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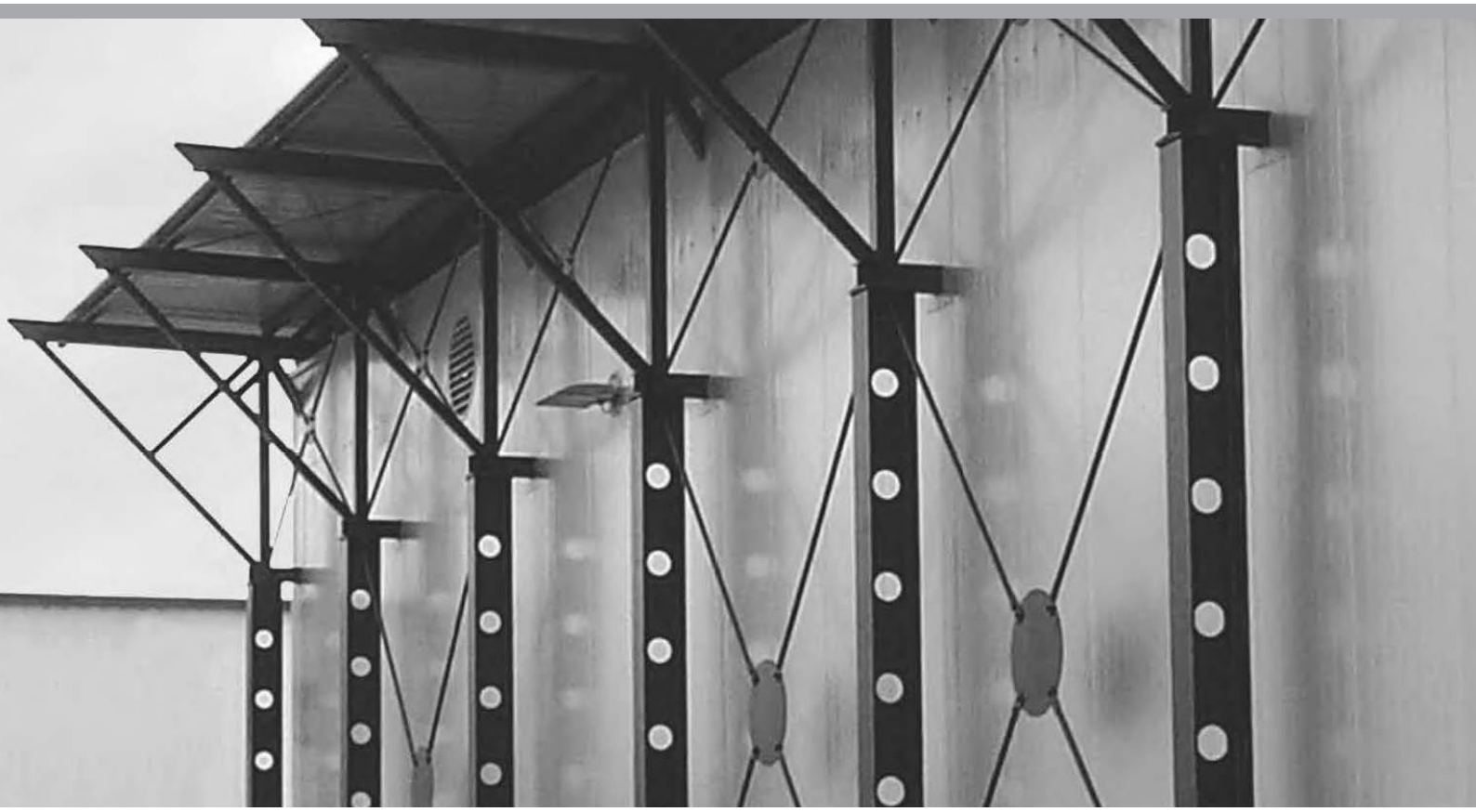

EMS-ISOLIER® COLD STORE PANEL PU

LOAD TABLES

INFO 4.7.1

ems isolierpaneel LL 40

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40											
$W_{e,10}$ [2]	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.57	0.46											
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40											
$W_{e,10}$	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.57	0.46											
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40											
$W_{e,10}$	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.57	0.46											

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
$W_{e,10}$	2.78	2.39	2.09	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
$W_{e,10}$	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	
b_B ≤ 80 [mm]	71	71	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
$W_{e,10}$	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	
b_B ≤ 125 [mm]	71	71	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	0.19
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	0.19
b_B ≤ 80 [mm]	71	71	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.30	2.83	2.36	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	0.19
b_B ≤ 125 [mm]	71	71	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.86	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	0.19
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.30	2.83	2.36	1.87	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	0.19
b_B ≤ 80 [mm]	71	71	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.30	2.83	2.36	1.87	1.51	1.25	1.05	0.89	0.77	0.67	0.59	0.52	0.47	0.42	0.38	0.34	0.31	0.29	0.26	0.24	0.22	0.21	0.19
b_B ≤ 125 [mm]	71	71	68	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 40

wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support** screws with washer d ≥ 16 mm[3] — **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.30	2.83	2.47	2.20	1.80	1.45	1.13	0.82	0.58	0.40	0.26	0.16											
n_A ≤ 6		5	5	5	5	4	4	3	3	3	3	3	3											
$W_{e,1}$		4.95	4.25	3.71	3.30	2.70	2.18	1.70	1.23	0.87	0.60	0.39	0.23											

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	2.68	2.28	1.98	1.44	1.29	1.05	0.84	0.78	0.71	0.60	0.52	0.45	0.42	0.38	0.34	0.31	0.28	0.25	0.23	0.21	0.20	0.18	
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
$W_{e,1}$		2.68	2.28	1.98	1.75	1.29	1.17	1.08	0.78	0.73	0.68	0.64	0.60	0.57	0.40	0.38	0.36	0.35	0.33	0.32	0.31	0.29	0.27	
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	
$W_{e,10}$	Colour group II	2.59	1.79	1.56	1.07	0.97	0.84	0.64	0.54	0.50	0.41	0.34	0.29	0.25	0.22	0.19								
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
$W_{e,1}$		2.59	2.20	1.56	1.39	0.97	0.88	0.81	0.75	0.50	0.47	0.45	0.42	0.38	0.33	0.29								
n_B ≤ 6		6	6	5	5	4	4	4	4	3	3	3	3	3	3	3								
$W_{e,10}$	Colour group III	1.96	1.26	0.81	0.61	0.31	0.15																	
n_A ≤ 3		3	3	3	3	3	3																	
$W_{e,1}$		1.96	1.26	1.11	0.68	0.47	0.22																	
n_B ≤ 6		5	4	4	3	3	3																	

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.01	2.58	2.14	1.66	1.50	1.26	1.04	0.92	0.86	0.77	0.67	0.59	0.53	0.47	0.45	0.41	0.37	0.34	0.31	0.29	0.27	0.25	0.23
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.01	2.58	2.26	2.01	1.50	1.37	1.25	0.92	0.86	0.80	0.75	0.71	0.67	0.64	0.45	0.43	0.41	0.39	0.38	0.36	0.35	0.34	0.32
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group II	2.95	2.09	1.83	1.43	1.17	1.06	0.98	0.84	0.71	0.61	0.55	0.52	0.47	0.42	0.38	0.34	0.31	0.28	0.26	0.24	0.22	0.20	0.19
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.95	2.09	1.83	1.64	1.48	1.06	0.98	0.91	0.84	0.79	0.74	0.52	0.49	0.47	0.44	0.42	0.40	0.39	0.37	0.35	0.33	0.30	0.28
n_B ≤ 6		6	5	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group III	1.83	1.58	1.16	0.90	0.77	0.58	0.45	0.36	0.29	0.24	0.21	0.18											
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3											
$W_{e,1}$		2.35	1.58	1.40	1.25	0.82	0.75	0.67	0.54	0.44	0.36	0.31	0.26											
n_B ≤ 6		5	4	4	4	3	3	3	3	3	3	3	3											

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.02	2.57	2.13	1.64	1.47	1.23	1.01	0.89	0.83	0.73	0.64	0.56	0.49	0.45	0.43	0.38	0.35	0.32	0.29	0.27	0.25	0.23	0.21
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.02	2.57	2.24	1.99	1.47	1.34	1.22	0.89	0.83	0.77	0.73	0.68	0.65	0.61	0.43	0.41	0.39	0.38	0.36	0.35	0.33	0.32	0.31
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group II	2.62	2.09	1.82	1.40	1.14	1.04	0.95	0.77	0.64	0.56	0.53	0.48	0.42	0.37	0.33	0.29	0.27	0.24	0.22	0.20	0.18		
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
$W_{e,1}$		2.97	2.09	1.82	1.61	1.45	1.04	0.95	0.88	0.82	0.76	0.53	0.50	0.47	0.45	0.42	0.40	0.39	0.36	0.33	0.30	0.28		
n_B ≤ 6		6	5	5	5	5	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3		
$W_{e,10}$	Colour group III	1.84	1.58	1.14	0.88	0.70	0.51	0.38	0.29	0.23	0.18													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		1.84	1.58	1.38	1.23	0.80	0.73	0.57	0.43	0.34	0.27													
n_B ≤ 6		4	4	4	4	3	3	3	3	3	3													

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 60

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40				
$W_{e,10}$ [2]	3.71	3.18	2.78	2.48	2.22	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39				
b_A ≤ 60 [mm]	49	49	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40				
$W_{e,10}$	4.58	3.92	3.43	2.79	2.26	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39				
b_A ≤ 80 [mm]	49	49	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40				
$W_{e,10}$	4.58	3.92	3.43	2.79	2.26	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39				

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B ≤ 80 [mm]	80	80	80	80	80	74	68	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	49	49	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.58	3.93	3.43	2.79	2.26	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B ≤ 125 [mm]	99	99	99	90	81	74	68	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.79	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B ≤ 80 [mm]	80	80	80	80	80	74	68	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	49	49	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.58	3.92	3.43	2.79	2.26	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B ≤ 125 [mm]	99	99	99	90	81	74	68	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B ≤ 80 [mm]	80	80	80	80	80	74	68	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	49	49	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.58	3.92	3.44	2.79	2.26	1.87	1.57	1.34	1.15	1.01	0.88	0.78	0.70	0.63	0.57	0.51	0.47	0.43	0.39	0.36	0.33	0.31	0.29
b_B ≤ 125 [mm]	99	99	99	90	81	74	68	63	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 60

wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$ [2]	Colour group I-III [4]	4.57	3.93	3.43	3.05	2.69	2.23	1.87	1.59	1.37	1.20	1.05	0.93	0.83	0.68	0.54	0.42	0.33	0.25	0.19				
n_A ≤ 6		6	6	6	6	6	6	5	5	5	4	4	4	4	3	3	3	3	3	3				
$W_{e,1}$		6.82	5.85	5.11	4.55	4.04	3.34	2.80	2.39	2.06	1.80	1.58	1.40	1.25	1.03	0.81	0.64	0.49	0.38	0.28				

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	2.69	2.27	1.96	1.73	1.55	1.35	1.05	0.97	0.91	0.77	0.64	0.59	0.55	0.53	0.49	0.44	0.40	0.36	0.33	0.30	0.29	0.27	0.25
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.69	2.27	1.96	1.73	1.55	1.41	1.29	0.97	0.91	0.85	0.79	0.75	0.55	0.53	0.50	0.48	0.46	0.44	0.42	0.41	0.39	0.28	0.27
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3
$W_{e,10}$	Colour group II	2.57	2.17	1.88	1.39	1.21	1.05	0.77	0.72	0.67	0.58	0.47	0.40	0.38	0.36	0.31	0.27	0.24	0.21	0.19				
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
$W_{e,1}$		2.57	2.17	1.88	1.67	1.21	1.10	1.01	0.72	0.67	0.63	0.59	0.56	0.38	0.36	0.35	0.33	0.32	0.31	0.28				
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	3	3	3	3	3	3	3				
$W_{e,10}$	Colour group III	2.40	1.60	1.29	0.92	0.69	0.50	0.33	0.17															
n_A ≤ 3		3	3	3	3	3	3	3	3															
$W_{e,1}$		2.40	2.03	1.39	0.92	0.83	0.50	0.47	0.26															
n_B ≤ 6		6	6	5	4	4	3	3	3															

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	2.98	2.55	2.23	1.99	1.79	1.61	1.32	1.14	1.07	0.98	0.86	0.75	0.66	0.63	0.60	0.57	0.52	0.47	0.43	0.40	0.37	0.34	0.32
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.98	2.55	2.23	1.99	1.79	1.63	1.50	1.38	1.07	1.00	0.94	0.88	0.83	0.63	0.60	0.57	0.54	0.52	0.50	0.48	0.46	0.45	0.43
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group II	2.91	2.49	2.19	1.60	1.45	1.32	1.10	0.89	0.83	0.77	0.73	0.69	0.61	0.54	0.48	0.43	0.40	0.38	0.36	0.35	0.32	0.29	0.27
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.91	2.49	2.19	1.95	1.45	1.32	1.22	1.13	0.83	0.77	0.73	0.69	0.65	0.62	0.59	0.56	0.54	0.52	0.36	0.35	0.34	0.33	0.32
n_B ≤ 6		6	6	6	6	5	5	5	5	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3
$W_{e,10}$	Colour group III	2.27	1.96	1.33	1.20	1.00	0.71	0.66	0.59	0.47	0.38	0.31	0.27	0.23	0.20	0.17								
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
$W_{e,1}$		2.80	1.96	1.73	1.20	1.09	1.00	0.66	0.62	0.58	0.54	0.47	0.40	0.34	0.29	0.25								
n_B ≤ 6		6	5	5	4	4	4	3	3	3	3	3	3	3	3	3								

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.02	2.57	2.24	1.98	1.78	1.59	1.29	1.12	1.04	0.95	0.82	0.72	0.64	0.61	0.58	0.54	0.49	0.44	0.41	0.37	0.34	0.32	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.02	2.57	2.24	1.98	1.78	1.61	1.48	1.36	1.04	0.97	0.91	0.86	0.81	0.61	0.58	0.55	0.52	0.50	0.48	0.46	0.44	0.43	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group II	2.95	2.52	2.05	1.60	1.43	1.30	1.06	0.86	0.80	0.75	0.70	0.63	0.55	0.48	0.43	0.40	0.38	0.36	0.33	0.30	0.28	0.25	0.23
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.95	2.52	2.20	1.95	1.43	1.30	1.19	1.10	0.80	0.75	0.70	0.66	0.63	0.59	0.57	0.54	0.38	0.36	0.35	0.33	0.32	0.31	0.30
n_B ≤ 6		6	6	6	6	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.07	1.53	1.34	1.19	0.98	0.70	0.64	0.53	0.41	0.32	0.25	0.20	0.16										
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3										
$W_{e,1}$		2.32	1.99	1.34	1.19	1.07	0.98	0.64	0.59	0.55	0.47	0.38	0.30	0.25										
n_B ≤ 6		5	5	4	4	4	4	3	3	3	3	3	3	3										

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 80

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	3.71	3.18	2.78	2.48	2.22	2.03	1.85	1.71	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_A ≤ 60 [mm]	60	60	60	60	54	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.57	4.77	4.17	3.70	3.00	2.48	2.08	1.77	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_A ≤ 80 [mm]	66	66	66	60	54	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	6.14	5.26	4.60	3.70	3.00	2.48	2.08	1.77	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.48	2.23	2.02	1.86	1.71	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	77	72	67	63	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	62	62	62	60	54	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.80	4.97	4.35	3.70	3.00	2.48	2.08	1.78	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B ≤ 125 [mm]	125	125	125	120	108	98	90	83	77	72	67	63	60	60	60	60	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.48	2.23	2.02	1.86	1.71	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	77	72	67	63	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	62	63	62	60	54	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.80	4.97	4.35	3.71	3.00	2.48	2.08	1.78	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B ≤ 125 [mm]	125	125	125	120	108	98	90	83	77	72	67	63	60	60	60	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	2.02	1.86	1.71	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	77	72	67	63	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	63	63	63	60	54	49	45	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.80	4.97	4.35	3.70	3.00	2.48	2.08	1.77	1.53	1.33	1.17	1.04	0.93	0.83	0.75	0.68	0.62	0.57	0.52	0.48	0.44	0.41	0.38
b_B ≤ 125 [mm]	125	125	125	120	108	98	90	83	77	72	67	63	60	60	60	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$ [2]	Colour group I-III [4]	6.13	5.25	4.60	4.09	3.57	2.95	2.48	2.11	1.82	1.59	1.39	1.24	1.10	0.99	0.89	0.81	0.74	0.67	0.62	0.57	0.48	0.40	0.33
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	5	5	5	5	4	4	4	4	4	4	3	3	3
$W_{e,1}$		6.82	5.85	5.11	4.55	4.09	3.72	3.41	3.15	2.73	2.38	2.09	1.85	1.65	1.49	1.34	1.22	1.11	1.01	0.93	0.86	0.71	0.60	0.50

