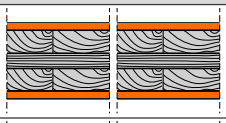
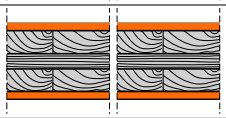
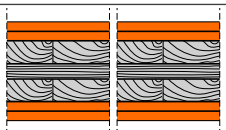
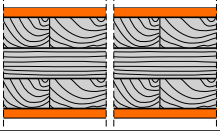
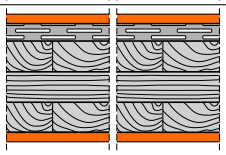
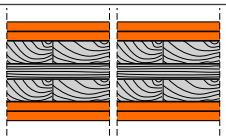
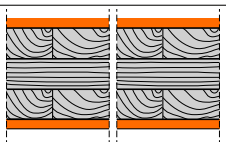
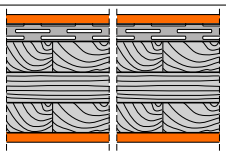
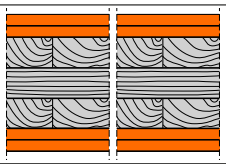
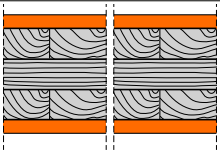
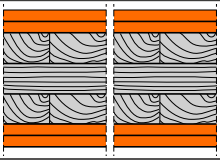
Systems

fermacell® CLT/X-LAM Building in Timber

1. Wall

1.1 CLT/X-LAM

fermacell®

System-Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
1 HTM 11		≥ 100	≥ 80	10	–
1 HTM 23		≥ 100	≥ 80	10	–
1 HTM 24		≥ 130	≥ 80	2 × 12,5	–
1 HTM 21		≥ 145	≥ 120	12,5	–
1 HTM 22		≥ 172	≥ 120	12,5 one side traverse -resilent bar	Glass-wool
1 HTM 34		≥ 130	≥ 80	2 × 12,5	–
1 HTM 32		≥ 145	≥ 120	12,5	–
1 HTM 33		≥ 172	≥ 120	12,5 one side traverse -resilent bar	Glass-wool
1 HTM 31		≥ 180	≥ 120	2 × 15	–
1 HTM 41		≥ 156	≥ 120	18	–
1 HTM 42		≥ 180	≥ 120	2 × 15	–

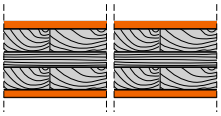
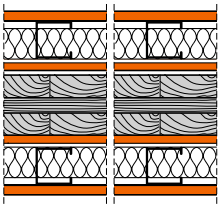
* arithmetically acc. Soundinsulationsoftware NSUL, Version v.8.0.3
** based on EN 13501-2

Applied Load	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[kN/m]	[kg/m²]	[dB]	[dB]		
160	≥ 60	R_w ≥ **37** (-1;-3)* Pb.- Nr.: 04-001031	–	REI30	KB 3.2/19-354-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
40	≥ 60	R_w ≥ 37 (-1;-3)* Pb.- Nr.: 04-001030	–	REI60	KB 3.2/19-354-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
160	≥ 96	R_w ≥ 41 (-1;-3)* Pb.- Nr.: 04-001029	–	REI60	KB 3.2/19-354-4 -Covering: $K_2$30 -PCA10402A -$T_{max.\ 30\ minutes}$: 115 °C
200	≥ 87	≥ 40 (-1;-3)* Pb.- Nr.: 04-001028	–	REI60	KB 3.2/16-279-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
200	≥ 89	R_w ≥ 53 (-4;-11)* Pb.- Nr.: 04-001027	–	REI60	KB 3.2/16-388-2 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
40	≥ 96	R_w ≥ 41 (-1;-3)* Pb.- Nr.: 04-001026	–	REI90	KB 3.2/19-354-4 -Covering: $K_2$30 -PCA10402A -$T_{max.\ 30\ minutes}$: 115 °C
120	≥ 87	≥ 40 (-1;-3)* Pb.- Nr.: 04-001024	–	REI90	KB 3.2/16-279-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
120	≥ 89	R_w ≥ 53 (-4;-11)* Pb.- Nr.: 04-01023	–	REI90	KB 3.2/16-388-2 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
200	≥ 129	≥ 44 (-1;-3)* Pb.- Nr.: 04-001021	–	REI90	KB 3.2/15-369-4 (Covering: $K_2$45)**
120	≥ 100	≥ 41 (-1;-2)* Pb.- Nr.: 04-001022	–	REI120	KB 3.2/15-369-3 -Covering: $K_2$30 -PCA10168 -$T_{max.\ 30\ minutes}$: 153 °C
150	≥ 129	≥ 44 (-1;-32)* Pb.- Nr.: 04-001021	–	REI120	KB 3.2/15-369-4 (Covering: $K_2$45)**

