Annex 3

Allowable Span Tables for Roof Panels

INHALT

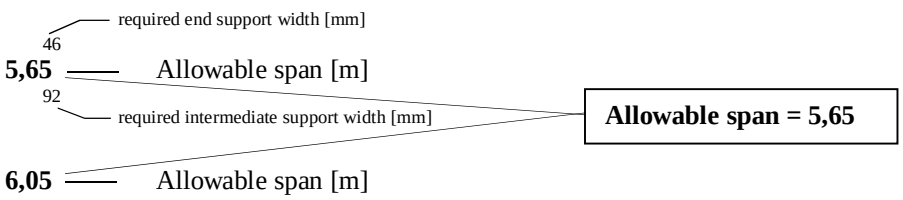
EXPLANATIONS TO THE TABLES OF THE ROOF PANELS

For using the following span tables, please note:

- The characteristic actions/loads are to be given by the pertinent local regulations (e.g. according to DIN-standards or eurocodes).
- It is the minimal allowable span from the two tables (out of snow as well as wind-suction) to choose.
- Wind only as wind suction, that means from down to up. If there are wind pressure, on the save side it could be added to the snow load. For this the combination factors ψ acc. EN 14509, Annex E, Tab. E.6 could be considered.
- For two or three spans panels, only nearly equal spans are allowable, approximately $1{,}1 \leq \text{min/max.} \leq 0{,}9$.
- Color group I (very light), II (light) and III (dark) see German Approval, Abs. 3.1.2 or EN 14509, Annex E paragraph E.3.3.
- The allowable spans are only valid for buildings with normal inner temperature (e.g. **none cooling-, freeze-, maturity-buildings or buildings with high inner temperature**). For roofs of buildings which are located in areas, which are under 1000 m over sea level.
- Allowable spans are given in meters [m]. For reading the necessary support-widths sees also below-mentioned example. The given widths of the supports are valid for the maximum allowable span and it could be reduced by smaller spans.
- The deflection amounts at most. **l**/100 with consideration of the worst unfavourable demands including long-time-behaviour and **l**/200 for short-time combinations acc. to approvals/EN 14509.
- For every individual case, the proof of the fasteners (deflection of the screw-head and wind-suction and also temperature-bracing) is necessary.
- For **other statical systems** (e.g. **unequal spans, cantilevers or other kinds of loads**) there are **additional calculations for each individual case** necessary.
- The bases of these design results are the German approvals acc. to EN 14509. Particularly with regard to the load factors γ_F, combination factors ψ or material safety factors γ_M. For paneltype Agropanel the worst case of environmental influences (e.g. stables) are considered.
- The special remarks to the values, calculation base and there production control are given in the statical calculation.
- The usability of the tables has to be checked for every time on the base of the aforementioned basics. In other respects a special calculation (object-related statical calculation or design) is required.

EXAMPLE OF READING FOR ROOF PANELS

from tab. snowload:



from tab. wind suction: **6,05** Allowable span [m]

Allowable spans for roof panels type Agropanel 30, t_N = 0,50/0,80 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-326 dated 9th December 2014 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.01: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	40
		4,04	**3,28**	**2,53**	**2,13**	**1,87**	**1,69**	**1,55**	**1,44**	**1,35**	**1,28**	**1,21**	**1,16**	**1,11**	**1,07**	**1,03**	**1,00**	**0,96**	**0,94**	**0,91**	**0,89**	**0,86**
2-spans	I, II, III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		5,57	**3,28**	**2,53**	**2,13**	**1,87**	**1,69**	**1,55**	**1,44**	**1,35**	**1,28**	**1,21**	**1,16**	**1,11**	**1,07**	**1,03**	**1,00**	**0,96**	**0,94**	**0,91**	**0,89**	**0,86**
		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	62	63	65
3-spans	I, II. III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		5,12	**3,28**	**2,53**	**2,13**	**1,87**	**1,69**	**1,55**	**1,44**	**1,35**	**1,28**	**1,21**	**1,16**	**1,11**	**1,07**	**1,03**	**1,00**	**0,96**	**0,94**	**0,91**	**0,89**	**0,86**
		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	62	63	65