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	2.71	2.28	1.97	1.73	1.55	1.40	1.28	1.18	1.01	0.83	0.78	0.74	0.70	0.60	0.52	0.47	0.45	0.43	0.41	0.40	0.38	0.34	0.32
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.71	2.28	1.97	1.73	1.55	1.40	1.28	1.18	1.09	1.02	0.78	0.74	0.70	0.66	0.63	0.60	0.45	0.43	0.41	0.40	0.38	0.37	0.36
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group II	2.59	2.17	1.87	1.65	1.48	1.15	0.99	0.91	0.75	0.61	0.57	0.54	0.51	0.44	0.37	0.32	0.30	0.29	0.28	0.25	0.22	0.20	0.18
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.59	2.17	1.87	1.65	1.48	1.34	0.99	0.91	0.85	0.79	0.57	0.54	0.51	0.49	0.47	0.45	0.43	0.29	0.28	0.27	0.26	0.25	0.25
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	4	4	4	4	4	4	4	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.39	2.01	1.73	1.20	0.81	0.72	0.60	0.37	0.34	0.20													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		2.39	2.01	1.73	1.20	1.08	0.72	0.66	0.56	0.37	0.29													
n_B ≤ 6		6	6	6	5	5	4	4	4	3	3													

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	2.96	2.53	2.21	1.97	1.77	1.62	1.48	1.37	1.28	1.09	0.93	0.87	0.83	0.78	0.72	0.65	0.59	0.53	0.50	0.48	0.46	0.44	0.42
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.96	2.53	2.21	1.97	1.77	1.62	1.48	1.37	1.28	1.19	1.12	0.87	0.83	0.78	0.75	0.71	0.68	0.65	0.62	0.48	0.46	0.44	0.43
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4
$W_{e,10}$	Colour group II	2.88	2.46	2.16	1.92	1.74	1.30	1.19	1.11	1.03	0.89	0.75	0.67	0.64	0.61	0.58	0.55	0.53	0.48	0.43	0.40	0.36	0.34	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.88	2.46	2.16	1.92	1.74	1.58	1.19	1.11	1.03	0.97	0.91	0.86	0.64	0.61	0.58	0.55	0.53	0.51	0.49	0.47	0.45	0.44	0.42
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	2.75	2.06	1.68	1.33	1.05	0.96	0.88	0.65	0.55	0.52	0.48	0.39	0.33	0.28	0.24	0.21	0.18						
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
$W_{e,1}$		2.75	2.36	1.68	1.50	1.05	0.96	0.89	0.83	0.78	0.52	0.49	0.47	0.45	0.42	0.36	0.32	0.28						
n_B ≤ 6		6	6	5	5	4	4	4	4	4	3	3	3	3	3	3	3	3						

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.02	2.57	2.24	1.98	1.78	1.61	1.47	1.36	1.26	1.05	0.91	0.85	0.80	0.76	0.69	0.62	0.56	0.51	0.48	0.46	0.44	0.43	0.40
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.02	2.57	2.24	1.98	1.78	1.61	1.47	1.36	1.26	1.17	1.10	0.85	0.80	0.76	0.72	0.69	0.66	0.63	0.60	0.46	0.44	0.43	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4
$W_{e,10}$	Colour group II	2.94	2.51	2.19	1.94	1.67	1.29	1.18	1.09	1.01	0.85	0.70	0.65	0.62	0.59	0.56	0.53	0.48	0.43	0.38	0.35	0.32	0.31	0.29
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.94	2.51	2.19	1.94	1.74	1.58	1.18	1.09	1.01	0.95	0.89	0.84	0.62	0.59	0.56	0.53	0.51	0.49	0.47	0.45	0.43	0.42	0.40
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	2.30	1.96	1.31	1.17	1.05	0.96	0.88	0.63	0.54	0.50	0.42	0.34	0.27	0.22	0.18								
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
$W_{e,1}$		2.30	1.96	1.71	1.17	1.05	0.96	0.88	0.81	0.76	0.50	0.47	0.45	0.41	0.33	0.28								
n_B ≤ 6		5	5	5	4	4	4	4	4	4	3	3	3	3	3	3								

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $Fz,k(b_A)$ = 2.0 kN/screw $Fz,k(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_A ≤ 60 [mm]	60	60	60	60	56	52	48	45	42	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.17	3.71	3.34	3.03	2.60	2.21	1.91	1.66	1.46	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_A ≤ 80 [mm]	75	75	67	61	56	52	48	45	42	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.24	4.61	3.74	3.09	2.60	2.21	1.91	1.66	1.46	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	79	75	71	67	64	61	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	63	62	63	61	56	52	48	45	42	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.09	2.59	2.21	1.91	1.66	1.46	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B ≤ 125 [mm]	125	125	125	122	112	103	96	89	84	79	75	71	67	64	61	60	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.47	2.23	2.03	1.85	1.71	1.59	1.48	1.39	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	79	75	71	67	64	61	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	63	62	62	61	56	52	48	45	42	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.09	2.59	2.21	1.90	1.66	1.46	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B ≤ 125 [mm]	125	125	125	122	112	103	96	89	84	79	75	71	67	64	61	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.47	2.23	2.02	1.85	1.71	1.59	1.48	1.39	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	79	75	71	67	64	61	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	62	63	62	61	56	52	48	45	42	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.87	3.48	3.09	2.59	2.21	1.91	1.66	1.46	1.29	1.15	1.04	0.93	0.85	0.77	0.71	0.65	0.60	0.55	0.51	0.48	0.44	0.42
b_B ≤ 125 [mm]	125	125	125	122	112	103	96	89	84	79	75	71	67	64	61	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$ [2]	Colour group I-III [4]	5.11	4.55	4.09	3.67	3.08	2.63	2.26	1.97	1.73	1.54	1.37	1.23	1.11	1.01	0.92	0.84	0.77	0.71	0.66	0.61	0.57	0.53	0.49
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4
$W_{e,1}$		5.11	4.55	4.09	3.72	3.41	3.15	2.92	2.73	2.56	2.30	2.05	1.84	1.66	1.51	1.37	1.26	1.15	1.06	0.98	0.91	0.85	0.79	0.74

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	1.97	1.73	1.54	1.39	1.27	1.17	1.08	1.01	0.94	0.77	0.69	0.65	0.62	0.59	0.54	0.48	0.43	0.39	0.38	0.36	0.35	0.34	0.33
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.97	1.73	1.54	1.39	1.27	1.17	1.08	1.01	0.95	0.89	0.84	0.65	0.62	0.59	0.57	0.54	0.52	0.50	0.48	0.36	0.35	0.34	0.33
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4
$W_{e,10}$	Colour group II	1.87	1.64	1.46	1.32	1.21	0.90	0.83	0.78	0.69	0.53	0.50	0.47	0.45	0.43	0.38	0.33	0.29	0.26	0.25	0.24	0.24	0.21	0.20
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.87	1.64	1.46	1.32	1.21	1.11	0.83	0.78	0.73	0.69	0.65	0.47	0.45	0.43	0.42	0.40	0.38	0.37	0.36	0.24	0.24	0.23	0.22
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3
$W_{e,10}$	Colour group III	1.71	1.50	1.04	0.95	0.63	0.58	0.45	0.27	0.27	0.17													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		1.71	1.50	1.04	0.95	0.87	0.58	0.55	0.40	0.27	0.26													
n_B ≤ 6		6	6	5	5	5	4	4	4	3	3													

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.20	1.96	1.76	1.60	1.47	1.36	1.27	1.18	1.11	1.03	0.89	0.79	0.74	0.71	0.67	0.65	0.61	0.56	0.51	0.47	0.44	0.41	0.40
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.20	1.96	1.76	1.60	1.47	1.36	1.27	1.18	1.11	1.05	0.99	0.94	0.90	0.71	0.67	0.65	0.62	0.60	0.57	0.55	0.53	0.52	0.50
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	2.14	1.90	1.72	1.56	1.36	1.09	1.02	0.95	0.90	0.84	0.72	0.62	0.57	0.54	0.52	0.50	0.48	0.46	0.45	0.41	0.38	0.35	0.33
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.14	1.90	1.72	1.56	1.44	1.33	1.02	0.95	0.90	0.85	0.80	0.76	0.73	0.54	0.52	0.50	0.48	0.46	0.45	0.43	0.42	0.40	0.39
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.85	1.47	1.33	0.93	0.86	0.80	0.73	0.55	0.47	0.45	0.43	0.37	0.31	0.27	0.23	0.20	0.18						
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
$W_{e,1}$		2.04	1.47	1.33	1.22	0.86	0.80	0.75	0.71	0.67	0.45	0.43	0.41	0.39	0.38	0.35	0.30	0.27						
n_B ≤ 6		6	5	5	5	4	4	4	4	4	3	3	3	3	3	3	3	3						

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.24	1.98	1.78	1.61	1.47	1.36	1.26	1.17	1.10	1.00	0.86	0.76	0.72	0.69	0.65	0.63	0.58	0.53	0.49	0.45	0.41	0.39	0.38
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.24	1.98	1.78	1.61	1.47	1.36	1.26	1.17	1.10	1.03	0.97	0.92	0.72	0.69	0.66	0.63	0.60	0.58	0.55	0.53	0.52	0.50	0.38
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	4
$W_{e,10}$	Colour group II	2.18	1.93	1.73	1.57	1.36	1.08	1.01	0.94	0.88	0.80	0.68	0.58	0.55	0.53	0.50	0.48	0.46	0.44	0.40	0.37	0.34	0.31	0.29
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.18	1.93	1.73	1.57	1.44	1.32	1.01	0.94	0.88	0.83	0.78	0.74	0.70	0.53	0.50	0.48	0.46	0.44	0.43	0.41	0.40	0.38	0.37
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.69	1.15	1.03	0.94	0.86	0.80	0.71	0.53	0.46	0.43	0.39	0.32	0.26	0.21	0.18								
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
$W_{e,1}$		1.69	1.50	1.35	0.94	0.86	0.80	0.74	0.69	0.65	0.43	0.41	0.39	0.37	0.32	0.27								
n_B ≤ 6		5	5	5	4	4	4	4	4	4	3	3	3	3	3	3								

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_A ≤ 60 [mm]	60	60	60	60	60	60	59	55	52	49	46	44	41	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.17	3.71	3.34	3.03	2.78	2.57	2.35	2.05	1.80	1.60	1.42	1.28	1.15	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_A ≤ 80 [mm]	80	80	80	75	69	64	59	55	52	49	46	44	41	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.57	4.94	4.45	3.81	3.20	2.73	2.35	2.05	1.80	1.60	1.42	1.28	1.15	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.59	0.55	0.51
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	79	75	72	69	66	64	61	60	60	60
b_A ≤ 80 [mm]	63	63	63	62	63	62	59	55	52	49	46	44	41	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.87	3.48	3.16	2.90	2.68	2.35	2.05	1.80	1.59	1.42	1.28	1.15	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_B ≤ 125 [mm]	125	125	125	125	125	125	118	111	104	97	92	87	83	79	75	72	69	66	64	61	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.59	0.55	0.51
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	79	75	72	69	66	64	61	60	60	60
b_A ≤ 80 [mm]	62	62	63	63	63	63	59	55	52	49	46	44	41	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.90	2.68	2.35	2.05	1.80	1.60	1.42	1.28	1.15	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_B ≤ 125 [mm]	125	125	125	125	125	125	118	110	103	98	92	87	83	79	75	72	69	66	64	61	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.59	0.55	0.51
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.23	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	79	75	72	69	66	64	61	60	60	60
b_A ≤ 80 [mm]	63	62	63	63	63	63	59	55	52	49	46	44	41	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.90	2.68	2.35	2.05	1.80	1.60	1.42	1.28	1.15	1.05	0.95	0.87	0.80	0.74	0.68	0.63	0.59	0.55	0.51
b_B ≤ 125 [mm]	125	125	125	125	125	125	118	110	104	98	92	87	83	79	75	72	69	66	64	61	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support** screws with washer d ≥ 16 mm[3] — **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$ [2]	Colour group I-III [4]	5.11	4.55	4.09	3.72	3.41	3.15	2.80	2.44	2.15	1.90	1.69	1.52	1.37	1.24	1.13	1.04	0.95	0.88	0.81	0.75	0.70	0.65	0.61
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,1}$		5.11	4.55	4.09	3.72	3.41	3.15	2.92	2.73	2.56	2.41	2.27	2.15	2.05	1.87	1.70	1.56	1.43	1.32	1.22	1.13	1.05	0.98	0.91

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	1.99	1.74	1.55	1.39	1.27	1.17	1.08	1.00	0.94	0.89	0.84	0.79	0.71	0.61	0.56	0.54	0.51	0.49	0.48	0.45	0.41	0.37	0.34
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.99	1.74	1.55	1.39	1.27	1.17	1.08	1.00	0.94	0.89	0.84	0.79	0.75	0.72	0.69	0.54	0.51	0.49	0.48	0.46	0.44	0.43	0.42
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.87	1.64	1.46	1.31	1.20	1.10	1.02	0.91	0.71	0.67	0.64	0.61	0.51	0.42	0.40	0.39	0.37	0.36	0.35	0.33	0.29	0.26	0.24
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.88	1.64	1.46	1.31	1.20	1.10	1.02	0.95	0.90	0.67	0.64	0.61	0.58	0.55	0.53	0.39	0.37	0.36	0.35	0.34	0.33	0.32	0.31
n_B ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.71	1.49	1.33	1.20	0.85	0.78	0.52	0.49	0.47	0.36	0.22	0.21	0.21	0.14									
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3									
$W_{e,1}$		1.71	1.49	1.33	1.20	0.85	0.78	0.73	0.49	0.47	0.44	0.33	0.32	0.22	0.21									
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	3	3									

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.19	1.95	1.75	1.59	1.46	1.35	1.26	1.18	1.10	1.04	0.98	0.93	0.89	0.85	0.77	0.69	0.63	0.59	0.57	0.55	0.53	0.51	0.49
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.19	1.95	1.75	1.59	1.46	1.35	1.26	1.18	1.10	1.04	0.98	0.93	0.89	0.85	0.81	0.78	0.75	0.72	0.57	0.55	0.53	0.51	0.50
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5
$W_{e,10}$	Colour group II	2.12	1.88	1.70	1.55	1.42	1.32	1.23	1.07	0.88	0.84	0.79	0.75	0.72	0.68	0.63	0.56	0.50	0.46	0.44	0.42	0.41	0.40	0.39
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.12	1.88	1.70	1.55	1.42	1.32	1.23	1.15	1.08	0.84	0.79	0.75	0.72	0.68	0.66	0.63	0.60	0.58	0.56	0.54	0.41	0.40	0.39
n_B ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4
$W_{e,10}$	Colour group III	2.01	1.79	1.30	1.19	1.10	0.81	0.73	0.69	0.65	0.62	0.55	0.45	0.38	0.37	0.35	0.34	0.32	0.29	0.26	0.23	0.21	0.19	
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
$W_{e,1}$		2.01	1.79	1.62	1.19	1.10	1.02	0.96	0.69	0.65	0.62	0.59	0.56	0.54	0.51	0.49	0.34	0.33	0.32	0.31	0.30	0.29	0.28	
n_B ≤ 6		6	6	6	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.24	1.98	1.77	1.61	1.47	1.35	1.26	1.17	1.09	1.03	0.97	0.92	0.87	0.82	0.73	0.65	0.60	0.57	0.55	0.53	0.51	0.50	0.46
n_A ≤ 3		4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.24	1.98	1.77	1.61	1.47	1.35	1.26	1.17	1.09	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.55	0.53	0.51	0.50	0.48
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5
$W_{e,10}$	Colour group II	2.17	1.92	1.73	1.57	1.43	1.32	1.22	1.06	0.87	0.82	0.78	0.74	0.70	0.67	0.59	0.52	0.46	0.44	0.42	0.41	0.39	0.38	0.37
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.17	1.92	1.73	1.57	1.43	1.32	1.22	1.14	1.07	0.82	0.78	0.74	0.70	0.67	0.64	0.61	0.58	0.56	0.42	0.41	0.39	0.38	0.37
n_B ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	4	4	4	4	4
$W_{e,10}$	Colour group III	1.68	1.49	1.34	1.11	0.86	0.78	0.73	0.68	0.64	0.61	0.52	0.41	0.36	0.35	0.33	0.31	0.27	0.23	0.20	0.18			
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
$W_{e,1}$		1.68	1.49	1.34	1.21	1.11	1.03	0.95	0.68	0.64	0.61	0.57	0.54	0.52	0.50	0.33	0.32	0.31	0.30	0.29	0.27			
n_B ≤ 6		5	5	5	5	5	5	5	4	4	4	4	4	4	4	3	3	3	3	3	3			

