Declaration of performance

No. 111-001

best wood CLT BOX

1. Unique identifier code of the product type:

CLT BOX – wooden box element according to ETA-21/0336

2. Purpose:

For use as supporting, stiffening or non-supporting elements in buildings. Use is only permitted in buildings with mainly stationary traffic loads (in accordance with EC 5).

3. Manufacturer:

Holzwerk Gebr. Schneider GmbH
Kappel 28, 88436 Eberhardzell, Germany

4. Authorised representative:

No external authorised representative

5. System for assessment and verification of the constancy of performance:

System 1

6.

a.	Harmonised standard:	Not available
	Notified body:	Not available
b.	European Assessment Document:	European Assessment Document EAD 140022-00-0304 (10/2020)
	European Technical Assessment:	ETA-21/0336 dated 13/07/2021
	Technical assessment office:	ETA-Danmark, Göteborg Plads 1, DK-2150 Nordhavn
	Notified body:	MPA Stuttgart 0672

Holzwerk Gebr. Schneider GmbH
Kappel 28
88436 Eberhardzell
Germany
Tel +49 (0)7355 9320-0
Fax +49 (0)7355 9320-300

E-Mail: info@schneider-holz.com
Internet: www.schneider-holz.com

7. Declared performance:

Number of layers:	CLT board: 3
Dimensions:	Thickness 220-490 mm; width 0.90-1.20 m; length ≤ 16.0 m
Application classes:	1 and 2
Drying:	wood moisture 8 – 15 % at delivery
Bonding:	PUR (free of formaldehyde)
Reaction to fire:	D-s2, d0
Heat conductivity λ:	CLT board: 0,12 W/m*K Rib: 0.13 W/m*K
Specific heat capacity:	1600 J/kg*K
Diffusion resistance μ:	CLT board: 20 (damp) / 50 (dry)
Durability class:	4
Emission class:	E1 according to DIN EN 717-1
Airtightness:	after testing in accordance with EN 12114 from a thickness of 60 mm

8. Specific technical characteristics:

See Annex 1.

The performance of the above product fulfils the declared performance. The above mentioned manufacturer has the sole responsibility for the preparation of the declaration of performance in accordance with the regulation (EU) No. 305/2011.

Signed for and on behalf of the manufacturer by:

Ferdinand Schneider, Managing director

……..

(Name and job title)

Eberhardzell, 25/01/2022

……..

(Place and date of issuance) (Signature)

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Annex 1

Dimensioning aid best wood CLT BOX (lower CLT board 60 mm)

Perm. loads* [kN/m²]	Live loads [kN/m²]	Span length of single span beams [m]						Span lengths of double span beams [m]					
		6.00	7.00	8.00	9.00	10.00	11.00	3.00	4.00	5.00	6.00	7.00	8.00
1.00	1.00	220/80	220/80	240/80	260/80	300/80	340/80	220/80	220/80	220/80	220/80	240/80	240/100
	1.50												
	2.00				280/80	320/80							
	3.00			260/80	300/80	340/80	380/80						
	5.00		260/80	300/80	340/80	380/80	420/100				220/100	240/100	260/100
2.50	1.00	220/80	240/80	280/80	320/80	360/80	400/80	220/80	220/80	220/80	220/80	220/80	220/80
	1.50					360/100	400/120						
	2.00		260/80	300/80	340/80	380/80	420/80						220/100
	3.00						420/100					220/100	240/100
	5.00	240/80	280/80	320/80	360/100	420/80	460/100			220/100	220/120	240/120	280/100
4.00	1.00	240/80	280/80	320/80	360/80	420/80	460/100	220/80	220/80	220/80	220/80	220/100	240/100
	1.50				360/120								
	2.00				380/80		460/120				220/100		
	3.00		280/100	340/80		420/120	480/100					220/120	260/100
	5.00	260/80	300/80		400/80	440/100	-			220/100	220/120	260/120	300/120

* The dead weight of the best wood CLT boards and the ribs has already been taken into account.

These tables are only intended for pre-dimensioning and are no substitute for structural analysis.