Table R.02: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**4,06**	**4,02**	**2,73**	**2,22**	**1,93**	**1,74**	**1,60**	**1,50**	**1,41**	**1,34**	**1,29**	**1,24**	**1,20**	**1,16**	**1,13**	**1,10**	**1,07**	**1,05**	**1,02**	**1,00**	**0,98**
2-spans	I, II, III	**5,61**	**4,03**	**2,73**	**2,22**	**1,93**	**1,74**	**1,60**	**1,50**	**1,41**	**1,34**	**1,29**	**1,24**	**1,20**	**1,16**	**1,13**	**1,10**	**1,07**	**1,05**	**1,02**	**1,00**	**0,98**
3 spans	I, II, III	**5,14**	**4,04**	**2,73**	**2,22**	**1,93**	**1,74**	**1,60**	**1,50**	**1,41**	**1,34**	**1,29**	**1,24**	**1,20**	**1,16**	**1,13**	**1,10**	**1,07**	**1,05**	**1,02**	**1,00**	**0,98**

Allowable spans for roof panels type Agropanel 40, t_N = 0,50/0,80 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-326 dated 9th December 2014 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.03: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	40
		4,12	**3,37**	**2,60**	**2,19**	**1,92**	**1,73**	**1,59**	**1,48**	**1,39**	**1,31**	**1,24**	**1,19**	**1,14**	**1,09**	**1,05**	**1,02**	**0,98**	**0,95**	**0,93**	**0,90**	**0,88**
2-spans	I, II, III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		5,65	**3,37**	**2,60**	**2,19**	**1,92**	**1,73**	**1,59**	**1,48**	**1,39**	**1,31**	**1,24**	**1,19**	**1,14**	**1,09**	**1,05**	**1,02**	**0,98**	**0,95**	**0,93**	**0,90**	**0,88**
		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	62	64	66	68	69	71
3-spans	I, II. III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
		5,24	**3,37**	**2,60**	**2,19**	**1,92**	**1,73**	**1,59**	**1,48**	**1,39**	**1,31**	**1,24**	**1,19**	**1,14**	**1,09**	**1,05**	**1,02**	**0,98**	**0,95**	**0,93**	**0,90**	**0,88**
		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	62	64	66	68	69	71

Table R.04: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**4,14**	**3,92**	**2,65**	**2,15**	**1,87**	**1,68**	**1,55**	**1,45**	**1,37**	**1,30**	**1,25**	**1,20**	**1,16**	**1,12**	**1,09**	**1,06**	**1,04**	**1,01**	**0,99**	**0,97**	**0,95**
2-spans	I, II, III	**5,68**	**3,94**	**2,65**	**2,15**	**1,87**	**1,68**	**1,55**	**1,45**	**1,37**	**1,30**	**1,25**	**1,20**	**1,16**	**1,12**	**1,09**	**1,06**	**1,04**	**1,01**	**0,99**	**0,97**	**0,95**
3 spans	I, II, III	**5,26**	**3,93**	**2,65**	**2,15**	**1,87**	**1,68**	**1,55**	**1,45**	**1,37**	**1,30**	**1,25**	**1,20**	**1,16**	**1,12**	**1,09**	**1,06**	**1,04**	**1,01**	**0,99**	**0,97**	**0,95**

Allowable spans for roof panels type Agropanel 60, t_N = 0,50/0,80 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-326 dated 9th December 2014 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.05: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	41	42	43
		4,37	**3,61**	**2,79**	**2,35**	**2,06**	**1,86**	**1,70**	**1,58**	**1,48**	**1,39**	**1,32**	**1,26**	**1,20**	**1,15**	**1,11**	**1,07**	**1,03**	**1,00**	**0,97**	**0,94**	**0,92**
2-spans	I, II, III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	41	42	43
		5,96	**3,62**	**2,79**	**2,35**	**2,06**	**1,86**	**1,70**	**1,58**	**1,48**	**1,39**	**1,32**	**1,26**	**1,20**	**1,15**	**1,11**	**1,07**	**1,03**	**1,00**	**0,97**	**0,94**	**0,92**
		60	60	60	60	60	60	60	60	60	60	63	66	68	71	73	75	78	80	82	84	86
3-spans	I, II. III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	41	42	43
		5,58	**3,62**	**2,79**	**2,35**	**2,06**	**1,86**	**1,70**	**1,58**	**1,48**	**1,39**	**1,32**	**1,26**	**1,20**	**1,15**	**1,11**	**1,07**	**1,03**	**1,00**	**0,97**	**0,94**	**0,92**
		60	60	60	60	60	60	60	60	60	60	63	66	68	71	73	75	78	80	82	84	86

