

Table of spans

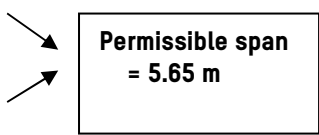
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COMMENTS ON THE TABLES FOR ROOF ELEMENTS

When using the tables, the following should be observed:

1. The characteristic loads must be determined in accordance with Eurocodes or, if necessary, taking account of the national appendix.
2. Values in accordance with DIN EN 1990/NA:2010-12 are the basis for load factors and combined coefficients.
3. The general building authority approval Z-10.4-549 of April 2013 serves as the basis for the load bearing capacity and the calculation parameters.
4. The relevant minimum span in the tables for snow load and wind uplift pressure requirements should be selected for each application case.
5. In the case of double- and triple-span girders/beams, only approximately identical span ratios are permissible (approximately $1.0 \leq \text{min.}l/\text{max.}l \leq 0.8$).
6. Application in buildings with normal interior temperatures of 20 to 25 °C.
7. At most, the deflection amounts to $l/100$ while considering all unfavourable loads, including long-term behavior, and $l/200$ in the case of short-term load action.
Spans in the additional line marked with * are not relevant for calculations where deflection is restricted.
8. Spans in the "Characteristic wind uplift pressure" table do not take fasteners into consideration. Fasteners have to be verified on a case-by-case basis and can at number > 3 pieces reduce the specified span.
9. The quantity of direct fasteners was calculated using a characteristic screw load capacity of $N_{R,k} = 2.3 \text{ kN}$.
10. Interpolation between spans and numbers of screws is possible, but extrapolation is not.
11. For indirect (concealed) fastening, load capacity in accordance with approval Z-10.4-549, Appendix 2 is considered.
For thin walls ($t \leq 5 \text{ mm}$), asymmetrical substructures (no symmetrical axis parallel to the screw axis such as with Z or C profiles), a separate structural analysis must be carried out in each individual case.
12. See approval Z-10.4-549 for specific instructions related to load capacity, calculation parameters and their monitoring.
13. Please refer to the Roma color chart for information about surface colors and their category: I (very light), II (light) and III (dark).
14. Permissible spans are listed in m and the required support width in mm; see the following reading example.

READING EXAMPLE

From "Snow load" table	46 5.65 92	Required end support width in millimeters Permissible span based on element verification in m Required intermediate support width in mm
		
From "Wind uplift" table	6.05	Permissible span based on element verification
From "Wind uplift" table For screws	3 3.5	Number of screws per meter at support Permissible span in m with 3 screws per support

CALCULATING SNOW LOAD



Source: www.schneelast.info

Table 1: Characteristic snow load (kN/m²)

SNOW LOAD ZONE	Snow load on the ground (kN/m ²)	
1	$0.19 + 0.91 * ((A+140)/760)^2$	≥ 0.65 (≤ 400 m above sea level)
2	$0.25 + 1.91 * ((A+140)/760)^2$	0.85 (≤ 285 m above sea level)
3	$0.31 + 2.91 * ((A+140)/760)^2$	≥ 1.10 (≤ 255 m above sea level)

A= height of the building site above sea level

Note 1: For zones 1a and 2a, the values for zones 1 and 2 are multiplied by 1.25.

Note 2: Accounting for the roof type coefficients: $s_1 = \mu_1 * s_k$; $\mu_1 = 0.8$

Example: 86647 Buttenwiesen snow load zone 1a: A= 425 m above sea level:

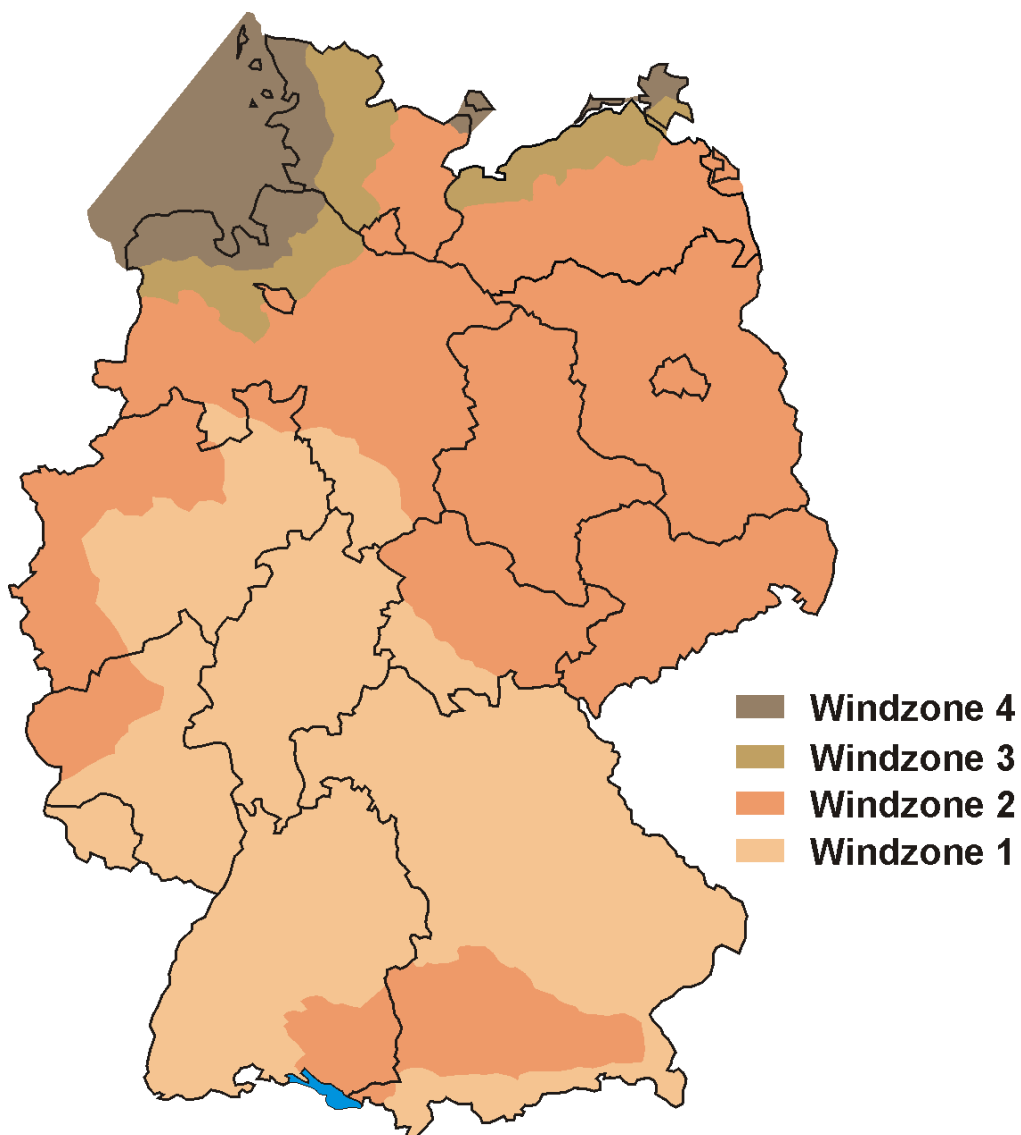
Table 1: $0.19 + 0.91 * ((425+140)/760)^2 = 0.69 \text{ kN/m}^2 \geq 0.65 \text{ kN/m}^2$