Fire resistance: R60

Example for a CLT BOX in a multi-family house:

Design values:		**Result: 340/80**	
Permanent load	g = 2.50 kN/m²	Thickness of ceiling	= 340 mm
Live load	q = 3.00 kN/m²	Rib width	= 80 mm
Span length	l = 9.00 m	Charring rate	= R60

The following parameters and certificates were taken into account in the calculations:

- Certificate of load-bearing capacity according to DIN EN 1995-1-1:2010-12 with NA:2013-08
- Certificate of structural fire design according to DIN EN 1995-1-2:2010-12 with NA:2010-12
- Upper CLT board: 60 mm; lower CLT board: 60 mm
- Application class 1
- Load duration class of the intermittent load: medium
- Ψ_2 = 0.3; k_{mod} = 0.60; C24
- Ultimate limit state: Certificate of bending stress, certificate of (rolling) shear stress
- Serviceability limit state: Initial deflection ≤l/300; final deflection ≤ l/200; total deflection ≤ l/300
- Verification of vibration: Width of the ceiling panel b = 1.2* l; additional rigidity EI_{xy} from 5 cm screed slab; modal damping ratio ζ = 0.03; limitation of acceleration a ≤ 0.4 m/s²

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Dimensioning aid best wood CLT BOX – CEILING FS (lower CLT board 60 mm)

Perm. loads* [kN/m²]	Live loads [kN/m²]	Span length of single span beams [m]						Span lengths of double span beams [m]					
		6.00	7.00	8.00	9.00	10.00	11.00	3.00	4.00	5.00	6.00	7.00	8.00
1.00	1.00	240/80	300/80	360/80	280/80	320/80	340/80	220/80	220/80	220/80	240/80	300/80	360/80
	1.50						360/80						
	2.00												
	3.00				300/80	340/80	380/80						
	5.00	240/100			340/100	380/100	420/120			220/100	240/100	300/100	360/100
2.50	1.00	280/80	240/80	280/80	320/120	380/80	420/80	220/80	220/80	220/80	280/80	220/100	220/100
	1.50		260/80	300/80									
	2.00				340/80		420/100						220/120
	3.00					400/80	440/80			220/100		220/120	240/120
	5.00	280/100	280/100	320/100	360/100	420/100	460/100		220/100	220/120	280/100	260/120	300/120
4.00	1.00	240/100	280/100	320/100	360/120	420/80	460/100	220/80	220/80	240/100	220/100	220/120	240/120
	1.50				380/80		460/120						
	2.00			340/80		420/100	480/100						
	3.00		300/100	340/100	380/100	440/100	480/100		220/100		220/120	240/120	280/120
	5.00	260/100		340/120	400/100	440/120	-			240/120	260/120	300/120	340/120

* The dead weight of the best wood CLT BOX – CEILING FS and the chippings in the rafter has already been taken into account.
These tables are only intended for pre-dimensioning and are no substitute for structural analysis.

Fire resistance: R60

Example for a CLT BOX– CEILING FS in a multi-family house:

Design values:		**Result: 340/80**	
Permanent load	g = 2.50 kN/m²	Thickness of ceiling	= 340 mm
Live load	q = 3.00 kN/m²	Rib width	= 80 mm
Span length	l = 9.00 m	Charring rate	= R60

The following parameters and certificates were taken into account in the calculations for the dimensioning aid best wood CLT BOX – CEILING FS:

- Element width: 1.25 m
- Verification with 40 kg/m² chippings in the CLT BOX – CEILING FS
- Certificate of load-bearing capacity according to DIN EN 1995-1-1:2010-12 with NA:2013-08
- Certificate of structural fire design according to DIN EN 1995-1-2:2010-12 with NA:2010-12
- Upper CLT board: 60 mm; lower CLT board: 60 mm
- Application class 1
- Load duration class of the intermittent load: medium
- $\Psi_2 = 0.3$; $k_{def} = 0.60$; C24
- Ultimate limit state: Certificate of bending stress, certificate of (rolling) shear stress
- Serviceability limit state: Initial deflection ≤l/300; final deflection ≤ l/200; total deflection ≤ l/300
- Verification of vibration: Width of the ceiling panel b = 1.2* l; additional rigidity EI_{xy} from 5 cm screed slab; modal damping ratio ζ = 0.03; limitation of acceleration a ≤ 0.4 m/s²

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Dimensioning aid best wood CLT BOX – CEILING FS (lower CLT board 90 mm)