Table R.06: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**4,39**	**3,99**	**2,65**	**2,15**	**1,86**	**1,67**	**1,54**	**1,44**	**1,36**	**1,29**	**1,24**	**1,19**	**1,15**	**1,11**	**1,08**	**1,05**	**1,02**	**1,00**	**0,98**	**0,96**	**0,94**
2-spans	I, II, III	**5,96**	**4,00**	**2,65**	**2,15**	**1,86**	**1,67**	**1,54**	**1,44**	**1,36**	**1,29**	**1,24**	**1,19**	**1,15**	**1,11**	**1,08**	**1,05**	**1,02**	**1,00**	**0,98**	**0,96**	**0,94**
3 spans	I, II, III	**5,60**	**4,00**	**2,65**	**2,15**	**1,86**	**1,67**	**1,54**	**1,44**	**1,36**	**1,29**	**1,24**	**1,19**	**1,15**	**1,11**	**1,08**	**1,05**	**1,02**	**1,00**	**0,98**	**0,96**	**0,94**

Allowable spans for roof panels type Agropanel 80, t_N = 0,50/0,80 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-326 dated 9th December 2014 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.07: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	41	43	44	45	47	48	49	50	51
		4,67	**3,93**	**3,04**	**2,56**	**2,24**	**2,01**	**1,84**	**1,70**	**1,59**	**1,49**	**1,41**	**1,34**	**1,28**	**1,23**	**1,18**	**1,13**	**1,09**	**1,06**	**1,02**	**0,99**	**0,97**
2-spans	I, II, III	40	40	40	40	40	40	40	40	40	40	40	40	41	43	44	45	47	48	49	50	51
		6,34	**3,92**	**3,04**	**2,56**	**2,24**	**2,01**	**1,84**	**1,70**	**1,59**	**1,49**	**1,41**	**1,34**	**1,28**	**1,23**	**1,18**	**1,13**	**1,09**	**1,06**	**1,02**	**0,99**	**0,97**
		60	60	60	60	60	60	62	66	70	73	77	80	82	85	88	90	93	95	98	100	102
3-spans	I, II. III	40	40	40	40	40	40	40	40	40	40	40	40	41	43	44	45	47	48	49	50	51
		5,96	**3,92**	**3,04**	**2,56**	**2,24**	**2,01**	**1,84**	**1,70**	**1,59**	**1,49**	**1,41**	**1,34**	**1,28**	**1,23**	**1,18**	**1,13**	**1,09**	**1,06**	**1,02**	**0,99**	**0,97**
		60	60	60	60	60	60	62	66	70	73	77	80	82	85	88	90	93	95	98	100	102

Table R.08: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**4,69**	**4,24**	**2,77**	**2,23**	**1,93**	**1,73**	**1,59**	**1,48**	**1,40**	**1,33**	**1,27**	**1,22**	**1,18**	**1,14**	**1,11**	**1,08**	**1,05**	**1,02**	**1,00**	**0,98**	**0,96**
2-spans	I, II, III	**6,34**	**4,24**	**2,77**	**2,23**	**1,93**	**1,73**	**1,59**	**1,48**	**1,40**	**1,33**	**1,27**	**1,22**	**1,18**	**1,14**	**1,11**	**1,08**	**1,05**	**1,02**	**1,00**	**0,98**	**0,96**
3 spans	I, II, III	**5,99**	**4,24**	**2,77**	**2,23**	**1,93**	**1,73**	**1,59**	**1,48**	**1,40**	**1,33**	**1,27**	**1,22**	**1,18**	**1,14**	**1,11**	**1,08**	**1,05**	**1,02**	**1,00**	**0,98**	**0,96**