Note 1: $1.25 * 0.69 \text{ kN/m}^2 = 0.866 \text{ kN/m}^2$

Note 2: Accounting for the roof type coefficient: $0.8 * 0.66 \text{ kN/m}^2 = 0.693 \text{ kN/m}^2$

Tabulated value: = 0.693 kN/m²

CALCULATION OF WIND LOAD



Source: <http://de.wikipedia.org/wiki/windlast>

Table 2: Characteristic wind uplift pressure load (kN/m²)

Building height	WIND LOAD ZONE				
		1	2	3	4
5 m	PERIPHERAL AREA	-1.01/-1.25	-1.32/-1.61	-1.59/-1.59	-1.89/-2.31
	NORMAL AREA	-0.29/-0.59	-0.41/-0.70	-0.49/-0.85	-0.59/-1.01
10 m	PERIPHERAL AREA	-1.22/-1.50	-1.49/-1.82	-1.80/-2.20	-2.14/-2.62
	NORMAL AREA	-0.38/-0.65	-0.46/-0.80	-0.56/-0.96	-0.67/1.14
15 m	PERIPHERAL AREA	-1.42/-1.74	-1.73/-2.12	-2.09/-2.55	-2.49/-3.04
	NORMAL AREA	-0.44/-0.76	-0.54/-0.92	-0.65/-1.11	-0.66/-0.94

Note 3: Example values for buildings in the onshore terrain category
(general wind uplift pressure/wind uplift pressure for screws)

Permissible spans for ROMA roof elements P 45 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.1: Wind uplift pressure

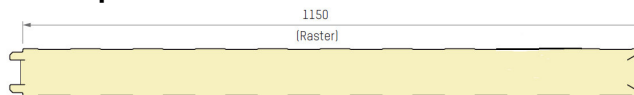
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	8.82	5.68	4.51	3.86	3.42	3.11	2.87	2.68	2.52	2.37	2.15	1.97	1.81	1.68	1.56	1.47	1.38	1.30	1.23	1.17
	I.II.III	3.10	3.08	2.78	2.57	2.39	2.21	2.06	1.94	1.83	1.74	1.66	1.58	1.51	1.43	1.37	1.31	1.25	1.20	1.16	1.11
2- span	I.II*	8.63	5.68	4.51	3.86	3.42	3.11	2.87	2.68	2.52	2.37	2.15	1.97	1.81	1.68	1.56	1.46	1.38	1.30	1.23	1.17
	I.II	6.40	5.27	4.21	3.57	3.12	2.79	2.52	2.31	2.13	1.98	1.84	1.73	1.63	1.54	1.46	1.38	1.32	1.26	1.21	1.16
	III*	8.34	4.72	3.88	3.46	3.18	2.98	2.82	2.68	2.52	2.37	2.15	1.97	1.81	1.68	1.56	1.46	1.38	1.30	1.23	1.17
	III	6.40	4.72	3.88	3.46	3.12	2.79	2.52	2.31	2.13	1.98	1.84	1.73	1.63	1.54	1.46	1.38	1.32	1.26	1.21	1.16
3- span	I.II*	8.82	5.68	4.51	3.86	3.42	3.11	2.87	2.68	2.52	2.37	2.15	1.97	1.81	1.68	1.56	1.46	1.38	1.30	1.23	1.17
	I.II	5.45	4.89	4.02	3.44	3.04	2.73	2.48	2.28	2.12	1.97	1.84	1.73	1.64	1.55	1.47	1.40	1.33	1.27	1.22	1.17
	III*	8.82	5.68	4.51	3.86	3.42	3.11	2.87	2.68	2.52	2.37	2.15	1.97	1.81	1.68	1.56	1.46	1.38	1.30	1.23	1.17
	III	5.45	4.54	3.78	3.30	2.96	2.70	2.48	2.28	2.12	1.97	1.84	1.73	1.64	1.55	1.47	1.40	1.33	1.27	1.22	1.17

Table D.2: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	2.61	2.40	2.24	2.11	2.00	1.91	1.83	1.76	1.70	1.62	1.54	1.48	1.42	1.36	1.31	1.27	1.22	1.18	1.15	1.11
2- span	I	6.40	5.27	3.73	2.69	2.12	1.76	1.51	1.33	1.19	1.08	1.00	0.93	0.87	0.81	0.76	0.72	0.68	0.65	0.62	0.59
	II	6.40	5.27	3.58	2.55	2.00	1.66	1.42	1.26	1.13	1.03	0.95	0.88	0.83	0.77	0.73	0.69	0.66	0.62	0.60	0.57
	III	6.40	4.72	3.33	2.33	1.81	1.50	1.29	1.14	1.03	0.95	0.88	0.82	0.77	0.72	0.68	0.65	0.62	0.59	0.56	0.54
3- span	I	5.45	4.99	4.02	3.24	2.52	2.07	1.75	1.52	1.34	1.20	1.09	1.00	0.93	0.87	0.81	0.76	0.72	0.68	0.64	0.61
	II	5.45	4.89	4.02	3.18	2.47	2.01	1.70	1.47	1.30	1.16	1.05	0.97	0.90	0.84	0.78	0.73	0.69	0.66	0.62	0.59
	III	5.45	4.54	3.78	3.08	2.38	1.93	1.62	1.39	1.22	1.10	1.00	0.92	0.85	0.79	0.74	0.70	0.66	0.62	0.59	0.57

Permissible spans for ROMA roof elements P 45 LL/ML 0.6/0.5



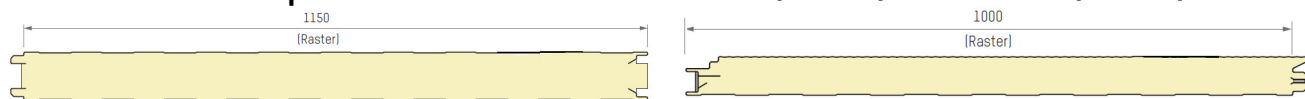
The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.3: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I.II.III*	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
	I.II.III	6.97	4.45	3.14	2.42	1.98	1.66	1.44	1.27	1.13	1.02	0.94	0.87	0.80	0.75	0.70	0.66	0.62	0.58	0.55	0.53
2- span	I.II.III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		6.44	4.45	3.14	2.42	1.97	1.66	1.44	1.26	1.13	1.02	0.94	0.86	0.80	0.74	0.70	0.65	0.62	0.58	0.55	0.52
3- span	I.II.III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		6.01	4.45	3.14	2.42	1.97	1.66	1.44	1.26	1.13	1.02	0.94	0.86	0.80	0.74	0.70	0.65	0.62	0.58	0.55	0.52

Permissible spans for ROMA roof elements P 60 LL/ML 0.6/0.5 or M 60 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.4: Wind uplift pressure