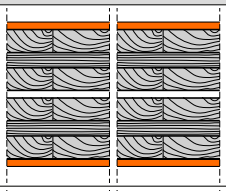
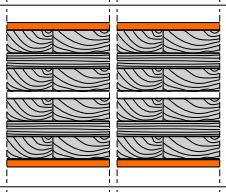
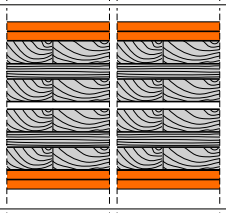
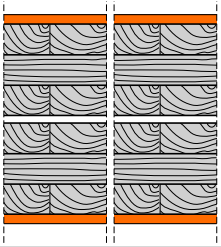
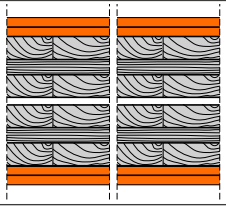
1. Wall

1.1 CLT/X-LAM

Firepanel A1

System Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
1 HTM 21 A1		≥ 100	≥ 80 mm	10	–
1 HTM 41 A1		≥ 235	≥ 80 mm	12,5 (CW50) 10	40/40

fermacell® - cavity wall

System Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
1 HTM 12		≥ 190	≥ 2 × 80 mm 10 mm cavity 100 mm cavity	10	– 80/10
1 HTM 25		≥ 190	≥ 2 × 80 mm 10 mm cavity 100 mm cavity	10	– 80/10
1 HTM 26		≥ 220	≥ 2 × 80 mm 10 mm cavity 100 mm cavity	2 × 12,5	– 80/18
1 HTM 27		≥ 275	≥ 2 × 120 mm 10 mm cavity 100 mm cavity	12,5	– 80/10
1 HTM 35		≥ 220	≥ 2 × 80 mm 10 mm cavity 100 mm cavity	2 × 12,5	– 80/18

*arithmetically acc. Soundinsulationsoftware INSUL, Version v.8.0.3

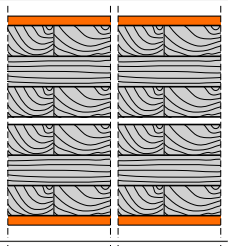
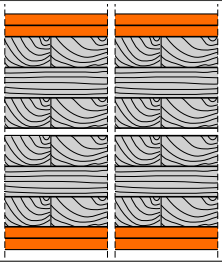
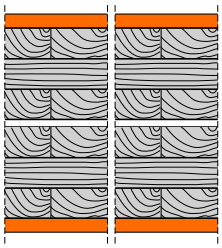
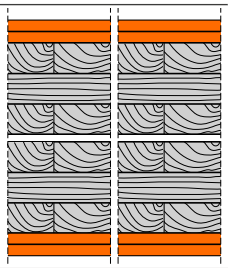
Applied Load	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[kN/m]	[kg/m²]	[dB]	[dB]		
45	≥ 61	R_w ≥ 37 (-1;-3)* Pb.- Nr.: 04-01020	–	REI60	N° CSI1958FR -Covering: $K_2$10 -PCA10080 -$T_{max.\ 10\ minutes}$: 135 °C
45	≥ 95	R_w ≥ 71 (-6;-14)* Pb.- Nr.: 04-01019	–	REI120	N° CSI1959FR