Perm. loads* [kN/m²]	Live loads [kN/m²]	Span length of single span beams [m]						Span lengths of double span beams [m]					
		6.00	7.00	8.00	9.00	10.00	11.00	3.00	4.00	5.00	6.00	7.00	8.00
1.00	1.00	250/80	310/80	310/120	290/80	310/80	350/80	250/80	250/80	250/80	250/80	310/80	310/120
	1.50					330/80							
	2.00						370/80						
	3.00				310/80	350/80	390/80						
	5.00	250/100			350/100	390/100	430/100			250/100	250/100	310/100	
2.50	1.00	290/80	250/80	290/80	330/80	370/80	410/80	250/80	250/80	250/80	290/80	250/100	250/100
	1.50						410/120						
	2.00				330/120	390/80	430/80						
	3.00		270/80	310/80	350/80							250/120	250/120
	5.00	290/100	290/100	330/100	370/100	410/100	450/120			250/100	290/100	270/120	310/120
4.00	1.00	250/80	290/80	330/80	370/80	410/100	470/80	250/80	250/80	250/100	250/100	250/120	250/120
	1.50					430/80							
	2.00				370/100								
	3.00	250/100	290/100	330/100	390/100	430/100	490/100				250/120		290/120
	5.00	250/120	310/100	350/100		450/100			250/100	250/120	270/120	310/120	350/120

* The dead weight of the best wood CLT BOX – CEILING FS and the chippings in the rafter has already been taken into account.
These tables are only intended for pre-dimensioning and are no substitute for structural analysis.

Fire resistance: R90

Example for a CLT BOX– CEILING FS in a multi-family house:

Design values:		**Result: 350/80**	
Permanent load	g = 2.50 kN/m²	Thickness of ceiling	= 350 mm
Live load	q = 3.00 kN/m²	Rib width	= 80 mm
Span length	l = 9.00 m	Charring rate	= R90

The following parameters and certificates were taken into account in the calculations for the dimensioning aid best wood CLT BOX – CEILING FS:

- Element width: 1.25 m
- Verification with 40 kg/m² chippings in the CLT BOX – CEILING FS
- Certificate of load-bearing capacity according to DIN EN 1995-1-1:2010-12 with NA:2013-08
- Certificate of structural fire design according to DIN EN 1995-1-2:2010-12 with NA:2010-12
- Upper CLT board: 60 mm; lower CLT board: 90 mm
- Application class 1
- Load duration class of the intermittent load: medium
- $\Psi_2 = 0.3$; $k_{def} = 0.60$; C24
- Ultimate limit state: Certificate of bending stress, certificate of (rolling) shear stress
- Serviceability limit state: Initial deflection ≤ l/300; final deflection ≤ l/200; total deflection ≤ l/300
- Verification of vibration: Width of the ceiling panel b = 1.2* l; additional rigidity $EI_{x,y}$ from 5 cm screed slab; modal damping ratio $\zeta = 0.03$; limitation of acceleration a ≤ 0.4 m/s²

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Dimensioning aid best wood **CLT BOX** open at the top

Perm. loads* [kN/m²]	Live loads [kN/m²]	Span length of single span beams [m]						Span lengths of double span beams [m]					
		4.00	5.00	6.00	7.00	8.00	9.00	4.00	5.00	6.00	7.00	8.00	9.00
1.00	1.00	160/80	180/80	240/120	260/120	280/100	300/100	160/80	160/80	200/80	240/100	300/120	360/120
	1.50												
	2.00						300/120						
	3.00		180/100			300/100	340/100						
	5.00	160/120	200/120	260/100	300/100	340/100	380/120						
2.50	1.00	160/100	200/120	240/100	280/100	320/100	360/100	160/80	160/120	240/100	300/120	320/120	340/120
	1.50					320/120	360/120						
	2.00				280/120								
	3.00			240/120	300/100	340/100	380/120						
	5.00	180/100	220/100	260/120	320/100	360/120	400/120						
4.00	1.00	180/80	220/100	260/120	320/100	360/120	400/120	160/80	200/100	260/120	280/120	300/120	300/120
	1.50	180/100											
	2.00		220/120	280/100			420/80						
	3.00				320/120	380/100	420/120						320/100
	5.00	180/120	240/100	280/120	340/100	380/120	440/120						360/120

* The dead weight of the best wood CLT BOX – CEILING has already been taken into account.
These tables are only intended for pre-dimensioning and are no substitute for structural analysis.