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_A ≤ 60 [mm]	60	60	60	59	55	52	50	47	45	43	41	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.92	1.71	1.53	1.39	1.26	1.14	1.05	0.96	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_A ≤ 80 [mm]	71	66	62	59	55	52	50	47	45	43	41	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.83	2.46	2.16	1.92	1.71	1.53	1.39	1.26	1.14	1.05	0.96	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.48	0.45	0.43
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	76	74	71	69	66	64	62	60	60	60	60
b_A ≤ 80 [mm]	63	62	62	58	55	52	50	47	45	43	41	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.16	1.91	1.71	1.53	1.39	1.26	1.14	1.05	0.96	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_B ≤ 125 [mm]	125	125	124	117	111	105	100	95	90	87	83	80	76	74	71	69	66	64	62	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.48	0.45	0.43
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	76	74	71	69	66	64	62	60	60	60	60
b_A ≤ 80 [mm]	63	62	62	59	55	52	50	47	45	43	41	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.16	1.92	1.71	1.53	1.39	1.26	1.14	1.05	0.96	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_B ≤ 125 [mm]	125	125	124	117	110	105	100	95	90	87	83	80	76	74	71	69	66	64	62	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.48	0.45	0.43
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	76	74	71	69	66	64	62	60	60	60	60
b_A ≤ 80 [mm]	63	62	62	59	55	52	50	47	45	43	41	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.16	1.92	1.71	1.53	1.39	1.26	1.14	1.05	0.96	0.89	0.82	0.76	0.71	0.66	0.62	0.58	0.54	0.51	0.48	0.45	0.43
b_B ≤ 125 [mm]	125	125	124	117	110	105	100	95	90	87	83	80	76	74	71	69	66	64	62	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	2.92	2.73	2.56	2.28	2.04	1.82	1.65	1.50	1.36	1.25	1.15	1.06	0.97	0.90	0.84	0.78	0.73	0.69	0.64	0.61	0.57	0.54	0.51
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5
$W_{e,1}$		2.92	2.73	2.56	2.41	2.27	2.15	2.05	1.95	1.86	1.78	1.70	1.58	1.46	1.36	1.26	1.18	1.10	1.03	0.97	0.91	0.86	0.81	0.76

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.08	1.01	0.94	0.88	0.83	0.79	0.75	0.71	0.68	0.65	0.59	0.53	0.47	0.46	0.44	0.43	0.41	0.40	0.39	0.37	0.34	0.32	0.29
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.08	1.01	0.94	0.88	0.83	0.79	0.75	0.71	0.68	0.65	0.63	0.60	0.58	0.56	0.44	0.43	0.41	0.40	0.39	0.38	0.37	0.36	0.35
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.02	0.95	0.89	0.84	0.74	0.60	0.57	0.55	0.52	0.50	0.44	0.38	0.34	0.33	0.32	0.31	0.30	0.29	0.28	0.27	0.25	0.23	0.21
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.02	0.95	0.89	0.84	0.79	0.75	0.57	0.55	0.52	0.50	0.48	0.46	0.45	0.43	0.32	0.31	0.30	0.29	0.28	0.28	0.27	0.26	0.26
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.72	0.67	0.58	0.43	0.41	0.39	0.36	0.25															
n_A ≤ 3		3	3	3	3	3	3	3	3															
$W_{e,1}$		0.72	0.67	0.63	0.60	0.41	0.39	0.37	0.36															
n_B ≤ 6		5	5	5	5	4	4	4	4															

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.25	1.17	1.10	1.04	0.98	0.93	0.88	0.84	0.81	0.77	0.74	0.71	0.67	0.62	0.57	0.53	0.49	0.48	0.46	0.45	0.44	0.43	0.41
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.25	1.17	1.10	1.04	0.98	0.93	0.88	0.84	0.81	0.77	0.74	0.71	0.69	0.66	0.64	0.62	0.60	0.58	0.46	0.45	0.44	0.43	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5
$W_{e,10}$	Colour group II	1.22	1.14	1.07	1.01	0.92	0.78	0.71	0.68	0.65	0.62	0.60	0.58	0.55	0.52	0.48	0.44	0.41	0.38	0.36	0.35	0.34	0.33	0.32
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.22	1.14	1.07	1.01	0.96	0.91	0.87	0.68	0.65	0.62	0.60	0.58	0.55	0.54	0.52	0.50	0.48	0.47	0.46	0.44	0.34	0.33	0.32
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4
$W_{e,10}$	Colour group III	0.94	0.88	0.65	0.60	0.58	0.55	0.53	0.50	0.48	0.41	0.36	0.32	0.30	0.29	0.28	0.27	0.26	0.25	0.23	0.21	0.20	0.18	
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
$W_{e,1}$		0.94	0.88	0.83	0.79	0.58	0.55	0.53	0.50	0.48	0.47	0.45	0.43	0.42	0.40	0.39	0.27	0.26	0.26	0.25	0.24	0.24	0.23	
n_B ≤ 6		5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.65	0.59	0.54	0.50	0.48	0.46	0.45	0.43	0.42	0.41	0.39
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.46	0.45	0.43	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.22	1.14	1.07	1.01	0.91	0.77	0.70	0.66	0.63	0.61	0.58	0.56	0.54	0.48	0.44	0.40	0.37	0.35	0.34	0.33	0.32	0.32	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.22	1.14	1.07	1.01	0.95	0.90	0.85	0.66	0.63	0.61	0.58	0.56	0.54	0.52	0.50	0.48	0.47	0.45	0.44	0.33	0.32	0.32	0.31
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4
$W_{e,10}$	Colour group III	0.95	0.81	0.64	0.60	0.57	0.54	0.51	0.49	0.45	0.38	0.32	0.29	0.28	0.27	0.26	0.25	0.22	0.20	0.18				
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
$W_{e,1}$		0.95	0.89	0.83	0.78	0.57	0.54	0.51	0.49	0.47	0.45	0.43	0.42	0.40	0.27	0.26	0.26	0.25	0.24	0.23				
n_B ≤ 6		5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3				

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 150

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_A ≤ 60 [mm]	60	60	60	60	60	57	54	51	49	47	45	43	42	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.67	1.50	1.36	1.24	1.14	1.04	0.96	0.89	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_A ≤ 80 [mm]	77	72	67	64	60	57	54	51	49	47	45	43	42	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.07	2.67	2.35	2.08	1.86	1.67	1.50	1.36	1.24	1.14	1.04	0.96	0.89	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	77	75	72	70	68	66	64	62	60
b_A ≤ 80 [mm]	63	63	63	62	60	57	54	51	49	47	45	43	42	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.18	2.04	1.86	1.67	1.50	1.36	1.24	1.14	1.04	0.96	0.89	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_B ≤ 125 [mm]	125	125	125	125	120	114	108	103	98	94	90	87	83	80	77	75	72	70	68	66	64	62	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	77	75	72	70	68	66	64	62	60
b_A ≤ 80 [mm]	63	63	62	62	60	57	54	51	49	47	45	43	42	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.17	2.05	1.86	1.67	1.50	1.36	1.24	1.14	1.04	0.96	0.89	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_B ≤ 125 [mm]	125	125	125	125	120	114	108	103	98	94	90	87	83	80	77	75	72	70	68	66	64	62	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	77	75	72	70	68	66	64	62	60
b_A ≤ 80 [mm]	63	63	63	62	60	57	54	51	49	47	45	43	42	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.86	1.67	1.50	1.36	1.24	1.14	1.04	0.96	0.89	0.82	0.77	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46
b_B ≤ 125 [mm]	125	125	125	125	120	114	108	103	98	94	90	87	83	80	77	75	72	70	68	66	64	62	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 150 — wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm[3] — **intermediate support**: screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$ = 0.50 mm
inner sheet: $t_{N,i}$ = 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	2.92	2.73	2.56	2.41	2.21	1.98	1.79	1.63	1.48	1.36	1.24	1.15	1.06	0.98	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58	0.55
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5
$W_{e,1}$		2.92	2.73	2.56	2.41	2.27	2.15	2.05	1.95	1.86	1.78	1.70	1.64	1.57	1.47	1.37	1.28	1.20	1.12	1.05	0.99	0.93	0.88	0.83

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.08	1.01	0.94	0.88	0.83	0.79	0.75	0.71	0.68	0.65	0.62	0.60	0.55	0.49	0.44	0.42	0.41	0.40	0.39	0.37	0.36	0.35	0.34
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.08	1.01	0.94	0.88	0.83	0.79	0.75	0.71	0.68	0.65	0.62	0.60	0.58	0.56	0.54	0.52	0.41	0.40	0.39	0.37	0.36	0.35	0.35
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.02	0.95	0.89	0.83	0.79	0.75	0.60	0.54	0.52	0.50	0.48	0.46	0.41	0.36	0.32	0.31	0.30	0.29	0.28	0.27	0.27	0.26	0.25
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.02	0.95	0.89	0.83	0.79	0.75	0.71	0.68	0.52	0.50	0.48	0.46	0.44	0.43	0.42	0.40	0.30	0.29	0.28	0.27	0.27	0.26	0.25
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.91	0.67	0.63	0.59	0.40	0.38	0.37	0.35	0.30	0.22	0.16												
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3												
$W_{e,1}$		0.93	0.67	0.63	0.59	0.56	0.38	0.37	0.35	0.34	0.33	0.25												
n_B ≤ 6		6	5	5	5	5	4	4	4	4	4	4												

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.25	1.17	1.10	1.03	0.98	0.93	0.88	0.84	0.80	0.77	0.74	0.71	0.68	0.66	0.63	0.58	0.54	0.50	0.47	0.45	0.44	0.42	0.41
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.25	1.17	1.10	1.03	0.98	0.93	0.88	0.84	0.80	0.77	0.74	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.44	0.42	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5
$W_{e,10}$	Colour group II	1.21	1.14	1.07	1.01	0.95	0.91	0.80	0.70	0.65	0.62	0.60	0.57	0.55	0.53	0.52	0.50	0.46	0.43	0.40	0.37	0.35	0.33	0.32
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.21	1.14	1.07	1.01	0.95	0.91	0.86	0.82	0.79	0.62	0.60	0.57	0.55	0.53	0.52	0.50	0.48	0.47	0.45	0.44	0.43	0.42	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group III	0.93	0.88	0.83	0.67	0.57	0.54	0.52	0.50	0.48	0.46	0.44	0.40	0.35	0.31	0.28	0.27	0.26	0.25	0.25	0.24	0.23	0.22	0.20
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		0.93	0.88	0.83	0.78	0.74	0.54	0.52	0.50	0.48	0.46	0.44	0.43	0.41	0.40	0.39	0.38	0.37	0.35	0.25	0.24	0.24	0.23	0.22
n_B ≤ 6		5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.61	0.56	0.52	0.48	0.45	0.43	0.42	0.41	0.40
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.53	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5
$W_{e,10}$	Colour group II	1.22	1.14	1.07	1.00	0.95	0.90	0.79	0.68	0.63	0.61	0.58	0.56	0.54	0.52	0.50	0.46	0.42	0.39	0.36	0.33	0.32	0.31	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.22	1.14	1.07	1.00	0.95	0.90	0.85	0.81	0.77	0.61	0.58	0.56	0.54	0.52	0.50	0.48	0.47	0.45	0.44	0.43	0.41	0.40	0.31
n_B ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	4
$W_{e,10}$	Colour group III	0.95	0.88	0.83	0.67	0.56	0.54	0.51	0.49	0.47	0.45	0.41	0.36	0.31	0.27	0.26	0.25	0.25	0.24	0.23	0.21	0.19		
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
$W_{e,1}$		0.95	0.88	0.83	0.78	0.74	0.54	0.51	0.49	0.47	0.45	0.43	0.41	0.40	0.38	0.37	0.36	0.25	0.24	0.23	0.23	0.22		
n_B ≤ 6		5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3		

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_A ≤ 60 [mm]	60	60	60	60	60	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.59	1.44	1.32	1.20	1.10	1.02	0.94	0.87	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_A ≤ 80 [mm]	80	76	71	67	64	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	3.18	2.83	2.48	2.20	1.96	1.76	1.59	1.44	1.32	1.20	1.10	1.02	0.94	0.87	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	71	69	67	65	64
b_A ≤ 80 [mm]	62	62	62	62	63	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.76	1.59	1.44	1.32	1.20	1.10	1.02	0.94	0.87	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 125 [mm]	125	125	125	125	125	120	114	109	104	99	95	91	88	85	82	79	76	74	71	69	67	65	64

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	71	69	67	65	64
b_A ≤ 80 [mm]	62	63	62	62	62	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.04	1.93	1.76	1.59	1.44	1.32	1.20	1.10	1.02	0.94	0.87	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 125 [mm]	125	125	125	125	125	120	114	109	104	99	95	91	88	85	82	79	76	74	71	69	67	65	64

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	71	69	67	65	64
b_A ≤ 80 [mm]	62	63	62	62	62	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.76	1.59	1.44	1.32	1.20	1.10	1.02	0.94	0.87	0.81	0.76	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 125 [mm]	125	125	125	125	125	120	114	109	104	99	95	91	88	85	82	79	76	74	71	69	67	65	64

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support** screws with washer d ≥ 16 mm[3] — **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	2.92	2.73	2.56	2.41	2.27	2.10	1.89	1.72	1.57	1.43	1.32	1.21	1.12	1.04	0.97	0.90	0.84	0.79	0.74	0.70	0.66	0.62	0.58
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5
$W_{e,1}$		2.92	2.73	2.56	2.41	2.27	2.15	2.05	1.95	1.86	1.78	1.70	1.64	1.57	1.52	1.45	1.35	1.26	1.18	1.11	1.04	0.98	0.93	0.88

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.09	1.01	0.94	0.88	0.83	0.79	0.75	0.71	0.68	0.65	0.62	0.60	0.56	0.49	0.44	0.42	0.41	0.39	0.38	0.37	0.36	0.35	0.33
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.09	1.01	0.94	0.88	0.83	0.79	0.75	0.71	0.68	0.65	0.62	0.60	0.57	0.55	0.53	0.52	0.41	0.39	0.38	0.37	0.36	0.35	0.34
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.02	0.95	0.89	0.83	0.78	0.74	0.63	0.54	0.51	0.49	0.47	0.45	0.39	0.33	0.31	0.30	0.29	0.28	0.28	0.27	0.26	0.25	0.23
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.02	0.95	0.89	0.83	0.78	0.74	0.71	0.67	0.51	0.49	0.47	0.45	0.44	0.42	0.41	0.30	0.29	0.28	0.28	0.27	0.26	0.26	0.25
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.92	0.66	0.62	0.58	0.38	0.35	0.34	0.34	0.25	0.16													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		0.92	0.86	0.62	0.58	0.55	0.35	0.34	0.34	0.33	0.24													
n_B ≤ 6		6	6	5	5	5	4	4	4	4	4													