Applied Load	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[kN/m]	[kg/m²]	[dB]	[dB]		
160 each wall side	≥ 96	R_w ≥ 49 (-3;-11)* Pb.- Nr.: 04-01017 Rw≥ 69 (-2;-6)* Pb.- Nr.: 04-01018	–	REI30	KB 3.2/19-354-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
40 each wall side	≥ 96	R_w ≥ 49 (-3;-9)* Pb.- Nr.: 04-01015 Rw≥ 69 (-2;-6)* Pb.- Nr.: 04-01016	–	REI60	KB 3.2/19-354-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
160 each wall side	≥ 132	R_w ≥ 54 (-3;-11)* Pb.- Nr.: 04-01014 Rw≥ 74,5 (-2;-4) Pb.- Nr.: 04-00961	–	REI60	KB 3.2/19-354-4 -Covering: $K_2$30 -PCA10402A -$T_{max.\ 30\ minutes}$: 115 °C
200 each wall side	≥ 143	R_w ≥ 55 (-5;-12)* Pb.- Nr.: 04-01012 Rw≥ 75 (-2;-6)* Pb.- Nr.: 04-01013	–	REI60	KB 3.2/16-279-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
40 each wall side	≥ 132	R_w ≥ 54 (-4;-11)* Pb.- Nr.: 04-01011 Rw≥ 74,5 (-2;-4) Pb.- Nr.: 04-0961	–	REI90	KB 3.2/19-354-4 -Covering: $K_2$30 -PCA10402A -$T_{max.\ 30\ minutes}$: 115 °C

1. Wall

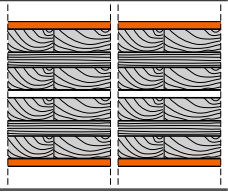
1.1 CLT/X-LAM

fermacell® - cavity wall

System Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
1 HTM 36		≥ 275	≥ 2 × 120 mm 10 mm cavity 100 mm cavity	12,5	– 80/10
1 HTM 37		≥ 310	≥ 2 × 120 mm 10 mm cavity 100 mm cavity	2 × 15	– 80/18
1 HTM 43		≥ 286	≥ 2 × 120 mm 10 mm cavity 100 mm cavity	18	– 80/18
1 HTM 44		≥ 310	≥ 2 × 120 mm 10 mm cavity 100 mm cavity	2 × 15	– 80/18

*arithmetically acc. Soundinsulationsoftware INSUL, Version v.8.0.3

Firepanel A1 - cavity wall

System Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
1 HTM 22 A1		≥ 100	≥ 2 × 80 mm 10 mm cavity 100 mm cavity	10	– 80/10

* arithmetically acc. Soundinsulationsoftware INSUL, Version v.8.0.3
** based on EN 13501-2

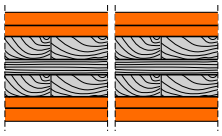
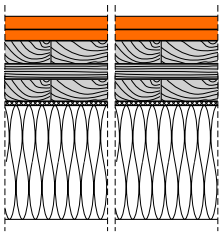
Applied Load	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[kN/m]	[kg/m²]	[dB]	[dB]		
120 each wall side	≥ 143	R_w ≥ 55 (-5;-12)* Pb.- Nr.: 04-01008 Rw≥ 75 (-2;-6)* Pb.- Nr.: 04-01009	–	REI90	KB 3.2/16-279-3 -Covering: $K_2$10 -PC10069 -$T_{max.\ 10\ minutes}$: 112 °C
200 each wall side	≥ 185	R_w ≥ 60 (-5;-13)* Pb.- Nr.: 04-01007 Rw≥ 74,5 (-2;-4) Pb.- Nr.: 04-00961	–	REI90	KB 3.2/15-369-4 (Covering: $K_2$45)**
120 each wall side	≥ 100	R_w ≥ 57 (-5;-12)* Pb.- Nr.: 04-01006 Rw≥ 77 (-2;-6)* Pb.- Nr.: 04-01010	–	REI120	KB 3.2/15-369-3 (Covering: $K_2$30) -Covering: $K_2$30 -PCA10168 -$T_{max.\ 30\ minutes}$: 153 °C
150 each wall side	≥ 185	R_w ≥ 60 (-6;-15)* Pb.- Nr.: 04-01003 Rw≥ 74,5 (-2;-4) Pb.- Nr.: 04-00961	–	REI120	KB 3.2/15-369-4 (Covering: $K_2$45)**

