
⑤	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	2.0	sealing sheet, plastic					
⑦	25.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
⑧	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
⑨	35.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
⑩	15.0	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 297,0 [mm]

Mass per squaremeter ca. 135 [kg/m²]

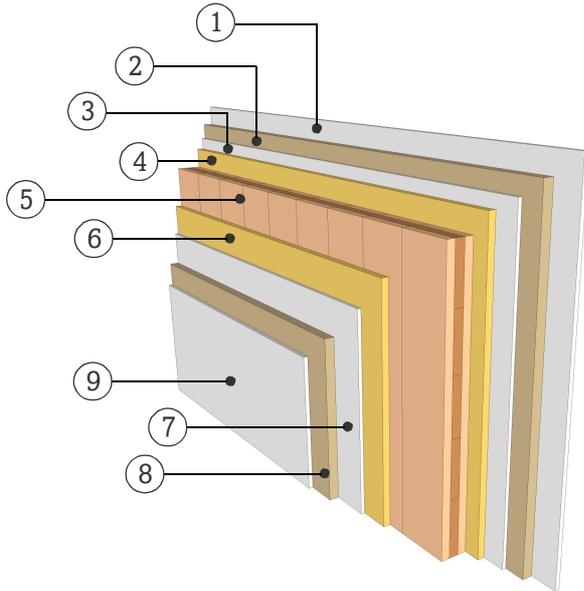
Test report sound: TUG B04.851.010.310
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

INTERIOR WALL

IW02.01

FORMWORK ON BASEBOARD



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 3s 120 TT+15 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 60 (-2;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,32 [W/m²K]

m_{w,B,A} 31/31 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	15.0 Gypsum fiberboard	0.21	8	900	1.05	A2
②	35.0 Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
③	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2
④	25.0 Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑤	100.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	25.0 Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑦	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2
⑧	35.0 Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
⑨	15.0 Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 270,0 [mm]

Mass per squaremeter ca. 130 [kg/m²]

Test report sound: TUG B02.851.013.320
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

TWO LAYER WALLS

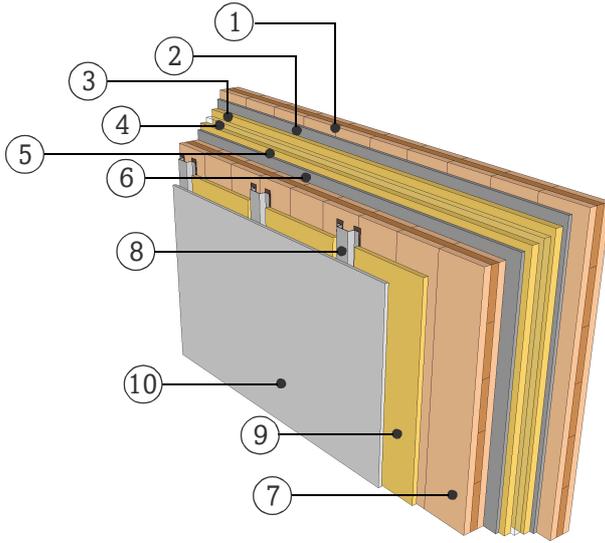
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$
	[mm]	[kg/m ²]		[dB]
WTW16.06	335.0	155	One side	69
WTW16.05	325.0	155	One side	64
WTW16.04	335.0	150	No	66
WTW16.03	325.0	150	No	65
WTW16.02	320.0	135	Yes	66
WTW16.01	290.0	135	Yes	55
WTW12.08	480.0	135	No	75
WTW12.05	370.0	120	One side	71
WTW12.04	400.0	170	No	68
WTW12.03	400.0	105	Yes	64
WTW12.01	260.0	105	Yes	60
WTW07.01	345.0	130	No	66
WTW06.01	325.0	115	No	69
WTW05.01	270.0	115	No	61
WTW04.01	235.0	110	No	57
WTW03.01	290.0	95	Yes	64

DATASHEET

PARTITION WALL

WTW16.06

TWO SEPARATE LAYER, FACING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	69 (-5;-12) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,25 [W/m²K]
m_{w,B,A}	29/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
③	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
④	10.0	Air gap					
⑤	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑥	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
⑦	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑧	20.0	Light weight profiles					A1
⑨	15.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑩	12.5	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 332,5 [mm]

Mass per squaremeter ca. 155 [kg/m²]

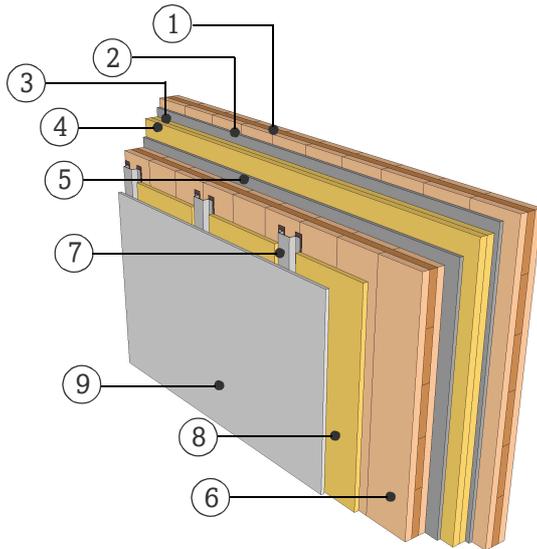
Test report sound: HFA 781a2016-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW16.05

TWO SEPARATE LAYER, FACING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	64 (-5;-12) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,26 [W/m²K]
m_{w,B,A}	29/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
③	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
④	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑤	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
⑥	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	20.0	Light weight profiles					A1
⑧	15.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑨	12.5	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 322,5 [mm]

Mass per squaremeter ca. 155 [kg/m²]

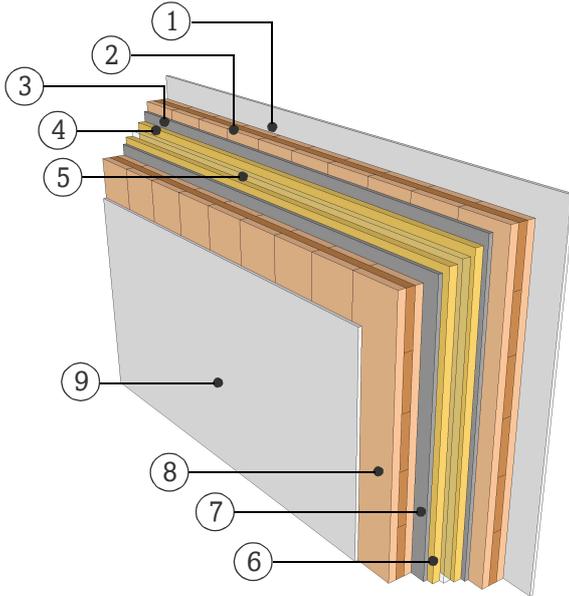
Test report sound: HFA 781a2016-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW16.04

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 66 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,27 [W/m²K]

$m_{w,B,A}$ 38/38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	0.25	10	680	0.96	A2
②	100.0	0.12	50 - 300	470	1.6	D
③	15.0	0.4	40	1000	1	A1
④	30.0	0.032	1	40	0.81	A2
⑤	30.0					
⑥	30.0	0.032	1	40	0.81	A2
⑦	15.0	0.4	40	1000	1	A1
⑧	100.0	0.12	50 - 300	470	1.6	D
⑨	12.5	0.25	10	680	0.96	A2

Thickness 345,0 [mm]

Mass per squaremeter ca. 150 [kg/m²]

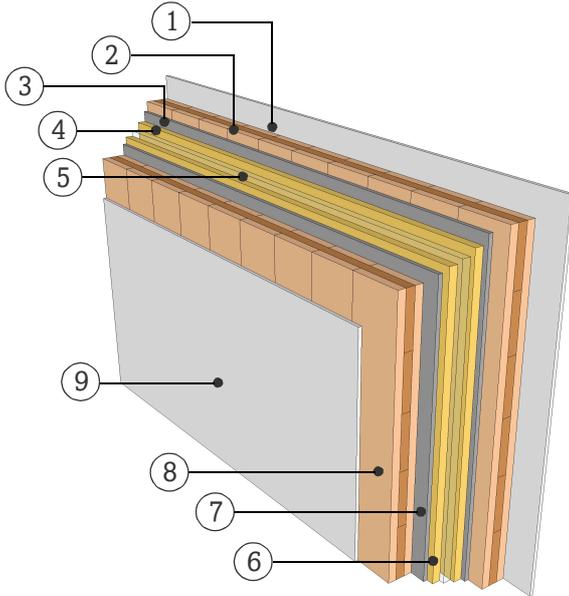
Test report sound: HFA 781a2016-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW16.03

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	65 (-2;-8) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,28 [W/m ² K]
m_{w,B,A}	38/38 [kg/m ²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
④	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑤	10.0	Air gap					
⑥	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑦	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
⑧	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑨	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 325,0 [mm]

Mass per squaremeter ca. 150 [kg/m²]

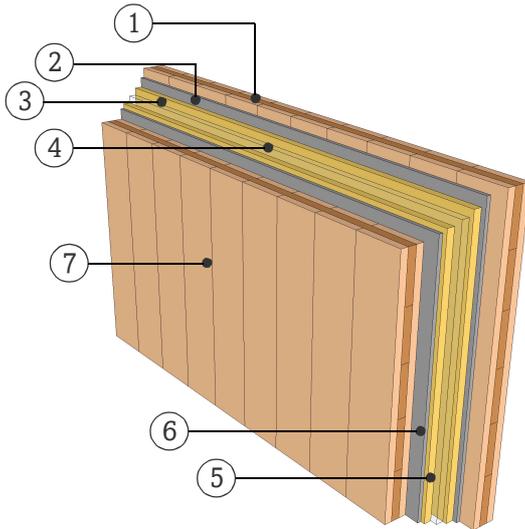
Test report sound: HFA 781a2016-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW16.02

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 66 (-4;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,27 [W/m²K]

m_{w,B,A} 36/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
③	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
④	30.0	Air gap					
⑤	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑥	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
⑦	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 320,0 [mm]

Mass per squaremeter ca. 135 [kg/m²]

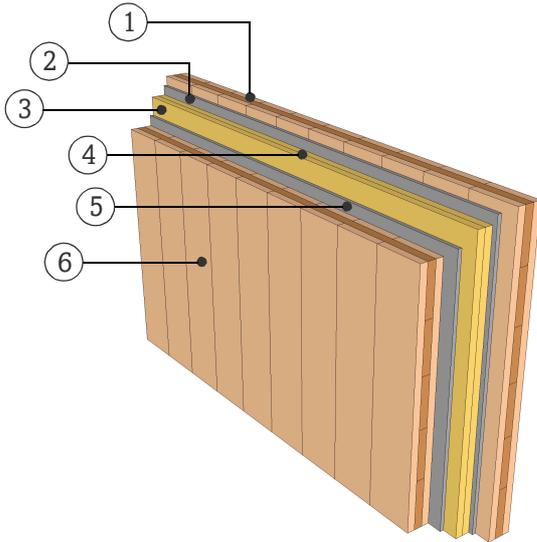
Test report sound: HFA 781a2016-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW16.01

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 55 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,30 [W/m²K]

m_{w,B,A} 36/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
③	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
④	30.0	Glasfiber with felt layer	0.032	1	40	0.81	A2
⑤	15.0	Cement bonded sandwich panel, Fermacell	0.4	40	1000	1	A1
⑥	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 290,0 [mm]

Mass per squaremeter ca. 135 [kg/m²]

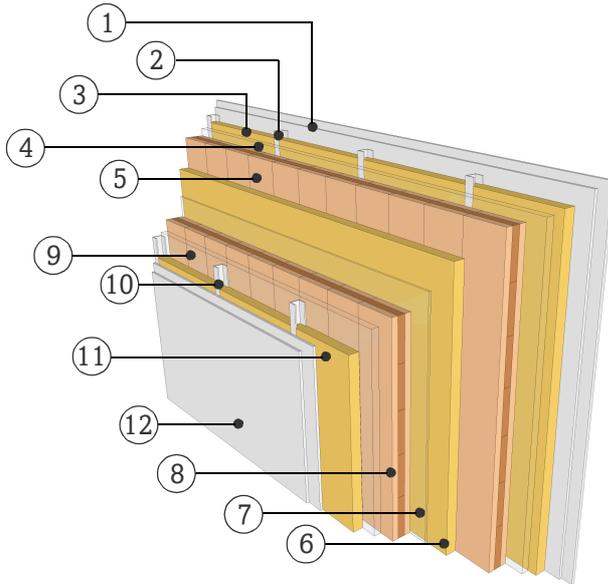
Test report sound: HFA 781a2016-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW12.08

TWO SEPARATE LAYER, FACING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	75 (-2;-7) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,15 [W/m²K]
m_{w,B,A}	18/18 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2
②	50.0 Lightweight C-profiles					A1
③	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
④	35.0 Air gap					
⑤	100.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑦	10.0 Air gap					
⑧	100.0 TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑨	35.0 Air gap					
⑩	50.0 Lightweight C-profiles					A1
⑪	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑫	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 480,0 [mm]

Mass per squaremeter ca. 135 [kg/m²]

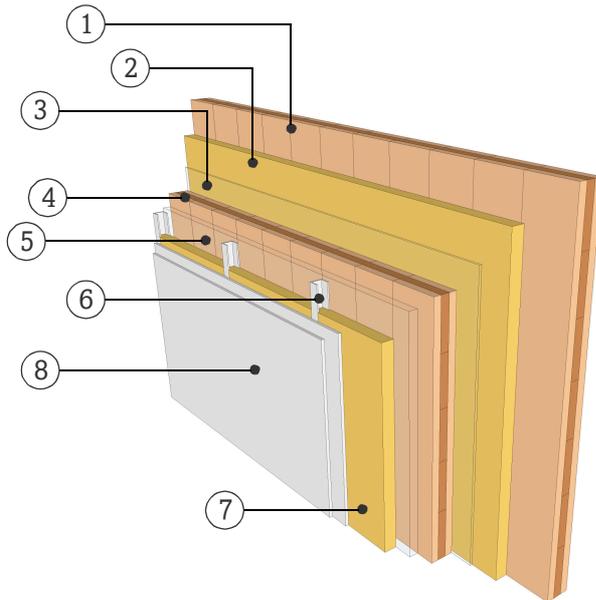
Test report sound: HFA 1252/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW12.05

TWO SEPARATE LAYER, FACING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr})	71 (-3;-9) [dB]
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<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U	0,21 [W/m²K]
m_{w,B,A}	18/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
③	10.0	Air gap					
④	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	35.0	Air gap					
⑥	50.0	Lighweight C-profiles					A1
⑦	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑧	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 370,0 [mm]

Mass per squaremeter ca. 120 [kg/m²]

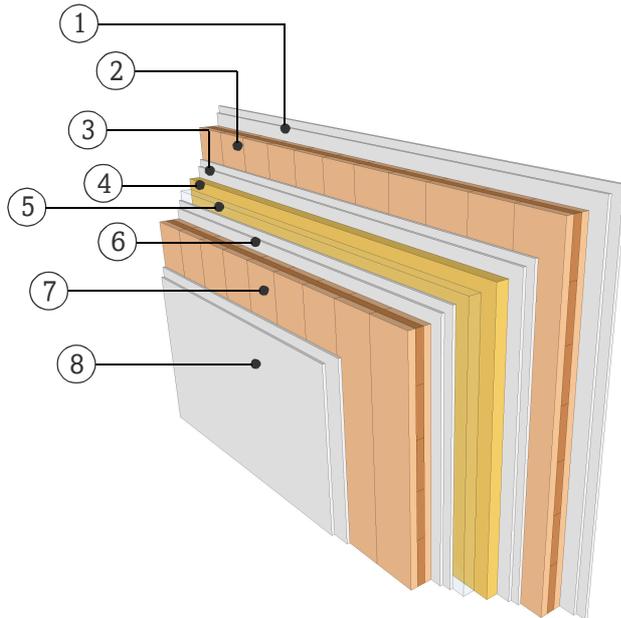
Test report sound: HFA 1252/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW12.04

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 68 (-3;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

$m_{w,B,A}$ 40/40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
④	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑤	50.0	Air gap					
⑥	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2
⑦	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑧	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 400,0 [mm]

Mass per squaremeter ca. 170 [kg/m²]

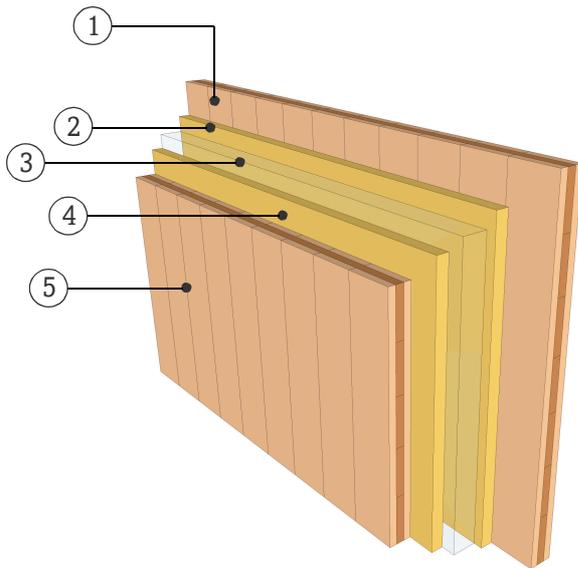
Test report sound: HFA 1252/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW12.03

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 64 (-5;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 38/38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
③	100.0	Air gap					
④	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑤	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 400,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