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.24	1.16	1.09	1.03	0.97	0.92	0.88	0.84	0.80	0.77	0.74	0.71	0.68	0.66	0.63	0.58	0.53	0.49	0.46	0.45	0.43	0.42	0.41
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.24	1.16	1.09	1.03	0.97	0.92	0.88	0.84	0.80	0.77	0.74	0.71	0.68	0.66	0.63	0.61	0.59	0.57	0.56	0.54	0.43	0.42	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5
$W_{e,10}$	Colour group II	1.21	1.13	1.06	1.00	0.95	0.88	0.74	0.67	0.64	0.61	0.59	0.57	0.55	0.53	0.50	0.46	0.42	0.39	0.36	0.34	0.33	0.33	0.32
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.21	1.13	1.06	1.00	0.95	0.90	0.86	0.82	0.64	0.61	0.59	0.57	0.55	0.53	0.51	0.49	0.48	0.46	0.45	0.44	0.43	0.33	0.32
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4
$W_{e,10}$	Colour group III	0.92	0.86	0.77	0.59	0.56	0.53	0.51	0.49	0.47	0.40	0.34	0.30	0.29	0.28	0.27	0.26	0.25	0.22	0.20	0.18			
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
$W_{e,1}$		0.92	0.86	0.82	0.77	0.56	0.53	0.51	0.49	0.47	0.45	0.44	0.42	0.41	0.39	0.27	0.26	0.26	0.25	0.24	0.24			
n_B ≤ 6		5	5	5	5	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3			

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.60	0.55	0.50	0.46	0.45	0.43	0.42	0.41	0.40
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.43	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5
$W_{e,10}$	Colour group II	1.22	1.14	1.07	1.00	0.95	0.88	0.73	0.66	0.63	0.60	0.58	0.56	0.53	0.52	0.47	0.43	0.39	0.35	0.34	0.33	0.32	0.31	0.30
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.22	1.14	1.07	1.00	0.95	0.90	0.85	0.81	0.63	0.60	0.58	0.56	0.53	0.52	0.50	0.48	0.46	0.45	0.44	0.42	0.32	0.31	0.30
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4
$W_{e,10}$	Colour group III	0.75	0.67	0.63	0.59	0.56	0.53	0.51	0.48	0.46	0.38	0.31	0.28	0.27	0.27	0.26	0.23	0.21	0.18					
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3					
$W_{e,1}$		0.94	0.88	0.82	0.59	0.56	0.53	0.51	0.48	0.46	0.44	0.42	0.41	0.39	0.27	0.26	0.25	0.24	0.24					
n_B ≤ 6		5	5	5	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3					

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_A ≤ 60 [mm]	60	60	60	60	60	60	60	57	54	52	50	48	46	44	43	41	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.67	1.51	1.38	1.26	1.16	1.07	0.99	0.91	0.85	0.79	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_A ≤ 80 [mm]	80	80	75	70	67	63	60	57	54	52	50	48	46	44	43	41	40	40	40	40	40	40	40
$W_{e,10}$	3.18	2.96	2.60	2.31	2.06	1.85	1.67	1.51	1.38	1.26	1.16	1.07	0.99	0.91	0.85	0.79	0.74	0.69	0.65	0.61	0.58	0.54	0.51

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	77	75	73	71	68	67
b_A ≤ 80 [mm]	62	63	63	62	62	62	60	57	54	52	50	48	46	44	43	41	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.18	2.05	1.93	1.83	1.67	1.51	1.38	1.26	1.16	1.07	0.99	0.91	0.85	0.79	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_B ≤ 125 [mm]	125	125	125	125	125	125	120	114	109	104	100	96	92	89	86	83	80	77	75	73	71	68	67

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	77	75	73	71	68	67
b_A ≤ 80 [mm]	63	62	63	62	63	63	60	57	54	52	50	48	46	44	43	41	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.18	2.04	1.93	1.83	1.67	1.51	1.38	1.26	1.16	1.07	0.99	0.91	0.85	0.79	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_B ≤ 125 [mm]	125	125	125	125	125	125	120	114	109	104	100	96	92	89	86	83	80	77	75	73	71	68	67

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	77	75	73	71	68	67
b_A ≤ 80 [mm]	63	63	63	63	62	63	60	57	54	52	50	48	46	44	43	41	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.67	1.51	1.38	1.26	1.16	1.07	0.99	0.91	0.85	0.79	0.74	0.69	0.65	0.61	0.58	0.54	0.51
b_B ≤ 125 [mm]	125	125	125	125	125	125	120	114	109	104	100	96	92	89	86	83	80	77	75	73	71	68	67

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 200 — wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm[3] — **intermediate support**: screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$ = 0.50 mm
inner sheet: $t_{N,i}$ = 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	2.92	2.73	2.56	2.41	2.27	2.15	1.98	1.80	1.64	1.50	1.38	1.27	1.18	1.09	1.01	0.94	0.88	0.83	0.78	0.73	0.69	0.65	0.61
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5
$W_{e,1}$		2.92	2.73	2.56	2.41	2.27	2.15	2.05	1.95	1.86	1.78	1.70	1.64	1.57	1.52	1.46	1.41	1.32	1.24	1.16	1.09	1.03	0.97	0.92

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.09	1.01	0.94	0.88	0.83	0.79	0.74	0.71	0.68	0.65	0.62	0.59	0.53	0.46	0.43	0.41	0.40	0.39	0.38	0.37	0.35	0.32	0.29
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.10	1.01	0.94	0.88	0.83	0.79	0.74	0.71	0.68	0.65	0.62	0.59	0.57	0.55	0.53	0.41	0.40	0.39	0.38	0.37	0.36	0.35	0.34
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.03	0.95	0.88	0.83	0.78	0.74	0.59	0.53	0.50	0.48	0.46	0.38	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.23	0.20	0.18	0.16
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.03	0.95	0.88	0.83	0.78	0.74	0.70	0.53	0.50	0.48	0.46	0.45	0.43	0.42	0.30	0.29	0.28	0.28	0.27	0.26	0.25	0.25	0.24
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.92	0.66	0.61	0.57	0.31	0.30	0.29	0.26	0.12														
n_A ≤ 3		3	3	3	3	3	3	3	3	3														
$W_{e,1}$		0.92	0.85	0.61	0.57	0.46	0.30	0.29	0.29	0.18														
n_B ≤ 6		6	6	5	5	5	4	4	4	4														

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.24	1.16	1.08	1.02	0.97	0.92	0.87	0.83	0.80	0.76	0.73	0.70	0.68	0.61	0.55	0.51	0.48	0.47	0.46	0.44	0.43	0.42	0.41
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.24	1.16	1.09	1.02	0.97	0.92	0.87	0.83	0.80	0.76	0.73	0.70	0.68	0.65	0.63	0.61	0.59	0.57	0.46	0.44	0.43	0.42	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5
$W_{e,10}$	Colour group II	1.20	1.12	1.05	0.99	0.89	0.72	0.69	0.66	0.63	0.61	0.58	0.55	0.48	0.43	0.39	0.38	0.37	0.36	0.35	0.34	0.33	0.32	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.20	1.12	1.05	0.99	0.94	0.89	0.69	0.66	0.63	0.61	0.58	0.56	0.54	0.52	0.50	0.49	0.37	0.36	0.35	0.34	0.33	0.32	0.31
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.90	0.81	0.60	0.57	0.54	0.52	0.41	0.33	0.31	0.30	0.27	0.22	0.17										
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3										
$W_{e,1}$		0.90	0.85	0.80	0.57	0.54	0.52	0.50	0.48	0.46	0.30	0.29	0.29	0.26										
n_B ≤ 6		5	5	5	4	4	4	4	4	4	3	3	3	3										

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.72	0.70	0.67	0.60	0.54	0.49	0.48	0.46	0.45	0.43	0.42	0.41	0.40
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.26	1.17	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.72	0.70	0.67	0.64	0.62	0.60	0.58	0.46	0.45	0.43	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.22	1.11	0.91	0.81	0.77	0.73	0.69	0.66	0.63	0.60	0.58	0.54	0.47	0.41	0.38	0.37	0.36	0.35	0.34	0.33	0.32	0.31	0.30
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.22	1.14	1.07	1.00	0.95	0.73	0.69	0.66	0.63	0.60	0.58	0.55	0.53	0.51	0.49	0.48	0.36	0.35	0.34	0.33	0.32	0.31	0.30
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.71	0.66	0.62	0.56	0.48	0.41	0.37	0.33	0.31	0.30	0.27	0.20	0.16										
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3										
$W_{e,1}$		0.71	0.66	0.62	0.58	0.55	0.52	0.50	0.48	0.45	0.30	0.29	0.28	0.23										
n_B ≤ 6		4	4	4	4	4	4	4	4	4	3	3	3	3										

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 220

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.50 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.71	0.66	0.62	0.59	0.55	0.52
b_A ≤ 60 [mm]	60	60	60	60	60	60	60	58	55	53	51	49	47	45	43	42	41	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.67	1.54	1.40	1.28	1.18	1.08	1.00	0.93	0.86	0.80	0.75	0.71	0.66	0.62	0.59	0.55	0.52
b_A ≤ 80 [mm]	80	80	76	72	68	64	61	58	55	53	51	49	47	45	43	42	41	40	40	40	40	40	40
$W_{e,10}$	3.18	2.97	2.64	2.34	2.09	1.88	1.69	1.54	1.40	1.28	1.18	1.08	1.00	0.93	0.86	0.80	0.75	0.71	0.66	0.62	0.59	0.55	0.52

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.71	0.66	0.62	0.59	0.55	0.52
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	72	70	68
b_A ≤ 80 [mm]	62	63	62	62	62	63	61	58	55	53	51	49	47	45	43	42	41	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.69	1.54	1.40	1.28	1.18	1.08	1.00	0.93	0.86	0.80	0.75	0.71	0.66	0.62	0.59	0.55	0.52
b_B ≤ 125 [mm]	125	125	125	125	125	125	122	116	111	106	101	97	94	90	87	84	81	79	76	74	72	70	68

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.71	0.66	0.62	0.59	0.55	0.52
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	72	70	68
b_A ≤ 80 [mm]	63	63	63	62	63	62	61	58	55	53	51	49	47	45	43	42	41	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.18	2.04	1.93	1.83	1.69	1.54	1.40	1.28	1.18	1.08	1.00	0.93	0.86	0.80	0.75	0.71	0.66	0.62	0.59	0.55	0.52
b_B ≤ 125 [mm]	125	125	125	125	125	125	122	116	111	106	101	97	94	90	87	84	81	79	76	74	72	70	68

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.71	0.66	0.62	0.59	0.55	0.52
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	72	70	68
b_A ≤ 80 [mm]	63	62	62	62	63	63	61	58	55	53	51	49	47	45	43	42	41	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.17	2.05	1.93	1.83	1.69	1.53	1.40	1.28	1.18	1.08	1.00	0.93	0.86	0.80	0.75	0.71	0.66	0.62	0.59	0.55	0.52
b_B ≤ 125 [mm]	125	125	125	125	125	125	122	116	111	106	101	97	94	90	87	84	81	79	76	74	72	70	68

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 220 — wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm[3] — **intermediate support**: screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$ = 0.50 mm
inner sheet: $t_{N,i}$ = 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	2.92	2.73	2.56	2.41	2.27	2.15	2.01	1.82	1.66	1.52	1.39	1.28	1.19	1.10	1.02	0.95	0.89	0.83	0.78	0.74	0.69	0.65	0.62
$n_A \le 6$		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5
$W_{e,1}$		2.92	2.73	2.56	2.41	2.27	2.15	2.05	1.95	1.86	1.78	1.70	1.64	1.57	1.52	1.46	1.41	1.34	1.25	1.17	1.10	1.04	0.98	0.93

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.11	1.03	0.95	0.89	0.84	0.79	0.75	0.71	0.68	0.65	0.62	0.59	0.49	0.44	0.43	0.41	0.40	0.39	0.38	0.34	0.31	0.28	0.26
$n_A \le 3$ [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.11	1.03	0.95	0.89	0.84	0.79	0.75	0.71	0.68	0.65	0.62	0.59	0.57	0.55	0.43	0.41	0.40	0.39	0.38	0.36	0.35	0.34	0.34
$n_B \le 6$		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.04	0.96	0.89	0.84	0.79	0.74	0.57	0.53	0.50	0.48	0.42	0.33	0.32	0.31	0.30	0.29	0.27	0.23	0.19				
$n_A \le 3$		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
$W_{e,1}$		1.04	0.96	0.89	0.84	0.79	0.74	0.70	0.53	0.50	0.48	0.46	0.44	0.32	0.31	0.30	0.29	0.28	0.27	0.26				
$n_B \le 6$		6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4				
$W_{e,10}$	Colour group III	0.93	0.84	0.61	0.57	0.30	0.29	0.28	0.17															
$n_A \le 3$		3	3	2	2	2	2	2	2															
$W_{e,1}$		0.93	0.86	0.61	0.57	0.45	0.29	0.28	0.26															
$n_B \le 6$		6	6	5	5	5	4	4	4															

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.24	1.16	1.08	1.02	0.96	0.91	0.87	0.83	0.79	0.76	0.73	0.66	0.59	0.53	0.52	0.50	0.48	0.47	0.45	0.44	0.43	0.42	0.39
$n_A \le 3$		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.24	1.16	1.08	1.02	0.96	0.91	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.65	0.63	0.50	0.48	0.47	0.45	0.44	0.43	0.42	0.41
$n_B \le 6$		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.20	1.12	1.05	0.99	0.76	0.72	0.69	0.66	0.63	0.57	0.48	0.43	0.42	0.40	0.39	0.38	0.37	0.35	0.34	0.33	0.30	0.28	0.26
$n_A \le 3$		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.20	1.12	1.05	0.99	0.93	0.72	0.69	0.66	0.63	0.60	0.58	0.56	0.54	0.40	0.39	0.38	0.37	0.36	0.35	0.34	0.33	0.32	0.31
$n_B \le 6$		6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.90	0.63	0.60	0.56	0.52	0.35	0.33	0.30	0.20	0.12													
$n_A \le 3$		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		0.90	0.84	0.60	0.56	0.54	0.51	0.33	0.32	0.30	0.18													
$n_B \le 6$		5	5	4	4	4	4	3	3	3	3													

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.26	1.18	1.10	1.04	0.98	0.92	0.88	0.83	0.79	0.76	0.73	0.66	0.59	0.53	0.51	0.49	0.48	0.46	0.45	0.43	0.42	0.40	0.38
$n_A \le 3$		4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.26	1.18	1.10	1.04	0.98	0.92	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.49	0.48	0.46	0.45	0.43	0.42	0.41	0.40
$n_B \le 6$		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.00	0.93	0.87	0.82	0.77	0.73	0.69	0.66	0.63	0.57	0.48	0.43	0.41	0.40	0.38	0.37	0.36	0.35	0.34	0.31	0.28	0.26	0.23
$n_A \le 3$		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.23	0.93	0.87	0.82	0.77	0.73	0.69	0.66	0.63	0.60	0.58	0.55	0.53	0.40	0.38	0.37	0.36	0.35	0.34	0.33	0.32	0.31	0.30
$n_B \le 6$		6	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.56	0.45	0.42	0.39	0.33	0.25	0.20	0.17															
$n_A \le 3$		3	3	3	3	3	3	3	3															
$W_{e,1}$		0.71	0.66	0.42	0.39	0.37	0.36	0.30	0.26															
$n_B \le 6$		4	4	3	3	3	3	3	3															

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.0 kN/screw $F_{z,k}(b_B)$ = 2.0 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 40

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40											
$W_{e,10}$ [2]	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.50											
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40											
$W_{e,10}$	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.50											
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40											
$W_{e,10}$	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.50											