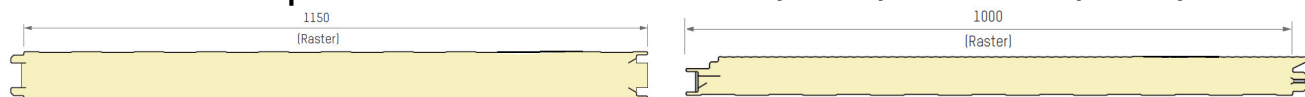
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	10.44	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	I.II.III	5.76	5.76	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
2- span	I.II*	9.90	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	I.II	9.26	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	III*	9.90	5.63	4.60	4.08	3.75	3.51	3.33	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	III	9.26	5.63	4.60	4.08	3.75	3.51	3.33	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
3- span	I.II*	10.44	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	I.II	8.29	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	III*	10.44	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45
	III	8.29	6.67	5.29	4.52	4.01	3.64	3.35	3.13	2.94	2.79	2.65	2.45	2.26	2.09	1.95	1.82	1.72	1.62	1.53	1.45

Table D.5: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	5.78	5.78	5.78	5.02	4.45	4.04	3.72	3.47	3.19	2.86	2.59	2.37	2.18	2.02	1.89	1.77	1.66	1.57	1.48	1.41
2- span	I	9.19	5.99	3.63	2.62	2.07	1.73	1.50	1.32	1.19	1.09	1.00	0.94	0.87	0.82	0.77	0.73	0.69	0.66	0.63	0.60
	II	9.20	5.75	3.40	2.43	1.92	1.60	1.39	1.24	1.12	1.02	0.95	0.89	0.83	0.78	0.73	0.70	0.66	0.63	0.60	0.57
	III	9.20	5.35	3.02	2.13	1.68	1.42	1.24	1.12	1.01	0.94	0.87	0.82	0.77	0.72	0.68	0.65	0.62	0.59	0.57	0.54
3- span	I	8.34	7.27	4.47	3.20	2.48	2.03	1.72	1.49	1.32	1.18	1.08	1.00	0.92	0.86	0.81	0.76	0.72	0.68	0.64	0.61
	II	8.34	7.18	4.38	3.11	2.40	1.95	1.64	1.42	1.26	1.13	1.03	0.96	0.89	0.82	0.77	0.73	0.69	0.65	0.62	0.59
	III	8.33	7.05	4.24	2.97	2.26	1.83	1.53	1.32	1.17	1.05	0.97	0.89	0.83	0.77	0.73	0.68	0.65	0.62	0.59	0.56

Permissible spans for ROMA roof elements P 60 LL/ML 0.6/0.5 or M 60 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.6: Characteristic wind uplift for screws in kN/m², indirect fastening support (see Comments no. 11)

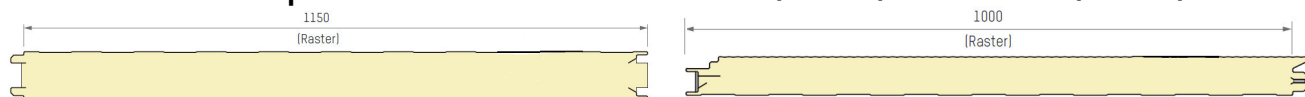
Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-1.50	-1.75	-2.00	-2.25	-2.50	-2.75	-3.00	-3.25	-3.50	-3.75	-4.00	-4.25	-4.50	-4.75	-5.00
1- span	I,II,III	5.77	5.77	5.51	4.02	3.16	2.60	2.22	1.93	1.71	1.53	1.39	1.27	1.17	1.08	1.01	0.94	0.89	0.84	0.79	0.75
2- span	I	9.29	6.63	4.06	2.93	2.30	1.92	1.65	1.46	1.31	1.19	1.09	1.01	0.95	0.89	0.84	0.79	0.75	0.72	0.68	0.65
	II	9.28	6.43	3.87	2.76	2.16	1.80	1.55	1.37	1.23	1.12	1.04	0.97	0.91	0.85	0.80	0.76	0.72	0.69	0.66	0.63
	III	9.29	6.12	3.56	2.50	1.94	1.62	1.40	1.24	1.13	1.03	0.96	0.90	0.84	0.79	0.75	0.71	0.68	0.65	0.62	0.59
3- span	I	8.31	7.91	4.90	3.53	2.75	2.25	1.90	1.65	1.45	1.26	1.12	1.01	0.92	0.85	0.79	0.74	0.70	0.66	0.63	0.60
	II	8.31	7.84	4.83	3.46	2.68	2.18	1.84	1.60	1.41	1.26	1.12	1.01	0.92	0.85	0.79	0.74	0.70	0.66	0.63	0.60
	III	8.31	7.73	4.72	3.35	2.57	2.08	1.74	1.50	1.32	1.18	1.08	1.00	0.92	0.85	0.79	0.74	0.70	0.66	0.63	0.60

Table D.7: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I,II,III*	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		8.07	5.44	3.84	2.98	2.42	2.05	1.77	1.56	1.40	1.26	1.15	1.06	0.99	0.92	0.86	0.81	0.76	0.72	0.68	0.65
	I,II,III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
2- span	I,II,III	7.49	5.43	3.84	2.97	2.42	2.04	1.77	1.56	1.39	1.26	1.15	1.06	0.98	0.92	0.86	0.80	0.76	0.72	0.68	0.65
		60	64	64	64	64	64	64	65	65	64	64	65	65	65	65	65	65	65	65	65
	I,II,III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
3- span	I,II,III	7.39	5.43	3.84	2.97	2.42	2.04	1.77	1.56	1.39	1.26	1.15	1.06	0.98	0.92	0.86	0.80	0.76	0.72	0.68	0.65
		60	64	64	64	64	64	64	65	65	64	64	65	65	65	65	65	65	65	65	65
	I,II,III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40

Permissible spans for ROMA roof elements P 80 LL/ML 0.6/0.5 or M 80 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.8: Wind uplift pressure

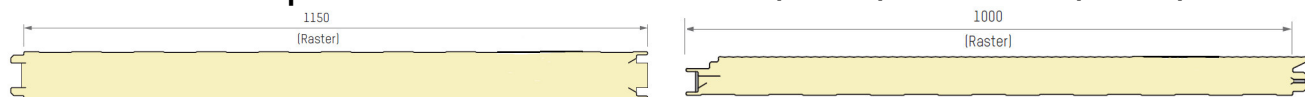
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	12.39	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	I.II. III	7.12	7.12	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
2- span	I.II*	11.28	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	I.II	11.17	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	III*	11.28	6.83	5.53	4.88	4.47	4.18	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	III	11.16	6.83	5.53	4.88	4.47	4.18	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
3- span	I.II*	12.39	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	I.II	10.07	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	III*	12.39	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79
	III	10.06	7.84	6.20	5.28	4.68	4.25	3.92	3.66	3.44	3.26	3.10	2.96	2.78	2.58	2.40	2.25	2.12	2.00	1.89	1.79