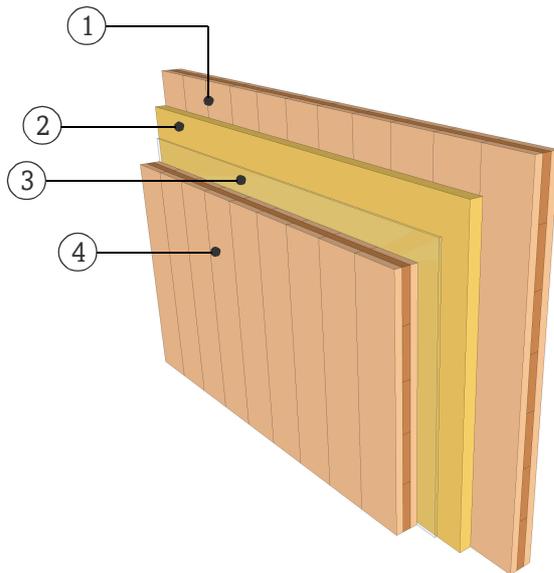
Test report sound: HFA 1252/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW12.01

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 60 (-4;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,32 [W/m²K]

$m_{w,B,A}$ 37/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
③	10.0	Air gap					
④	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 260,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

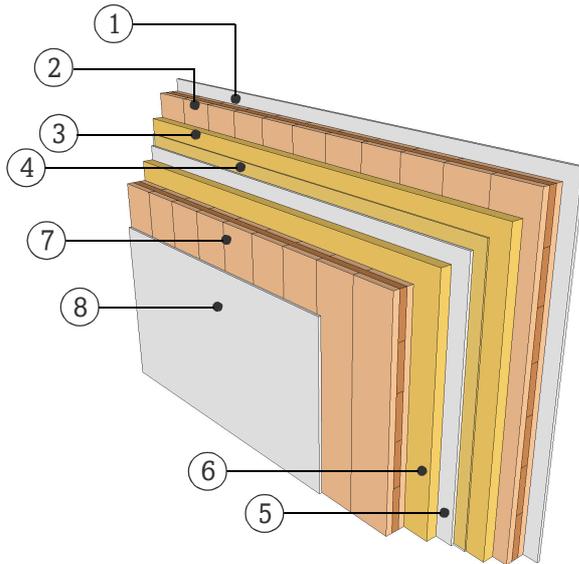
Test report sound: HFA 1252/2012-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW07.01

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30	> 3s 80 TT
R*EI 60	> 5s 100 TT
R*EI 90	> 5s 100 TT+12.5 Gt-F

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 66 (-8;-19) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,23 [W/m²K]

$m_{w,B,A}$ 39/39 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	50.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
④	7.5	Air gap					
⑤	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
⑥	50.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
⑦	100.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑧	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 345,0 [mm]

Mass per squaremeter ca. 130 [kg/m²]

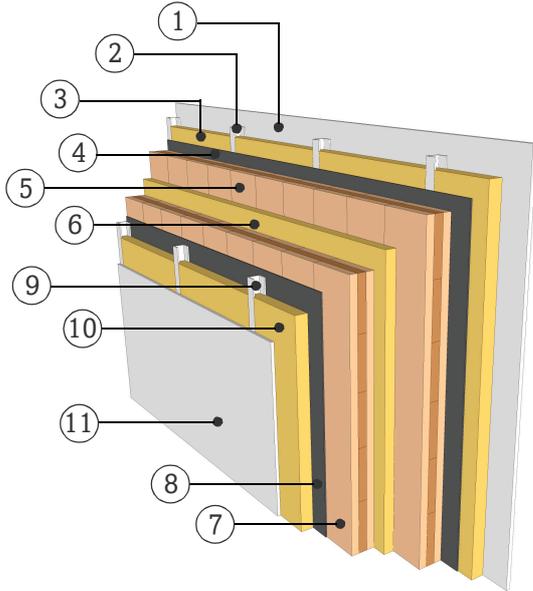
Test report sound: TU-Graz B07.851.029.320
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW06.01

TWO SEPARATE LAYER, FACING FORMWORK



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w} (C;C_{tr})$ 69 (-9;-17) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,20 [W/m²K]

$m_{w,B,A}$ 15/15 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum fiberboard	0.21	8	900	1.05	A2
②	50.0	Light weight C-profiles on swinging hoops					A1
③	50.0	Mineral wool, low density	0.038	1	40	0.9	A1
④		Wind barrier					
⑤	80.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	40.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑦	80.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑧		Wind barrier					
⑨	50.0	Light weight C-profiles on swinging hoops					A1
⑩	50.0	Mineral wool, low density	0.038	1	40	0.9	A1
⑪	12.5	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 325,0 [mm]

Mass per squaremeter ca. 115 [kg/m²]

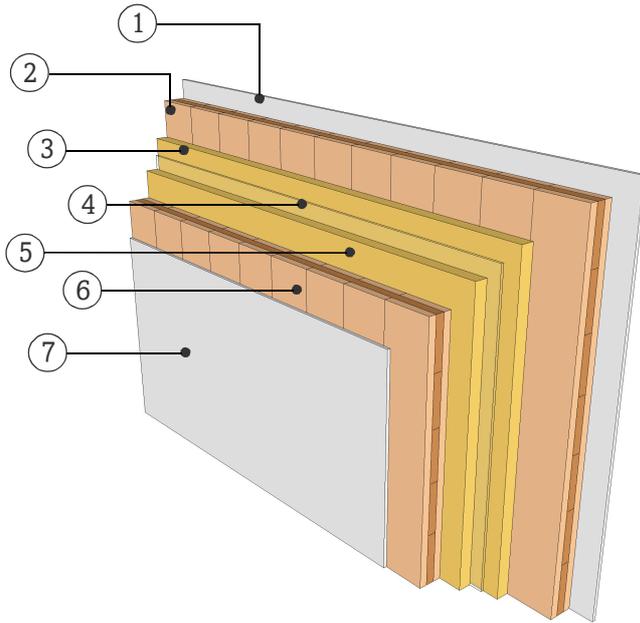
Test report sound: In-situ measurement Mühlweg TGM-VA AB 11212
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW05.01

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 61 (-5;-13) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,30 [W/m²K]

m_{w,B,A} 40/40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	90.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	30.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
④	5.0	Air gap					
⑤	30.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑥	90.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 270,0 [mm]

Mass per squaremeter ca. 115 [kg/m²]

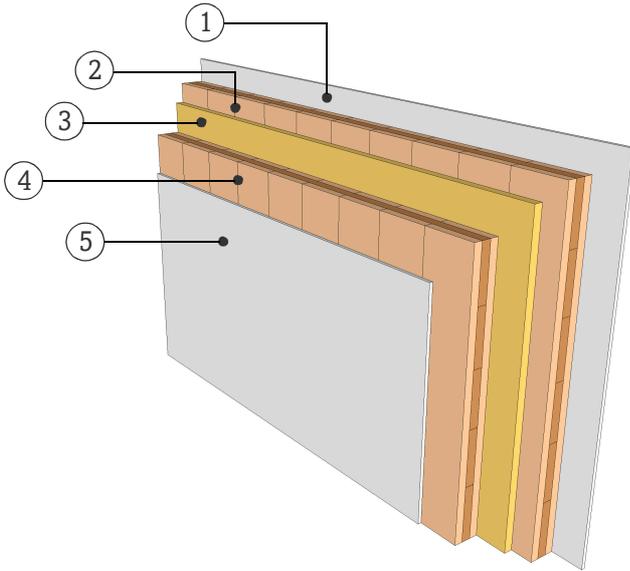
Test report sound: TU-Graz B05.851.001.310
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW04.01

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 3s 80 TT+15 Gt-F

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 57 (-3;-11) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,39 [W/m²K]

m_{w,B,A} 39/39 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2
②	90.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
③	30.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
④	90.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 235,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

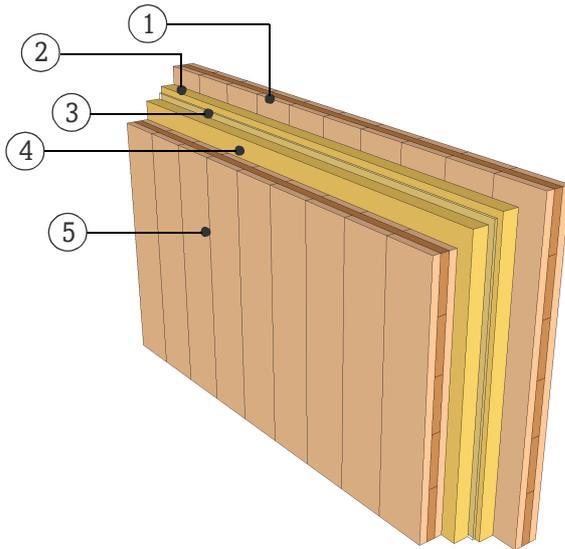
Test report sound: TU-Graz B04.851.003.310
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

PARTITION WALL

WTW03.01

TWO SEPARATE LAYER



FIRE RESISTANCE

Pre-dimensioning for fire attack on both sides

R*EI 30 > 3s 80 TT

R*EI 60 > 5s 100 TT

R*EI 90 > 5s 120 TT

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 64 (-3;-9) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

m_{w,B,A} 38/38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	80.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D
②	60.0	Mineral wool, low density	0.04	1	15-30	1	A1
③	10.0	Air gap					
④	60.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑤	80.0	TT, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 290,0 [mm]

Mass per squaremeter ca. 95 [kg/m²]

Prüfbericht Schall: TU-Graz B03.851.010.320
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

FLOORS

NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w(C;C_{tr}) / D_{nT,w}(C;C_{tr})$	$L_{n,w}(C) / L'_{nT,w}(C)$
	[mm]	[kg/m ²]		[dB]	[dB]
GD18.02	335.0	335	Yes	58	47
GD18.01	407.5	345	No	59	44
GD17.01	331.0	285	Yes	62	47
GD15.02	295.0	325	Yes	60	43
GD15.01	367.5	340	No	75	36
GD14.09	392.5	225	No	70	51
GD14.08	405.0	245	No	74	44
GD14.07	321.0	165	No	67	51
GD14.06b	308.5	145	No	65	55
GD14.06a	321.0	160	No	66	51
GD14.05	348.5	135	No	71	48
GD14.04	270.0	100	Yes	53	64
GD14.03	398.5	230	No	70	41
GD14.02	398.5	235	No	72	41
GD14.01	411.0	250	No	74	37
GD13.14	225.0	155	Yes	56	53
GD13.13	226.0	125	Yes	55	54
GD13.12b	335.0	165	Yes	56	52
GD13.12a	335.0	165	Yes	56	53
GD13.11	295.0	170	Yes	56	55
GD13.10	305.0	175	Yes	56	48
GD13.09	353.0	200	No	65	42
GD13.06	232.0	170	Yes	54	53
GD13.05	186.0	105	Yes	49	62
GD13.04	230.5	195	Yes	53	56
GD13.03	220.5	150	Yes	55	53
GD13.02	247.5	175	Yes	62	51
GD13.01	260.5	195	Yes	62	47
GD12.01	471.5	415	No	70	34
GD10.01	525.0	325	No	69	38

FLOORS

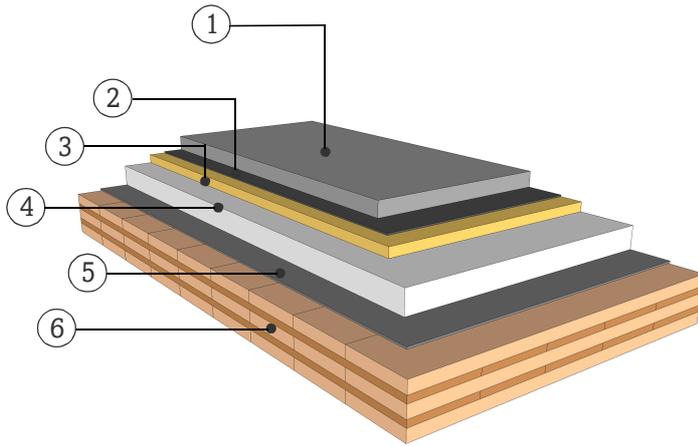
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$	$L_{n,w} (C) / L'_{nT,w} (C)$
	[mm]	[kg/m ²]		[dB]	[dB]
GD08.04	306.0	155	Yes	50	63
GD08.03	310.0	310	Yes	57	51
GD08.02	530.0	330	No	63	42
GD08.01	350.0	205	No	64	46
GD07.06	362.5	240	No	58	46
GD07.05	338.5	235	No	59	50
GD07.04	307.0	145	No	61	51
GD07.03	328.0	95	No	60	50
GD07.02	307.0	85	No	57	57
GD07.01	335.0	205	No	58	46
GD06.04	390.0	310	No	66	40
GD06.03	405.0	330	No	61	46
GD06.02	330.0	345	No	61	48
GD06.01	355.0	350	No	60	42
GD03.01	380.0	185	No	58	43
GD01.03	367.0	280	No	58	49
GD01.02	325.0	255	Yes	57	57
GD01.01	407.0	290	No	59	45
GD00.01	385.5	250	Yes	57	45

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD18.02

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 58 (0;-3) [dB]

$L_{n,w} (C_i)$ 47 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,38 [W/m²K]

$m_{w,B,A}$ 35/106 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation $s' \leq 10 \text{ MN/m}^3$	0.032	1	110	0.84	A1
④	80.0	Gravel fill bonded	0.9	10	1450-1600	1	A1
⑤	5.0	Acoustic sheet $s' \leq 115 \text{ MN/m}^3$	0.045	20000	1400	1	E
⑥	160.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 335,0 [mm]

Mass per squaremeter ca. 335 [kg/m²]

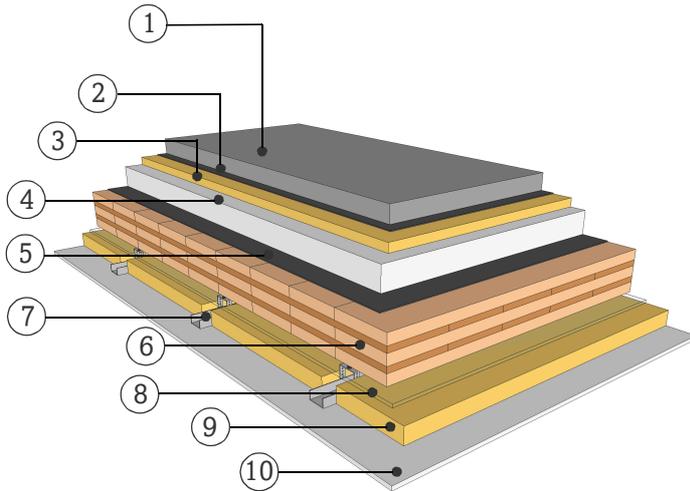
Test report sound: HFA 2440/2017-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD18.01

MEASUREMENT INCL. CONNECTORS, RESILIENT LAYER



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 59 (-1;-4) [dB]

$L_{n,w} (C_i)$ 44 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

$m_{w,B,A}$ 12/106 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	60.0 Cement screed	1.4	50	2200	1.1	A1
②	Separating layer					
③	30.0 Impact sound insulation $s' \leq 10 \text{ MN/m}^3$	0.032	1	110	0.84	A1
④	80.0 Gravel fill bonded	0.9	10	1450-1600	1	A1
⑤	5.0 Acoustic sheet $s' \leq 115 \text{ MN/m}^3$	0.045	20000	1400	1	E
⑥	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	60.0 Light weight C-profiles on resilient clips					A1
⑧	10.0 Air gap					
⑨	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑩	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 407,5 [mm]

Mass per squaremeter ca. 345 [kg/m²]

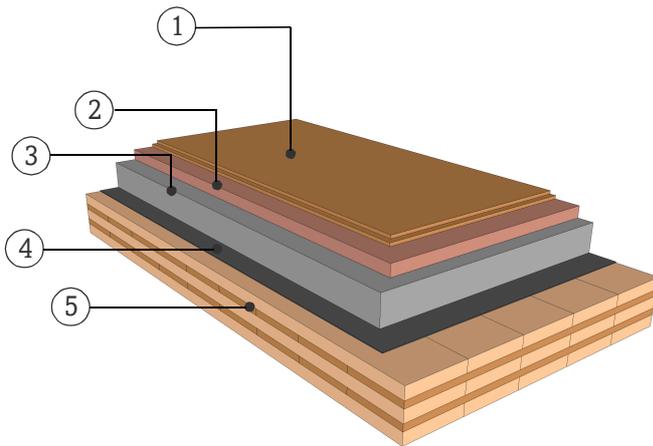
Test report sound: HFA 2440/2017-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD17.01

MEASUREMENT INCL. ELASTIC LAYER



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 62 (-1;-4) [dB]

$L'_{nT,w}$ (C_i) 47 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,40 [W/m²K]

$m_{w,B,A}$ 36/49 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	31.0	Schallfresser dry screed	0.19	5	1425	1	A1
②	40.0	Impact sound insulation, wood fiberboard	0.045	3 - 5	200-250	2.1	E
③	100.0	Shale fill	0.9	1	1500	1	A1
④		Separating layer					
⑤	160.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 331,0 [mm]

Mass per squaremeter ca. 285 [kg/m²]

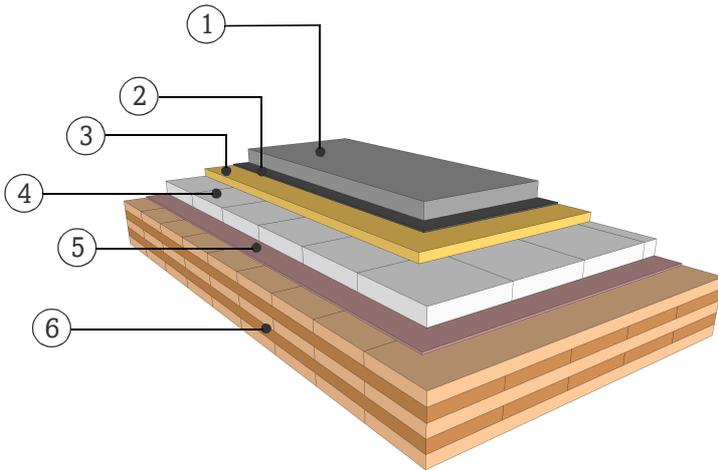
Test report sound: Universität Innsbruck_11 2017
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD15.02