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.23	0.21	0.20
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.23	0.21	0.20
b_B ≤ 80 [mm]	71	71	71	64	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.23	0.21	0.20
b_B ≤ 125 [mm]	71	71	71	64	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.39	2.09	1.86	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22	0.20
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.30	2.83	2.47	1.97	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22	0.20
b_B ≤ 80 [mm]	71	71	71	64	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.30	2.83	2.47	1.97	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22	0.20
b_B ≤ 125 [mm]	71	71	71	64	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.39	2.09	1.86	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22	0.20
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22	0.20
b_B ≤ 80 [mm]	71	71	71	64	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.29	2.82	2.47	1.96	1.59	1.31	1.10	0.94	0.81	0.71	0.62	0.55	0.49	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22	0.20
b_B ≤ 125 [mm]	71	71	71	64	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 40

wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.29	2.82	2.47	2.19	1.80	1.49	1.21	0.88	0.62	0.43	0.28	0.17											
n_A ≤ 6		4	4	4	4	4	4	3	3	3	3	3	3											
$W_{e,1}$		4.94	4.24	3.71	3.29	2.70	2.23	1.81	1.31	0.93	0.64	0.42	0.25											

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.13	2.65	2.30	1.67	1.50	1.22	0.98	0.90	0.81	0.69	0.60	0.52	0.48	0.44	0.39	0.35	0.32	0.29	0.27	0.24	0.22	0.21	0.19
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.13	2.65	2.30	2.03	1.50	1.36	1.25	0.90	0.84	0.79	0.74	0.70	0.48	0.46	0.44	0.42	0.40	0.38	0.37	0.35	0.34	0.31	0.29
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group II	3.03	2.37	1.82	1.38	1.13	1.03	0.80	0.63	0.59	0.51	0.43	0.36	0.31	0.27	0.24	0.21	0.19						
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
$W_{e,1}$		3.03	2.57	1.82	1.61	1.13	1.03	0.94	0.88	0.59	0.55	0.52	0.49	0.47	0.41	0.36	0.32	0.28						
n_B ≤ 6		6	6	5	5	4	4	4	4	3	3	3	3	3	3	3	3	3						
$W_{e,10}$	Colour group III	2.31	1.49	1.25	0.80	0.53	0.30	0.16																
n_A ≤ 3		3	3	3	3	3	3	3																
$W_{e,1}$		2.31	1.97	1.31	0.80	0.73	0.45	0.25																
n_B ≤ 6		5	5	4	3	3	3	3																

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.29	2.82	2.47	1.92	1.73	1.45	1.20	1.06	0.92	0.80	0.70	0.62	0.55	0.50	0.45	0.41	0.37	0.34	0.31	0.29	0.27	0.25	0.23
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.47	2.98	2.61	2.32	1.73	1.57	1.45	1.06	0.99	0.92	0.87	0.82	0.77	0.73	0.67	0.61	0.56	0.51	0.47	0.43	0.40	0.37	0.34
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3
$W_{e,10}$	Colour group II	3.29	2.42	2.12	1.75	1.35	1.23	1.13	1.00	0.84	0.72	0.63	0.60	0.55	0.50	0.44	0.40	0.36	0.33	0.30	0.28	0.25	0.24	0.22
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.42	2.93	2.12	1.89	1.71	1.23	1.13	1.05	0.97	0.91	0.86	0.60	0.57	0.54	0.51	0.49	0.47	0.45	0.43	0.41	0.38	0.35	0.33
n_B ≤ 6		6	6	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.49	1.83	1.53	1.05	0.95	0.75	0.59	0.47	0.39	0.32	0.27	0.23	0.20	0.18									
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3									
$W_{e,1}$		2.73	1.83	1.62	1.45	0.95	0.87	0.81	0.70	0.58	0.49	0.41	0.35	0.30	0.27									
n_B ≤ 6		5	4	4	4	3	3	3	3	3	3	3	3	3	3									

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.29	2.82	2.47	1.90	1.70	1.42	1.16	1.03	0.92	0.80	0.70	0.62	0.55	0.50	0.45	0.41	0.37	0.34	0.31	0.29	0.27	0.25	0.23
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.49	2.98	2.59	2.30	1.70	1.55	1.41	1.03	0.96	0.89	0.84	0.79	0.75	0.71	0.67	0.61	0.56	0.51	0.47	0.43	0.40	0.37	0.34
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3
$W_{e,10}$	Colour group II	3.17	2.42	2.11	1.72	1.32	1.20	1.10	0.93	0.77	0.66	0.61	0.57	0.50	0.44	0.39	0.35	0.31	0.29	0.26	0.24	0.22	0.20	0.19
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.44	2.94	2.11	1.87	1.68	1.20	1.10	1.02	0.94	0.88	0.83	0.57	0.54	0.51	0.49	0.47	0.45	0.43	0.39	0.36	0.33	0.30	0.28
n_B ≤ 6		6	6	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.15	1.84	1.53	1.03	0.93	0.69	0.52	0.40	0.32	0.25	0.21	0.17											
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3											
$W_{e,1}$		2.15	1.84	1.61	1.43	0.93	0.85	0.78	0.60	0.47	0.38	0.31	0.26											
n_B ≤ 6		4	4	4	4	3	3	3	3	3	3	3	3											

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1)] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A 3) = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
$W_{e,10}$ 2)	3.71	3.18	2.78	2.48	2.22	1.97	1.65	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38			
b_A ≤ 60 [mm]	49	49	49	48	43	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
$W_{e,10}$	4.57	3.92	3.43	2.94	2.38	1.97	1.65	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38			
b_A ≤ 80 [mm]	49	49	49	48	43	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
$W_{e,10}$	4.57	3.92	3.43	2.94	2.38	1.97	1.65	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38			

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.39	2.09	1.86	1.67	1.52	1.39	1.28	1.19	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B 3) = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	1.97	1.66	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B ≤ 80 [mm]	80	80	80	80	80	78	71	66	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	49	49	49	48	43	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.57	3.92	3.43	2.95	2.38	1.97	1.66	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B ≤ 125 [mm]	99	99	99	95	86	78	71	66	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.39	2.09	1.86	1.67	1.52	1.39	1.28	1.19	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	1.97	1.65	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B ≤ 80 [mm]	80	80	80	80	80	78	71	66	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	49	49	49	48	43	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.57	3.92	3.43	2.94	2.38	1.97	1.65	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B ≤ 125 [mm]	99	99	99	95	86	78	71	66	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.86	1.67	1.52	1.39	1.28	1.19	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	1.97	1.66	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B ≤ 80 [mm]	80	80	80	80	80	78	71	66	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	49	49	49	48	43	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.57	3.92	3.43	2.94	2.38	1.97	1.66	1.41	1.22	1.06	0.93	0.83	0.74	0.66	0.60	0.54	0.49	0.45	0.41	0.38	0.35	0.33	0.30
b_B ≤ 125 [mm]	98	99	99	95	86	78	71	66	61	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

1) The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

2) "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

3) "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support** screws with washer d ≥ 16 mm[3] — **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$ [2]	Colour group I-III [4]	4.57	3.92	3.43	3.05	2.69	2.22	1.87	1.59	1.37	1.20	1.05	0.93	0.83	0.73	0.58	0.46	0.36	0.27	0.20	0.15			
n_A ≤ 6		6	6	6	6	6	5	5	4	4	4	4	4	3	3	3	3	3	3	3	3			
$W_{e,1}$		6.85	5.88	5.15	4.57	4.04	3.33	2.80	2.39	2.06	1.80	1.58	1.40	1.25	1.10	0.87	0.69	0.53	0.41	0.30	0.22			

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.14	2.65	2.29	2.02	1.81	1.40	1.23	1.13	0.95	0.78	0.72	0.68	0.64	0.57	0.50	0.45	0.40	0.37	0.36	0.34	0.31	0.28	0.26
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.14	2.65	2.29	2.02	1.81	1.64	1.23	1.13	1.05	0.98	0.72	0.68	0.64	0.61	0.58	0.56	0.53	0.51	0.36	0.34	0.33	0.32	0.31
n_B ≤ 6		6	6	6	6	6	6	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3
$W_{e,10}$	Colour group II	3.02	2.55	2.21	1.57	1.41	1.06	0.91	0.84	0.71	0.56	0.49	0.46	0.39	0.34	0.29	0.25	0.22	0.20	0.17				
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
$W_{e,1}$		3.02	2.55	2.21	1.95	1.41	1.28	0.91	0.84	0.78	0.73	0.69	0.46	0.44	0.42	0.40	0.38	0.33	0.29	0.26				
n_B ≤ 6		6	6	6	6	5	5	4	4	4	4	4	3	3	3	3	3	3	3	3				
$W_{e,10}$	Colour group III	2.84	1.90	1.36	1.09	0.65	0.53	0.26																
n_A ≤ 3		3	3	3	3	3	3	3																
$W_{e,1}$		2.84	1.90	1.65	1.09	0.98	0.60	0.39																
n_B ≤ 6		6	5	5	4	4	3	3																

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.44	2.95	2.58	2.29	2.07	1.66	1.43	1.32	1.20	1.03	0.89	0.81	0.76	0.72	0.66	0.59	0.54	0.49	0.45	0.41	0.40	0.37	0.34
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.44	2.95	2.58	2.29	2.07	1.88	1.73	1.32	1.23	1.15	1.08	1.02	0.76	0.72	0.69	0.66	0.63	0.60	0.58	0.55	0.53	0.38	0.37
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3
$W_{e,10}$	Colour group II	3.37	2.89	2.25	1.85	1.67	1.36	1.10	1.02	0.95	0.89	0.78	0.68	0.59	0.52	0.50	0.48	0.45	0.40	0.37	0.34	0.31	0.29	0.26
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.37	2.89	2.53	1.85	1.67	1.53	1.40	1.02	0.95	0.89	0.84	0.79	0.75	0.71	0.68	0.48	0.46	0.44	0.42	0.41	0.39	0.38	0.36
n_B ≤ 6		6	6	6	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.65	2.05	1.55	1.38	0.90	0.83	0.66	0.49	0.38	0.30	0.24	0.20	0.16										
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3										
$W_{e,1}$		2.65	2.28	1.55	1.39	1.26	0.83	0.77	0.72	0.57	0.46	0.36	0.30	0.25										
n_B ≤ 6		5	5	4	4	4	3	3	3	3	3	3	3	3										

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.49	2.98	2.59	2.29	2.06	1.65	1.41	1.30	1.17	1.00	0.86	0.78	0.74	0.70	0.63	0.56	0.51	0.46	0.42	0.39	0.38	0.35	0.33
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2
$W_{e,1}$		3.49	2.98	2.59	2.29	2.06	1.87	1.71	1.30	1.20	1.12	1.05	0.99	0.74	0.70	0.67	0.63	0.61	0.58	0.56	0.53	0.38	0.37	0.35
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	3	3	3
$W_{e,10}$	Colour group II	3.43	2.61	2.09	1.85	1.66	1.35	1.09	1.00	0.93	0.86	0.73	0.62	0.54	0.50	0.48	0.44	0.39	0.35	0.32	0.29	0.27	0.24	0.22
n_A ≤ 3		3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
$W_{e,1}$		3.43	2.92	2.55	1.85	1.66	1.51	1.38	1.00	0.93	0.87	0.82	0.77	0.73	0.69	0.48	0.46	0.44	0.42	0.40	0.39	0.37	0.36	0.34
n_B ≤ 6		6	6	6	5	5	5	5	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.10	1.79	1.57	1.38	0.89	0.81	0.62	0.45	0.33	0.24	0.18												
n_A ≤ 3		3	2	2	2	2	2	2	2	2	2	2												
$W_{e,1}$		2.71	1.79	1.57	1.39	1.25	0.81	0.75	0.67	0.49	0.36	0.28												
n_B ≤ 6		5	4	4	4	4	3	3	3	3	2	2												

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A[3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$[2]	3.71	3.18	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_A ≤ 60 [mm]	60	60	60	60	57	52	47	44	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.57	4.77	4.17	3.71	3.17	2.61	2.20	1.87	1.61	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_A ≤ 80 [mm]	66	66	66	63	57	52	47	44	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	6.12	5.25	4.59	3.91	3.17	2.61	2.20	1.87	1.61	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B[3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.22	2.02	1.85	1.71	1.59	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	76	71	67	63	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	63	63	63	62	57	52	47	44	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.80	4.97	4.35	3.86	3.16	2.61	2.20	1.87	1.61	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B ≤ 125 [mm]	125	125	125	125	114	103	95	87	81	76	71	67	63	60	60	60	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.22	2.02	1.86	1.71	1.59	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	76	71	67	63	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	62	63	63	62	57	52	47	44	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.80	4.97	4.35	3.86	3.16	2.62	2.20	1.87	1.61	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B ≤ 125 [mm]	125	125	125	125	114	103	95	87	81	76	71	67	63	60	60	60	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.38	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	3.71	3.18	2.78	2.47	2.23	2.02	1.86	1.71	1.59	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	76	71	67	63	60	60	60	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	62	63	62	63	57	52	47	44	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.79	4.97	4.34	3.87	3.16	2.62	2.20	1.87	1.61	1.41	1.24	1.09	0.98	0.88	0.79	0.72	0.65	0.60	0.55	0.51	0.47	0.43	0.40
b_B ≤ 125 [mm]	125	125	125	125	114	103	95	87	81	76	71	67	63	60	60	60	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$ [2]	Colour group I-III [4]	6.12	5.24	4.59	4.08	3.57	2.95	2.48	2.11	1.82	1.59	1.39	1.24	1.10	0.99	0.89	0.81	0.74	0.67	0.62	0.57	0.52	0.43	0.36
n_A ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	4	4	4	4	4	3	3	3	3	3	3
$W_{e,1}$		7.84	6.72	5.88	5.23	4.71	4.28	3.72	3.17	2.73	2.38	2.09	1.85	1.65	1.48	1.34	1.21	1.11	1.01	0.93	0.86	0.77	0.64	0.54

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.18	2.67	2.30	2.02	1.81	1.63	1.49	1.35	1.04	0.97	0.91	0.84	0.71	0.61	0.57	0.54	0.52	0.50	0.46	0.41	0.38	0.34	0.31
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.18	2.67	2.30	2.02	1.81	1.63	1.49	1.37	1.27	0.97	0.91	0.86	0.81	0.77	0.73	0.54	0.52	0.50	0.48	0.46	0.44	0.43	0.41
n_B ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group II	3.05	2.56	2.20	1.94	1.73	1.26	1.16	1.02	0.76	0.71	0.67	0.61	0.50	0.41	0.38	0.37	0.34	0.29	0.26	0.23	0.20	0.18	
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
$W_{e,1}$		3.05	2.56	2.20	1.94	1.73	1.57	1.16	1.07	0.99	0.71	0.67	0.63	0.60	0.57	0.54	0.37	0.35	0.34	0.33	0.32	0.30	0.28	
n_B ≤ 6		6	6	6	6	6	6	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	
$W_{e,10}$	Colour group III	2.85	2.38	2.05	1.43	0.94	0.86	0.56	0.48	0.28	0.13													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		2.85	2.38	2.05	1.43	1.28	0.86	0.79	0.48	0.42	0.19													
n_B ≤ 6		6	6	6	5	5	4	4	3	3	3													

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.43	2.93	2.56	2.28	2.05	1.87	1.71	1.58	1.30	1.14	1.07	1.01	0.94	0.84	0.75	0.67	0.62	0.59	0.57	0.55	0.51	0.47	0.44
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.43	2.93	2.56	2.28	2.05	1.87	1.71	1.58	1.47	1.38	1.07	1.01	0.95	0.90	0.86	0.82	0.78	0.59	0.57	0.55	0.53	0.51	0.49
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4
$W_{e,10}$	Colour group II	3.35	2.86	2.50	2.23	1.74	1.50	1.38	1.28	1.04	0.88	0.83	0.78	0.74	0.70	0.64	0.57	0.51	0.46	0.42	0.40	0.38	0.37	0.35
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.35	2.86	2.50	2.23	2.01	1.50	1.38	1.28	1.19	1.12	0.83	0.78	0.74	0.70	0.67	0.64	0.61	0.59	0.56	0.54	0.52	0.37	0.36
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	3	3
$W_{e,10}$	Colour group III	3.21	2.23	1.96	1.35	1.22	1.12	0.77	0.69	0.63	0.49	0.39	0.31	0.26	0.21	0.18								
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
$W_{e,1}$		3.21	2.75	1.96	1.75	1.22	1.12	1.04	0.96	0.64	0.61	0.57	0.47	0.39	0.32	0.26								
n_B ≤ 6		6	6	5	5	4	4	4	4	3	3	3	3	3	3	3								