Applied Load	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[kN/m]	[kg/m²]	[dB]	[dB]		
45 each wall side	≥ 97	R_w ≥ 49 (-3;-9)* Pb.- Nr.: 04-01004 Rw≥ 69 (-2;-15)* Pb.- Nr.: 04-01005	–	REI60	N° CSI1958FR -Covering: $K_2$10 -PCA10080 -$T_{max.\ 10\ minutes}$: 135 °C

1. Wall

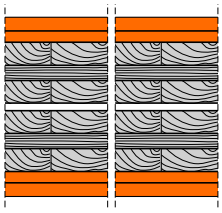
1.1 CLT/X-LAM

fermacell® - firewall

System Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
4 HTM 32		≥ 146	≥ 80	15 + 18	–
4 HTM 33		≥ 280	≥ 80	innen 15 + 18 außen 160 mm STEICOprotect L dry + 6 mm STEICOsecure base	–

* arithmetically acc. EN12354-1:2000, S. 28

fermacell® - cavity firewall

System Specification	Systemdrawing	Wall Thickness	CLT / X-LAM	Facings	Insulation Thickness/Density
		[mm]	[mm]	[mm]	[mm]/[kg/m³]
4 HTM 31		≥ 236	≥ 2 × 80 mm 10 mm cavity 100 mm cavity	18 + 15	– 80/18

* arithmetically acc. Soundinsulationsoftware INSUL, Version v.8.0.3

Applied Load max. Stress sc,0,d,R90	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[N/mm²]	[kg/m²]	[dB]	[dB]		
3,0	≥ 117	Rw≥ 42 (-1;-2) Pb.- Nr.: 04-01002	≥ 61	REI 90-M	KB 3.2/16-325-1 -Covering: $K_2$60 -PC10082 -$T_{max.\ 60\ minutes}$: 104 °C
2,5	≥ 123	Rw≥ 36 (-1;-5) Pb.- Nr.: 04-00879	≥ 61	REI 90-M	KB 3.2/15-222-2 (Covering from inside: $K_2$60) -Covering: $K_2$60 -PC10082 -$T_{max.\ 60\ minutes}$: 104 °C

Applied Load max. Stress sc,0,d,R90	Wall Weight	Sound Insulation R_w	Sound Insulation $D_{n,f,w}$ (12)	Fire Rating according EN 13501-2 (EN 1365-1)	Classification Report
[N/mm²]	[kg/m²]	[dB]	[dB]		
3 each wall side	≥ 152	R_w≥ 56 (-5;-13)* Rw≥ 74,5 (-2;-4) Pb.- Nr.: 04-00961	–	REI 90-M	KB 3.2/16-325-1 (Covering: $K_2$60) -Covering: $K_2$60 -PC10082 -$T_{max.\ 60\ minutes}$: 104 °C

2. Covering

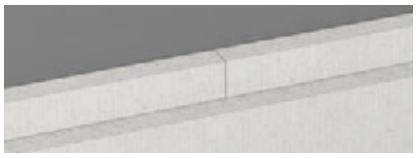
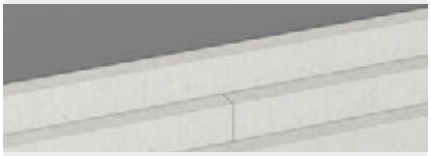
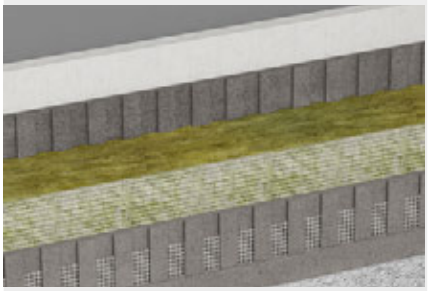
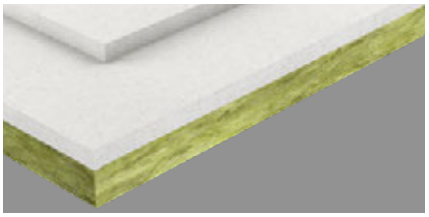
2.1 Classification of wall and ceiling coverings for fire protection ability

fermacell®

Coverings designated EN 13501-2	$K_2$10	$K_2$30
Facings	10 mm	2×10 alternative 18 mm
		