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 60 (-1;-3) [dB]

L_{n,w} (C_l) 43 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,40 [W/m²K]

m_{w,B,A} 36/106 [kg/m²]

	MATERIAL	PROPERTIES				
		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0 Cement screed	1.4	50	2200	1.1	A1
②	Separating layer					
③	30.0 Impact sound insulation, s' ≤ 7 MN/m³	0.032	1	110	0.84	A1
④	50.0 Concrete elements	1.7	100	2400	1.08	A1
⑤	5.0 Acoustic sheet s' ≤ 115 MN/m³	0.045	20000	1400	1	E
⑥	150.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 295,0 [mm]

Mass per squaremeter ca. 325 [kg/m²]

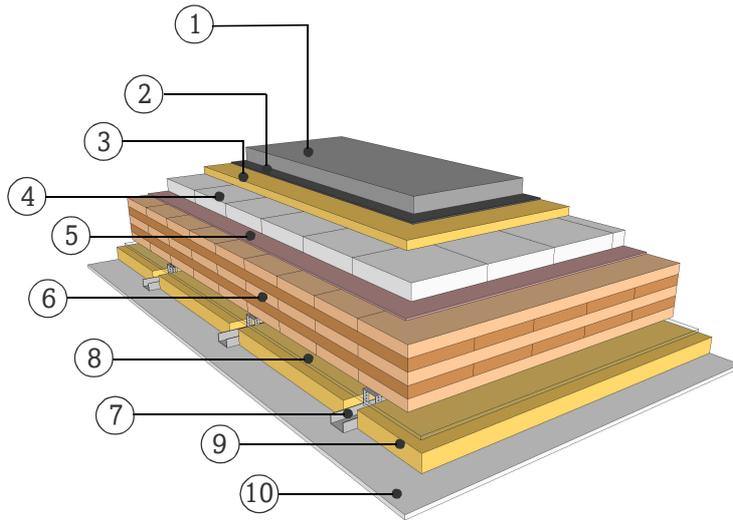
Test report sound: HFA 169/2015-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD15.01

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 75 (-2;-6) [dB]

$L_{n,w} (C_i)$ 36 (5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

$m_{w,B,A}$ 15/106 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation, $s' \leq 7 \text{ MN/m}^3$	0.032	1	110	0.84	A1
④	50.0	Concrete elements	1.7	100	2400	1.08	A1
⑤	5.0	Acoustic sheet $s' \leq 115 \text{ MN/m}^3$	0.045	20000	1400	1	E
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	60.0	Light weight C-profiles on resilient clips					A1
⑧	10.0	Air gap					
⑨	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑩	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 367,5 [mm]

Mass per squaremeter ca. 340 [kg/m²]

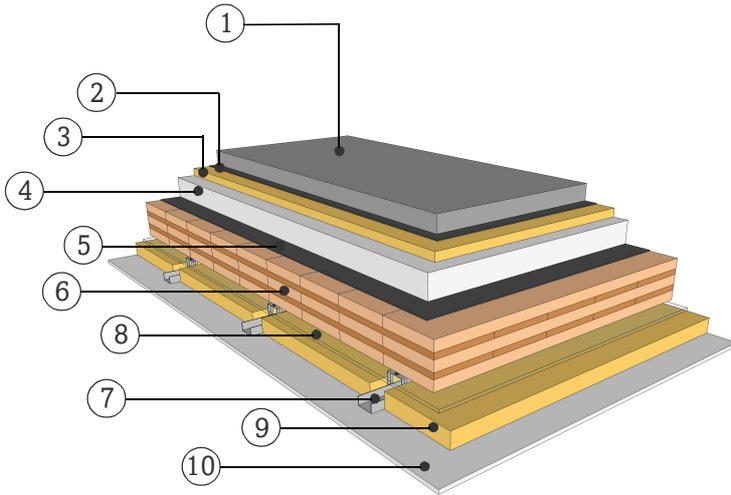
Test report sound: HFA 169/2015-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD14.09

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 70 (-4;-12) [dB]

L_{n,w} (C_i) 51 (3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 18/109 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation s'≤ 30 MN/m³	0.036	1	70 - 150	0.84	A1
④	80.0	Polysterene fill	0.05	10	135	1.2	
⑤		Separating layer					
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	60.0	Light weight C-profiles on resilient clips					A1
⑧	10.0	Air gap					
⑨	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑩	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 392,5 [mm]

Mass per squaremeter ca. 225 [kg/m²]

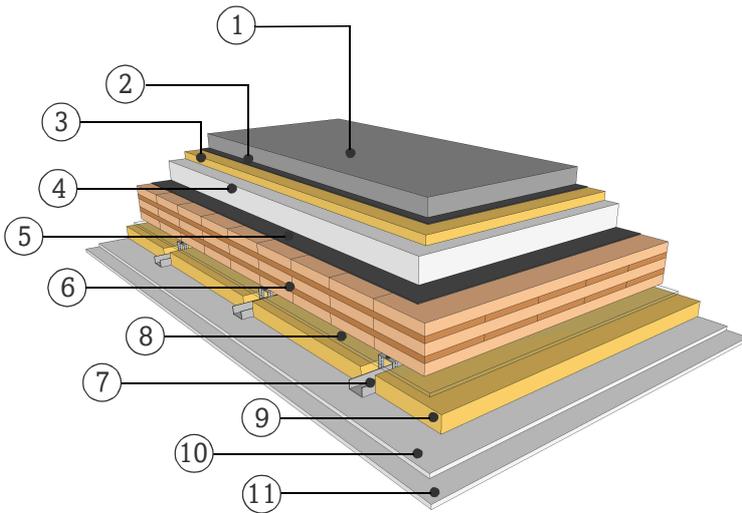
Test report sound: HFA 2592/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD14.08

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 74 (-3;-10) [dB]

L_{n,w} (C_i) 44 (4) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 31/109 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation s' ≤ 30 MN/m³	0.036	1	70 - 150	0.84	A1
④	80.0	Polysterene fill	0.05	10	135	1.2	
⑤		Separating layer					
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	60.0	Light weight C-profiles on resilient clips					A1
⑧	10.0	Air gap					
⑨	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑩	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2
⑪	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 405,0 [mm]

Mass per squaremeter ca. 245 [kg/m²]

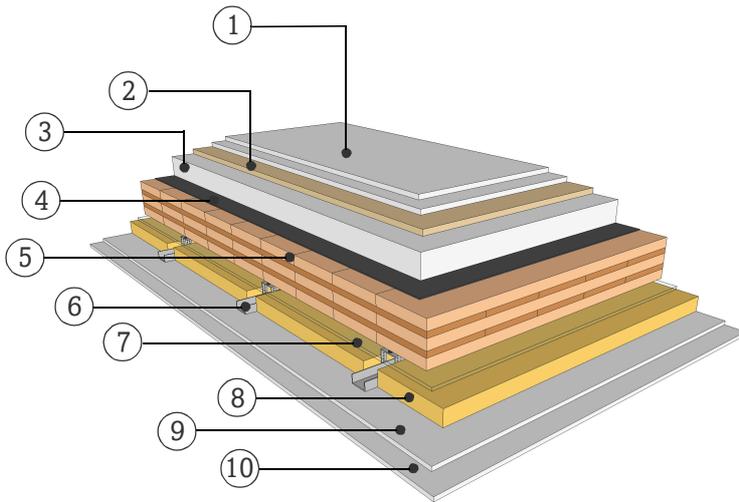
Test report sound: HFA 2592/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD14.07

SUPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 67 (-2;-7) [dB]

L_{n,w} (C_l) 51 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,31 [W/m²K]

m_{w,B,A} 36/45 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	18.0	Gypsum fiberboard dry screed	0.25	17	1250	1	A1
②	8.0	Impact sound insulation, wood fiberboard	0.07	5	250	2.5	E
③	60.0	Dry fill, PA Knauf	0.23	2	490	1	
④		Separating layer					
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	60.0	Light weight C-profiles on resilient clips					A1
⑦	10.0	Air gap					
⑧	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2
⑩	12.5	Gypsum fiberboard	0.25	10	1400	1.2	A2

Thickness 321,0 [mm]

Mass per squaremeter ca. 165 [kg/m²]

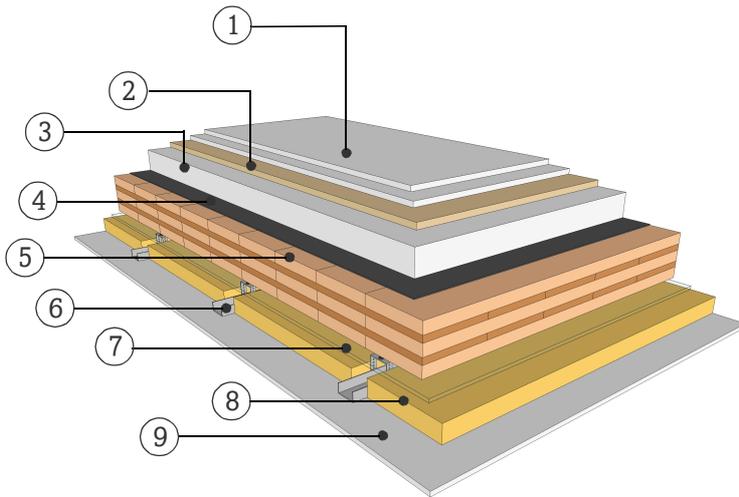
Test report sound: HFA 2592/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD14.06

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 65 (-3;-10) [dB]

$L_{n,w} (C_i)$ 55 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,32 [W/m²K]

$m_{w,B,A}$ 18/45 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	18.0 Gypsum fiberboard dry screed	0.25	17	1250	1	A1
②	8.0 Impact sound insulation, wood fiberboard	0.07	5	250	2.5	E
③	60.0 Dry fill, PA Knauf	0.23	2	490	1	
④	Separating layer					
⑤	150.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	60.0 Light weight C-profiles on resilient clips					A1
⑦	10.0 Air gap					
⑧	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5 Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 308,5 [mm]

Mass per squaremeter ca. 145 [kg/m²]

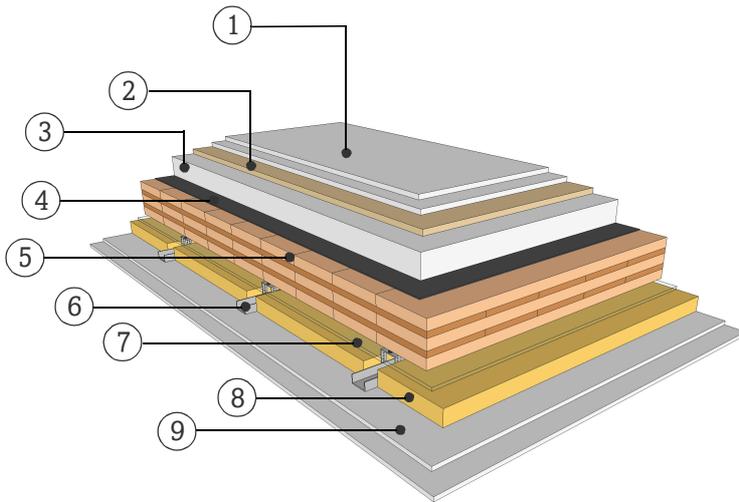
Test report sound: HFA 2592/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD14.06A

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 66 (-2;-8) [dB]

$L_{n,w} (C_i)$ 51 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,31 [W/m²K]

$m_{w,B,A}$ 31/45 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	18.0	Gypsum fiberboard dry screed	0.25	17	1250	1	A1
②	8.0	Impact sound insulation, wood fiberboard	0.07	5	250	2.5	E
③	60.0	Dry fill, PA Knauf	0.23	2	490	1	
④		Separating layer					
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	60.0	Light weight C-profiles on resilient clips					A1
⑦	10.0	Air gap					
⑧	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	25.0	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 321,0 [mm]

Mass per squaremeter ca. 160 [kg/m²]

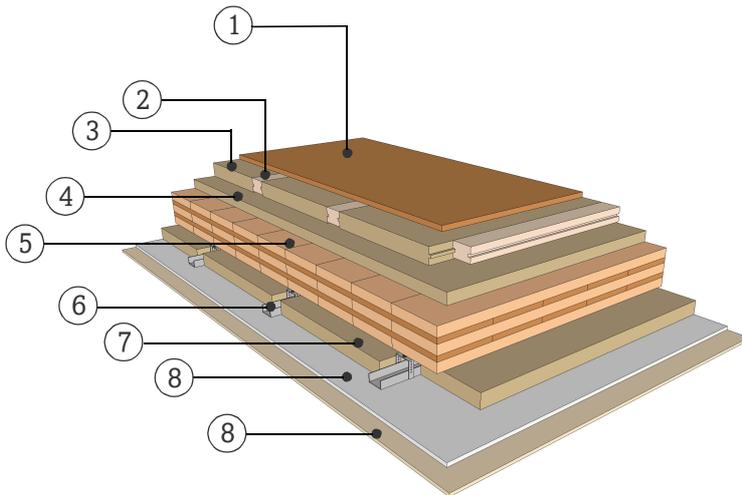
Test report sound: HFA 2592/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH TIMBER PLANKS

GD14.05

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 71 (-5;-13) [dB]

$L_{n,w} (C_i)$ 48 (5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

$m_{w,B,A}$ 33/23 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	20.0	0.12	25-50	460	1.6	D
②	40.0					D
③	40.0	0.042	5	140	2.1	D
④	60.0	0.042	5	140	2.1	D
⑤	150.0	0.12	50 - 300	470	1.6	D
⑥	60.0					A1
⑦	50.0	0.038	1	50	2.1	E
⑧	12.5	0.2	19	1200	1	A2
⑨	6.0	0.81	10	2000	0.936	A2

Thickness 348,5 [mm]

Mass per squaremeter ca. 135 [kg/m²]

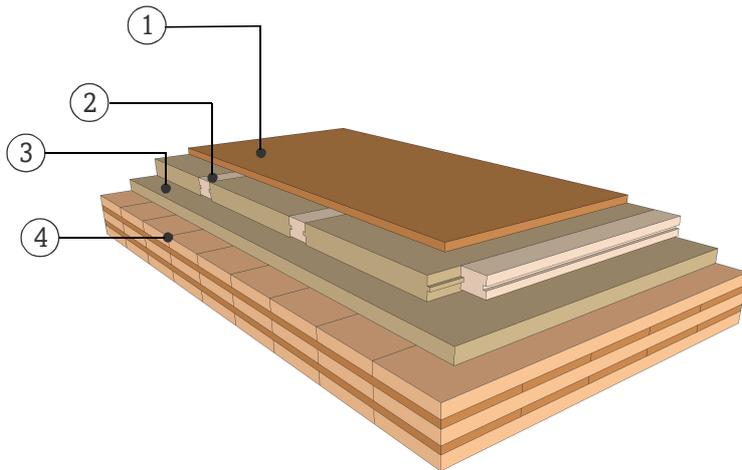
Test report sound: HFA 2376/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH TIMBER PLANKS

GD14.04

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 53 (-2;-6) [dB]

$L_{n,w} (C_i)$ 64 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

$m_{w,B,A}$ 35/23 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]		
①	20.0	Floorplanks screwed (spruce)	0.12	25-50	460	1.6	D
②	35.0	Timber batten					D
③	40.0	Wood fiberboard	0.042	5	140	2.1	D
④	60.0	Wood fiberboard	0.042	5	140	2.1	D
	145.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 270,0 [mm]

Mass per squaremeter ca. 100 [kg/m²]

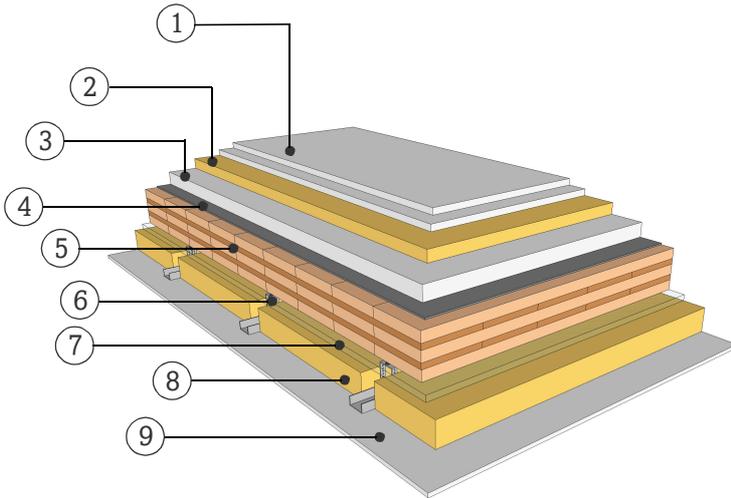
Test report sound: HFA 2376/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD14.03

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 70 (-3;-10) [dB]

$L_{n,w} (C_i)$ 41 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

$m_{w,B,A}$ 17/53 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	46.0	Gypsum fiberboard dry screed	0.25	17	1250	1	A1
②	40.0	Impact sound insulation $s \leq 20 \text{ MN/m}^3$	0.036	1	70 - 150	0.84	A1
③	50.0	Gravel fill	0.7	1	1350-1500	1	A1
④		Separating layer					
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	100.0	Light weight C-profiles on resilient clips					A1
⑦	20.0	Air gap					
⑧	80.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 398,5 [mm]

Mass per squaremeter ca. 230 [kg/m²]