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00
$W_{e,10}$	Colour group I	3.50	2.98	2.59	2.30	2.06	1.87	1.71	1.56	1.27	1.12	1.05	0.99	0.91	0.81	0.72	0.64	0.60	0.58	0.55	0.53	0.48	0.45	0.41
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.50	2.98	2.59	2.30	2.06	1.87	1.71	1.57	1.46	1.36	1.05	0.99	0.93	0.88	0.84	0.80	0.76	0.58	0.55	0.53	0.51	0.49	0.47
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4
$W_{e,10}$	Colour group II	3.42	2.92	2.54	1.95	1.66	1.50	1.37	1.27	1.02	0.86	0.81	0.76	0.72	0.67	0.59	0.52	0.46	0.41	0.40	0.38	0.37	0.34	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		3.42	2.92	2.54	2.25	2.02	1.50	1.37	1.27	1.18	1.10	0.81	0.76	0.72	0.68	0.65	0.62	0.59	0.56	0.54	0.38	0.37	0.35	0.34
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3
$W_{e,10}$	Colour group III	2.68	1.76	1.54	1.37	1.23	1.12	0.77	0.67	0.60	0.45	0.34	0.27	0.20	0.16									
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3									
$W_{e,1}$		2.68	2.29	1.54	1.37	1.23	1.12	1.03	0.95	0.63	0.59	0.52	0.40	0.30	0.23									
n_B ≤ 6		5	5	4	4	4	4	4	4	3	3	3	3	3	2									

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_A ≤ 60 [mm]	60	60	60	60	59	54	51	47	44	42	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.17	3.71	3.34	3.03	2.74	2.33	2.01	1.75	1.54	1.36	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_A ≤ 80 [mm]	75	75	71	64	59	54	51	47	44	42	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.23	4.65	3.94	3.25	2.74	2.33	2.01	1.75	1.54	1.36	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	79	75	71	67	64	62	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	63	62	62	63	59	54	51	47	44	42	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.74	2.33	2.01	1.75	1.54	1.36	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B ≤ 125 [mm]	125	125	125	125	118	109	101	94	89	83	79	75	71	67	64	62	60	60	60	60	60	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.23	2.02	1.85	1.71	1.59	1.48	1.39	1.31	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	79	75	71	67	64	62	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	63	62	62	63	59	54	51	47	44	42	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.74	2.33	2.01	1.75	1.54	1.36	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B ≤ 125 [mm]	125	125	125	125	118	109	101	94	89	83	79	75	71	67	64	62	60	60	60	60	60	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.23	2.02	1.85	1.71	1.59	1.48	1.39	1.31	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	79	75	71	67	64	62	60	60	60	60	60	60	60
b_A ≤ 80 [mm]	62	62	63	62	59	54	51	47	44	42	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.74	2.33	2.01	1.75	1.54	1.36	1.22	1.09	0.98	0.89	0.81	0.74	0.68	0.63	0.58	0.54	0.50	0.47	0.44
b_B ≤ 125 [mm]	125	125	125	125	118	109	101	94	89	83	79	75	71	67	64	62	60	60	60	60	60	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$ [2]	Colour group I-III [4]	5.23	4.65	4.19	3.67	3.08	2.63	2.26	1.97	1.73	1.54	1.37	1.23	1.11	1.01	0.92	0.84	0.77	0.71	0.66	0.61	0.57	0.53	0.49
n_A ≤ 6		6	6	6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	3	3
$W_{e,1}$		5.88	5.23	4.71	4.28	3.92	3.62	3.36	2.96	2.60	2.30	2.05	1.84	1.66	1.51	1.37	1.26	1.15	1.06	0.98	0.91	0.85	0.79	0.74

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.31	2.03	1.81	1.63	1.49	1.37	1.26	1.18	0.97	0.84	0.80	0.76	0.72	0.62	0.54	0.49	0.47	0.45	0.44	0.42	0.40	0.37	0.34
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.31	2.03	1.81	1.63	1.49	1.37	1.26	1.18	1.10	1.04	0.80	0.76	0.72	0.69	0.66	0.63	0.47	0.45	0.44	0.42	0.41	0.39	0.38
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group II	2.20	1.93	1.72	1.55	1.42	1.05	0.97	0.91	0.68	0.61	0.58	0.55	0.51	0.43	0.36	0.33	0.31	0.30	0.27	0.24	0.22	0.20	0.18
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.20	1.93	1.72	1.55	1.42	1.31	0.97	0.91	0.85	0.61	0.58	0.55	0.53	0.51	0.48	0.47	0.45	0.30	0.29	0.28	0.28	0.27	0.26
n_B ≤ 6		6	6	6	6	6	6	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3
$W_{e,10}$	Colour group III	2.04	1.79	1.25	1.08	0.75	0.70	0.41	0.36	0.23	0.10													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		2.04	1.79	1.25	1.13	0.75	0.70	0.61	0.36	0.34	0.15													
n_B ≤ 6		6	6	5	5	4	4	4	3	3	3													

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.55	2.26	2.04	1.85	1.70	1.57	1.46	1.37	1.21	1.03	0.94	0.90	0.85	0.81	0.76	0.69	0.63	0.58	0.53	0.51	0.49	0.47	0.46
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.55	2.27	2.04	1.85	1.70	1.57	1.46	1.37	1.28	1.21	1.14	0.90	0.85	0.81	0.78	0.74	0.71	0.69	0.66	0.64	0.49	0.47	0.46
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	4	4	4
$W_{e,10}$	Colour group II	2.48	2.21	1.99	1.81	1.36	1.26	1.18	1.10	0.95	0.80	0.73	0.69	0.66	0.63	0.60	0.58	0.52	0.48	0.43	0.40	0.37	0.34	0.33
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.48	2.21	1.99	1.81	1.67	1.26	1.18	1.10	1.04	0.98	0.93	0.69	0.66	0.63	0.60	0.58	0.55	0.53	0.51	0.50	0.48	0.46	0.45
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.92	1.71	1.26	1.09	1.01	0.86	0.62	0.58	0.55	0.44	0.35	0.29	0.23	0.20	0.16								
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3								
$W_{e,1}$		2.38	1.71	1.55	1.09	1.01	0.94	0.88	0.82	0.55	0.52	0.50	0.43	0.35	0.29	0.25								
n_B ≤ 6		6	5	5	4	4	4	4	4	3	3	3	3	3	3	3								

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.59	2.30	2.06	1.87	1.71	1.57	1.45	1.36	1.19	1.01	0.93	0.88	0.83	0.79	0.74	0.67	0.61	0.55	0.51	0.49	0.47	0.45	0.44
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.59	2.30	2.06	1.87	1.71	1.57	1.45	1.36	1.27	1.19	1.12	0.88	0.83	0.79	0.76	0.72	0.69	0.67	0.64	0.62	0.47	0.45	0.44
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	4	4	4
$W_{e,10}$	Colour group II	2.53	2.24	1.90	1.50	1.37	1.26	1.17	1.09	0.93	0.77	0.71	0.67	0.64	0.61	0.58	0.53	0.48	0.43	0.39	0.35	0.34	0.32	0.31
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.53	2.24	2.01	1.82	1.67	1.26	1.17	1.09	1.02	0.96	0.91	0.67	0.64	0.61	0.58	0.56	0.54	0.51	0.50	0.48	0.46	0.45	0.31
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	3
$W_{e,10}$	Colour group III	1.52	1.35	1.21	1.10	1.01	0.86	0.61	0.57	0.53	0.41	0.31	0.24	0.19										
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3										
$W_{e,1}$		1.98	1.35	1.21	1.10	1.01	0.93	0.87	0.81	0.54	0.51	0.47	0.36	0.28										
n_B ≤ 6		5	4	4	4	4	4	4	4	3	3	3	3	3										

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_A ≤ 60 [mm]	60	60	60	60	60	60	60	58	55	51	49	46	44	42	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.17	3.71	3.34	3.03	2.78	2.57	2.38	2.16	1.90	1.68	1.50	1.35	1.22	1.10	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_A ≤ 80 [mm]	80	80	80	80	73	67	62	58	55	51	49	46	44	42	40	40	40	40	40	40	40	40	40
$W_{e,10}$	5.57	4.94	4.45	4.02	3.38	2.88	2.48	2.16	1.90	1.68	1.50	1.35	1.22	1.10	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.54
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	76	73	70	67	65	62	60	60
b_A ≤ 80 [mm]	63	62	63	63	63	62	62	58	55	51	49	46	44	42	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.90	2.67	2.48	2.16	1.90	1.68	1.50	1.35	1.22	1.10	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	116	109	103	97	92	87	83	80	76	73	70	67	65	62	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.54
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.48	2.22	2.03	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	76	73	70	67	65	62	60	60
b_A ≤ 80 [mm]	63	62	62	63	62	63	62	58	55	51	49	46	44	42	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.86	3.48	3.16	2.90	2.68	2.48	2.16	1.90	1.68	1.50	1.35	1.22	1.10	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	117	109	103	97	92	87	83	80	76	73	70	67	65	62	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.09	1.85	1.67	1.52	1.39	1.28	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.54
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.78	2.47	2.23	2.02	1.85	1.71	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	76	73	70	67	65	62	60	60
b_A ≤ 80 [mm]	63	63	63	63	62	63	62	58	55	51	49	46	44	42	40	40	40	40	40	40	40	40	40
$W_{e,10}$	4.35	3.87	3.48	3.16	2.90	2.68	2.48	2.16	1.90	1.68	1.50	1.35	1.22	1.10	1.01	0.92	0.84	0.78	0.72	0.67	0.62	0.58	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	117	109	103	97	92	87	83	80	76	73	70	67	65	62	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$ [2]	Colour group I-III [4]	5.88	5.23	4.71	4.28	3.81	3.24	2.80	2.44	2.15	1.90	1.69	1.52	1.37	1.24	1.13	1.04	0.95	0.88	0.81	0.75	0.70	0.65	0.61
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4
$W_{e,1}$		5.88	5.23	4.71	4.28	3.92	3.62	3.36	3.14	2.94	2.77	2.54	2.28	2.06	1.87	1.70	1.56	1.43	1.32	1.22	1.13	1.05	0.98	0.91

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.33	2.04	1.81	1.63	1.49	1.36	1.26	1.17	1.10	1.03	0.97	0.86	0.72	0.68	0.65	0.62	0.60	0.56	0.50	0.45	0.41	0.39	0.38
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.33	2.04	1.81	1.63	1.49	1.36	1.26	1.17	1.10	1.03	0.97	0.92	0.88	0.68	0.65	0.62	0.60	0.57	0.55	0.53	0.51	0.50	0.38
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	4
$W_{e,10}$	Colour group II	2.22	1.94	1.72	1.55	1.41	1.30	1.20	0.94	0.84	0.79	0.75	0.62	0.51	0.49	0.47	0.45	0.44	0.40	0.35	0.31	0.27	0.26	0.25
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.22	1.94	1.72	1.55	1.41	1.30	1.20	1.12	0.84	0.79	0.75	0.71	0.68	0.49	0.47	0.45	0.44	0.42	0.41	0.39	0.38	0.37	0.36
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	2.04	1.78	1.58	1.36	1.01	0.93	0.63	0.59	0.53	0.31	0.28	0.24	0.15										
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3										
$W_{e,1}$		2.04	1.78	1.58	1.43	1.01	0.94	0.87	0.59	0.56	0.47	0.42	0.28	0.22										
n_B ≤ 6		6	6	6	6	5	5	5	4	4	4	4	3	3										

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.54	2.26	2.03	1.84	1.69	1.56	1.45	1.36	1.28	1.20	1.14	1.08	0.96	0.86	0.77	0.74	0.71	0.68	0.66	0.63	0.59	0.54	0.51
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.54	2.26	2.03	1.84	1.69	1.56	1.45	1.36	1.28	1.20	1.14	1.08	1.03	0.98	0.94	0.90	0.71	0.68	0.66	0.63	0.61	0.59	0.57
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	2.47	2.19	1.97	1.80	1.65	1.53	1.31	1.09	1.02	0.97	0.92	0.87	0.77	0.68	0.60	0.57	0.55	0.53	0.51	0.49	0.47	0.46	0.44
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.47	2.19	1.97	1.80	1.65	1.53	1.42	1.33	1.02	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.55	0.53	0.51	0.49	0.47	0.46	0.44
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	2.35	2.09	1.52	1.39	1.13	0.91	0.85	0.80	0.74	0.58	0.48	0.46	0.44	0.41	0.35	0.30	0.26	0.23	0.20	0.18			
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
$W_{e,1}$		2.36	2.09	1.52	1.39	1.28	1.19	0.85	0.80	0.76	0.72	0.68	0.65	0.44	0.43	0.41	0.39	0.38	0.35	0.30	0.27			
n_B ≤ 6		6	6	5	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3			

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50
$W_{e,10}$	Colour group I	2.59	2.30	2.06	1.87	1.71	1.57	1.45	1.36	1.27	1.19	1.12	1.06	0.94	0.82	0.76	0.72	0.69	0.66	0.64	0.61	0.56	0.52	0.48
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.59	2.30	2.06	1.87	1.71	1.57	1.45	1.36	1.27	1.19	1.12	1.06	1.01	0.96	0.92	0.72	0.69	0.66	0.64	0.62	0.59	0.57	0.55
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	2.53	2.24	2.01	1.82	1.67	1.50	1.28	1.08	1.02	0.96	0.90	0.85	0.74	0.64	0.58	0.55	0.53	0.51	0.49	0.47	0.46	0.43	0.39
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		2.53	2.24	2.01	1.82	1.67	1.53	1.42	1.33	1.02	0.96	0.90	0.86	0.81	0.77	0.74	0.71	0.53	0.51	0.49	0.47	0.46	0.44	0.43
n_B ≤ 6		6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.96	1.74	1.20	1.09	1.00	0.92	0.86	0.80	0.73	0.56	0.47	0.45	0.43	0.37	0.30	0.25	0.21	0.18					
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3					
$W_{e,1}$		1.96	1.74	1.56	1.42	1.00	0.92	0.86	0.80	0.75	0.71	0.67	0.64	0.43	0.41	0.39	0.38	0.32	0.27					
n_B ≤ 6		5	5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3					

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 140

wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.36	2.93	2.57	2.28	2.03	1.82	1.65	1.50	1.36	1.25	1.14	1.06	0.97	0.90	0.84	0.78	0.73	0.69	0.64	0.61	0.57	0.54	0.51
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	4	4	4	4	4
$W_{e,1}$		3.36	3.14	2.94	2.77	2.61	2.48	2.35	2.24	2.04	1.87	1.72	1.58	1.46	1.36	1.26	1.17	1.10	1.03	0.97	0.91	0.86	0.81	0.76

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.27	1.18	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.69	0.60	0.57	0.55	0.53	0.51	0.49	0.47	0.43	0.40	0.37	0.34	0.32	0.31
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.27	1.18	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.55	0.53	0.51	0.49	0.48	0.46	0.45	0.44	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.20	1.12	1.04	0.98	0.75	0.70	0.67	0.64	0.60	0.50	0.43	0.41	0.40	0.39	0.37	0.36	0.34	0.31	0.28	0.26	0.23	0.22	0.21
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.20	1.12	1.05	0.98	0.93	0.70	0.67	0.64	0.61	0.59	0.56	0.54	0.40	0.39	0.37	0.36	0.35	0.34	0.33	0.32	0.31	0.31	0.30
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.86	0.80	0.56	0.51	0.49	0.46	0.31	0.24	0.24	0.20	0.14												
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3												
$W_{e,1}$		0.86	0.80	0.75	0.51	0.49	0.47	0.45	0.35	0.24	0.24	0.21												
n_B ≤ 6		5	5	5	4	4	4	4	4	3	3	3												