Fire resistance: R60

Example for a CLT BOX open at the top in a multi-family house:

Design values:		**Result: 300/100**	
Permanent load	g = 2.50 kN/m²	Thickness of ceiling	= 300 mm
Live load	q = 3.00 kN/m²	Rib width	= 100 mm
Span length	l = 7.00 m	Charring rate	= R60

The following parameters and certificates were taken into account in the calculations for the dimensioning aid best wood CLT BOX open at the top:

- Element width: 1.20 m
- Verification with 40 kg/m² chippings in the CLT BOX – CEILING FS
- Certificate of load-bearing capacity according to DIN EN 1995-1-1:2010-12 with NA:2013-08
- Certificate of structural fire design according to DIN EN 1995-1-2:2010-12 with NA:2010-12
- Lower CLT board: 60 mm
- Application class 1
- Load duration class of the intermittent load: medium
- $\Psi_2 = 0.3$; $k_{def} = 0.60$; C24
- Ultimate limit state: Certificate of bending stress, certificate of (rolling) shear stress
- Serviceability limit state: Initial deflection ≤l/300; final deflection ≤ l/200; total deflection ≤ l/300
- Verification of vibration: Width of the ceiling panel b = 1.2* l; additional rigidity EI_{xy} from 5 cm screed slab; modal damping ratio ζ = 0.03; limitation of acceleration a ≤ 0.4 m/s²

Holzwerk Gebr. Schneider GmbH
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Dimensioning aid best wood **CLT BOX** open at the bottom

Perm. loads* [kN/m²]	Live loads [kN/m²]	Span length of single span beams [m]						Span lengths of double span beams [m]					
		4,00	5,00	6,00	7,00	8,00	9,00	3,00	4,00	5,00	6,00	7,00	8,00
1,00	1,00	160/80	180/80	240/100	300/120	380/100	420/120	160/80	160/80	180/80	240/100	300/120	380/100
	1,50												
	2,00												
	3,00		180/120						160/100	180/120	240/120		
	5,00	180/100	220/120	260/120				160/100	180/100	220/120	260/120		
2,50	1,00	160/100	240/100	300/120	280/120	320/100	360/100	160/80	160/100	240/100	300/120	280/120	260/120
	1,50												280/120
	2,00					320/120	360/120						300/120
	3,00	160/120				340/120	380/120		160/120				320/120
	5,00	180/120	240/120		320/120	380/120	420/120	160/100	180/120	240/120		320/120	380/120
4,00	1,00	200/80	260/120	260/120	300/120	360/100	420/100	160/80	200/80	260/120	240/120	280/120	320/120
	1,50				320/100								
	2,00					360/120		160/100	200/100		260/120	300/120	340/120
	3,00	200/100		280/120	320/120		420/120				280/120	320/120	360/120
	5,00	220/100		300/120	360/120	400/120	460/120	160/120	200/120		300/120	360/120	400/120

* The dead weight of the best wood CLT BOX – CEILING has already been taken into account.

These tables are only intended for pre-dimensioning and are no substitute for structural analysis.

Fire resistance: R0

Example for a CLT BOX open at the bottom in a multi-family house:

Design values:		**Results: 340/120**	
Permanent load	g = 2,50 kN/m²	Thickness of ceiling	= 340 mm
Live load	q = 3,00 kN/m²	Rib width	= 120 mm
Span length	l = 8,00 m	Charring rate	= R0

The following parameters and certificates were taken into account in the calculations for the dimensioning aid best wood CLT BOX open at the bottom:

- Element width: 1.20 m
- Verification with 40 kg/m² chippings in the CLT BOX – CEILING FS
- Certificate of load-bearing capacity according to DIN EN 1995-1-1:2010-12 with NA:2013-08
- Certificate of structural fire design according to DIN EN 1995-1-2:2010-12 with NA:2010-12
- CLT board top: 60 mm
- Application class 1
- Load duration class of the intermittent load: medium
- $\Psi_2 = 0.3$; $k_{def} = 0.60$; C24
- Ultimate limit state: Certificate of bending stress, certificate of (rolling) shear stress
- Serviceability limit state: Initial deflection ≤l/300; final deflection ≤ l/200; total deflection ≤ l/300
- Verification of vibration: Width of the ceiling panel b = 1.2* l; additional rigidity $EI_{x,y}$ from 5 cm screed slab; modal damping ratio ζ = 0.03; limitation of acceleration a ≤ 0.4 m/s²