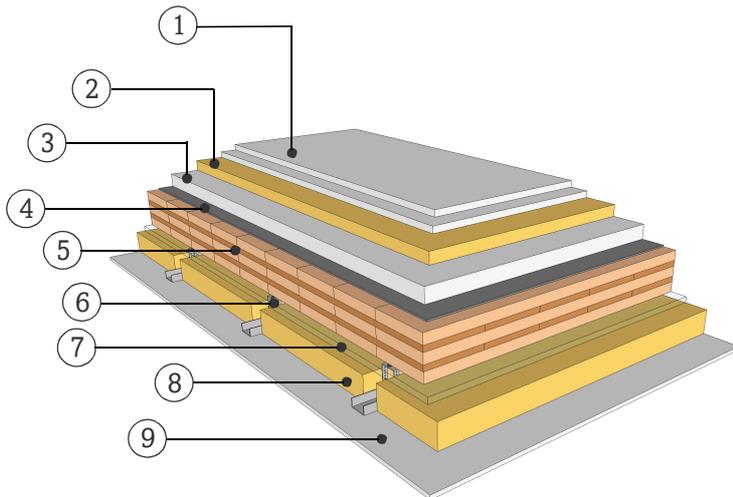
Test report sound: HFA 861/2014/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD14.02

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 72 (-3;-10) [dB]

$L_{n,w} (C_i)$ 41 (3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

$m_{w,B,A}$ 22/53 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	46.0	Gypsum fiberboard dry screed	0.25	17	1250	1	A1
②	40.0	Impact sound insulation $s' \leq 20 \text{ MN/m}^3$	0.036	1	70 - 150	0.84	A1
③	50.0	Gravel fill	0.7	1	1350-1500	1	A1
④		Separating layer					
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	100.0	Light weight C-profiles on resilient clips					A1
⑦	20.0	Air gap					
⑧	80.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5	Gypsum fiberboard	0.25	10	1400	1.2	A2

Thickness 398,5 [mm]

Mass per squaremeter ca. 235 [kg/m²]

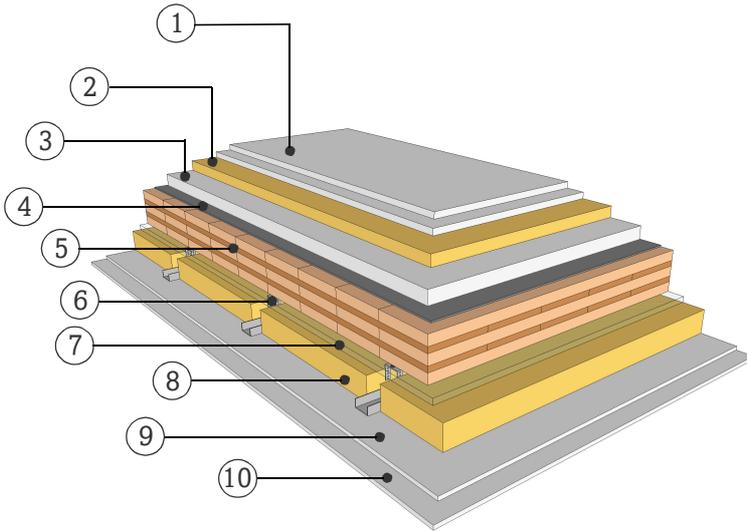
Test report sound: HFA 861/2014/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD14.01

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 74 (-3;-9) [dB]

L_{n,w} (C_i) 37 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

m_{w,B,A} 35/53 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	46.0	Gypsum fiberboard dry screed	0.25	17	1250	1	A1
②	40.0	Impact sound insulation s'≤ 20 MN/m³	0.036	1	70 - 150	0.84	A1
③	50.0	Gravel fill	0.7	1	1350-1500	1	A1
④		Separating layer					
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	100.0	Light weight C-profiles on resilient clips					A1
⑦	20.0	Air gap					
⑧	80.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5	Gypsum fiberboard	0.25	10	1400	1.2	A2
⑩	12.5	Gypsum fiberboard	0.25	10	1000	1.1	A2

Thickness 411,0 [mm]

Mass per squaremeter ca. 250 [kg/m²]

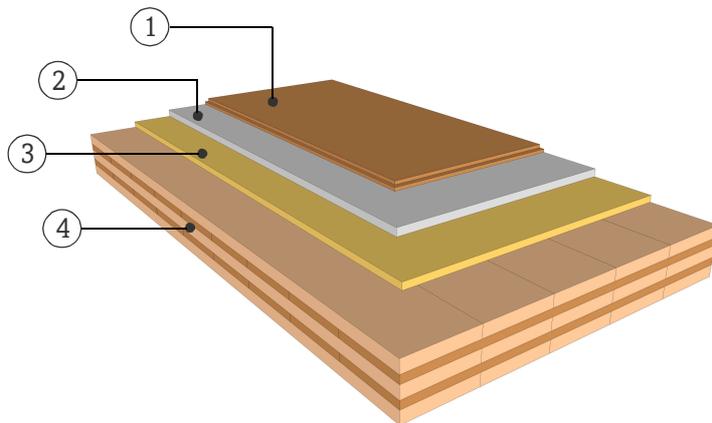
Test report sound: HFA 861/2014/1-BB
Calculation of the physical values by the
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DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.14

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 56 (-1;-5) [dB]

L_{n,w} (C_i) 53 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,47 [W/m²K]

m_{w,B,A} 36/63 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]
①	31.0	Schallfresser dry screed			1425	A2
②	24.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5 A2
③	20.0	Impact sound insulation s' ≤ 9 MN/m³	0.033	1	110	0.84 A1
④	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6 D

Thickness 225,0 [mm]

Mass per squaremeter ca. 155 [kg/m²]

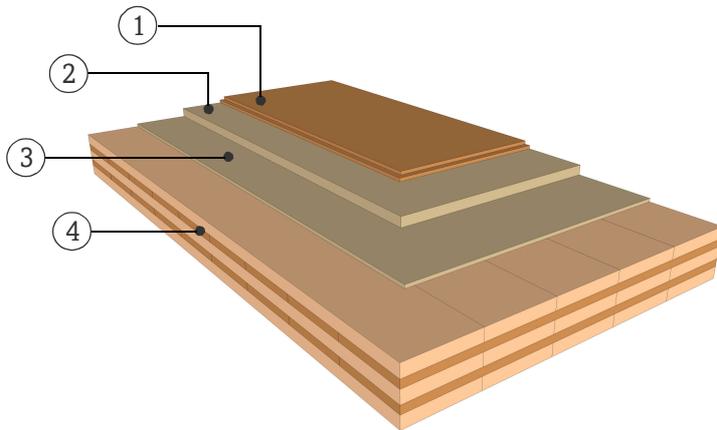
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.13

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 55 (-2;-6) [dB]

L_{n,w} (C_i) 54 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,39 [W/m²K]

m_{w,B,A} 36/47 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	31.0	Schallfresser dry screed			1425		A2
②	35.0	Wood fiberboard, floor	0.047	5	220	2.1	E
③	10.0	Impact sound insulation, hemp	0.047	1.4	100	1.7	E
④	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 226,0 [mm]

Mass per squaremeter ca. 125 [kg/m²]

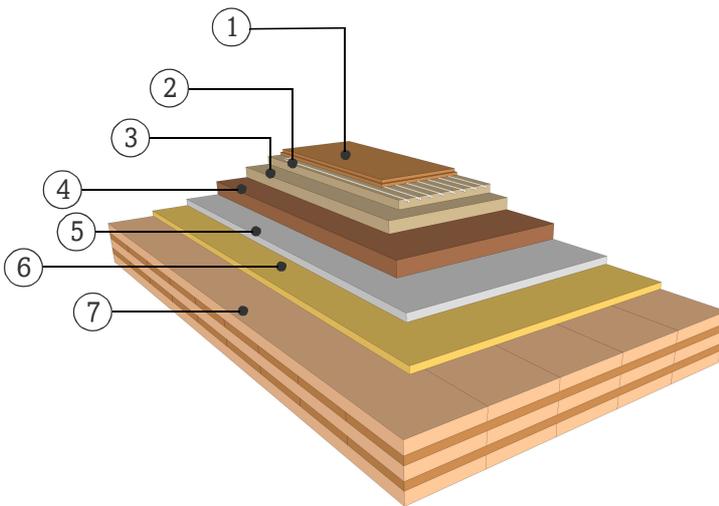
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.12B

VISIBLE CEILING, FLOOR HEATING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 56 (-1;-5) [dB]

$L_{n,w} (C_i)$ 52 (3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

$m_{w,B,A}$ 36/36 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	21.0	Schallfresser dry screed			1425		A2
②	30.0	Wood fiberboard	0.042	5	< 180	2.1	E
③	40.0	Wood fiberboard	0.042	5	< 180	2.1	E
④	50.0	Vulcano fill	0.9	1	1600	1	A1
⑤	24.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5	A2
⑥	20.0	Impact sound insulation $s' \leq 9 \text{ MN/m}^3$	0.033	1	110	0.84	A1
⑦	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 335,0 [mm]

Mass per squaremeter ca. 165 [kg/m²]

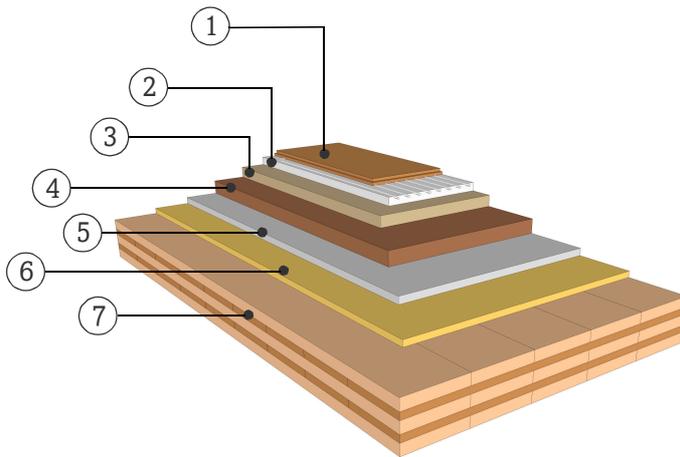
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.12A

VISIBLE CEILING, FLOOR HEATING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 56 (-1;6) [dB]

$L_{n,w} (C_i)$ 53 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

$m_{w,B,A}$ 36/33 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	21.0	Schallfresser dry screed			1425		A2
②	30.0	Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
③	40.0	Wood fiberboard	0.042	5	< 180	2.1	E
④	50.0	Mineralized wood chips	0.075	1	370	1.3	B
⑤	24.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5	A2
⑥	20.0	Impact sound insulation $s' \leq 9 \text{ MN/m}^3$	0.033	1	110	0.84	A1
⑦	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 335,0 [mm]

Mass per squaremeter ca. 165 [kg/m²]

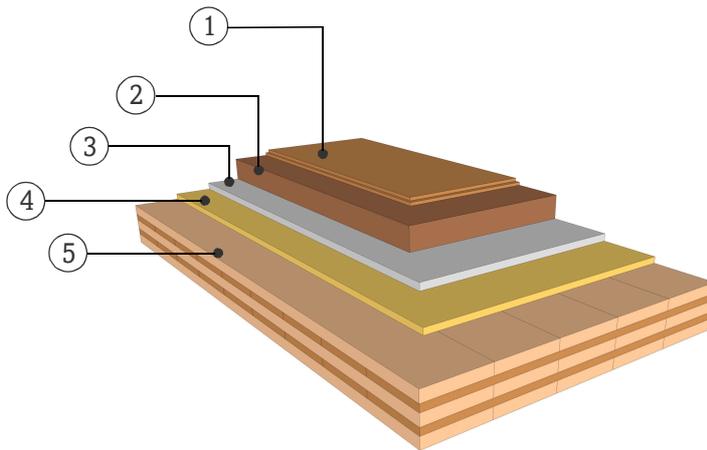
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.11

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 56 (-1;-6) [dB]

$L_{n,w} (C_i)$ 55 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,33 [W/m²K]

$m_{w,B,A}$ 36/40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	21.0	Schallfresser dry screed			1425		A2
②	80.0	Mineralized wood chips	0.075	1	370	1.3	B
③	24.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5	A2
④	20.0	Impact sound insulation $s' \leq 9 \text{ MN/m}^3$	0.033	1	110	0.84	A1
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 295,0 [mm]

Mass per squaremeter ca. 170 [kg/m²]

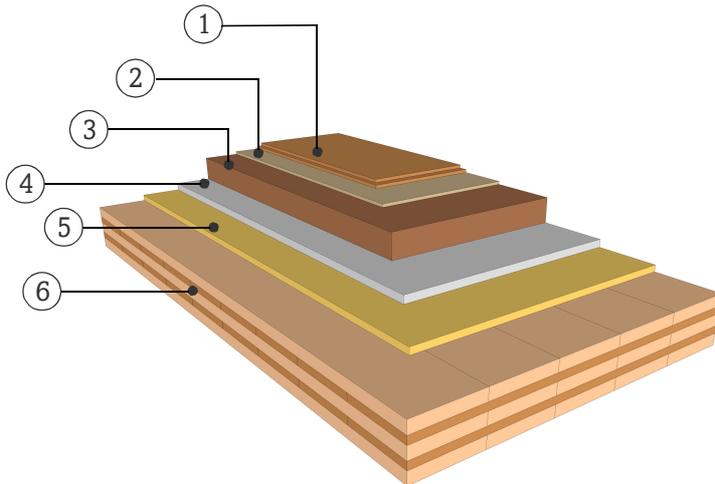
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.10

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 56 (-1;-6) [dB]

$L_{n,w} (C_i)$ 48 (3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,30 [W/m²K]

$m_{w,B,A}$ 36/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	21.0	Schallfresser dry screed			1425		A2
②	10.0	Wood fiberboard	0.042	5	< 180	2.1	E
③	80.0	Mineralized wood chips	0.075	1	370	1.3	B
④	24.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5	A2
⑤	20.0	Impact sound insulation $s' \leq 9 \text{ MN/m}^3$	0.033	1	110	0.84	A1
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 305,0 [mm]

Mass per squaremeter ca. 175 [kg/m²]

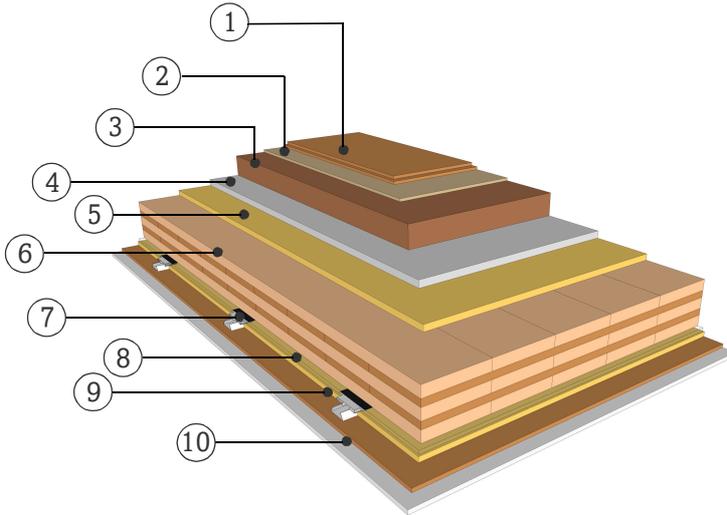
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.09

SUSPENDED CEILING ON RESILIENT HOOPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 65 (-2;-8) [dB]

L_{n,w} (C_l) 42 (8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

m_{w,B,A} 32/37 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]
①	21.0	Schallfresser dry screed			1425	A2
②	10.0	Wood fiberboard	0.042	5	< 180	2.1 E
③	80.0	Mineralized wood chips	0.075	1	370	1.3 B
④	24.0	Cetris (mineral bonded chipboard)	0.27	60	1350	1.5 A2
⑤	20.0	Impact sound insulation s' ≤ 9 MN/m³	0.033	1	110	0.84 A1
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6 D
⑦	25.0	Light weight profiles on resilient hoops				A1
⑧	10.0	Air gap				
⑨	15.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84 A1
⑩	23.0	Schallfresser wallboard	0.19	5	1200	1 A2

Thickness 353,0 [mm]

Mass per squaremeter ca. 200 [kg/m²]

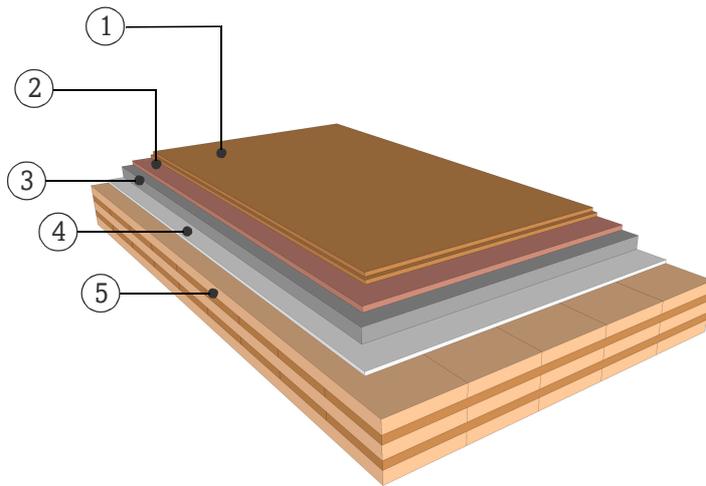
Test report sound: HFA 2324/2013/1-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.06

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 54 (-1;-6) [dB]

$L_{n,w} (C_i)$ 53 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,52 [W/m²K]

$m_{w,B,A}$ 35/40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	21.0	Schallfresser dry screed			1425		A2
②	15.0	Wood fiberboard	0.042	5	< 180	2.1	E
③	40.0	Vulcano fill	0.9	1	1600	1	A1
④	10.0	Fleece	0.22	1	54	1.7	
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 236,0 [mm]

Mass per squaremeter ca. 170 [kg/m²]