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.45	1.35	1.27	1.20	1.13	1.07	1.02	0.97	0.93	0.89	0.83	0.75	0.68	0.63	0.61	0.59	0.57	0.55	0.53	0.51	0.48	0.45	0.43
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.45	1.35	1.27	1.20	1.13	1.07	1.02	0.97	0.93	0.89	0.86	0.82	0.79	0.76	0.74	0.59	0.57	0.55	0.53	0.52	0.50	0.49	0.48
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.41	1.32	1.24	1.08	0.91	0.86	0.82	0.78	0.75	0.72	0.68	0.61	0.55	0.50	0.47	0.45	0.44	0.43	0.41	0.40	0.39	0.38	0.37
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.41	1.32	1.24	1.17	1.11	0.86	0.82	0.78	0.75	0.72	0.69	0.67	0.64	0.62	0.60	0.58	0.44	0.43	0.41	0.40	0.39	0.38	0.37
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.10	0.79	0.74	0.71	0.67	0.64	0.58	0.48	0.41	0.38	0.37	0.36	0.35	0.31	0.28	0.25	0.23	0.21	0.19				
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
$W_{e,1}$		1.10	1.03	0.74	0.71	0.67	0.64	0.61	0.59	0.56	0.54	0.52	0.36	0.35	0.34	0.33	0.32	0.31	0.30	0.28				
n_B ≤ 6		5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3				

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.46	1.36	1.27	1.19	1.13	1.07	1.01	0.96	0.92	0.88	0.80	0.72	0.65	0.61	0.59	0.57	0.55	0.53	0.52	0.49	0.46	0.43	0.40
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.46	1.36	1.27	1.19	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.81	0.77	0.75	0.59	0.57	0.55	0.53	0.52	0.50	0.49	0.47	0.46
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.42	1.33	1.24	1.08	0.90	0.85	0.81	0.77	0.74	0.70	0.64	0.57	0.52	0.47	0.45	0.44	0.42	0.41	0.40	0.39	0.38	0.37	0.34
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.42	1.33	1.24	1.17	1.10	0.85	0.81	0.77	0.74	0.70	0.68	0.65	0.62	0.60	0.58	0.44	0.42	0.41	0.40	0.39	0.38	0.37	0.36
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.85	0.79	0.74	0.70	0.66	0.63	0.55	0.45	0.39	0.37	0.36	0.34	0.30	0.27	0.23	0.20	0.18						
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
$W_{e,1}$		1.11	1.04	0.75	0.70	0.66	0.63	0.60	0.57	0.55	0.52	0.36	0.34	0.33	0.32	0.31	0.30	0.27						
n_B ≤ 6		5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3						

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 140

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_A ≤ 60 [mm]	60	60	60	60	58	55	52	50	48	46	44	42	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.80	1.62	1.46	1.33	1.21	1.10	1.01	0.93	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_A ≤ 80 [mm]	75	70	66	62	58	55	52	50	48	46	44	42	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.98	2.60	2.28	2.02	1.80	1.62	1.46	1.33	1.21	1.10	1.01	0.93	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.45
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	72	70	68	66	64	62	60	60
b_A ≤ 80 [mm]	63	63	63	62	58	55	53	50	48	46	44	42	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.18	2.02	1.80	1.62	1.46	1.33	1.21	1.10	1.01	0.93	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_B ≤ 125 [mm]	125	125	125	123	117	110	105	100	95	91	87	84	81	78	75	72	70	68	66	64	62	60	60

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.45
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	72	70	68	66	64	62	60	60
b_A ≤ 80 [mm]	62	63	62	62	58	55	52	50	48	46	44	42	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.02	1.80	1.62	1.46	1.33	1.21	1.10	1.01	0.93	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_B ≤ 125 [mm]	125	125	125	123	117	110	105	100	95	91	87	84	81	78	75	72	70	68	66	64	62	60	60

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.45
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	72	70	68	66	64	62	60	60
b_A ≤ 80 [mm]	62	63	62	62	58	55	52	50	48	46	44	42	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.02	1.80	1.62	1.46	1.33	1.21	1.10	1.01	0.93	0.86	0.80	0.75	0.69	0.65	0.61	0.57	0.54	0.50	0.48	0.45
b_B ≤ 125 [mm]	125	125	125	123	117	110	105	100	95	91	87	84	81	78	75	72	70	68	66	64	62	60	60

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_A ≤ 60 [mm]	60	60	60	60	60	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.59	1.44	1.31	1.20	1.10	1.02	0.94	0.87	0.81	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_A ≤ 80 [mm]	80	76	71	67	63	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	3.18	2.82	2.48	2.20	1.96	1.76	1.59	1.44	1.31	1.20	1.10	1.02	0.94	0.87	0.81	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	71	69	67	65	63
b_A ≤ 80 [mm]	62	62	62	62	63	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.76	1.58	1.44	1.31	1.20	1.10	1.02	0.94	0.87	0.81	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 125 [mm]	125	125	125	125	125	120	114	109	104	99	95	91	88	85	81	79	76	74	71	69	67	65	63

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	71	69	67	65	63
b_A ≤ 80 [mm]	62	62	62	62	62	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.76	1.59	1.44	1.31	1.20	1.10	1.02	0.94	0.87	0.81	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 125 [mm]	125	125	125	125	125	120	114	109	104	99	95	91	88	85	81	79	76	74	71	69	67	65	63

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	76	74	71	69	67	65	63
b_A ≤ 80 [mm]	62	62	62	62	62	60	57	54	52	50	48	46	44	42	41	40	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.04	1.93	1.76	1.59	1.44	1.31	1.20	1.10	1.02	0.94	0.87	0.81	0.75	0.71	0.66	0.62	0.58	0.55	0.52	0.49
b_B ≤ 125 [mm]	125	125	125	125	125	120	114	109	104	99	95	91	88	85	81	79	76	74	71	69	67	65	63

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 150 — wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support** screws with washer d ≥ 16 mm[3] — **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.36	3.14	2.80	2.48	2.21	1.98	1.79	1.62	1.48	1.36	1.24	1.15	1.06	0.98	0.91	0.85	0.80	0.75	0.70	0.66	0.62	0.58	0.55
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4
$W_{e,1}$		3.36	3.14	2.94	2.77	2.61	2.48	2.35	2.24	2.14	2.03	1.87	1.72	1.59	1.47	1.37	1.28	1.19	1.12	1.05	0.99	0.93	0.88	0.83

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.27	1.18	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.72	0.63	0.56	0.53	0.51	0.49	0.48	0.46	0.45	0.42	0.39	0.36	0.34
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.27	1.18	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.73	0.70	0.67	0.65	0.51	0.49	0.48	0.46	0.45	0.43	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.20	1.12	1.04	0.98	0.92	0.77	0.67	0.64	0.61	0.58	0.54	0.46	0.40	0.38	0.37	0.36	0.35	0.34	0.33	0.31	0.28	0.26	0.24
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.20	1.12	1.04	0.98	0.92	0.88	0.83	0.64	0.61	0.58	0.56	0.54	0.52	0.50	0.37	0.36	0.35	0.34	0.33	0.32	0.31	0.30	0.30
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.98	0.80	0.75	0.59	0.48	0.46	0.44	0.37	0.25	0.22	0.22	0.19	0.14	0.10									
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3									
$W_{e,1}$		1.10	0.80	0.75	0.71	0.67	0.46	0.44	0.42	0.38	0.33	0.22	0.22	0.21	0.15									
n_B ≤ 6		6	5	5	5	5	4	4	4	4	4	3	3	3	3									

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.45	1.35	1.27	1.19	1.13	1.07	1.02	0.97	0.93	0.89	0.85	0.82	0.77	0.71	0.65	0.60	0.57	0.55	0.53	0.52	0.50	0.49	0.47
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.45	1.35	1.27	1.19	1.13	1.07	1.02	0.97	0.93	0.89	0.85	0.82	0.79	0.76	0.73	0.71	0.69	0.55	0.53	0.52	0.50	0.49	0.48
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.41	1.32	1.24	1.17	1.09	0.91	0.82	0.78	0.75	0.72	0.69	0.66	0.64	0.58	0.53	0.48	0.45	0.42	0.41	0.40	0.39	0.38	0.37
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.41	1.32	1.24	1.17	1.10	1.05	1.00	0.78	0.75	0.72	0.69	0.66	0.64	0.62	0.59	0.58	0.56	0.54	0.52	0.40	0.39	0.38	0.37
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4
$W_{e,10}$	Colour group III	1.09	1.02	0.80	0.70	0.66	0.63	0.61	0.58	0.52	0.45	0.38	0.35	0.34	0.33	0.32	0.31	0.28	0.26	0.23	0.21	0.20	0.18	0.17
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.09	1.02	0.96	0.91	0.66	0.63	0.61	0.58	0.56	0.54	0.52	0.50	0.48	0.33	0.32	0.31	0.30	0.29	0.29	0.28	0.27	0.27	0.25
n_B ≤ 6		5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.46	1.36	1.27	1.19	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.81	0.75	0.68	0.62	0.57	0.55	0.53	0.52	0.50	0.49	0.47	0.45
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.46	1.36	1.27	1.19	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.81	0.77	0.74	0.72	0.69	0.67	0.53	0.52	0.50	0.49	0.47	0.46
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.42	1.33	1.24	1.17	1.09	0.91	0.81	0.77	0.74	0.70	0.67	0.65	0.61	0.55	0.49	0.45	0.42	0.41	0.40	0.39	0.37	0.36	0.35
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.42	1.33	1.24	1.17	1.10	1.04	0.99	0.77	0.74	0.70	0.67	0.65	0.62	0.60	0.58	0.56	0.54	0.52	0.40	0.39	0.37	0.36	0.35
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4
$W_{e,10}$	Colour group III	0.92	0.79	0.74	0.70	0.66	0.63	0.60	0.57	0.50	0.42	0.36	0.34	0.33	0.32	0.30	0.27	0.24	0.21	0.19	0.17	0.15	0.14	0.13
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.11	1.03	0.97	0.91	0.66	0.63	0.60	0.57	0.54	0.52	0.50	0.48	0.46	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.23	0.21	0.19
n_B ≤ 6		5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 170

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.70	0.66	0.62	0.58	0.55	0.52
b_A ≤ 60 [mm]	60	60	60	60	60	60	60	57	55	52	50	48	46	45	43	42	40	40	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.67	1.52	1.39	1.27	1.16	1.07	0.99	0.92	0.86	0.80	0.75	0.70	0.66	0.62	0.58	0.55	0.52
b_A ≤ 80 [mm]	80	80	75	71	67	63	60	57	55	52	50	48	46	45	43	42	40	40	40	40	40	40	40
$W_{e,10}$	3.18	2.97	2.62	2.32	2.07	1.86	1.68	1.52	1.39	1.27	1.16	1.07	0.99	0.92	0.86	0.80	0.75	0.70	0.66	0.62	0.58	0.55	0.52

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.70	0.66	0.62	0.58	0.55	0.52
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	73	71	69	67
b_A ≤ 80 [mm]	62	63	62	62	62	62	60	57	55	52	50	48	46	45	43	42	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.68	1.52	1.39	1.27	1.16	1.07	0.99	0.92	0.86	0.80	0.75	0.70	0.66	0.62	0.58	0.55	0.52
b_B ≤ 125 [mm]	125	125	125	125	125	125	121	115	110	105	100	96	93	89	86	83	80	78	75	73	71	69	67

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.70	0.66	0.62	0.58	0.55	0.52
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	73	71	69	67
b_A ≤ 80 [mm]	63	62	62	63	62	62	60	57	55	52	50	48	46	45	43	42	40	40	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.17	2.05	1.93	1.83	1.68	1.52	1.39	1.27	1.16	1.07	0.99	0.92	0.86	0.80	0.75	0.70	0.66	0.62	0.58	0.55	0.52
b_B ≤ 125 [mm]	125	125	125	125	125	125	121	115	110	105	100	96	93	89	86	83	80	78	75	73	71	69	67

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.70	0.66	0.62	0.58	0.55	0.52
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	73	71	69	67
b_A ≤ 80 [mm]	62	63	63	63	63	62	60	57	55	52	50	48	46	45	43	42	40	40	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.68	1.52	1.39	1.27	1.16	1.07	0.99	0.92	0.86	0.80	0.75	0.70	0.66	0.62	0.58	0.55	0.52
b_B ≤ 125 [mm]	125	125	125	125	125	125	121	115	110	105	100	96	93	89	86	83	80	78	75	73	71	69	67

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

ems isolierpaneel LL 170 — wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm[3] — **intermediate support**: screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$ = 0.60 mm
inner sheet: $t_{N,i}$ = 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.36	3.14	2.94	2.62	2.34	2.10	1.89	1.72	1.57	1.43	1.31	1.21	1.12	1.04	0.97	0.90	0.84	0.79	0.74	0.70	0.66	0.62	0.58
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,1}$		3.36	3.14	2.94	2.77	2.61	2.48	2.35	2.24	2.14	2.05	1.96	1.82	1.68	1.56	1.45	1.35	1.26	1.18	1.11	1.04	0.98	0.93	0.88

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.28	1.18	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.72	0.65	0.57	0.52	0.51	0.49	0.47	0.46	0.44	0.42	0.38	0.35	0.33
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.28	1.18	1.10	1.03	0.97	0.92	0.87	0.83	0.79	0.76	0.72	0.70	0.67	0.64	0.51	0.49	0.47	0.46	0.44	0.43	0.42	0.41	0.40
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.21	1.12	1.04	0.98	0.92	0.84	0.66	0.63	0.60	0.58	0.54	0.45	0.39	0.37	0.36	0.35	0.34	0.33	0.32	0.28	0.25	0.23	0.21
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.21	1.12	1.04	0.98	0.92	0.87	0.83	0.63	0.60	0.58	0.55	0.53	0.51	0.50	0.36	0.35	0.34	0.33	0.32	0.31	0.31	0.30	0.29
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.10	0.79	0.74	0.69	0.47	0.45	0.43	0.34	0.21	0.18													
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3													
$W_{e,1}$		1.10	1.02	0.74	0.70	0.66	0.45	0.43	0.41	0.32	0.27													
n_B ≤ 6		6	6	5	5	5	4	4	4	4	4													

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.44	1.35	1.26	1.19	1.12	1.07	1.01	0.97	0.92	0.89	0.85	0.82	0.75	0.68	0.63	0.58	0.56	0.55	0.53	0.51	0.50	0.49	0.47
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.44	1.35	1.26	1.19	1.13	1.07	1.01	0.97	0.92	0.89	0.85	0.82	0.79	0.76	0.73	0.71	0.68	0.55	0.53	0.52	0.50	0.49	0.47
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.40	1.31	1.23	1.16	1.04	0.85	0.81	0.77	0.74	0.71	0.68	0.66	0.59	0.53	0.48	0.45	0.43	0.42	0.41	0.40	0.39	0.38	0.37
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.40	1.31	1.23	1.16	1.10	1.04	0.99	0.77	0.74	0.71	0.68	0.66	0.63	0.61	0.59	0.57	0.55	0.42	0.41	0.40	0.39	0.38	0.37
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.08	1.01	0.72	0.69	0.65	0.62	0.60	0.49	0.39	0.37	0.36	0.35	0.32	0.28	0.25	0.21	0.19						
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
$W_{e,1}$		1.08	1.01	0.95	0.69	0.65	0.62	0.60	0.57	0.55	0.53	0.51	0.35	0.33	0.32	0.31	0.31	0.28						
n_B ≤ 6		5	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	3						

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.46	1.36	1.27	1.20	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.81	0.73	0.66	0.60	0.57	0.55	0.53	0.52	0.50	0.49	0.47	0.46
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.46	1.36	1.27	1.20	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.81	0.77	0.75	0.72	0.69	0.55	0.53	0.52	0.50	0.49	0.47	0.46
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.42	1.33	1.24	1.08	0.95	0.85	0.81	0.77	0.73	0.70	0.67	0.64	0.56	0.50	0.45	0.43	0.42	0.41	0.40	0.38	0.37	0.36	0.35
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.42	1.33	1.24	1.17	1.10	1.04	0.99	0.77	0.73	0.70	0.67	0.65	0.62	0.60	0.58	0.56	0.42	0.41	0.40	0.38	0.37	0.36	0.35
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.84	0.79	0.74	0.69	0.66	0.62	0.59	0.48	0.38	0.36	0.35	0.33	0.30	0.25	0.21	0.18							
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3							
$W_{e,1}$		0.84	0.79	0.74	0.69	0.66	0.62	0.59	0.56	0.54	0.52	0.35	0.33	0.32	0.31	0.30	0.27							
n_B ≤ 6		4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3							