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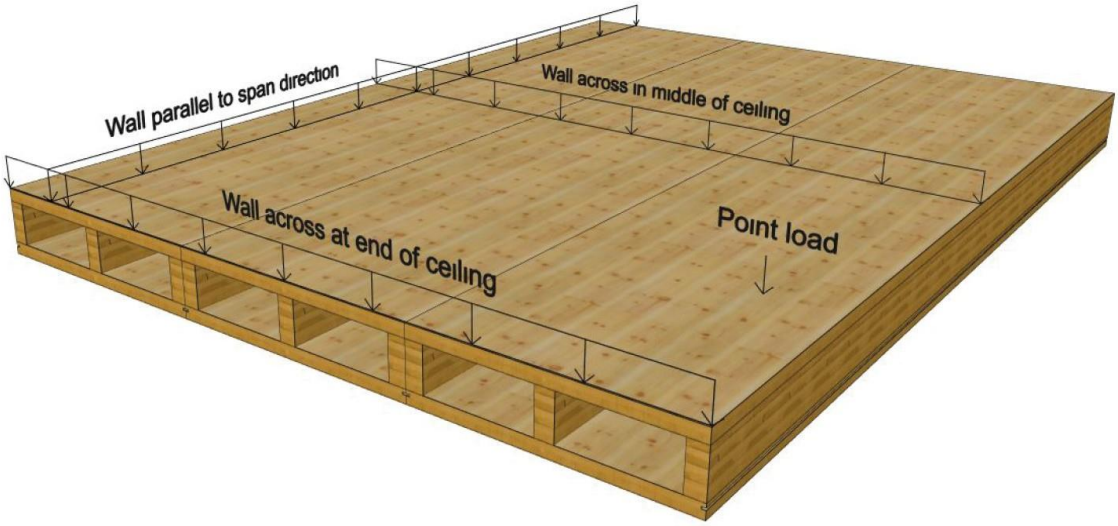
Maximum line loads and point loads on closed CLT BOX elements

The line loads and point loads listed in the following are possible on closed CLT BOX elements The specified values must be multiplied by the relevant modification coefficient k_{mod}. The resulting value is the maximum rated value of the effect from the wall standing on the CLT BOX – CEILING.



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Line loads:

Wall parallel to ceiling span direction

Ceiling width b [mm]	Wall width b [mm]													
	40	60	80	100	120	140	160	180	200	220	240	260	280	300
900	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68	14.07	14.48	14.92	15.38	15.88	16.41
910	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49	13.87	14.27	14.70	15.15	15.63	16.14
920	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68	14.07	14.48	14.92	15.38	15.88
930	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49	13.87	14.27	14.70	15.15	15.63
940	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68	14.07	14.48	14.92	15.38
950	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49	13.87	14.27	14.70	15.15
960	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68	14.07	14.48	14.92
970	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49	13.87	14.27	14.70
980	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68	14.07	14.48
990	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49	13.87	14.27
1000	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68	14.07
1010	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49	13.87
1020	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31	13.68
1030	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13	13.49
1040	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96	13.31
1050	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79	13.13
1060	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62	12.96
1070	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46	12.79
1080	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31	12.62
1090	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16	12.46
1100	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01	12.31
1110	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86	12.16
1120	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72	12.01
1130	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58	11.86
1140	8.95	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45	11.72
1150	8.87	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32	11.58
1160	8.79	8.95	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19	11.45
1170	8.71	8.87	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06	11.32
1180	8.64	8.79	8.95	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94	11.19
1190	8.56	8.71	8.87	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82	11.06
1200	8.49	8.64	8.79	8.95	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70	10.94
1210	8.42	8.56	8.71	8.87	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59	10.82
1220	8.34	8.49	8.64	8.79	8.95	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47	10.70
1230	8.27	8.42	8.56	8.71	8.87	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36	10.59
1240	8.21	8.34	8.49	8.64	8.79	8.95	9.12	9.29	9.47	9.65	9.85	10.05	10.26	10.47
1250	8.14	8.27	8.42	8.56	8.71	8.87	9.03	9.20	9.38	9.56	9.75	9.95	10.15	10.36

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Holzwerk Gebr. Schneider GmbH
Kappel 28
88436 Eberhardzell
Germany
Tel +49 (0)7355 9320-0
Fax +49 (0)7355 9320-300