Table D.9: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	4.82	4.26	3.90	3.63	3.42	3.25	3.08	2.90	2.75	2.62	2.50	2.37	2.18	2.02	1.89	1.77	1.66	1.57	1.48	1.41
2- span	I	9.84	5.88	3.56	2.58	2.05	1.72	1.50	1.33	1.20	1.09	1.01	0.94	0.88	0.82	0.78	0.73	0.70	0.66	0.63	0.60
	II	9.84	5.58	3.30	2.37	1.89	1.59	1.39	1.24	1.12	1.03	0.96	0.89	0.83	0.78	0.74	0.70	0.67	0.63	0.61	0.58
	III	9.84	5.07	2.85	2.04	1.65	1.40	1.24	1.11	1.02	0.95	0.88	0.82	0.77	0.73	0.69	0.65	0.62	0.60	0.57	0.55
3- span	I	8.53	7.23	4.42	3.16	2.45	2.00	1.70	1.48	1.31	1.18	1.07	1.00	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62
	II	8.53	7.12	4.32	3.06	2.36	1.92	1.62	1.40	1.24	1.12	1.02	0.95	0.88	0.82	0.77	0.73	0.69	0.65	0.62	0.59
	III	8.53	6.95	4.14	2.88	2.20	1.77	1.49	1.30	1.15	1.04	0.96	0.89	0.82	0.77	0.72	0.68	0.65	0.62	0.59	0.56

Permissible spans for ROMA roof elements P 80 LL/ML 0.6/0.5 or M 80 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.10: Characteristic wind uplift for screws in kN/m², indirect fastening support (see Comments no. 11)

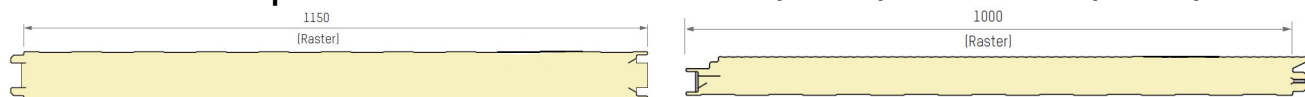
Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-1.50	-1.75	-2.00	-2.25	-2.50	-2.75	-3.00	-3.25	-3.50	-3.75	-4.00	-4.25	-4.50	-4.75	-5.00
1- span	I,II,III	7.14	7.14	5.56	4.04	3.18	2.62	2.22	1.93	1.71	1.53	1.39	1.27	1.17	1.08	1.01	0.95	0.89	0.84	0.79	0.75
2- span	I	11.20	6.55	3.98	2.87	2.27	1.90	1.64	1.46	1.31	1.20	1.10	1.02	0.96	0.90	0.85	0.80	0.76	0.72	0.68	0.65
	II	11.20	6.29	3.73	2.66	2.11	1.77	1.54	1.36	1.23	1.13	1.04	0.98	0.91	0.86	0.81	0.77	0.73	0.69	0.66	0.63
	III	11.19	5.84	3.32	2.34	1.86	1.57	1.38	1.23	1.12	1.03	0.97	0.90	0.85	0.80	0.75	0.72	0.68	0.65	0.62	0.60
3- span	I	10.09	7.95	4.88	3.50	2.72	2.22	1.83	1.52	1.30	1.15	1.03	0.95	0.87	0.81	0.76	0.71	0.68	0.64	0.61	0.58
	II	10.08	7.85	4.78	3.40	2.62	2.14	1.80	1.52	1.30	1.15	1.03	0.95	0.87	0.81	0.76	0.71	0.68	0.64	0.61	0.58
	III	10.08	7.70	4.63	3.25	2.48	2.00	1.68	1.45	1.28	1.15	1.03	0.95	0.87	0.81	0.76	0.71	0.68	0.64	0.61	0.58

Table D.11: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I,II,III*	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		9.31	6.55	4.65	3.60	2.94	2.49	2.15	1.90	1.70	1.54	1.40	1.29	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79
	I,II,III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
2- span	I,II,III	6.51	6.06	4.65	3.60	2.94	2.49	2.15	1.90	1.70	1.54	1.40	1.29	1.19	1.11	1.04	0.98	0.93	0.88	0.83	0.79
		8.67	6.55	4.65	3.60	2.94	2.48	2.15	1.90	1.70	1.53	1.40	1.28	1.19	1.11	1.04	0.98	0.92	0.87	0.83	0.79
3- span	I,II,III	62	79	79	79	79	78	79	79	79	78	79	78	79	79	79	79	79	79	79	79
		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		9.01	6.55	4.65	3.60	2.94	2.48	2.15	1.90	1.70	1.53	1.40	1.28	1.19	1.11	1.04	0.98	0.92	0.87	0.83	0.79
		64	79	79	79	79	78	79	79	79	78	79	78	79	79	79	79	79	79	79	79

Permissible spans for ROMA roof elements P 100 LL/ML 0.6/0.5 or M 100 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.12: Wind uplift pressure

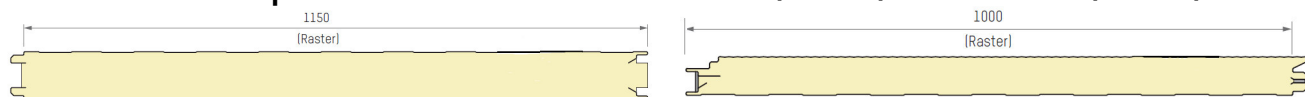
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	14.01	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	I.II.III	8.34	8.34	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
2- span	I.II*	11.94	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	I.II	11.94	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	III*	11.94	7.40	6.02	5.33	4.90	4.58	4.35	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	III	11.94	7.40	6.02	5.33	4.90	4.58	4.35	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
3- span	I.II*	14.01	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	I.II	11.62	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	III*	14.01	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05
	III	11.60	8.76	6.91	5.88	5.21	4.73	4.36	4.06	3.82	3.62	3.44	3.29	3.16	2.95	2.75	2.57	2.42	2.28	2.16	2.05

Table D.13: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	6.16	5.31	4.82	4.46	4.19	3.94	3.69	3.48	3.20	2.87	2.60	2.38	2.19	2.03	1.89	1.77	1.66	1.57	1.48	1.41
2- span	I	11.47	5.79	3.48	2.54	2.03	1.72	1.50	1.33	1.20	1.10	1.01	0.95	0.88	0.83	0.78	0.74	0.70	0.67	0.64	0.61
	II	11.47	5.41	3.17	2.30	1.86	1.58	1.38	1.24	1.12	1.03	0.96	0.90	0.84	0.79	0.74	0.71	0.67	0.64	0.61	0.58
	III	11.47	4.72	2.60	1.84	1.56	1.39	1.23	1.11	1.02	0.95	0.88	0.82	0.78	0.73	0.69	0.66	0.63	0.60	0.57	0.55
3- span	I	10.02	7.26	4.40	3.12	2.42	1.98	1.68	1.46	1.30	1.17	1.07	0.99	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62
	II	10.01	7.12	4.26	2.99	2.30	1.87	1.58	1.38	1.23	1.11	1.01	0.95	0.88	0.82	0.77	0.73	0.69	0.65	0.62	0.59
	III	10.01	6.90	4.03	2.78	2.11	1.71	1.44	1.26	1.13	1.02	0.95	0.88	0.82	0.77	0.72	0.68	0.65	0.62	0.59	0.56

Permissible spans for ROMA roof elements P 100 LL/ML 0.6/0.5 or M 100 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.14: Characteristic wind uplift for screws in kN/m², indirect fastening support (see Comments no. 11)