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

ems isolierpaneel LL 200

wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.69	0.65	0.61	0.57	0.54
b_A ≤ 60 [mm]	60	60	60	60	60	60	60	60	57	55	53	51	49	47	45	44	42	41	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.67	1.59	1.45	1.33	1.22	1.12	1.04	0.96	0.90	0.84	0.78	0.73	0.69	0.65	0.61	0.57	0.54
b_A ≤ 80 [mm]	80	80	79	74	70	66	63	60	57	55	53	51	49	47	45	44	42	41	40	40	40	40	40
$W_{e,10}$	3.18	2.97	2.75	2.43	2.17	1.95	1.76	1.59	1.45	1.33	1.22	1.12	1.04	0.96	0.90	0.84	0.78	0.73	0.69	0.65	0.61	0.57	0.54

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.69	0.65	0.61	0.57	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	77	74	72	70
b_A ≤ 80 [mm]	62	63	62	63	62	63	62	60	57	55	53	51	49	47	45	44	42	41	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.74	1.59	1.45	1.33	1.22	1.12	1.04	0.96	0.90	0.84	0.78	0.73	0.69	0.65	0.61	0.57	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	120	115	110	105	101	97	94	90	87	84	82	79	77	74	72	70

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.69	0.65	0.61	0.57	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	77	74	72	70
b_A ≤ 80 [mm]	62	62	62	62	62	63	62	60	57	55	53	51	49	47	45	44	42	41	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.04	1.93	1.83	1.74	1.60	1.45	1.33	1.22	1.12	1.04	0.96	0.90	0.84	0.78	0.73	0.69	0.65	0.61	0.57	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	120	115	110	105	101	97	94	90	87	84	82	79	77	74	72	70

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.69	0.65	0.61	0.57	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	79	77	74	72	70
b_A ≤ 80 [mm]	63	63	63	63	63	62	63	60	57	55	53	51	49	47	45	44	42	41	40	40	40	40	40
$W_{e,10}$	2.49	2.32	2.17	2.05	1.93	1.83	1.74	1.59	1.45	1.33	1.22	1.12	1.04	0.96	0.90	0.84	0.78	0.73	0.69	0.65	0.61	0.57	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	120	115	110	105	101	97	94	90	87	84	82	79	77	74	72	70

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing | **end support** screws with washer d ≥ 16 mm[3] | **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.36	3.14	2.94	2.75	2.45	2.20	1.98	1.80	1.64	1.50	1.38	1.27	1.17	1.09	1.01	0.94	0.88	0.83	0.78	0.73	0.69	0.65	0.61
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,1}$		3.36	3.14	2.94	2.77	2.61	2.48	2.35	2.24	2.14	2.05	1.96	1.88	1.76	1.63	1.52	1.42	1.32	1.24	1.16	1.09	1.03	0.97	0.92

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.29	1.19	1.11	1.04	0.98	0.92	0.87	0.83	0.79	0.75	0.72	0.63	0.54	0.52	0.50	0.48	0.47	0.45	0.42	0.38	0.34	0.31	0.30
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.29	1.19	1.11	1.04	0.98	0.92	0.87	0.83	0.79	0.75	0.72	0.69	0.67	0.64	0.50	0.48	0.47	0.45	0.44	0.43	0.41	0.40	0.39
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.21	1.12	1.05	0.98	0.92	0.87	0.65	0.62	0.59	0.57	0.48	0.39	0.38	0.37	0.35	0.34	0.32	0.28	0.24	0.21	0.20	0.20	0.19
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.21	1.12	1.05	0.98	0.92	0.87	0.82	0.62	0.60	0.57	0.55	0.53	0.38	0.37	0.35	0.34	0.33	0.32	0.31	0.31	0.30	0.20	0.19
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3
$W_{e,10}$	Colour group III	1.10	0.79	0.73	0.69	0.43	0.41	0.40	0.23	0.12														
n_A ≤ 3		3	3	3	3	3	3	3	3	3														
$W_{e,1}$		1.10	1.02	0.73	0.69	0.64	0.41	0.40	0.35	0.19														
n_B ≤ 6		6	6	5	5	5	4	4	4	4														

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.44	1.34	1.26	1.18	1.12	1.06	1.01	0.96	0.92	0.88	0.84	0.75	0.67	0.62	0.60	0.58	0.56	0.54	0.53	0.51	0.50	0.48	0.45
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.44	1.34	1.26	1.18	1.12	1.06	1.01	0.96	0.92	0.88	0.84	0.81	0.78	0.75	0.73	0.58	0.56	0.54	0.53	0.51	0.50	0.48	0.47
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.39	1.30	1.22	1.13	0.89	0.84	0.80	0.77	0.73	0.68	0.59	0.51	0.49	0.47	0.46	0.44	0.43	0.41	0.40	0.39	0.37	0.34	0.32
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.39	1.30	1.22	1.15	1.09	0.84	0.80	0.77	0.73	0.70	0.67	0.65	0.63	0.47	0.46	0.44	0.43	0.41	0.40	0.39	0.38	0.37	0.36
n_B ≤ 6		6	6	6	6	6	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.06	0.75	0.71	0.67	0.64	0.47	0.40	0.38	0.34	0.25	0.18												
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3												
$W_{e,1}$		1.06	0.99	0.71	0.67	0.64	0.61	0.58	0.38	0.37	0.36	0.27												
n_B ≤ 6		5	5	4	4	4	4	4	3	3	3	3												

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.46	1.36	1.27	1.20	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.74	0.66	0.61	0.59	0.57	0.55	0.53	0.52	0.50	0.49	0.45	0.42
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.46	1.36	1.27	1.20	1.13	1.07	1.01	0.96	0.92	0.88	0.84	0.81	0.77	0.74	0.72	0.57	0.55	0.53	0.52	0.50	0.49	0.47	0.46
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.26	1.08	1.01	0.95	0.90	0.85	0.81	0.77	0.73	0.68	0.58	0.50	0.48	0.46	0.45	0.43	0.42	0.40	0.39	0.38	0.34	0.31	0.29
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	3	3
$W_{e,1}$		1.42	1.33	1.01	0.95	0.90	0.85	0.81	0.77	0.73	0.70	0.67	0.64	0.62	0.46	0.45	0.43	0.42	0.40	0.39	0.38	0.37	0.36	0.35
n_B ≤ 6		6	6	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.83	0.64	0.50	0.47	0.45	0.42	0.40	0.39	0.34	0.25	0.18												
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3												
$W_{e,1}$		0.83	0.78	0.73	0.69	0.65	0.42	0.40	0.39	0.37	0.35	0.27												
n_B ≤ 6		4	4	4	4	4	3	3	3	3	3	3												

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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wind pressure

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support**: screws with washer d ≥ 16 mm — **intermediate support**: screws with washer d ≥ 16 mm

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A [3] = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$ [2]	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.70	0.66	0.62	0.58	0.55
b_A ≤ 60 [mm]	60	60	60	60	60	60	60	60	58	56	53	51	49	47	46	44	43	41	40	40	40	40	40
$W_{e,10}$	2.38	2.22	2.09	1.96	1.85	1.76	1.67	1.59	1.47	1.35	1.24	1.14	1.06	0.98	0.91	0.85	0.79	0.74	0.70	0.66	0.62	0.58	0.55
b_A ≤ 80 [mm]	80	80	80	75	71	67	64	61	58	56	53	51	49	47	46	44	43	41	40	40	40	40	40
$W_{e,10}$	3.18	2.97	2.78	2.47	2.20	1.98	1.78	1.62	1.47	1.35	1.24	1.14	1.06	0.98	0.91	0.85	0.79	0.74	0.70	0.66	0.62	0.58	0.55

Two-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B [3] = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.70	0.66	0.62	0.58	0.54
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	73	70
b_A ≤ 80 [mm]	62	63	62	62	62	63	62	61	58	56	53	51	49	47	46	44	43	41	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.74	1.62	1.47	1.35	1.24	1.14	1.06	0.98	0.91	0.85	0.79	0.74	0.70	0.66	0.62	0.58	0.54
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	122	116	111	107	103	99	95	92	88	85	83	80	78	75	73	70

Three-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.70	0.66	0.62	0.58	0.55
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	73	71
b_A ≤ 80 [mm]	62	63	63	63	63	62	62	61	58	56	53	51	49	47	46	44	43	41	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.17	2.05	1.93	1.83	1.74	1.62	1.47	1.35	1.24	1.14	1.06	0.98	0.91	0.85	0.79	0.74	0.70	0.66	0.62	0.58	0.55
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	122	117	111	107	103	99	95	92	88	85	83	80	78	75	73	71

Four-span element, allowable wind pressure load allow. w_p [kN/m²]

Span L[m]	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
b_A = 40 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.49	0.48	0.46
b_B = 60 [mm]	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
b_A ≤ 60 [mm]	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
$W_{e,10}$	1.59	1.48	1.39	1.31	1.24	1.17	1.11	1.06	1.01	0.97	0.93	0.89	0.86	0.82	0.79	0.77	0.74	0.72	0.70	0.66	0.62	0.58	0.55
b_B ≤ 80 [mm]	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	78	75	73	71
b_A ≤ 80 [mm]	62	63	63	63	63	62	62	61	58	56	53	51	49	47	46	44	43	41	40	40	40	40	40
$W_{e,10}$	2.48	2.32	2.18	2.05	1.93	1.83	1.74	1.62	1.47	1.35	1.24	1.14	1.06	0.98	0.91	0.85	0.79	0.74	0.70	0.66	0.62	0.58	0.55
b_B ≤ 125 [mm]	125	125	125	125	125	125	125	122	117	111	107	103	99	95	92	88	85	83	80	78	75	73	71

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind pressure load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100.

[3] "b_A" and "b_B" are minimum widths of the end support b_A and intermediate support b_B in [mm] for the relevant wind pressure load.

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wind suction

Load tables for preliminary design[1] of buildings with normal internal temperatures, not valid for cold stores or chillrooms - visible fixing -

Type of fixing — **end support** screws with washer d ≥ 16 mm[3] — **intermediate support** screws with washer d ≥ 16 mm[3]

outer sheet: $t_{N,o}$= 0.60 mm
inner sheet: $t_{N,i}$= 0.50 mm
module width: 1176 mm

Single-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$ [2]	Colour group I-III [4]	3.36	3.14	2.94	2.77	2.48	2.22	2.00	1.82	1.66	1.52	1.39	1.28	1.19	1.10	1.02	0.95	0.89	0.83	0.78	0.74	0.69	0.65	0.62
n_A ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5
$W_{e,1}$		3.36	3.14	2.94	2.77	2.61	2.48	2.35	2.24	2.14	2.05	1.96	1.88	1.78	1.65	1.54	1.43	1.34	1.25	1.17	1.10	1.04	0.98	0.93

Two-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.31	1.21	1.12	1.05	0.98	0.93	0.88	0.83	0.79	0.76	0.72	0.61	0.54	0.52	0.50	0.48	0.47	0.43	0.38	0.34	0.32	0.31	0.30
n_A ≤ 3 [3]		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.31	1.21	1.12	1.05	0.98	0.93	0.88	0.83	0.79	0.76	0.72	0.69	0.67	0.52	0.50	0.48	0.47	0.45	0.44	0.43	0.41	0.40	0.30
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	4
$W_{e,10}$	Colour group II	1.23	1.14	1.06	0.99	0.93	0.88	0.66	0.63	0.60	0.57	0.42	0.39	0.38	0.36	0.35	0.31	0.26	0.21	0.21	0.20	0.20	0.17	0.14
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.23	1.14	1.06	0.99	0.93	0.88	0.83	0.63	0.60	0.57	0.55	0.52	0.38	0.36	0.35	0.34	0.33	0.32	0.31	0.20	0.20	0.19	0.19
n_B ≤ 6		6	6	6	6	6	6	6	5	5	5	5	5	4	4	4	4	4	4	4	3	3	3	3
$W_{e,10}$	Colour group III	1.12	1.03	0.74	0.69	0.42	0.40	0.39	0.16															
n_A ≤ 3		3	3	3	3	3	3	3	3															
$W_{e,1}$		1.12	1.04	0.74	0.69	0.64	0.40	0.39	0.23															
n_B ≤ 6		6	6	5	5	5	4	4	4															

Three-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.44	1.34	1.26	1.18	1.12	1.06	1.01	0.96	0.92	0.86	0.75	0.67	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.48	0.45	0.41	0.39
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.44	1.34	1.26	1.18	1.12	1.06	1.01	0.96	0.92	0.88	0.84	0.81	0.78	0.62	0.60	0.58	0.56	0.54	0.52	0.51	0.50	0.48	0.47
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.39	1.30	1.22	0.98	0.88	0.84	0.80	0.76	0.65	0.54	0.52	0.50	0.48	0.47	0.45	0.44	0.41	0.37	0.33	0.30	0.27	0.27	0.26
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.39	1.30	1.22	1.15	0.88	0.84	0.80	0.76	0.73	0.70	0.67	0.50	0.48	0.47	0.45	0.44	0.42	0.41	0.40	0.39	0.38	0.37	0.36
n_B ≤ 6		6	6	6	6	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	1.06	0.75	0.70	0.66	0.43	0.41	0.35	0.20															
n_A ≤ 3		3	3	3	3	3	3	3	3															
$W_{e,1}$		1.06	0.99	0.70	0.66	0.63	0.41	0.39	0.30															
n_B ≤ 6		5	5	4	4	4	3	3	3															

Four-span element, allowable wind suction load allow. w_s [kN/m²]

Span L[m]		3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00
$W_{e,10}$	Colour group I	1.47	1.37	1.28	1.20	1.13	1.07	1.02	0.97	0.91	0.83	0.75	0.66	0.64	0.61	0.59	0.57	0.55	0.53	0.51	0.47	0.43	0.40	0.37
n_A ≤ 3		4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.47	1.37	1.28	1.20	1.13	1.07	1.02	0.97	0.92	0.88	0.84	0.81	0.78	0.61	0.59	0.57	0.55	0.53	0.52	0.50	0.49	0.47	0.46
n_B ≤ 6		6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5	5	5
$W_{e,10}$	Colour group II	1.16	1.08	1.01	0.95	0.90	0.78	0.68	0.60	0.57	0.54	0.52	0.50	0.48	0.46	0.45	0.43	0.40	0.36	0.32	0.29	0.26	0.26	0.25
n_A ≤ 3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
$W_{e,1}$		1.16	1.08	1.01	0.95	0.90	0.85	0.81	0.77	0.73	0.70	0.67	0.50	0.48	0.46	0.45	0.43	0.42	0.40	0.39	0.38	0.37	0.36	0.35
n_B ≤ 6		5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4
$W_{e,10}$	Colour group III	0.57	0.53	0.33	0.19																			
n_A ≤ 3		3	3	3	3																			
$W_{e,1}$		0.83	0.53	0.49	0.28																			
n_B ≤ 6		4	3	3	3																			

Please note the maximum length supplied, especially in the case of multi-span elements.

[1] The tables do not replace the structural analysis required for execution of the constructional work. The allowable wind loads are specified in [kN/m²] and have been determined in accordance with the provisions of official approval no. Z-10.49-524 (based on EN 14509) issued by the German building inspection authorities. The load tables contain both load and material safety factors.

[2] "$W_{e,10}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the panel design with a deflection restriction max f ≤ L/100, "$W_{e,1}$" is the allowable characteristic wind suction load in [kN/m²] in consideration of the fastener design.

[3] "n_A" and "n_B" are the number of screws per module width at the end support b_A and intermediate support b_B for the relevant wind suction load. Assumed characteristic tensile forces "pull through the sheet": $F_{z,k}(b_A)$ = 2.3 kN/screw $F_{z,k}(b_B)$ = 2.3 kN. The verification "pull out of the substructure" must be calculated separately!

[4] „Colour group I, II, III" - The following temperature differences between the cover sheets have been taken into consideration for secondary loads in the cover sheets, in accordance with the general approval issued by the building inspection authorities:

Season	Colour group	t_{indoor}	$t_{outdoor}$-t_{indoor}
summer	I / II / III	25°C	+30 / +40 / +55 °C
winter	all	20°C	-40 °C

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