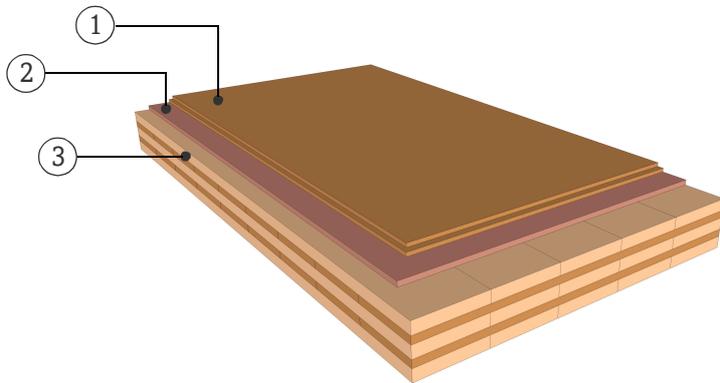
Test report sound: MFPA Leipzig 4.2/12-039-11
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.05

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 49 (-2;-6) [dB]

$L_{n,w} (C_i)$ 62 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,54 [W/m²K]

$m_{w,B,A}$ 35/38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	21.0 Schallfresser dry screed			1425		A2
②	15.0 Wood fiberboard	0.042	5	< 180	2.1	E
③	150.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 186,0 [mm]

Mass per squaremeter ca. 105 [kg/m²]

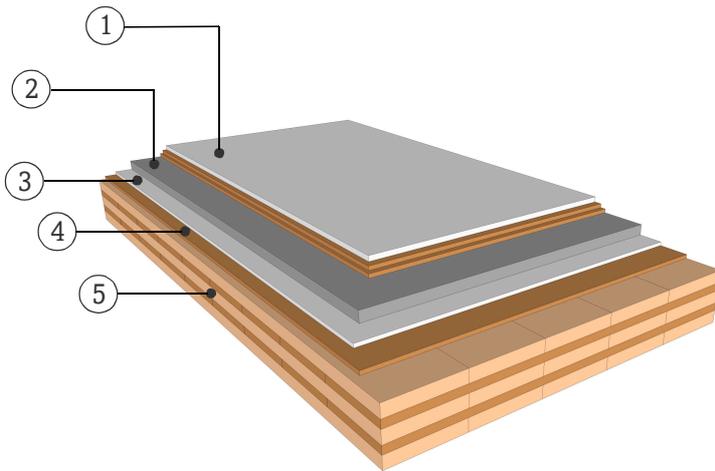
Test report sound: MFPA Leipzig 4.2/12-039-10
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.04

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 53 (-1;-5) [dB]

$L_{n,w} (C_i)$ 56 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,59 [W/m²K]

$m_{w,B,A}$ 35/60 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	34.0	Schallfresser dry screed			1425		A2
②	30.0	Vulcano fill	0.9	1	1600	1	A1
③	6.0	Fleece	0.22	1	54	1.7	
④	10.5	Schallfresser Silencium	0.19	5	1425	1	A2
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 230,5 [mm]

Mass per squaremeter ca. 195 [kg/m²]

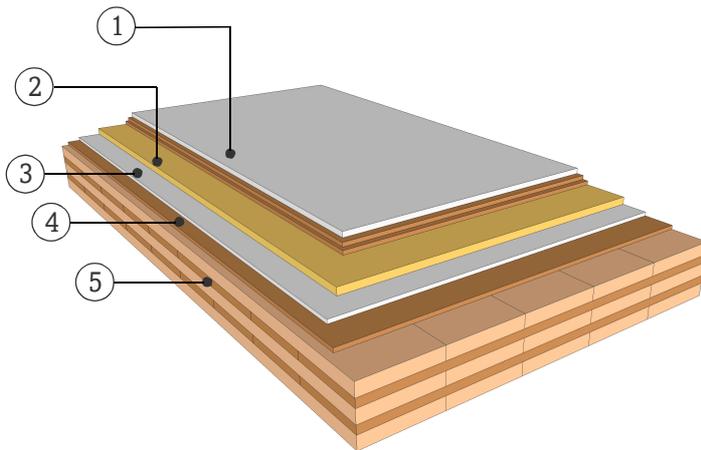
Test report sound: HFA 243/2013/12+13-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.03

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 55 (-2;-6) [dB]

$L_{n,w} (C_i)$ 53 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,47 [W/m²K]

$m_{w,B,A}$ 35/45 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	34.0	Schallfresser dry screed			1425		A2
②	20.0	Impact sound insulation $s' \leq 10 \text{ MN/m}^3$	0.032	1	110	0.84	A1
③	6.0	Fleece	0.22	1	54	1.7	
④	10.5	Schallfresser Silencium	0.19	5	1425	1	A2
⑤	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 220,5 [mm]

Mass per squaremeter ca. 150 [kg/m²]

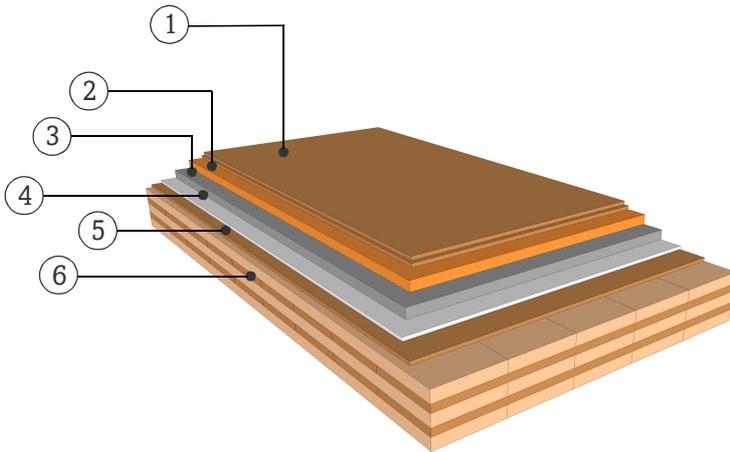
Test report sound 243/2013/14+15-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.02

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 62 (-2;-6) [dB]

$L_{n,w} (C_1)$ 51 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,44 [W/m²K]

$m_{w,B,A}$ 35/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	21.0	Schallfresser dry screed			1425		A2
②	30.0	Impact sound insulation, hemp	0.047	1.4	100	1.7	E
③	30.0	Vulcano fill	0.9	1	1600	1	A1
④	6.0	Fleece	0.22	1	54	1.7	
⑤	10.5	Schallfresser Silencium	0.19	5	1425	1	A2
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 247,5 [mm]

Mass per squaremeter ca. 175 [kg/m²]

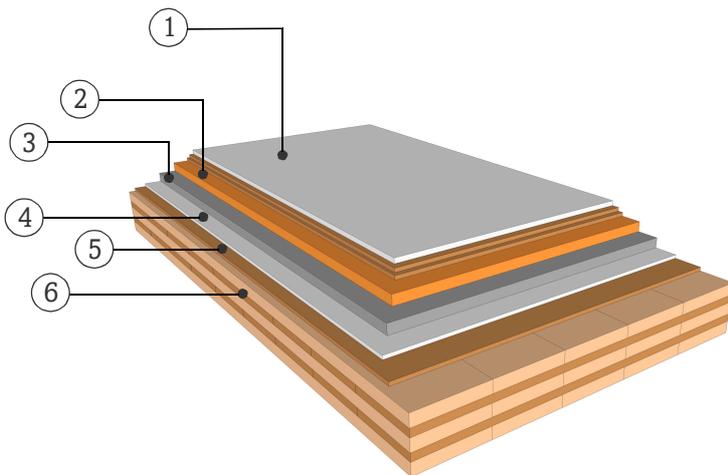
Test report sound: HFA 243/2013/8+9-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD13.01

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 62 (-1;-5) [dB]

$L_{n,w} (C_1)$ 47 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,43 [W/m²K]

$m_{w,B,A}$ 35/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	34.0	Schallfresser dry screed			1425		A2
②	30.0	Impact sound insulation, hemp	0.047	1.4	100	1.7	E
③	30.0	Vulcano fill	0.9	1	1600	1	A1
④	6.0	Fleece	0.22	1	54	1.7	
⑤	10.5	Schallfresser Silencium	0.19	5	1425	1	A2
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 260,5 [mm]

Mass per squaremeter ca. 195 [kg/m²]

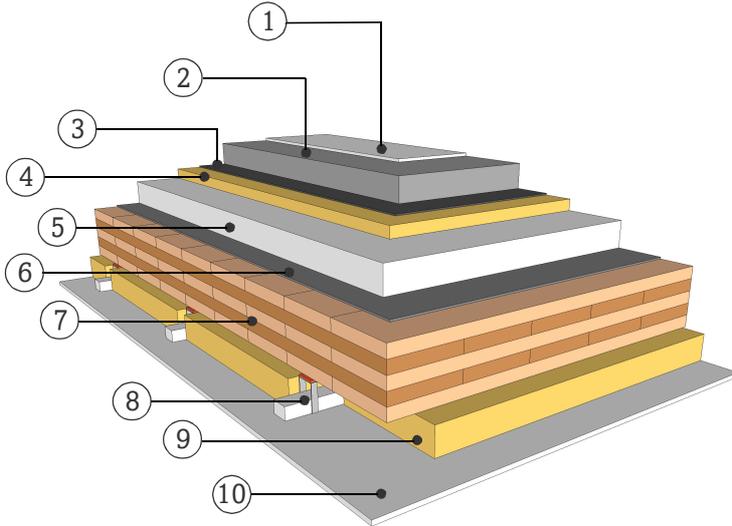
Test report sound: HFA 243/2013/10+11-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD12.01

SYLODYN SUPPORT/BRACKET, SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 70 (;) [dB]

L_{n,w} (C_i) 34 () [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,21 [W/m²K]

m_{w,B,A} 11/104 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	9.0 Laminate with cork sublayer					
②	80.0 Cement screed	1.4	50	2200	1.1	A1
③	Separating layer					
④	35.0 Impact sound insulation s'≤ 9 MN/m³	0.033	1	110	0.84	A1
⑤	80.0 Gravel fill	0.7	1	1350-1500	1	A1
⑥	Separating layer					
⑦	180.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑧	75.0 Battens on resilient clips, screwed through elastomer					
⑨	75.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑩	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 471,5 [mm]

Mass per squaremeter ca. 415 [kg/m²]

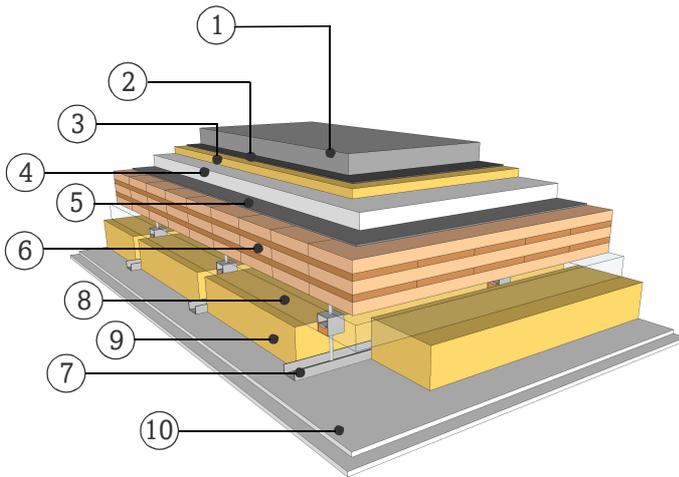
Test report sound: SSIH Schallschutz im Hochbau, BV Meickl
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD10.01

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w} (C; C_{tr})$ 69 (-2;-8) [dB]

$L'_{nT,w} (C_i)$ 38 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,17 [W/m²K]

$m_{w,B,A}$ 18/112 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	70.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation $s \leq 10 \text{ MN/m}^3$	0.032	1	110	0.84	A1
④	50.0	Gravel fill	0.7	1	1350-1500	1	A1
⑤		Separating layer					
⑥	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	200.0	Resilient clips					A1
⑧	80.0	Air gap					
⑨	120.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑩	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 525,0 [mm]

Mass per squaremeter ca. 325 [kg/m²]

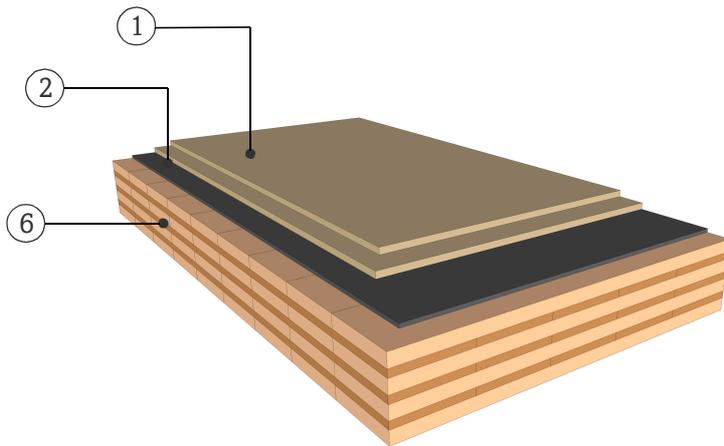
Test report sound: HFA 920/2010-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD08.04

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

D_{nT,w} (C;C_{tr}) 50 (-2;-7) [dB]

L'_{nT,w} (C_i) 63 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,39 [W/m²K]

m_{w,B,A} 35/40 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	36.0	Plywood	0.11 - 0.2	50 - 250	400 - 800	2.5	D
②	10.0	Regupol SoundDeck					
③	260.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 306,0 [mm]

Mass per squaremeter ca. 155 [kg/m²]

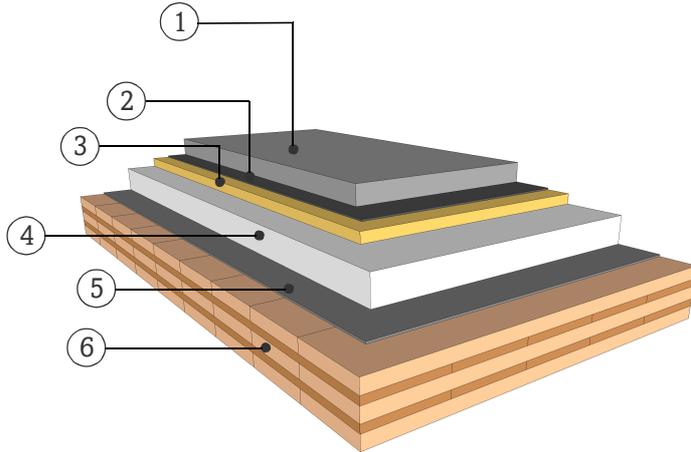
Test report sound: HFA 1491/2008-BG, Insul estimation
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD08.03

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

D_{nT,w} (C;C_{tr}) 57 (-2;-6) [dB]

L' _{nT,w} (C_i) 51 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,44 [W/m²K]

m_{w,B,A} 35/112 [kg/m²]

	MATERIAL	PROPERTIES				
		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	70.0 Cement screed	1.4	50	2200	1.1	A1
②	Separating layer					
③	30.0 Impact sound insulation s'≤ 30 MN/m³	0.036	1	70 - 150	0.84	A1
④	50.0 Gravel fill	0.7	1	1350-1500	1	A1
⑤	Separating layer					
⑥	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 310,0 [mm]

Mass per squaremeter ca. 310 [kg/m²]

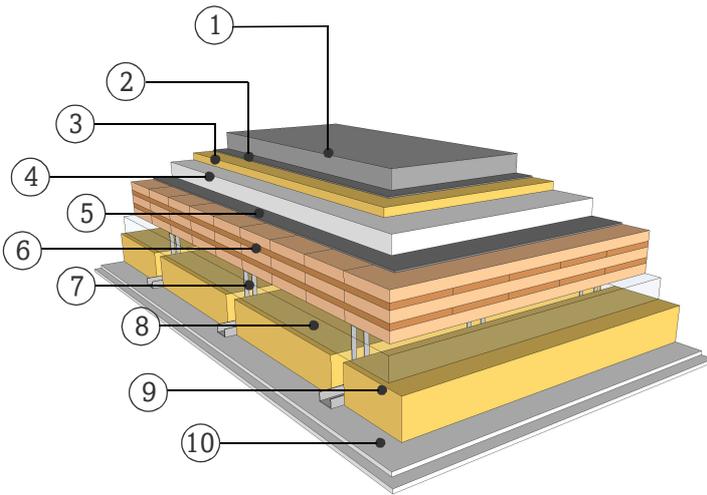
Test report sound: HFA 2151/2008/1-BG Messreihe 2
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD08.02

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w} (C; C_{tr})$ 63 (-4;-10) [dB]

$L'_{nT,w} (C_i)$ 42 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,17 [W/m²K]

$m_{w,B,A}$ 18/112 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	70.0 Cement screed	1.4	50	2200	1.1	A1
②	Separating layer					
③	30.0 Impact sound insulation $s \leq 30 \text{ MN/m}^3$	0.036	1	70 - 150	0.84	A1
④	50.0 Gravel fill	0.7	1	1350-1500	1	A1
⑤	Separating layer					
⑥	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	190.0 Resilient clips					A1
⑧	70.0 Air gap					
⑨	120.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑩	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 525,0 [mm]

Mass per squaremeter ca. 330 [kg/m²]

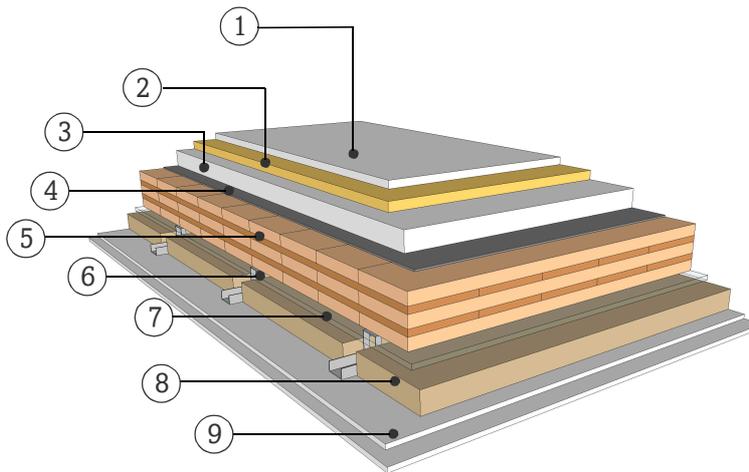
Test report sound: HFA 2151/2008/1-BG Messreihe 1
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD08.01