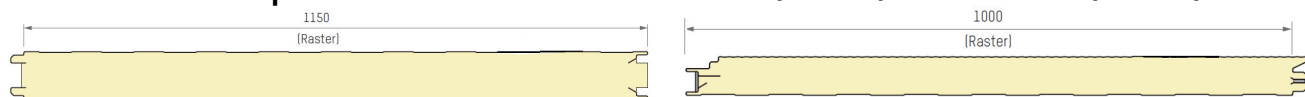
Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-1.50	-1.75	-2.00	-2.25	-2.50	-2.75	-3.00	-3.25	-3.50	-3.75	-4.00	-4.25	-4.50	-4.75	-5.00
1- span	I,II,III	8.36	8.36	5.61	4.07	3.19	2.63	2.23	1.94	1.72	1.54	1.39	1.27	1.17	1.09	1.01	0.95	0.89	0.84	0.80	0.76
2- span	I	11.97	6.48	3.90	2.83	2.25	1.89	1.64	1.46	1.32	1.20	1.11	1.03	0.96	0.90	0.84	0.80	0.75	0.71	0.68	0.65
	II	11.97	6.14	3.60	2.60	2.07	1.75	1.53	1.36	1.23	1.13	1.04	0.98	0.92	0.86	0.81	0.77	0.73	0.70	0.67	0.64
	III	11.97	5.55	3.10	2.24	1.81	1.54	1.36	1.23	1.12	1.03	0.97	0.90	0.85	0.80	0.76	0.72	0.69	0.66	0.63	0.60
3- span	I	11.61	8.00	4.86	3.46	2.68	2.07	1.67	1.40	1.21	1.08	0.99	0.91	0.84	0.79	0.74	0.70	0.66	0.63	0.60	0.58
	II	11.61	7.87	4.74	3.34	2.57	2.08	1.66	1.39	1.21	1.08	0.99	0.91	0.84	0.79	0.74	0.70	0.66	0.63	0.60	0.58
	III	11.61	7.68	4.54	3.15	2.39	1.93	1.63	1.39	1.21	1.08	0.99	0.91	0.84	0.79	0.74	0.70	0.66	0.63	0.60	0.58

Table D.15: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																				
		0.25	0.50	0.75	1.00	1.25	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	
1- span	I,II,III*	40	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
		10.22	6.98	4.98	3.86	3.16	2.67	2.31	2.04	1.82	1.65	1.51	1.39	1.28	1.20	1.12	1.05	1.00	0.94	0.90	0.85	
	I,II,III	40	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	
2- span	I,II,III	7.64	6.98	4.98	3.86	3.16	2.67	2.31	2.04	1.82	1.65	1.51	1.39	1.28	1.20	1.12	1.05	1.00	0.94	0.90	0.85	
		40	43	43	43	43	43	43	43	43	43	42	42	43	43	43	43	43	43	43	43	43
		9.48	6.98	4.97	3.86	3.16	2.67	2.31	2.04	1.82	1.65	1.50	1.38	1.28	1.19	1.12	1.05	1.00	0.94	0.89	0.85	
3- span	I,II,III	69	85	85	85	85	85	85	85	85	85	85	84	84	85	85	85	85	86	85	85	85
		40	43	43	43	43	43	43	43	43	43	42	42	43	43	43	43	43	43	43	43	43
		10.22	6.98	4.97	3.86	3.16	2.67	2.31	2.04	1.82	1.65	1.50	1.38	1.28	1.19	1.12	1.05	1.00	0.94	0.89	0.85	
3- span	I,II,III	74	85	85	85	85	85	85	85	85	85	84	84	85	85	85	85	86	85	85	85	85
		74	85	85	85	85	85	85	85	85	85	84	84	85	85	85	85	86	85	85	85	85

Permissible spans for ROMA roof elements P 120 LL/ML 0.6/0.5 or M 120 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.16: Wind uplift pressure

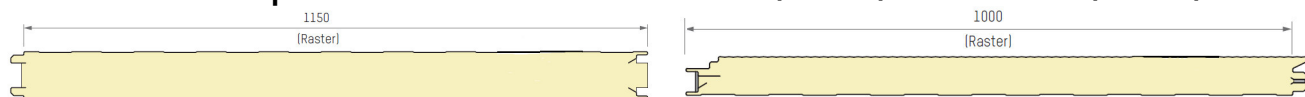
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	15.45	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.48	2.34	2.22
	I.II.III	9.44	9.44	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.48	2.34	2.22
2- span	I.II*	12.40	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
	I.II	12.40	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
	III*	12.40	7.96	6.49	5.76	5.30	4.97	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
	III	12.40	7.96	6.49	5.76	5.30	4.97	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
3- span	I.II*	15.44	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
	I.II	12.99	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
	III*	15.45	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22
	III	12.98	9.55	7.51	6.39	5.66	5.13	4.72	4.40	4.14	3.92	3.73	3.57	3.42	3.20	2.98	2.79	2.62	2.47	2.34	2.22

Table D.17: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	9.44	9.44	7.51	6.39	5.66	4.93	4.18	3.63	3.21	2.88	2.61	2.38	2.19	2.03	1.89	1.77	1.67	1.57	1.49	1.41
2- span	I	12.40	5.71	3.42	2.51	2.02	1.72	1.50	1.34	1.21	1.10	1.02	0.95	0.89	0.84	0.79	0.74	0.71	0.67	0.64	0.61
	II	12.40	5.24	3.07	2.26	1.84	1.57	1.38	1.24	1.13	1.04	0.97	0.90	0.84	0.79	0.75	0.71	0.67	0.64	0.61	0.59
	III	12.40	4.38	2.13	1.72	1.51	1.36	1.23	1.11	1.02	0.95	0.89	0.83	0.78	0.74	0.70	0.66	0.63	0.60	0.58	0.55
3- span	I	12.99	7.29	4.37	3.09	2.39	1.96	1.66	1.45	1.29	1.17	1.07	0.99	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62
	II	12.98	7.12	4.20	2.94	2.26	1.84	1.56	1.37	1.22	1.10	1.01	0.94	0.88	0.82	0.77	0.73	0.69	0.65	0.62	0.60
	III	12.97	6.85	3.92	2.68	2.04	1.66	1.42	1.24	1.12	1.01	0.94	0.87	0.82	0.77	0.72	0.68	0.65	0.62	0.59	0.56

Permissible spans for ROMA roof elements P 120 LL/ML 0.6/0.5 or M 120 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.18: Characteristic wind uplift for screws in kN/m², indirect fastening support (see Comments no. 11)