Allowable spans for roof panels type Penta 30, t_N = 0,50/0,40 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-542 dated 24th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.09: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	41	43	44	45	46	47	48
		4,91	**4,45**	**4,01**	**3,24**	**2,76**	**2,42**	**2,18**	**1,98**	**1,84**	**1,71**	**1,61**	**1,52**	**1,45**	**1,38**	**1,33**	**1,28**	**1,23**	**1,19**	**1,15**	**1,12**	**1,08**
2-spans	I, II, III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	41	43	44	45	46	47	48
		5,34	**5,34**	**4,01**	**3,24**	**2,76**	**2,42**	**2,18**	**1,98**	**1,84**	**1,71**	**1,61**	**1,52**	**1,45**	**1,38**	**1,33**	**1,28**	**1,23**	**1,19**	**1,15**	**1,12**	**1,08**
		60	60	60	60	60	60	60	63	67	69	72	75	77	80	82	85	87	89	91	94	95
3-spans	I, II. III	40	40	40	40	40	40	40	40	40	40	40	40	40	40	41	43	44	45	46	47	48
		6,98	**5,52**	**4,01**	**3,24**	**2,76**	**2,42**	**2,18**	**1,98**	**1,84**	**1,71**	**1,61**	**1,52**	**1,45**	**1,38**	**1,33**	**1,28**	**1,23**	**1,19**	**1,15**	**1,12**	**1,08**
		60	60	60	60	60	60	60	63	67	69	72	75	77	80	82	85	87	89	91	94	95

Table R.10: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**4,94**	**4,94**	**4,05**	**3,31**	**2,90**	**2,62**	**2,42**	**2,24**	**2,06**	**1,92**	**1,79**	**1,69**	**1,60**	**1,52**	**1,45**	**1,39**	**1,33**	**1,28**	**1,24**	**1,20**	**1,16**
2-spans	I, II, III	**5,34**	**5,34**	**4,05**	**3,31**	**2,90**	**2,62**	**2,42**	**2,24**	**2,06**	**1,92**	**1,79**	**1,69**	**1,60**	**1,52**	**1,45**	**1,39**	**1,33**	**1,28**	**1,24**	**1,20**	**1,16**
3 spans	I, II, III	**7,02**	**6,03**	**4,05**	**3,31**	**2,90**	**2,62**	**2,42**	**2,24**	**2,06**	**1,92**	**1,79**	**1,69**	**1,60**	**1,52**	**1,45**	**1,39**	**1,33**	**1,28**	**1,24**	**1,20**	**1,16**

Allowable spans for roof panels type Penta 40, t_N = 0,50/0,40 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-542 dated 24th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.11: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	42	43	44	45	46	47	48	49	50	51
		5,57	**5,05**	**4,67**	**3,82**	**3,21**	**2,79**	**2,48**	**2,25**	**2,06**	**1,91**	**1,78**	**1,68**	**1,59**	**1,51**	**1,44**	**1,38**	**1,33**	**1,28**	**1,24**	**1,20**	**1,16**
2-spans	I, II, III	40	40	40	40	40	40	40	40	40	40	40	42	43	44	45	46	47	48	49	50	51
		5,58	**5,58**	**4,49**	**3,65**	**3,14**	**2,79**	**2,48**	**2,25**	**2,06**	**1,91**	**1,78**	**1,68**	**1,59**	**1,51**	**1,44**	**1,38**	**1,33**	**1,28**	**1,24**	**1,20**	**1,16**
		60	60	60	60	60	65	68	72	75	77	80	83	85	87	89	92	94	96	98	100	102
3-spans	I, II. III	40	40	40	40	40	40	40	40	40	40	40	42	43	44	45	46	47	48	49	50	51
		7,52	**6,58**	**4,77**	**3,82**	**3,21**	**2,79**	**2,48**	**2,25**	**2,06**	**1,91**	**1,78**	**1,68**	**1,59**	**1,51**	**1,44**	**1,38**	**1,33**	**1,28**	**1,24**	**1,20**	**1,16**
		60	60	60	60	61	65	68	72	75	77	80	83	85	87	89	92	94	96	98	100	102