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 64 (-5;-12) [dB]

$L'_{nT,w}$ (C_I) 46 (3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

$m_{w,B,A}$ 24/35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	25.0	Gypsum fiberboard, Rigidur	0.2	19	1200	1	A2
②	30.0	Impact sound insulation $s \leq 40$ MN/m ³	0.036	1	70 - 150	0.84	A1
③	50.0	Gravel fill	0.7	1	1350-1500	1	A1
④		Separating layer					
⑤	140.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	80.0	Resilient clips					A1
⑦	20.0	Air gap					
⑧	60.0	Wood fiberboard, low density	0.038	1	50	2.1	E
⑨	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 350,0 [mm]

Mass per squaremeter ca. 205 [kg/m²]

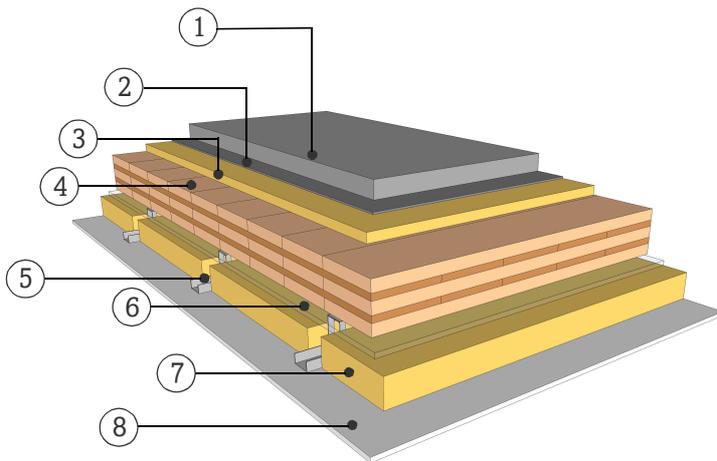
Test report sound: HFA 2151/2008/1-BG Messreihe 4
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD07.06

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

D_{nT,w} (C;C_{tr}) 58 (-1;-6) [dB]

L'_{nT,w} (C_i) 46 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,23 [W/m²K]

m_{w,B,A} 11/134 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	70.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation s'≤ 10 MN/m³	0.032	1	110	0.84	A1
④	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	100.0	Light weight C-profiles on resilient clips					A1
⑥	20.0	Air gap					
⑦	80.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑧	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 362,5 [mm]

Mass per squaremeter ca. 240 [kg/m²]

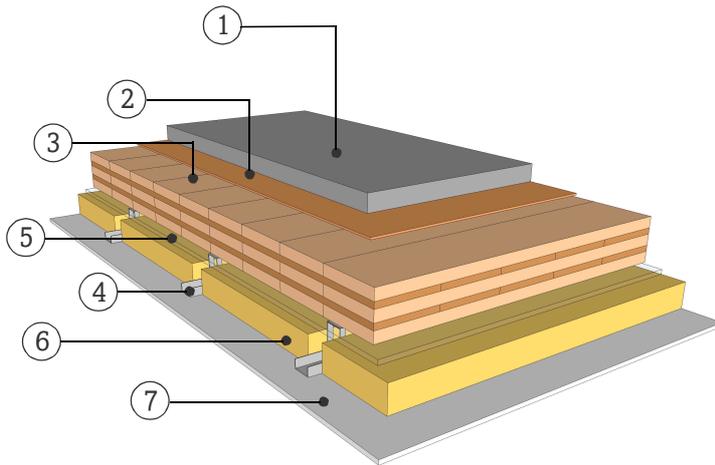
Test report sound: TU Graz B07.851.005.320/B07.851.006.321
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD07.05

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w} (C; C_{tr})$ 60 (-1;-6) [dB]

$L'_{nT,w} (C_l)$ 50 (-1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,27 [W/m²K]

$m_{w,B,A}$ 11/140 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	70.0	Cement screed	1.4	50	2200	1.1	A1
②	6.0	Wood fiberboard	0.05	5	260	2.1	D
③	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	100.0	Light weight C-profiles on resilient clips					A1
⑤	20.0	Air gap					
⑥	80.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑦	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 338,5 [mm]

Mass per squaremeter ca. 235 [kg/m²]

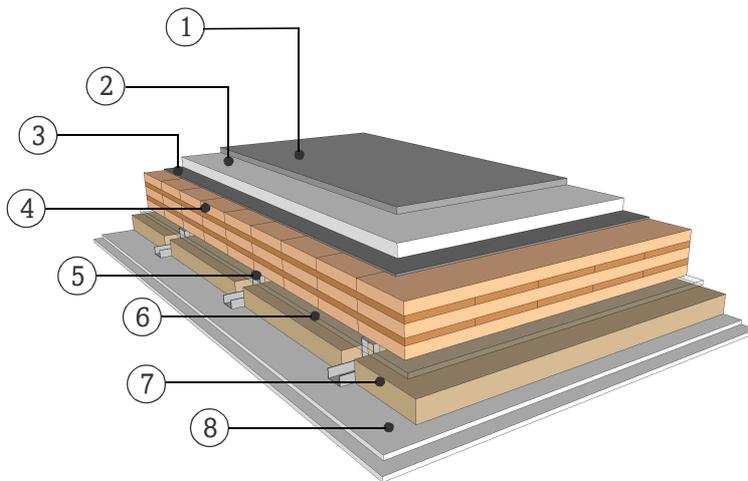
Test report sound: TU Graz B07.851.008.320/B07.851.009.321
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD07.04

SYLODYN SUPPORT, SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 61 (-2;-7) [dB]

$L'_{nT,w}$ (C_I) 51 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,30 [W/m²K]

$m_{w,B,A}$ 18/54 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	22.0	Cement bonded panel	0.6	10	1300	1.1	A1
②	40.0	Leca fill	0.16	5	400	0.9	A1
③		Separating layer					
④	140.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	80.0	Light weight C-profiles on resilient clips					A1
⑥	20.0	Air gap					
⑦	60.0	Wood fiberboard, low density	0.038	1	50	2.1	E
⑧	25.0	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 307,0 [mm]

Mass per squaremeter ca. 145 [kg/m²]

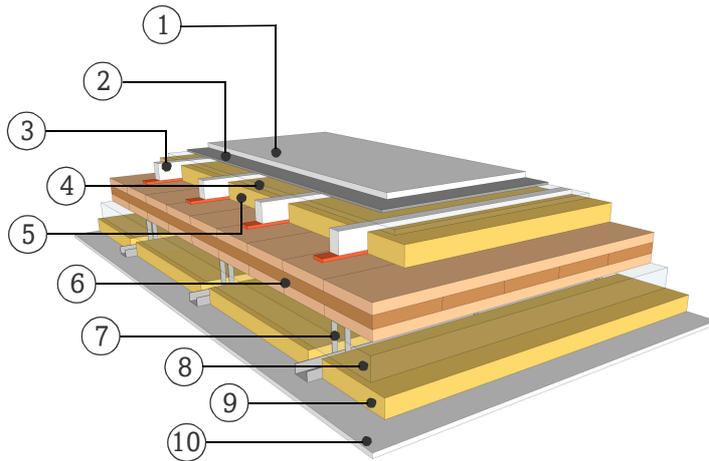
Test report sound: TU Graz B07.851.037.321/B07.851.038.320
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD07.03

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) > 60 [dB]

$L'_{nT,w}$ (C_I) 50 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,22 [W/m²K]

$m_{w,B,A}$ 12/27 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	20.0 Cement bonded panel	0.6	10	1300	1.1	A1
②	8.0 Felt	0.1	1	120	1.3	
③	75.0 Substructure on resilient layer					D
④	15.0 Air gap					
⑤	60.0 Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
⑥	100.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	112.5 Light weight C-profiles on resilient clips					A1
⑧	62.5 Air gap					
⑨	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑩	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 328,0 [mm]

Mass per squaremeter ca. 95 [kg/m²]

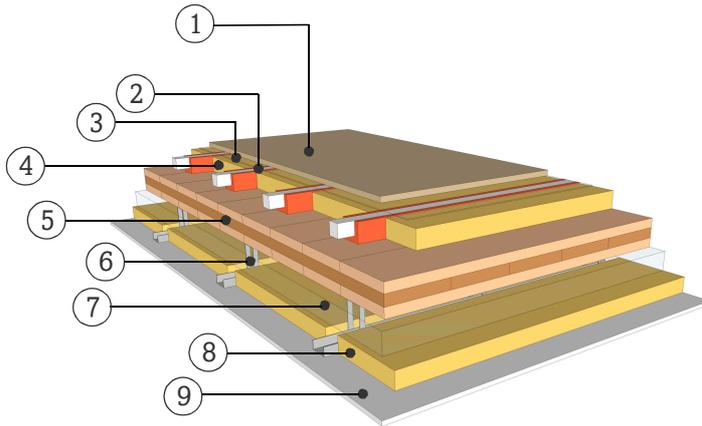
Test report sound: TU Graz B07.851.050.321a
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD07.02

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 57 (-3;-9) [dB]

$L'_{nT,w}$ (C_I) 57 (4) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

$m_{w,B,A}$ 12/32 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	19.0	Chipboard raw, tongue and groove	0.12	100	<800	2.5	D
②	63.0	Substructure on resilient layer					D
③	3.0	Air gap					
④	60.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
⑤	100.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	112.5	Light weight C-profiles on resilient clips					A1
⑦	62.5	Air gap					
⑧	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 307,0 [mm]

Mass per squaremeter ca. 85 [kg/m²]

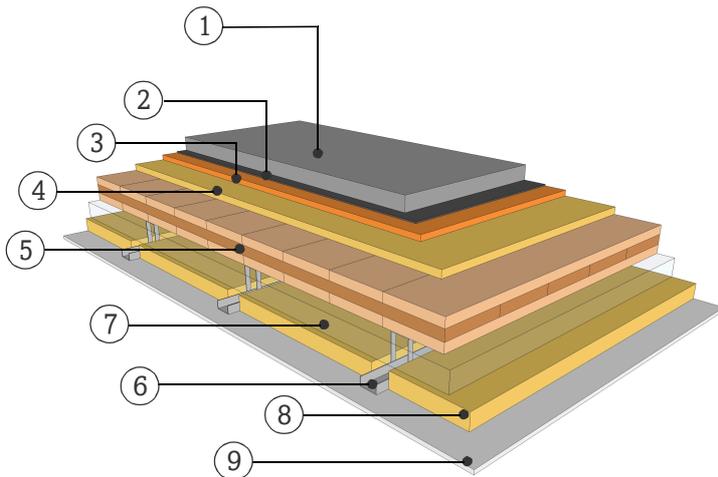
Test report sound: TU Graz B07.851.049.320/B07.851.049.321
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH ANHYDRITE SCREED

GD07.01

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 58 (-2;-6) [dB]

$L'_{nT,w}$ (C_i) 46 (3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

$m_{w,B,A}$ 12/111 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	55.0	Anhydrite screed	1.2	15	2100	1.3	A1
②		Separating layer					
③	20.0	Extruded Polystyrene	0.036	150 - 200	20 - 40	1.45	E
④	25.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑤	110.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	112.5	Light weight C-profiles on resilient clips					A1
⑦	62.5	Air gap					
⑧	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑨	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 335,0 [mm]

Mass per squaremeter ca. 205 [kg/m²]

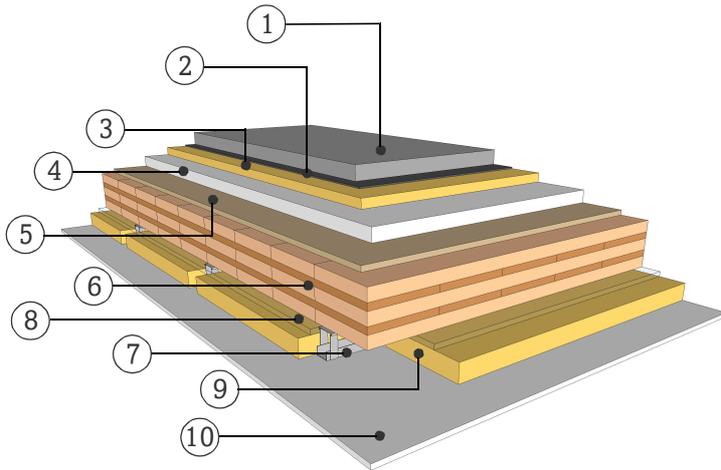
Prüfbericht Schall: TU Graz B07.851.048.320/B07.851.048.321
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD06.04

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

D_{nT,w} (C;C_{tr}) 66 (-5;-13) [dB]

L'_{nT,w} (C_i) 40 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,26 [W/m²K]

m_{w,B,A} 16/105 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation s _l ≤ 10 MN/m³	0.032	1	110	0.84	A1
④	42.0	Gravel fill	0.7	1	1350-1500	1	A1
⑤	18.0	OSB	0.12	240	<680	1.7	D
⑥	140.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦	65.0	Resilient clips					A1
⑧	15.0	Air gap					
⑨	50.0	Mineral wool, low density	0.04	1	15-30	1	A1
⑩	15.0	Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 370,0 [mm]

Mass per squaremeter ca. 310 [kg/m²]

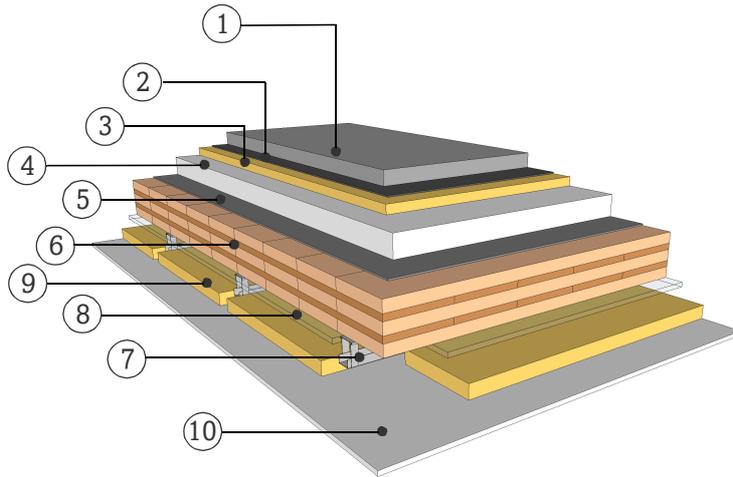
Test report sound: F188/2006/B/6, F188/2006/B/7
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD06.03

SUSPENDED CEILING ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 61 (-3;-9) [dB]

$L'_{nT,w}$ (C_i) 46 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,27 [W/m²K]

$m_{w,B,A}$ 17/104 [kg/m²]

MATERIAL	PROPERTIES				
	[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]
① 50.0 Cement screed	1.4	50	2200	1.1	A1
② Separating layer					
③ 30.0 Impact sound insulation $s' \leq 9 \text{ MN/m}^3$	0.033	1	110	0.84	A1
④ 70.0 Gravel fill bonded	0.9	10	1450-1600	1	A1
⑤ Separating layer					
⑥ 140.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑦ 70.0 Resilient clips					A1
⑧ 30.0 Air gap					
⑨ 40.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑩ 15.0 Gypsum fiberboard	0.21	8	900	1.05	A2

Thickness 375,0 [mm]

Mass per squaremeter ca. 330 [kg/m²]

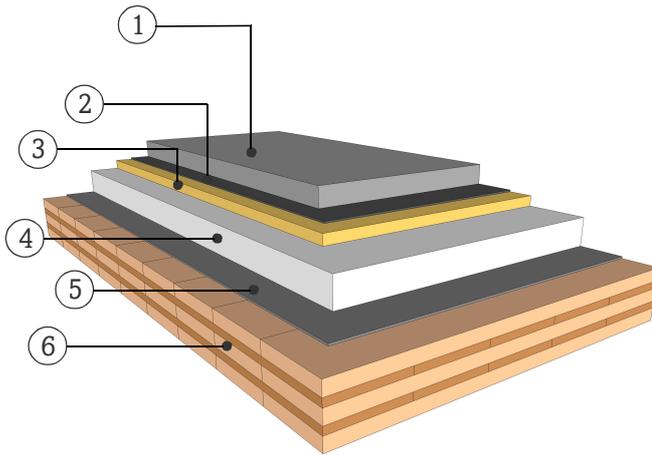
Prüfbericht Schall: HFA_F188/2006/C/10
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD06.02

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 61 (-1;-5) [dB]

$L'_{nT,w}$ (C_I) 48 (-3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,42 [W/m²K]

$m_{w,B,A}$ 35/107 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation $s \leq 10 \text{ MN/m}^3$	0.032	1	110	0.84	A1
④	80.0	Gravel fill	0.7	1	1350-1500	1	A1
⑤		Separating layer					
⑥	160.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 330,0 [mm]

Mass per squaremeter ca. 345 [kg/m²]