E-Mail: info@schneider-holz.com
Internet: www.schneider-holz.com

Wall across ceiling span direction - on end of ceiling

Ceiling width b [mm]	Wall width b [mm]													
	40	60	80	100	120	140	160	180	200	220	240	260	280	300
900	3.89	5.83	7.78	9.72	11.67	13.61	15.56	17.50	19.45	21.39	23.34	25.28	27.23	29.17
910	3.80	5.71	7.61	9.51	11.41	13.32	15.22	17.12	19.02	20.93	22.83	24.73	26.63	28.54
920	3.72	5.58	7.45	9.31	11.17	13.03	14.89	16.75	18.61	20.47	22.34	24.20	26.06	27.92
930	3.64	5.46	7.29	9.11	10.93	12.75	14.57	16.39	18.21	20.04	21.86	23.68	25.50	27.32
940	3.57	5.35	7.13	8.91	10.70	12.48	14.26	16.05	17.83	19.61	21.39	23.18	24.96	26.74
950	3.49	5.24	6.98	8.73	10.47	12.22	13.96	15.71	17.46	19.20	20.95	22.69	24.44	26.18
960	3.42	5.13	6.84	8.55	10.26	11.97	13.68	15.38	17.09	18.80	20.51	22.22	23.93	25.64
970	3.35	5.02	6.70	8.37	10.05	11.72	13.39	15.07	16.74	18.42	20.09	21.77	23.44	25.12
980	3.28	4.92	6.56	8.20	9.84	11.48	13.12	14.76	16.40	18.04	19.68	21.32	22.96	24.61
990	3.21	4.82	6.43	8.04	9.64	11.25	12.86	14.47	16.07	17.68	19.29	20.90	22.50	24.11
1000	3.15	4.73	6.30	7.88	9.45	11.03	12.60	14.18	15.75	17.33	18.90	20.48	22.06	23.63
1010	3.09	4.63	6.18	7.72	9.27	10.81	12.35	13.90	15.44	16.99	18.53	20.08	21.62	23.17
1020	3.03	4.54	6.06	7.57	9.09	10.60	12.11	13.63	15.14	16.66	18.17	19.68	21.20	22.71
1030	2.97	4.45	5.94	7.42	8.91	10.39	11.88	13.36	14.85	16.33	17.82	19.30	20.79	22.27
1040	2.91	4.37	5.83	7.28	8.74	10.20	11.65	13.11	14.57	16.02	17.48	18.93	20.39	21.85
1050	2.86	4.29	5.72	7.14	8.57	10.00	11.43	12.86	14.29	15.72	17.15	18.58	20.00	21.43
1060	2.80	4.21	5.61	7.01	8.41	9.81	11.22	12.62	14.02	15.42	16.83	18.23	19.63	21.03
1070	2.75	4.13	5.50	6.88	8.26	9.63	11.01	12.38	13.76	15.14	16.51	17.89	19.26	20.64
1080	2.70	4.05	5.40	6.75	8.10	9.45	10.81	12.16	13.51	14.86	16.21	17.56	18.91	20.26
1090	2.65	3.98	5.30	6.63	7.96	9.28	10.61	11.93	13.26	14.59	15.91	17.24	18.56	19.89
1100	2.60	3.91	5.21	6.51	7.81	9.11	10.42	11.72	13.02	14.32	15.62	16.93	18.23	19.53
1110	2.56	3.84	5.11	6.39	7.67	8.95	10.23	11.51	12.79	14.06	15.34	16.62	17.90	19.18
1120	2.51	3.77	5.02	6.28	7.54	8.79	10.05	11.30	12.56	13.81	15.07	16.33	17.58	18.84
1130	2.47	3.70	4.94	6.17	7.40	8.64	9.87	11.10	12.34	13.57	14.81	16.04	17.27	18.51
1140	2.42	3.64	4.85	6.06	7.27	8.49	9.70	10.91	12.12	13.33	14.55	15.76	16.97	18.18
1150	2.38	3.57	4.76	5.96	7.15	8.34	9.53	10.72	11.91	13.10	14.29	15.49	16.68	17.87
1160	2.34	3.51	4.68	5.85	7.02	8.20	9.37	10.54	11.71	12.88	14.05	15.22	16.39	17.56
1170	2.30	3.45	4.60	5.75	6.91	8.06	9.21	10.36	11.51	12.66	13.81	14.96	16.11	17.26
1180	2.26	3.39	4.53	5.66	6.79	7.92	9.05	10.18	11.31	12.45	13.58	14.71	15.84	16.97
1190	2.22	3.34	4.45	5.56	6.67	7.79	8.90	10.01	11.12	12.24	13.35	14.46	15.57	16.69
1200	2.19	3.28	4.38	5.47	6.56	7.66	8.75	9.85	10.94	12.03	13.13	14.22	15.32	16.41
1210	2.15	3.23	4.30	5.38	6.46	7.53	8.61	9.68	10.76	11.84	12.91	13.99	15.06	16.14
1220	2.12	3.18	4.23	5.29	6.35	7.41	8.47	9.53	10.58	11.64	12.70	13.76	14.82	15.88
1230	2.08	3.12	4.17	5.21	6.25	7.29	8.33	9.37	10.41	11.45	12.50	13.54	14.58	15.62
1240	2.05	3.07	4.10	5.12	6.15	7.17	8.20	9.22	10.25	11.27	12.29	13.32	14.34	15.37
1250	2.02	3.02	4.03	5.04	6.05	7.06	8.07	9.07	10.08	11.09	12.10	13.11	14.12	15.12