	Classification Report PC 10069	**Classification Report** KB III/B-07-059
		
		Classification Report PCA10168
Flooring **	–	–

* based on EN 13501-2

** based on German building regulation

	$K_2$45*	$K_2$60
	2×15	15+18 mm alternative 2×18 mm alternative 3×12,5 mm alternative 12,5 mm+60 mm ETICS (StoTherm Classic L)
		
	Test Report PB III/B-03-271	**Classification Report** PCA 10081
		
		Classification Report PCA 10162
		
		Classification Report PCA 10107
		
		Classification Report PCA 10161
		2 E 35 fermacell® Flooring Element 2×12,5 mm fermacell® Gypsum Fibreboard + 20 mm mineral wool
		

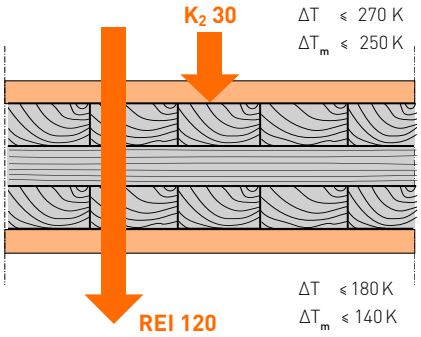
A covering designated K_2 is a covering which for the classification period (10 min, 30 min or 60 min) provides the prescribed protection for the materials behind the covering.

During this time the mean temperature measured on the unexposed side of the covering not exceed the initial temperature by more than 250 K and the maximum temperature measured at any point of these sides not exceed the initial temperature by more than 270 K.

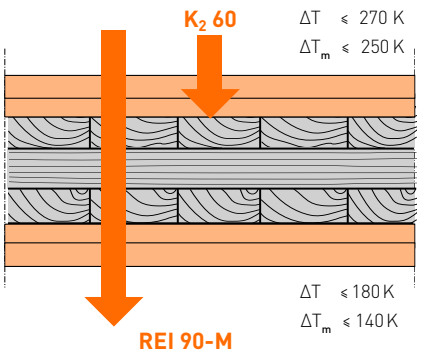
The classification protect the unexposed side of the covering against burning/ charring during the time of classification.

(see also EN13501-2)

1 HTM 41



4 HTM 32



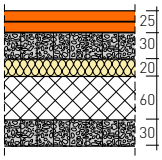
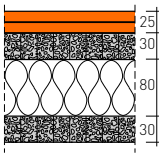
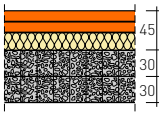
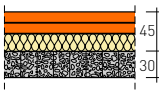
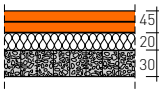
3. Ceiling

3.1 CLT/X-LAM

fermacell® Flooring Elements

CLT/X-LAM

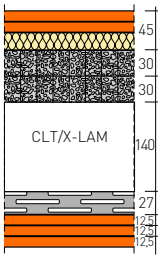
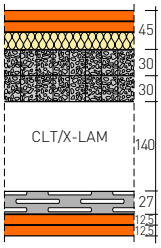
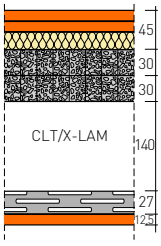
Bare floor
R_w = 39 dB
$L_{n,w}$ = 85 dB