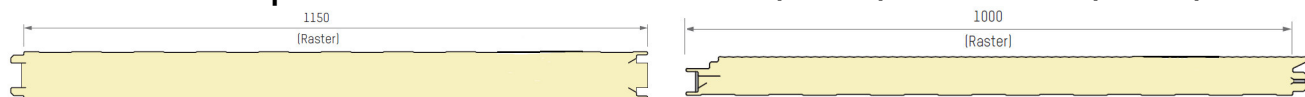
Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-1.50	-1.75	-2.00	-2.25	-2.50	-2.75	-3.00	-3.25	-3.50	-3.75	-4.00	-4.25	-4.50	-4.75	-5.00
1- span	I,II,III	9.45	8.73	5.40	3.91	3.06	2.52	2.14	1.86	1.64	1.47	1.33	1.22	1.12	1.04	0.97	0.90	0.85	0.80	0.76	0.72
2- span	I	12.42	6.35	3.80	2.77	2.22	1.87	1.62	1.42	1.27	1.15	1.05	0.98	0.91	0.85	0.80	0.75	0.71	0.68	0.65	0.62
	II	12.42	5.92	3.46	2.52	2.03	1.72	1.51	1.35	1.23	1.12	1.04	0.98	0.91	0.85	0.80	0.75	0.71	0.68	0.65	0.62
	III	12.42	5.16	2.86	2.04	1.72	1.52	1.35	1.22	1.11	1.03	0.96	0.90	0.85	0.80	0.76	0.72	0.69	0.65	0.63	0.60
3- span	I	12.99	7.97	4.80	3.27	2.25	1.61	1.34	1.18	1.07	0.98	0.90	0.84	0.78	0.73	0.69	0.66	0.62	0.59	0.57	0.54
	II	12.99	7.82	4.64	3.26	2.24	1.61	1.34	1.18	1.07	0.98	0.90	0.84	0.78	0.73	0.69	0.66	0.62	0.59	0.57	0.54
	III	12.99	7.57	4.39	3.02	2.23	1.61	1.34	1.18	1.07	0.98	0.90	0.84	0.78	0.73	0.69	0.66	0.62	0.59	0.57	0.54

Table D.19: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I,II,III*	41	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	45	45	45
		10.94	7.13	5.10	3.97	3.25	2.75	2.38	2.10	1.88	1.70	1.56	1.43	1.32	1.24	1.16	1.08	1.02	0.98	0.93	0.88
	I,II,III	40	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	45	45	45
2- span	I,II,III	8.67	7.13	5.10	3.97	3.25	2.75	2.38	2.10	1.88	1.70	1.56	1.43	1.32	1.24	1.16	1.08	1.02	0.98	0.93	0.88
		40	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	45
	I,II,III	10.14	7.13	5.10	3.97	3.25	2.75	2.38	2.10	1.88	1.70	1.56	1.43	1.32	1.23	1.15	1.08	1.02	0.97	0.92	0.88
3- span	I,II,III	75	88	88	88	88	88	88	88	88	88	88	88	87	88	87	87	88	88	88	89
		41	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	44	45
	I,II,III	10.94	7.13	5.10	3.97	3.25	2.75	2.38	2.10	1.88	1.70	1.56	1.43	1.32	1.23	1.15	1.08	1.02	0.97	0.92	0.88
		81	88	88	88	88	88	88	88	88	88	88	88	87	88	87	87	88	88	88	89

Permissible spans for ROMA roof elements P 140 LL/ML 0.6/0.5 or M 140 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.20: Wind uplift pressure

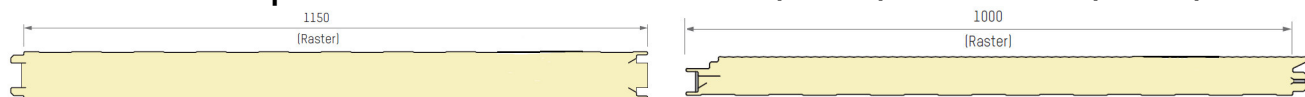
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	16.87	10.30	8.08	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	I.II.III	10.44	10.30	8.08	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
2- span	I.II*	12.58	10.30	8.07	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	I.II	12.58	10.30	8.07	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	III*	12.58	8.28	6.80	6.06	5.59	5.26	5.00	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	III	12.58	8.28	6.80	6.06	5.59	5.26	5.00	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
3- span	I.II*	15.81	10.30	8.08	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	I.II	14.25	10.30	8.08	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	III*	15.80	10.30	8.08	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31
	III	14.22	10.30	8.08	6.86	6.07	5.50	5.07	4.72	4.44	4.20	4.00	3.82	3.60	3.33	3.10	2.90	2.73	2.58	2.44	2.31

Table D.21: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	10.44	10.30	8.08	6.86	6.02	4.95	4.20	3.64	3.22	2.88	2.61	2.39	2.20	2.04	1.90	1.78	1.67	1.57	1.49	1.41
2- span	I	12.58	5.63	3.38	2.50	2.02	1.72	1.51	1.34	1.22	1.11	1.02	0.96	0.90	0.84	0.79	0.75	0.71	0.67	0.64	0.61
	II	12.59	5.08	3.00	2.24	1.84	1.58	1.39	1.25	1.14	1.04	0.98	0.91	0.85	0.80	0.75	0.71	0.68	0.65	0.62	0.59
	III	12.58	3.06	1.97	1.67	1.48	1.36	1.24	1.12	1.03	0.96	0.89	0.84	0.79	0.74	0.70	0.67	0.64	0.61	0.58	0.56
3- span	I	14.22	7.32	4.34	3.06	2.37	1.94	1.66	1.45	1.29	1.17	1.07	0.99	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62
	II	14.22	7.12	4.15	2.88	2.22	1.82	1.55	1.36	1.22	1.10	1.01	0.94	0.88	0.82	0.77	0.73	0.69	0.66	0.63	0.60
	III	14.22	6.80	3.82	2.60	1.98	1.63	1.40	1.23	1.11	1.01	0.94	0.87	0.82	0.77	0.72	0.68	0.65	0.62	0.59	0.57

Permissible spans for ROMA roof elements P 140 LL/ML 0.6/0.5 or M 140 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.22: Characteristic wind uplift for screws in kN/m², indirect fastening support (see Comments no. 11)

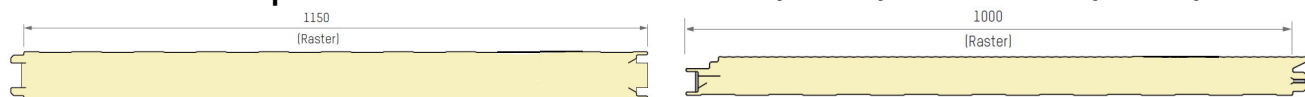
Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-1.50	-1.75	-2.00	-2.25	-2.50	-2.75	-3.00	-3.25	-3.50	-3.75	-4.00	-4.25	-4.50	-4.75	-5.00
1- span	I,II,III	10.55	8.46	5.20	3.75	2.94	2.41	2.05	1.78	1.57	1.41	1.27	1.16	1.07	0.99	0.92	0.86	0.81	0.77	0.73	0.69
2- span	I	12.92	6.15	3.68	2.70	2.09	1.73	1.49	1.32	1.19	1.08	1.00	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62	0.59
	II	12.92	5.61	3.29	2.44	1.98	1.70	1.49	1.32	1.19	1.08	1.00	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62	0.59
	III	12.92	4.64	2.26	1.86	1.64	1.48	1.33	1.20	1.10	1.02	0.96	0.90	0.84	0.80	0.75	0.72	0.68	0.65	0.62	0.59
3- span	I	14.42	7.90	4.42	1.75	1.38	1.21	1.09	1.01	0.95	0.90	0.83	0.78	0.73	0.69	0.65	0.62	0.59	0.56	0.54	0.52
	II	14.42	7.71	4.40	1.75	1.38	1.21	1.09	1.01	0.95	0.90	0.83	0.78	0.73	0.69	0.65	0.62	0.59	0.56	0.54	0.52
	III	14.39	7.40	4.20	1.75	1.38	1.21	1.09	1.01	0.95	0.90	0.83	0.78	0.73	0.69	0.65	0.62	0.59	0.56	0.54	0.52