Table R.12: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**5,52**	**5,52**	**4,44**	**3,60**	**3,13**	**2,82**	**2,60**	**2,43**	**2,30**	**2,17**	**2,04**	**1,91**	**1,80**	**1,70**	**1,61**	**1,54**	**1,47**	**1,41**	**1,35**	**1,30**	**1,26**
2-spans	I, II, III	**5,52**	**5,52**	**4,44**	**3,60**	**3,13**	**2,82**	**2,60**	**2,43**	**2,30**	**2,17**	**2,04**	**1,91**	**1,80**	**1,70**	**1,61**	**1,54**	**1,47**	**1,41**	**1,35**	**1,30**	**1,26**
3 spans	I, II, III	**7,21**	**6,70**	**4,44**	**3,60**	**3,13**	**2,82**	**2,60**	**2,43**	**2,30**	**2,17**	**2,04**	**1,91**	**1,80**	**1,70**	**1,61**	**1,54**	**1,47**	**1,41**	**1,35**	**1,30**	**1,26**

Allowable spans for roof panels type Penta 60, t_N = 0,50/0,40 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-542 dated 24th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.13: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	43	46	48	49	50	52	53	54	55	56	56	57	58	59	60	61	62
		6,77	**6,16**	**5,70**	**4,94**	**4,14**	**3,57**	**3,14**	**2,80**	**2,52**	**2,30**	**2,12**	**1,97**	**1,85**	**1,74**	**1,64**	**1,56**	**1,49**	**1,43**	**1,37**	**1,32**	**1,28**
2-spans	I, II, III	40	40	40	40	40	40	41	43	46	48	50	52	54	56	56	57	58	59	60	61	62
		5,75	**5,75**	**4,92**	**3,96**	**3,38**	**2,97**	**2,68**	**2,46**	**2,28**	**2,13**	**2,01**	**1,91**	**1,82**	**1,74**	**1,64**	**1,56**	**1,49**	**1,43**	**1,37**	**1,32**	**1,28**
		60	60	60	64	71	76	81	86	91	95	99	103	107	111	112	114	116	118	120	121	124
3-spans	I, II. III	40	40	40	40	40	43	46	49	50	52	53	54	55	56	56	57	58	59	60	61	62
		7,90	**7,35**	**5,57**	**4,47**	**3,80**	**3,34**	**3,01**	**2,75**	**2,52**	**2,30**	**2,12**	**1,97**	**1,85**	**1,74**	**1,64**	**1,56**	**1,49**	**1,43**	**1,37**	**1,32**	**1,28**
		60	60	64	72	79	86	91	97	100	103	105	107	109	111	112	114	116	118	120	121	124

Table R.14: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**6,71**	**6,71**	**5,19**	**4,16**	**3,59**	**3,22**	**2,95**	**2,74**	**2,59**	**2,44**	**2,33**	**2,23**	**2,15**	**2,08**	**2,01**	**1,95**	**1,85**	**1,76**	**1,68**	**1,60**	**1,54**
2-spans	I	**5,50**	**5,50**	**5,19**	**4,16**	**3,59**	**3,22**	**2,95**	**2,74**	**2,59**	**2,44**	**2,33**	**2,23**	**2,15**	**2,04**	**1,95**	**1,86**	**1,79**	**1,72**	**1,66**	**1,60**	**1,54**
	II	**5,50**	**5,50**	**5,19**	**4,16**	**3,59**	**3,22**	**2,95**	**2,74**	**2,59**	**2,44**	**2,33**	**2,22**	**2,10**	**1,99**	**1,90**	**1,82**	**1,74**	**1,68**	**1,62**	**1,57**	**1,52**
	III	**5,50**	**5,50**	**5,19**	**4,16**	**3,59**	**3,22**	**2,95**	**2,74**	**2,58**	**2,42**	**2,26**	**2,12**	**2,01**	**1,91**	**1,83**	**1,75**	**1,68**	**1,62**	**1,57**	**1,52**	**1,47**
3 spans	I, II, III	**7,55**	**7,55**	**5,19**	**4,16**	**3,59**	**3,22**	**2,95**	**2,74**	**2,59**	**2,44**	**2,33**	**2,23**	**2,15**	**2,08**	**2,01**	**1,95**	**1,85**	**1,76**	**1,68**	**1,60**	**1,54**