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Holzwerk Gebr. Schneider GmbH
Kappel 28
88436 Eberhardzell
Germany
Tel +49 (0)7355 9320-0
Fax +49 (0)7355 9320-300

E-Mail: info@schneider-holz.com
Internet: www.schneider-holz.com

Wall across ceiling span direction - on middle of ceiling

Ceiling width b [mm]	Wall width b [mm]													
	40	60	80	100	120	140	160	180	200	220	240	260	280	300
900	5.83	8.75	11.67	14.59	17.50	20.42	23.34	26.26	29.17	32.09	35.01	37.93	40.84	43.76
910	5.71	8.56	11.41	14.27	17.12	19.98	22.83	25.68	28.54	31.39	34.24	37.10	39.95	42.80
920	5.58	8.38	11.17	13.96	16.75	19.54	22.34	25.13	27.92	30.71	33.50	36.29	39.09	41.88
930	5.46	8.20	10.93	13.66	16.39	19.13	21.86	24.59	27.32	30.05	32.79	35.52	38.25	40.98
940	5.35	8.02	10.70	13.37	16.05	18.72	21.39	24.07	26.74	29.42	32.09	34.77	37.44	40.12
950	5.24	7.86	10.47	13.09	15.71	18.33	20.95	23.57	26.18	28.80	31.42	34.04	36.66	39.28
960	5.13	7.69	10.26	12.82	15.38	17.95	20.51	23.08	25.64	28.21	30.77	33.33	35.90	38.46
970	5.02	7.53	10.05	12.56	15.07	17.58	20.09	22.60	25.12	27.63	30.14	32.65	35.16	37.67
980	4.92	7.38	9.84	12.30	14.76	17.22	19.68	22.14	24.61	27.07	29.53	31.99	34.45	36.91
990	4.82	7.23	9.64	12.06	14.47	16.88	19.29	21.70	24.11	26.52	28.93	31.34	33.75	36.17
1000	4.73	7.09	9.45	11.82	14.18	16.54	18.90	21.27	23.63	25.99	28.36	30.72	33.08	35.45
1010	4.63	6.95	9.27	11.58	13.90	16.22	18.53	20.85	23.17	25.48	27.80	30.11	32.43	34.75
1020	4.54	6.81	9.09	11.36	13.63	15.90	18.17	20.44	22.71	24.98	27.26	29.53	31.80	34.07
1030	4.45	6.68	8.91	11.14	13.36	15.59	17.82	20.05	22.27	24.50	26.73	28.96	31.18	33.41
1040	4.37	6.55	8.74	10.92	13.11	15.29	17.48	19.66	21.85	24.03	26.22	28.40	30.59	32.77
1050	4.29	6.43	8.57	10.72	12.86	15.00	17.15	19.29	21.43	23.58	25.72	27.86	30.01	32.15
1060	4.21	6.31	8.41	10.52	12.62	14.72	16.83	18.93	21.03	23.13	25.24	27.34	29.44	31.55
1070	4.13	6.19	8.26	10.32	12.38	14.45	16.51	18.58	20.64	22.70	24.77	26.83	28.90	30.96
1080	4.05	6.08	8.10	10.13	12.16	14.18	16.21	18.23	20.26	22.29	24.31	26.34	28.36	30.39
1090	3.98	5.97	7.96	9.94	11.93	13.92	15.91	17.90	19.89	21.88	23.87	25.86	27.85	29.83
1100	3.91	5.86	7.81	9.76	11.72	13.67	15.62	17.58	19.53	21.48	23.44	25.39	27.34	29.29
1110	3.84	5.75	7.67	9.59	11.51	13.43	15.34	17.26	19.18	21.10	23.02	24.93	26.85	28.77
1120	3.77	5.65	7.54	9.42	11.30	13.19	15.07	16.95	18.84	20.72	22.61	24.49	26.37	28.26
1130	3.70	5.55	7.40	9.25	11.10	12.95	14.81	16.66	18.51	20.36	22.21	24.06	25.91	27.76
1140	3.64	5.45	7.27	9.09	10.91	12.73	14.55	16.36	18.18	20.00	21.82	23.64	25.46	27.27
1150	3.57	5.36	7.15	8.93	10.72	12.51	14.29	16.08	17.87	19.66	21.44	23.23	25.02	26.80
1160	3.51	5.27	7.02	8.78	10.54	12.29	14.05	15.81	17.56	19.32	21.07	22.83	24.59	26.34
1170	3.45	5.18	6.91	8.63	10.36	12.08	13.81	15.54	17.26	18.99	20.72	22.44	24.17	25.89
1180	3.39	5.09	6.79	8.49	10.18	11.88	13.58	15.27	16.97	18.67	20.37	22.06	23.76	25.46
1190	3.34	5.01	6.67	8.34	10.01	11.68	13.35	15.02	16.69	18.36	20.02	21.69	23.36	25.03
1200	3.28	4.92	6.56	8.21	9.85	11.49	13.13	14.77	16.41	18.05	19.69	21.33	22.97	24.62
1210	3.23	4.84	6.46	8.07	9.68	11.30	12.91	14.53	16.14	17.75	19.37	20.98	22.60	24.21
1220	3.18	4.76	6.35	7.94	9.53	11.11	12.70	14.29	15.88	17.46	19.05	20.64	22.23	23.81
1230	3.12	4.69	6.25	7.81	9.37	10.93	12.50	14.06	15.62	17.18	18.74	20.31	21.87	23.43
1240	3.07	4.61	6.15	7.68	9.22	10.76	12.29	13.83	15.37	16.91	18.44	19.98	21.52	23.05
1250	3.02	4.54	6.05	7.56	9.07	10.59	12.10	13.61	15.12	16.64	18.15	19.66	21.17	22.69