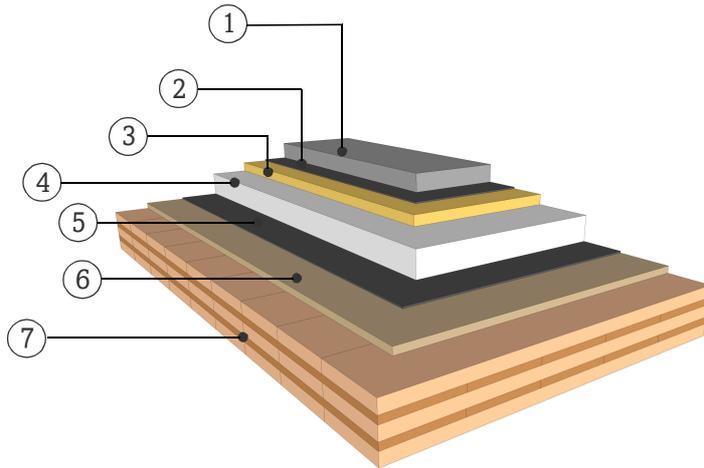
Test report sound: HFA F188/2006/A/2-HF
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD06.01

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ ≥ 60 [dB]

$L_{n,w} (C_i)$ 42 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,34 [W/m²K]

$m_{w,B,A}$ 35/107 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	60.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	30.0	Impact sound insulation $s' \leq 9 \text{ MN/m}^3$	0.033	1	110	0.84	A1
④	80.0	Gravel fill bonded	0.9	10	1450-1600	1	A1
⑤		Separating layer					
⑥	20.0	Wood fiberboard	0.042	5	< 180	2.1	E
⑦	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 340,0 [mm]

Mass per squaremeter ca. 350 [kg/m²]

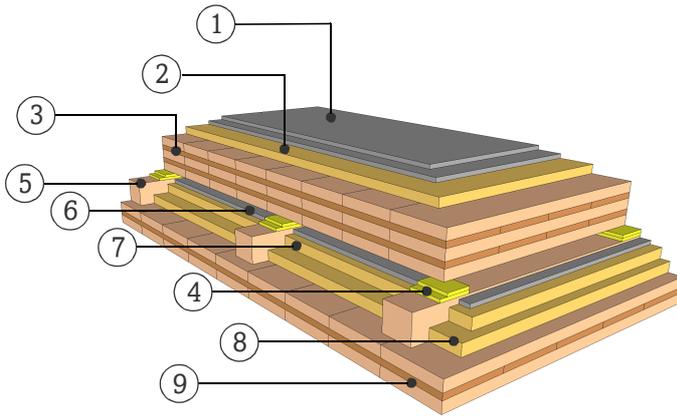
Test report sound: TU Graz B06.851.003.313
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD03.01

MODULAR DESIGN, TWO LAYER



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 58 (-1;-5) [dB]

L_{n,w} (C_i) 43 (7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,22 [W/m²K]

m_{w,B,A} 37/41 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	30.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1
②	30.0	Impact sound insulation s' ≤ 30 MN/m³	0.036	1	70 - 150	0.84	A1
③	130.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
④	20.0	Elastomer layer 100x100					
⑤	90.0	Timber batten					D
⑥	12.5	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1
⑦	35.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑧	35.0	Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑨	80.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 380,0 [mm]

Mass per squaremeter ca. 185 [kg/m²]

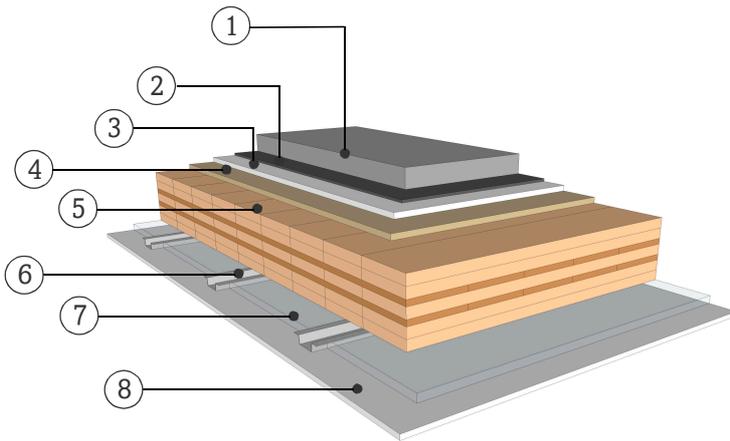
Test report sound: TUG B03.851.008.321/B03.851.009.320
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD01.03

SUSPENDED CEILING ON SWINGING PROFILES



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 58 (-2;-8) [dB]

$L_{n,w} (C_1)$ 49 (1) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,32 [W/m²K]

$m_{w,B,A}$ 35/118 [kg/m²]

	MATERIAL	PROPERTIES				
		[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]
①	75.0 Cement screed	1.4	50	2200	1.1	A1
②	Separating layer					
③	20.0 Coco dry screed panel	0.05	1	90	1.7	
④	20.0 Cork insulation	0.05	10	120	1.56	
⑤	210.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	27.0 Light weight profiles					A1
⑦	27.0 Air gap					
⑧	15.0 Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 367,0 [mm]

Mass per squaremeter ca. 280 [kg/m²]

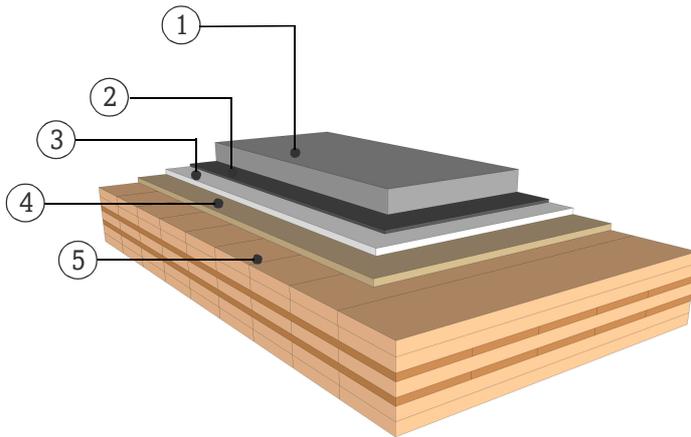
Test report sound: A.B.O. Rosenheim P 01 05 10.1 - 6
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD01.02

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 57 (-2;-7) [dB]

$L_{n,w} (C_1)$ 57 (-3) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,37 [W/m²K]

$m_{w,B,A}$ 35/118 [kg/m²]

	MATERIAL	PROPERTIES				
		[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]
①	75.0 Cement screed	1.4	50	2200	1.1	A1
②	Separating layer					
③	20.0 Coco dry screed panel	0.05	1	90	1.7	
④	20.0 Cork insulation	0.05	10	120	1.56	
⑤	210.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 325,0 [mm]

Mass per squaremeter ca. 265 [kg/m²]

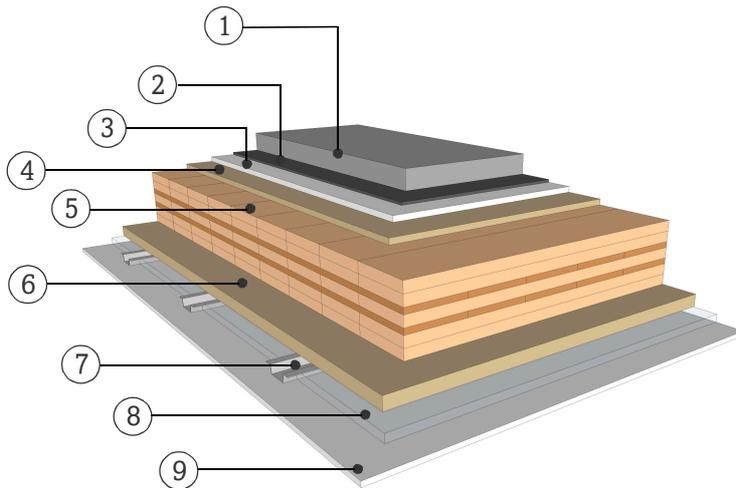
Test report sound: A.B.O. Rosenheim P 01 05 10.1 - 6
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH CEMENT SCREED

GD01.01

SUSPENDED CEILING ON SWINGING PROFILES



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 59 (-2;-7) [dB]

$L_{n,w} (C_i)$ 45 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,25 [W/m²K]

$m_{w,B,A}$ 25/118 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	75.0	Cement screed	1.4	50	2200	1.1	A1
②		Separating layer					
③	20.0	Coco dry screed panel	0.05	1	90	1.7	
④	20.0	Cork insulation	0.05	10	120	1.56	
⑤	210.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑥	40.0	Wood fiberboard	0.042	5	< 180	2.1	E
⑦	27.0	Light weight profiles					A1
⑧	27.0	Air gap					
⑨	15.0	Gypsum fiberboard, Fermacell	0.32	13	1200	1.1	A1

Thickness 407,0 [mm]

Mass per squaremeter ca. 290 [kg/m²]

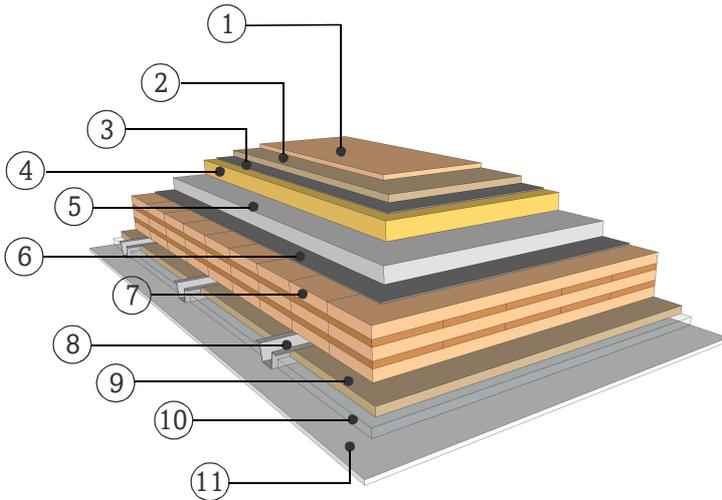
Prüfbericht Schall: A.B.O. Rosenheim P 01 05 10.1 - 6
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

COMPARTMENT FLOOR WITH DRY SCREED

GD00.01

SUSPENDED CEILING ON SWINGING PROFILES



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$D_{nT,w}$ (C;C_{tr}) 57 (-2;-7) [dB]

$L'_{nT,w}$ (C_i) 45 (4) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,32 [W/m²K]

$m_{w,B,A}$ 25/38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	18.0	OSB	0.12	240	<680	1.7	D
②	25.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
③		Separating layer					
④	60.0	Insulation panels, Heralan	0.041	1	25 - 40	0.9	B
⑤	60.0	Gravel fill	0.7	1	1350-1500	1	A1
⑥		Separating layer					
⑦	160.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑧	50.0	Light weight profiles					A1
⑨	25.0	Minerally bonded wood wool insulation	0.09	1	<400	1.8	B
⑩	25.0	Air gap					
⑪	12.5	Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 385,5 [mm]

Mass per squaremeter ca. 250 [kg/m²]

Test report sound: Strohl Engineering & Acoustics SM 405
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

FLAT ROOFS

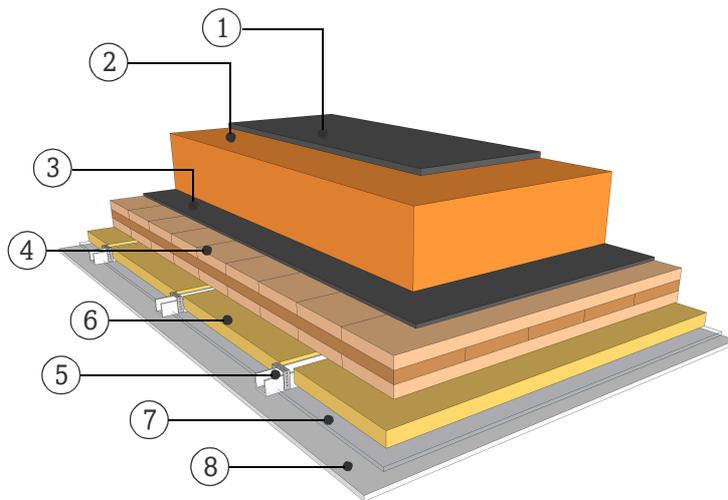
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$	$L_{n,w} (C) / L'_{nT,w} (C)$
	[mm]	[kg/m ²]		[dB]	[dB]
FD15.01	372.5	70	No	48	
FD09.01	620.0	195	Yes	49	
FD01.01	260.0	55	Yes	49	
DT14.02	495.0	240	Yes	55	49
DT14.01	534.5	255	No	64	45

DATASHEET

FLAT ROOF WITH PLASTIC SEALING

FD15.01

SUSPENDED CEILING, NOT DECOUPLED



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 48 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,13 [W/m²K]

m_{w,B,A} 21 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Roof sealing sheet, plastic					
②	200.0 Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
③	Vapour barrier sd ≥ 200m					
④	100.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑤	60.0 Light weight C-profiles, mounted on connectors					A1
⑥	50.0 Mineral wool, low density	0.04	1	15-30	1	A1
⑦	10.0 Air gap					
⑧	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 372,5 [mm]

Mass per squaremeter ca. 70 [kg/m²]

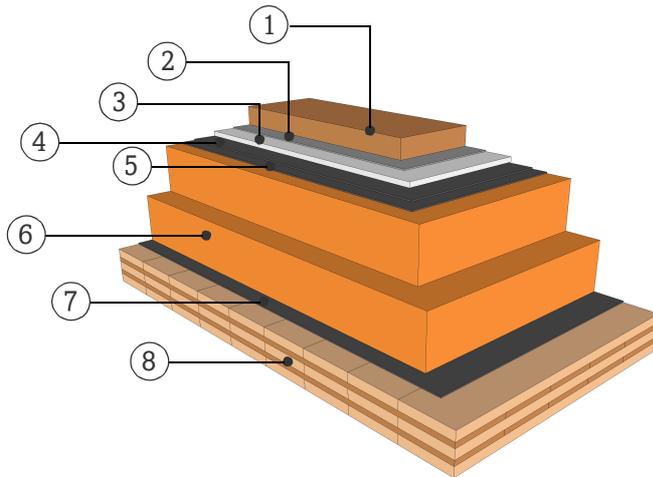
Test report sound: KLH internal, referring to TW15.01
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

FLAT ROOF WITH GREENING

FD09.01

VISIBLE KLH



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C;C_{tr})$ 49 (-2;-7) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,08 [W/m²K]

$m_{w,B,A}$ 36 [kg/m²]

	MATERIAL	PROPERTIES					
		[mm]	λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	80.0 Gardensoil for roofs		2.1	2	1200	0.04	A1
②	Filterfleece				125		
③	20.0 Drain and storageelement				60		
④	Protective layer						
⑤	Roof sealing sheet, bituminous						
⑥	380.0 Expanded Polystyrene		0.036	40 - 100	15 - 30	1.4	E
⑦	Vapour barrier sd ≥ 200m						
⑧	140.0 TL, KLH solid timber slab		0.12	50 - 300	470	1.6	D

Thickness 620,0 [mm]

Mass per squaremeter ca. 195 [kg/m²]

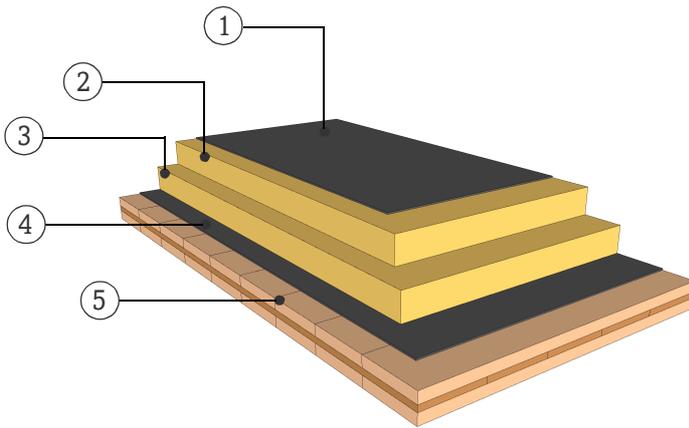
Test report sound: HFA 1666/2009 - BG
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

FLAT ROOF WITH PLASTIC SEALING

FD01.01

VISIBLE KLH



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) > 43 (-2;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,20 [W/m²K]

m_{w,B,A} 38 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①		Roof sealing sheet, bituminous					
②	80.0	Mineral wool, roof panel	0.04	1	150	1	A1
③	80.0	Mineral wool, roof panel	0.04	1	150	1	A1
④		Vapour barrier sd \geq 200m					
⑤	100.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 260,0 [mm]

Mass per squaremeter ca. 55 [kg/m²]

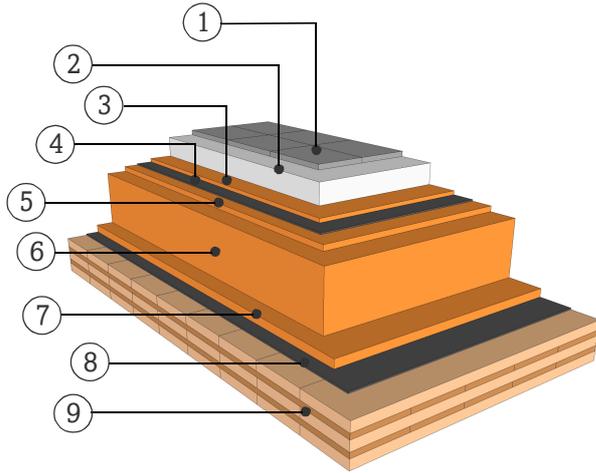
Test report sound: TUG B01.851.006.310
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

ROOF TERRACE

DT14.02

CONCRETE BLOCKS ON GRAVEL, VISIBLE KLH



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

$R_w (C; C_{tr})$ 55 (-2;-6) [dB]

$L_{n,w} (C_i)$ 49 (0) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,10 [W/m²K]

$m_{w,B,A}$ 35 [kg/m²]