Table D.23: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I,II,III*	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
		10.98	6.67	4.79	3.74	3.06	2.60	2.25	1.99	1.78	1.61	1.47	1.35	1.25	1.17	1.09	1.03	0.98	0.92	0.88	0.83
	I,II,III	40	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
2- span	I,II,III	9.61	6.67	4.79	3.74	3.06	2.60	2.25	1.99	1.78	1.61	1.47	1.35	1.25	1.17	1.09	1.03	0.98	0.92	0.88	0.83
		41	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
	I,II,III	10.64	6.67	4.79	3.74	3.06	2.60	2.25	1.99	1.78	1.61	1.47	1.35	1.25	1.16	1.09	1.02	0.97	0.92	0.87	0.83
3- span	I,II,III	81	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	84	83	84
		42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
	I,II,III	10.98	6.67	4.79	3.74	3.06	2.60	2.25	1.99	1.78	1.61	1.47	1.35	1.25	1.16	1.09	1.02	0.97	0.92	0.87	0.83
		83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	84	83	84

Permissible spans for ROMA roof elements P 170 LL/ML 0.6/0.5 or M 170 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.24: Wind uplift pressure

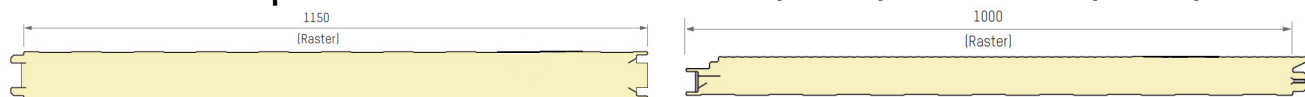
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	18.84	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.47
	I.II.III	11.78	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.47
2- span	I.II*	12.94	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
	I.II	12.94	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
	III*	12.94	8.70	7.24	6.51	6.03	5.69	5.42	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
	III	12.94	8.70	7.24	6.51	6.03	5.69	5.42	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
3- span	I.II*	16.22	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
	I.II	15.87	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
	III*	16.23	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46
	III	15.89	11.29	8.81	7.47	6.60	5.98	5.50	5.13	4.82	4.56	4.34	4.15	3.84	3.56	3.32	3.10	2.91	2.75	2.60	2.46

Table D.25: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	11.78	11.29	8.81	7.47	6.07	4.98	4.22	3.66	3.23	2.90	2.62	2.39	2.20	2.04	1.90	1.78	1.67	1.58	1.49	1.42
2- span	I	12.94	5.57	3.38	2.53	2.06	1.76	1.54	1.37	1.24	1.14	1.05	0.98	0.91	0.86	0.81	0.76	0.72	0.68	0.65	0.62
	II	12.94	4.92	2.98	2.26	1.87	1.61	1.42	1.28	1.16	1.07	1.00	0.93	0.87	0.82	0.77	0.73	0.69	0.66	0.63	0.60
	III	12.94	2.57	1.99	1.72	1.54	1.41	1.27	1.15	1.06	0.99	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62	0.59	0.57
3- span	I	15.88	7.38	4.32	3.04	2.36	1.94	1.66	1.46	1.30	1.18	1.08	1.00	0.93	0.87	0.82	0.77	0.73	0.69	0.66	0.63
	II	15.88	7.13	4.08	2.84	2.20	1.81	1.55	1.37	1.22	1.11	1.02	0.96	0.89	0.83	0.78	0.74	0.70	0.67	0.63	0.61
	III	15.88	6.72	3.68	2.52	1.95	1.62	1.40	1.24	1.12	1.02	0.96	0.89	0.83	0.78	0.74	0.70	0.66	0.63	0.60	0.58

Permissible spans for ROMA roof elements P 170 LL/ML 0.6/0.5 or M 170 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.26: Characteristic wind uplift for screws in kN/m², indirect fastening support (see Comments no. 11)

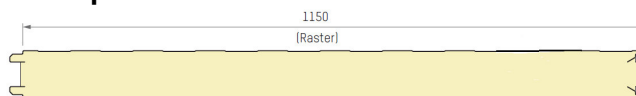
Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-1.50	-1.75	-2.00	-2.25	-2.50	-2.75	-3.00	-3.25	-3.50	-3.75	-4.00	-4.25	-4.50	-4.75	-5.00
1- span	I,II,III	11.79	7.97	4.85	3.49	2.72	2.24	1.89	1.64	1.45	1.30	1.18	1.08	0.99	0.92	0.85	0.80	0.75	0.71	0.67	0.64
2- span	I	12.96	6.02	3.37	2.33	1.85	1.56	1.36	1.21	1.10	1.00	0.92	0.86	0.80	0.75	0.70	0.67	0.63	0.60	0.57	0.55
	II	12.96	5.40	3.22	2.33	1.85	1.56	1.36	1.21	1.10	1.00	0.92	0.86	0.80	0.75	0.70	0.67	0.63	0.60	0.57	0.55
	III	12.96	3.30	2.22	1.88	1.67	1.51	1.35	1.21	1.10	1.00	0.92	0.86	0.80	0.75	0.70	0.67	0.63	0.60	0.57	0.55
3- span	I	15.89	7.42	1.53	1.30	1.16	1.06	0.99	0.93	0.88	0.83	0.77	0.72	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.48
	II	15.89	7.44	1.53	1.30	1.16	1.06	0.99	0.93	0.88	0.83	0.77	0.72	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.48
	III	15.88	7.25	1.53	1.30	1.16	1.06	0.99	0.93	0.88	0.83	0.77	0.72	0.68	0.64	0.61	0.58	0.55	0.52	0.50	0.48

Table D.27: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I,II,III*	49	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
		12.37	7.97	5.76	4.50	3.70	3.14	2.72	2.41	2.16	1.95	1.78	1.64	1.52	1.42	1.32	1.24	1.18	1.11	1.05	1.00
	I,II,III	43	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
2- span	I,II,III	11.37	7.97	5.76	4.50	3.70	3.14	2.72	2.40	2.15	1.95	1.78	1.64	1.52	1.42	1.32	1.24	1.17	1.11	1.05	1.00
		89	101	101	101	101	101	101	101	101	101	101	101	101	101	102	101	101	101	101	101
	I,II,III	49	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51
3- span	I,II,III	12.37	7.97	5.76	4.50	3.70	3.14	2.72	2.40	2.15	1.95	1.78	1.64	1.52	1.42	1.32	1.24	1.17	1.11	1.05	1.00
		97	101	101	101	101	101	101	101	101	101	101	101	101	101	102	101	101	101	101	101
	I,II,III	49	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51	51

Permissible spans for ROMA roof elements P 200 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.28: Wind uplift pressure