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Holzwerk Gebr. Schneider GmbH
Kappel 28
88436 Eberhardzell
Germany
Tel +49 (0)7355 9320-0
Fax +49 (0)7355 9320-300

E-Mail: info@schneider-holz.com
Internet: www.schneider-holz.com

Point loads:

Contact surface length in ceiling span direction

Ceiling width b [mm]	Max. char. point load max Qk		
	ℓ = 50 mm	ℓ = 100 mm	ℓ = 150 mm
900	1.35	2.69	4.04
910	1.33	2.67	4.00
920	1.32	2.64	3.95
930	1.30	2.61	3.91
940	1.29	2.58	3.87
950	1.28	2.55	3.83
960	1.26	2.53	3.79
970	1.25	2.50	3.75
980	1.24	2.47	3.71
990	1.22	2.45	3.67
1000	1.21	2.43	3.64
1010	1.20	2.40	3.60
1020	1.19	2.38	3.57
1030	1.18	2.35	3.53
1040	1.17	2.33	3.50
1050	1.15	2.31	3.46
1060	1.14	2.29	3.43
1070	1.13	2.27	3.40
1080	1.12	2.25	3.37
1090	1.11	2.22	3.34
1100	1.10	2.20	3.31
1110	1.09	2.18	3.28
1120	1.08	2.17	3.25
1130	1.07	2.15	3.22
1140	1.06	2.13	3.19
1150	1.05	2.11	3.16
1160	1.05	2.09	3.14
1170	1.04	2.07	3.11
1180	1.03	2.06	3.08
1190	1.02	2.04	3.06
1200	1.01	2.02	3.03
1210	1.00	2.00	3.01
1220	0.99	1.99	2.98
1230	0.99	1.97	2.96
1240	0.98	1.96	2.93
1250	0.97	1.94	2.91

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