MATERIAL

PROPERTIES

	[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m ³]	c [kJ/kgK]	
①	35.0	Concrete elements	1.7	100	2400	1.08	A1
②	50.0	Gravel fill	0.7	1	1350-1500	1	A1
③	20.0	Extruded Polystyrene	0.036	150 - 200	20 - 40	1.45	E
④		Roof sealing sheet, plastic					
⑤	30.0	Impact sound insulation, expanded Polystyrene	0.038	20 - 50	15 - 30	1.4	E
⑥	180.0	Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
⑦	30.0	Impact sound insulation, expanded Polystyrene	0.038	20 - 50	15 - 30	1.4	E
⑧		Vapour barrier $s_d \geq 200m$					
⑨	150.0	TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 495,0 [mm]

Mass per squaremeter ca. 240 [kg/m²]

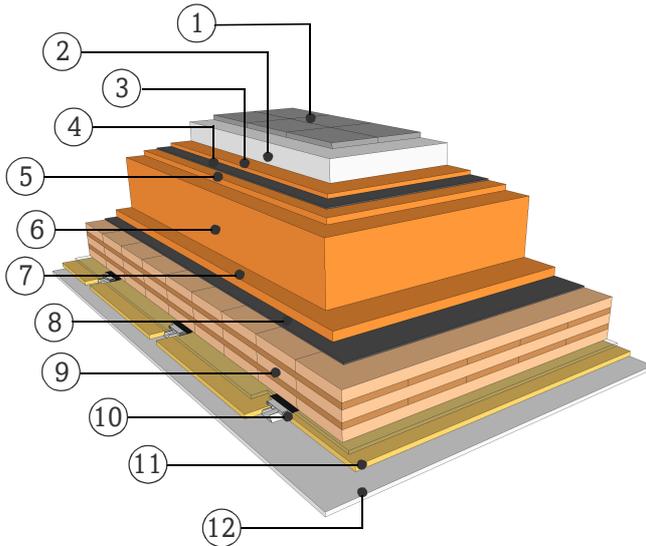
Test report sound: HFA 679/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

ROOF TERRACE

DT14.01

CONCRETE BLOCKS ON GRAVEL, SUSPENDED CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 64 (-3;-9) [dB]

L_{n,w} (C_i) 45 (2) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,095 [W/m²K]

m_{w,B,A} 20 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	35.0 Concrete elements	1.7	100	2400	1.08	A1
②	50.0 Gravel fill	0.7	1	1350-1500	1	A1
③	20.0 Extruded Polystyrene	0.036	150 - 200	20 - 40	1.45	E
④	Roof sealing sheet, plastic					
⑤	30.0 Impact sound insulation, expanded Polystyrene	0.038	20 - 50	15 - 30	1.4	E
⑥	180.0 Expanded Polystyrene	0.036	40 - 100	15 - 30	1.4	E
⑦	30.0 Impact sound insulation, expanded Polystyrene	0.038	20 - 50	15 - 30	1.4	E
⑧	Vapour barrier sd ≥ 200m					
⑨	150.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑩	27.0 Light weight profiles on resilient hoops					A1
⑪	15.0 Impact sound insulation, mineral wool	0.036	1	70 - 150	0.84	A1
⑫	12.5 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 534,5 [mm]

Mass per squaremeter ca. 255 [kg/m²]

Prüfbericht Schall: HFA 679/2014-BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

STEEP ROOFS

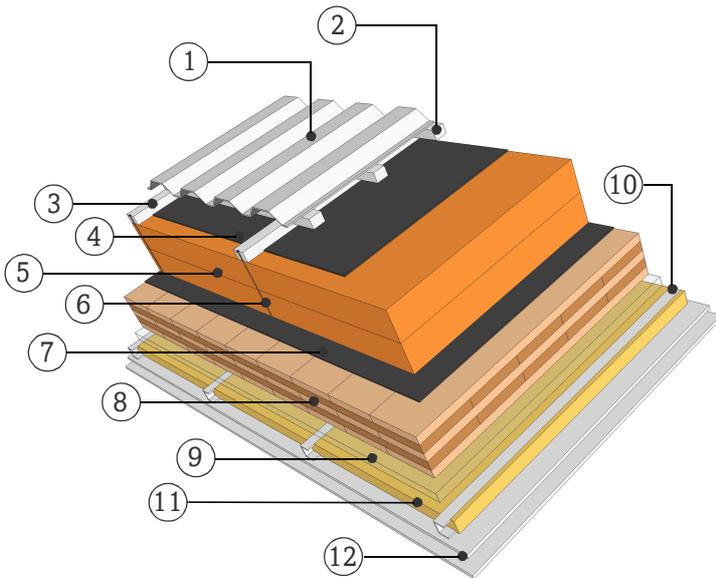
NO.	THICKNESS	MASS	KLH-VISIBLE-SURFACE	$R_w (C;C_{tr}) / D_{nT,w} (C;C_{tr})$
	[mm]	[kg/m ²]		[dB]
STD12.07	630.0	120	No	59
STD12.06	580.0	120	No	58
STD12.05	560.0	180	No	61
STD12.04	555.0	120	No	51
STD12.03	370.0	125	Yes	53
STD12.02	470.0	155	Yes	50
STD12.01	470.0	95	Yes	50

DATASHEET

STEEP ROOF WITH METAL SHEET

STD12.07

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 59 (-3;-10) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,09 [W/m²K]

m_{w,B,A} 18 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Trapezoidal sheet					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	240.0 Polyurethane Insulation	0.025	60	30	1.4	E
⑥	Screws					A1
⑦	Vapour barrier sd ≤ 100m					
⑧	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑨	85.0 Air gap					
⑩	50.0 Lightweight C-profiles					A1
⑪	50.0 Mineral wool, low density	0.038	1	40	0.9	A1
⑫	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 630,0 [mm]

Mass per squaremeter ca. 120 [kg/m²]

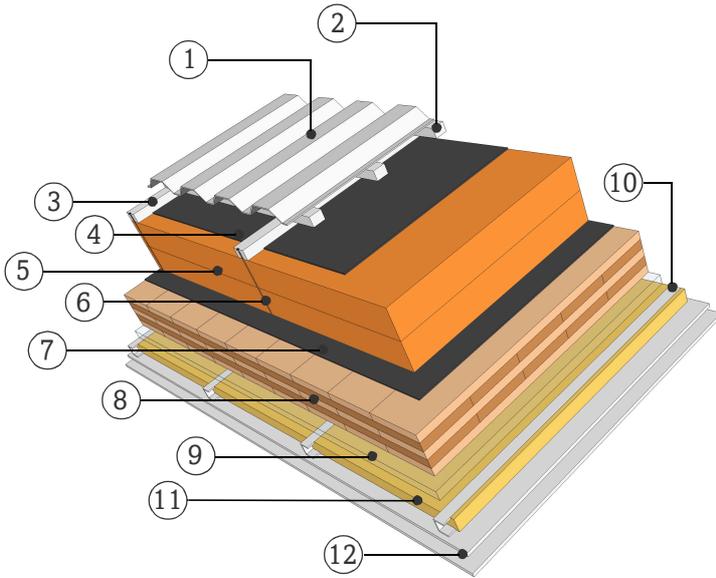
Test report sound: HFA 1253/2012 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

STEEP ROOF WITH METAL SHEET

STD12.06

SELF SUPPORTING FORMWORK



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 58 (-3;-10) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,09 [W/m²K]

m_{w,B,A} 18 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Trapezoidal sheet					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	240.0 Polyurethane Insulation	0.025	60	30	1.4	E
⑥	Screws					A1
⑦	Vapour barrier sd ≤ 100m					
⑧	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑨	35.0 Air gap					
⑩	50.0 Lightweight C-profiles					A1
⑪	50.0 Mineral wool, low density	0.038	1	40	0.9	A1
⑫	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 580,0 [mm]

Mass per squaremeter ca. 120 [kg/m²]

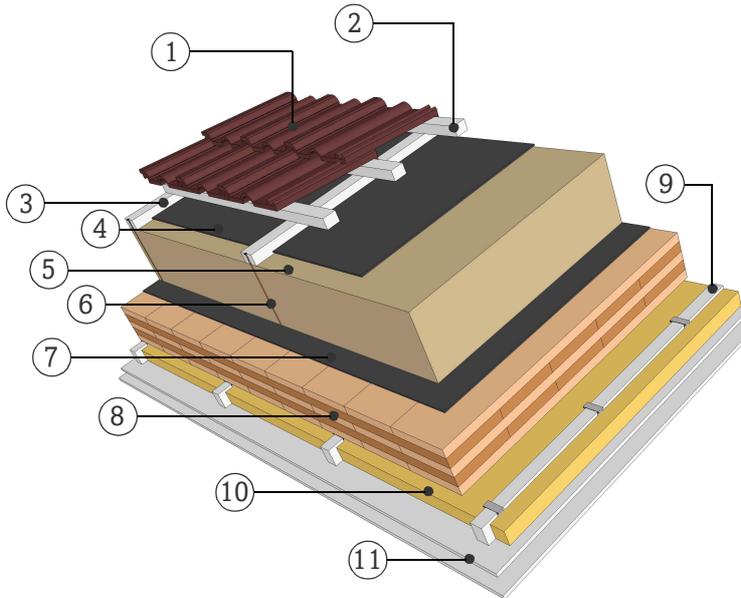
Prüfbericht Schall: HFA 1253/2012 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

STEEP ROOFS WITH TILES

STD12.05

FORMWORK ON RESILIENT CLIPS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 61 (-7;-15) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,12 [W/m²K]

m_{w,B,A} 19 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Roof tiles					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	240.0 Wood fiberboard	0.042	5	< 180	2.1	E
⑥	Screws					A1
⑦	Vapour barrier sd ≤ 100m					
⑧	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑨	65.0 Battens (spruce) vertical, on resilient clips					D
⑩	50.0 Mineral wool, low density	0.038	1	40	0.9	A1
⑪	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 560,0 [mm]

Mass per squaremeter ca. 180 [kg/m²]

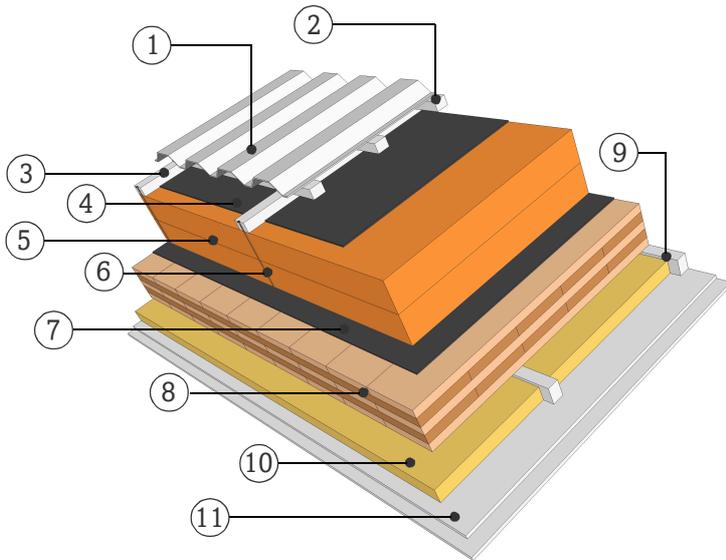
Test report sound: HFA 1253/2012 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

STEEP ROOF WITH METAL SHEET

STD12.04

FORMWORK ON TIMBER BATTENS



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 51 (-2;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,09 [W/m²K]

m_{w,B,A} 19 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Trapezoidal sheet					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	240.0 Polyurethane Insulation	0.025	60	30	1.4	E
⑥	Screws					A1
⑦	Vapour barrier $s_d \leq 100m$					
⑧	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D
⑨	60.0 Timber batten (spruce) horizontal, 3x5 cm					D
⑩	50.0 Mineral wool, low density	0.038	1	40	0.9	A1
⑪	25.0 Gypsum plasterboard	0.25	10	680	0.96	A2

Thickness 555,0 [mm]

Mass per squaremeter ca. 120 [kg/m²]

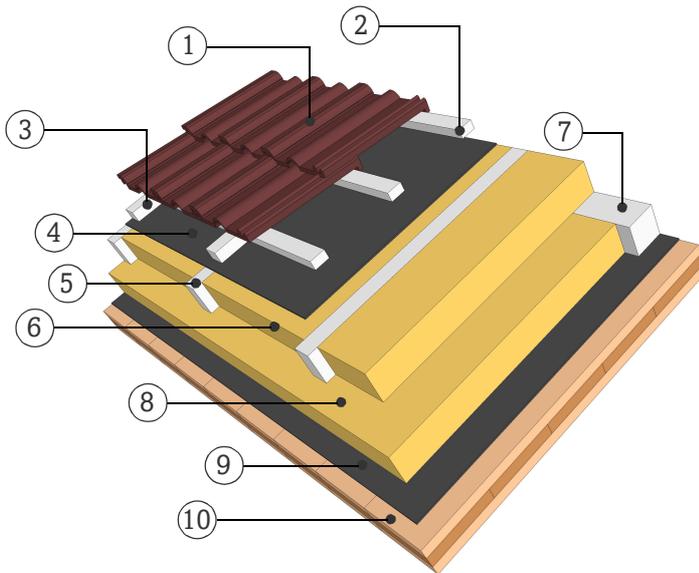
Test report sound: HFA 1253/2012 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

STEEP ROOF WITH TILES

STD12.03

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 53 (-1;-5) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,19 [W/m²K]

m_{w,B,A} 35 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Roof tiles					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	100.0 Timber batten					D
⑥	100.0 Mineral wool, low density	0.038	1	40	0.9	A1
⑦	100.0 Timber batten					D
⑧	100.0 Mineral wool, low density	0.038	1	40	0.9	A1
⑨	Vapour barrier sd ≤ 100m					
⑩	100.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 370,0 [mm]

Mass per squaremeter ca. 125 [kg/m²]

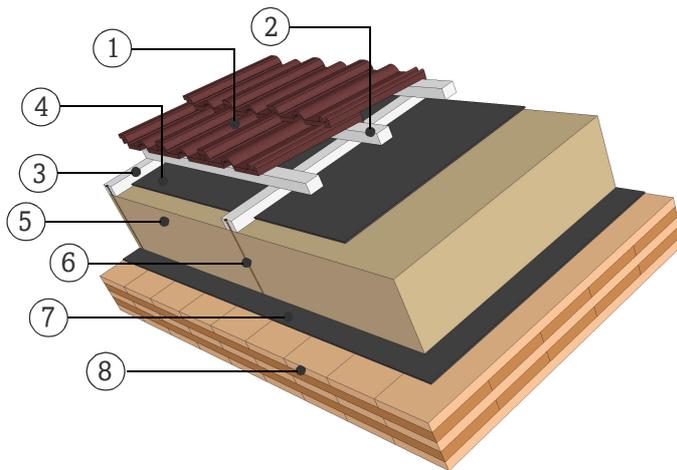
Test report sound: HFA 1253/2012 - BB
Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

STEEP ROOF WITH TILES

STD12.02

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 50 (-4;-11) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,13 [W/m²K]

m_{w,B,A} 35 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Roof tiles					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	240.0 Wood fiberboard	0.042	5	< 180	2.1	E
⑥	Screws					A1
⑦	Vapour barrier sd ≤ 100m					
⑧	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 470,0 [mm]

Mass per squaremeter ca. 155 [kg/m²]

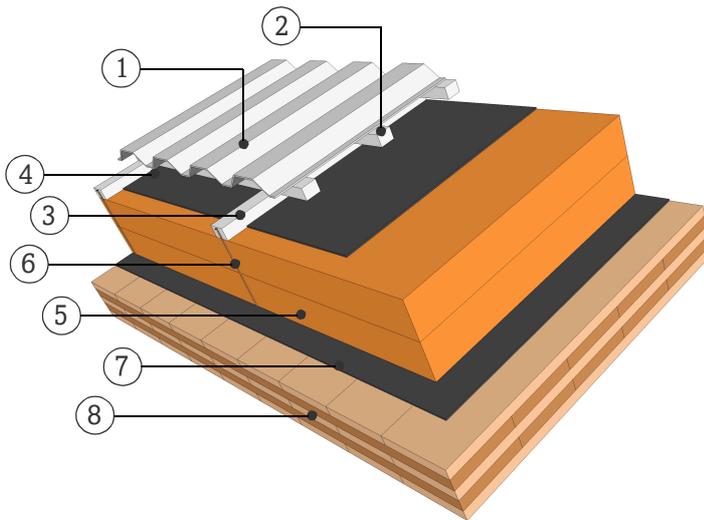
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Calculation of the physical values by the
KLH Massivholz GmbH, without warranty

DATASHEET

STEEP ROOF WITH METAL SHEET

STD12.01

VISIBLE CEILING



FIRE RESISTANCE

Pre-dimensioning one-sided fire attack

R*EI 30 > 3s 80 TL

R*EI 60 > 5s 120 TL

R*EI 90 > 5s 150 TL

*For residual load capacity or alternative design see <https://www.klhdesigner.at/>

SOUND INSULATION

R_w (C;C_{tr}) 50 (-3;-8) [dB]

<https://www.klh.at/en/online-component-catalogue/>

THERMAL PROTECTION

U 0,09 [W/m²K]

m_{w,B,A} 35 [kg/m²]

MATERIAL

PROPERTIES

[mm]		λ [W/mK]	μ min-max [-]	ρ [kg/m³]	c [kJ/kgK]	
①	Trapezoidal sheet					A1
②	30.0 Timber batten (spruce) horizontal, 3x5 cm					D
③	40.0 Timber batten (spruce) vertical, 3x5 cm					D
④	Underroof sheet, breather membrane					
⑤	240.0 Polyurethane Insulation	0.025	60	30	1.4	E
⑥	Screws					A1
⑦	Vapour barrier sd ≤ 100m					
⑧	160.0 TL, KLH solid timber slab	0.12	50 - 300	470	1.6	D

Thickness 470,0 [mm]

Mass per squaremeter ca. 95 [kg/m²]

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