System drawing	Construction	Constr. height	Sound insulation Impact $L_{n,w}$ ($C_{I,100-2500}$ | $C_{I,50-2500}$)	Airborne R_w ($C_{100-3150}$ | $C_{tr,100-3150}$ $C_{50-3150}$ | $C_{tr,50-2500}$)	Area of application
		[mm]	[dB]	[dB]	
	**2 E 22** (2 × 12,5 mm fermacell® Gypsum Fibreboards) on 30 mm fermacell™ Honeycomb Insulation on 20 mm Floorrock GP on 60 mm EPS 150 kPa on 30 mm fermacell™ Honeycomb Insulation	305	**46,0** **(+2 | +8)**	67,8 (-4 | -12 -9 | -21)	1
	**2 E 22** (2 × 12,5 mm fermacell® Gypsum Fibreboards) on 30 mm fermacell™ Honeycomb Insulation onf 80 mm Schneider 140 kPa on 30 mm fermacell™ Honeycomb Insulation	305	**48,4** **(+1 | +5)**	68,3 (-4 | -11 -9 | -22)	1
	**2 E 35** (2 × 12,5 mm fermacell® Gypsum Fibreboards + 20 mm Mineral Wool) on 2 × 30 mm fermacell™ Honeycomb Insulation	245	**50,2** **(+0 | +3)**	66,9 (-3 | -10 -8 | -20)	1
	**2 E 35** (2 × 12,5 mm fermacell® Gypsum Fibreboards + 20 mm Mineral Wool) on 30 mm fermacell™ Honeycomb Insulation	215	**51,8** **(+1 | +4)**	64,2 (-4 | -11 -9 | -20)	1
	**2 E 22** (2 × 12,5 mm fermacell® Gypsum Fibreboards on 20 mm Steico Therm sd on 30 mm fermacell™ Honeycomb Insulation	215	**53,6** **(+1 | +3)**	64,1 (-4 | -11 -9 | -20)	1

fermacell® Flooring Elements

CLT/X-LAM
suspended ceiling

Bare floor
No ascertainable
output value

System drawing	Construction	Constr. height	Sound insulation Impact $L_{n,w}$ ($C_{I,100-2500}$ | $C_{I,50-2500}$)	Airborne R_w ($C_{100-3150}$ | $C_{tr,100-3150}$ $C_{50-3150}$ | $C_{tr,50-2500}$)	Area of application
		[mm]	[dB]	[dB]	
	**2 E 35** (2 × 12,5 mm fermacell® Gypsum Fibreboards + 20 mm Mineral Wool) on 2 × 30 mm fermacell™ Honeycomb Insulation with 140 mm CLT with 27 mm flexibly suspended + Mineral Wool on 3 × 12,5 mm fermacell® Gypsum Fibreboards	309,5	**38,7** **(+2 | +21)**	75,8 (-7 | -16 -22 | -35)	1
	**2 E 35** (2 × 12,5 mm fermacell® Gypsum Fibreboards + 20 mm Mineral Wool) on 2 × 30 mm fermacell™ Honeycomb Insulation with 140 mm CLT with 27 mm flexibly suspended + Mineral Wool on 2 × 12,5 mm fermacell® Gypsum Fibreboards	297	**41,3** **(+2 | +18)**	74,2 (-9 | -18 -21 | -34)	1
	**2 E 35** (2 × 12,5 mm fermacell® Gypsum Fibreboards + 20 mm Mineral Wool) on 2 × 30 mm fermacell™ Honeycomb Insulation with 140 mm CLT with 27 mm flexibly suspended + Mineral Wool on 2 × 12,5 mm fermacell® Gypsum Fibreboards	284,5	**50,0** **(+4 | +10)***	74,2 (-9 | -18 -21 | -34)*	1

* internal review and investigation

You will find the latest version of this brochure in digital form on our website. Technical modifications subject to changes. Last updated 02/2021

The most recent edition applies. Should you require additional information, please contact our customer service.

James Hardie Europe GmbH
Bennigsen-Platz 1
D-40474 Düsseldorf
www.fermacell.com

Technical customer information (freecall)
phone 08003864001
e-Mail fermacell@jameshardie.**de**

Service-Center (order management)
phone +49 211 54236-200
fax +49 211 54236-299
e-mail auftraege@jameshardie.com

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