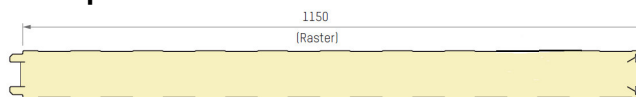
*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I,II,III*	20.04	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	I,II,III	12.94	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
2- span	I,II*	12.99	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	I,II	12.99	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	III*	12.99	9.01	7.62	6.90	6.43	6.08	5.81	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	III	12.99	9.01	7.62	6.90	6.43	6.08	5.81	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
3- span	I,II*	16.25	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	I,II	16.25	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	III*	16.24	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50
	III	16.24	12.14	9.43	7.98	7.04	6.37	5.86	5.46	5.13	4.85	4.62	4.23	3.89	3.60	3.36	3.14	2.95	2.78	2.63	2.50

Table D.29: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I,II,III	12.94	12.14	9.43	7.86	6.12	5.01	4.24	3.68	3.25	2.91	2.63	2.40	2.21	2.05	1.91	1.78	1.68	1.58	1.49	1.42
2- span	I	12.99	5.57	3.42	2.58	2.11	1.80	1.58	1.41	1.27	1.16	1.07	1.00	0.93	0.87	0.82	0.77	0.73	0.70	0.66	0.63
	II	12.99	4.86	3.02	2.32	1.92	1.66	1.46	1.32	1.20	1.10	1.01	0.95	0.89	0.83	0.79	0.74	0.70	0.67	0.64	0.61
	III	12.99	2.62	2.10	1.82	1.64	1.48	1.32	1.19	1.09	1.01	0.95	0.88	0.83	0.78	0.74	0.70	0.67	0.64	0.61	0.58
3- span	I	16.25	7.45	4.31	3.04	2.36	1.96	1.68	1.47	1.32	1.20	1.09	1.01	0.95	0.88	0.83	0.78	0.74	0.70	0.67	0.64
	II	16.24	7.16	4.04	2.82	2.20	1.82	1.57	1.39	1.24	1.13	1.04	0.97	0.91	0.85	0.80	0.75	0.71	0.68	0.64	0.61
	III	16.24	6.67	3.60	2.48	1.95	1.64	1.42	1.26	1.14	1.05	0.98	0.91	0.85	0.80	0.75	0.71	0.67	0.64	0.61	0.59

Permissible spans for ROMA roof elements P 200 LL /ML 0.6/0.5



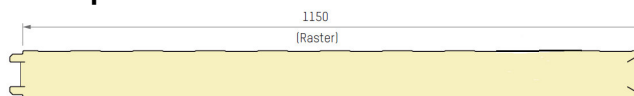
The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.30: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I.II.III*	52	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	I.II.III	12.94	9.22	6.69	5.25	4.32	3.67	3.19	2.82	2.53	2.29	2.09	1.93	1.78	1.66	1.56	1.46	1.38	1.30	1.24	1.18
2- span	I.II.III	48	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
	I.II.III	11.89	9.22	6.69	5.25	4.32	3.67	3.19	2.82	2.52	2.29	2.09	1.92	1.78	1.66	1.56	1.46	1.38	1.30	1.24	1.18
3- span	I.II.III	96	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119
	I.II.III	12.94	9.22	6.69	5.25	4.32	3.67	3.19	2.82	2.52	2.29	2.09	1.92	1.78	1.66	1.56	1.46	1.38	1.30	1.24	1.18

Permissible spans for ROMA roof elements P 220 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.31: Wind uplift pressure

*without accounting for deflection

Structural system	Color group	Characteristic wind uplift pressure in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III*	20.19	12.64	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	I.II.III	13.62	12.64	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
2- span	I.II*	12.92	12.62	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	I.II	12.92	12.62	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	III*	12.92	9.16	7.84	7.13	6.67	6.32	6.05	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	III	12.92	9.16	7.84	7.13	6.67	6.32	6.05	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
3- span	I.II*	16.10	12.64	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	I.II	16.10	12.64	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	III*	16.10	12.64	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75
	III	16.10	12.64	9.79	8.27	7.30	6.60	6.07	5.65	5.31	5.02	4.78	4.56	4.30	3.98	3.70	3.46	3.25	3.06	2.90	2.75

Table D.32: Characteristic wind uplift for screws in kN/m², direct fastening with 3 screws per support (see Comments no. 9)

Structural system	Color group	Characteristic wind uplift for screws in kN/m ²																			
		-0.25	-0.50	-0.75	-1.00	-1.25	-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
1- span	I.II.III	13.62	12.64	9.79	7.91	6.15	5.03	4.26	3.69	3.26	2.91	2.64	2.41	2.22	2.05	1.91	1.79	1.68	1.58	1.50	1.42
2- span	I	12.92	5.60	3.47	2.63	2.15	1.84	1.61	1.43	1.29	1.18	1.08	1.00	0.94	0.88	0.83	0.78	0.74	0.70	0.67	0.64
	II	12.92	4.88	3.08	2.38	1.97	1.70	1.50	1.34	1.22	1.12	1.03	0.97	0.90	0.85	0.80	0.75	0.71	0.68	0.65	0.62
	III	12.92	2.75	2.20	1.92	1.72	1.52	1.35	1.22	1.12	1.03	0.97	0.90	0.85	0.80	0.75	0.71	0.68	0.65	0.62	0.59
3- span	I	16.09	7.51	4.32	3.05	2.38	1.97	1.69	1.49	1.33	1.21	1.10	1.02	0.96	0.89	0.84	0.79	0.75	0.71	0.67	0.64
	II	16.10	7.18	4.04	2.82	2.21	1.84	1.59	1.40	1.26	1.15	1.05	0.98	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62
	III	16.09	6.64	3.57	2.49	1.97	1.66	1.44	1.29	1.16	1.06	0.99	0.92	0.86	0.81	0.76	0.72	0.68	0.65	0.62	0.59

Permissible spans for ROMA roof elements P 220 LL/ML 0.6/0.5



The following spans have been verified in accordance with the general building authority approval Z-10.4-549 of April 30, 2013 as well as based on EN 14509, Annex E. The most adverse loading condition combination consisting of dead weight, snow, wind, temperature and long-term effects has been verified in accordance with EN 14509, Annex E, while accounting for load factors and combined coefficients specified in DIN EN 1990/NA:2010-12. The application notes (see page 2) must be observed.

Table D.33: Snow load

*without accounting for deflection

Structural system	Color group	Characteristic snow load in kN/m ²																			
		0.25	0.50	0.75	1.00	1.25	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
1- span	I.II.III*	55	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
	I.II.III	13.24	10.02	7.30	5.74	4.73	4.02	3.50	3.09	2.77	2.51	2.30	2.12	1.96	1.83	1.71	1.61	1.52	1.44	1.36	1.30
2- span	I.II.III	50	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
	I.II.III	12.14	9.97	7.30	5.74	4.73	4.02	3.50	3.09	2.77	2.51	2.30	2.12	1.96	1.82	1.71	1.61	1.52	1.43	1.36	1.30
3- span	I.II.III	55	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
	I.II.III	13.24	10.02	7.30	5.74	4.73	4.02	3.50	3.09	2.77	2.51	2.30	2.12	1.96	1.82	1.71	1.61	1.52	1.43	1.36	1.30