Allowable spans for roof panels type Penta 80, t_N = 0,50/0,40 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-542 dated 24th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.15: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	43	56	61	64	67	69	70	71	72	72	73	73	74	74	75	76	76	76	77
		7,95	**7,24**	**6,72**	**6,12**	**5,17**	**4,48**	**3,95**	**3,52**	**3,16**	**2,86**	**2,62**	**2,40**	**2,22**	**2,07**	**1,94**	**1,82**	**1,72**	**1,64**	**1,56**	**1,49**	**1,43**
2-spans	I, II, III	40	40	40	40	43	46	49	51	54	56	58	60	62	64	66	68	70	71	73	75	77
		5,99	**5,99**	**5,35**	**4,28**	**3,62**	**3,18**	**2,85**	**2,60**	**2,40**	**2,24**	**2,10**	**1,99**	**1,89**	**1,81**	**1,73**	**1,67**	**1,61**	**1,55**	**1,50**	**1,46**	**1,42**
		60	60	69	77	85	91	97	102	107	111	115	120	124	128	132	136	139	142	146	149	153
3-spans	I, II. III	40	40	40	44	48	51	54	57	60	62	65	67	69	71	73	74	75	76	76	76	77
		8,28	**7,92**	**6,03**	**4,81**	**4,06**	**3,55**	**3,18**	**2,90**	**2,67**	**2,49**	**2,34**	**2,21**	**2,10**	**2,01**	**1,92**	**1,82**	**1,72**	**1,64**	**1,56**	**1,49**	**1,43**
		60	60	77	87	95	102	108	114	119	124	129	133	137	142	146	148	149	151	151	152	154

Table R.16: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**7,86**	**7,86**	**5,90**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,69**	**2,56**	**2,45**	**2,36**	**2,27**	**2,20**	**2,13**	**2,07**	**2,01**	**1,96**	**1,92**	**0,00**
2-spans	I	**5,73**	**5,73**	**5,73**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,69**	**2,56**	**2,45**	**2,35**	**2,22**	**2,11**	**2,02**	**1,93**	**1,85**	**1,78**	**1,72**	**1,66**
	II	**5,73**	**5,73**	**5,73**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,69**	**2,56**	**2,42**	**2,28**	**2,16**	**2,06**	**1,96**	**1,88**	**1,81**	**1,74**	**1,68**	**1,62**
	III	**5,73**	**5,73**	**5,73**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,65**	**2,47**	**2,31**	**2,18**	**2,07**	**1,97**	**1,88**	**1,81**	**1,74**	**1,68**	**1,62**	**1,57**
3 spans	I	**7,92**	**7,92**	**5,90**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,69**	**2,56**	**2,45**	**2,36**	**2,27**	**2,20**	**2,13**	**2,07**	**2,01**	**1,96**	**1,88**	**1,82**
	II	**7,92**	**7,92**	**5,90**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,69**	**2,56**	**2,45**	**2,36**	**2,27**	**2,20**	**2,13**	**2,07**	**1,99**	**1,92**	**1,85**	**1,79**
	III	**7,92**	**7,92**	**5,90**	**4,70**	**4,03**	**3,60**	**3,28**	**3,04**	**2,85**	**2,69**	**2,56**	**2,45**	**2,36**	**2,27**	**2,19**	**2,11**	**2,02**	**1,93**	**1,86**	**1,80**	**1,74**

Allowable spans for roof panels type Penta 100, t_N = 0,50/0,40 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-542 dated 24th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.17: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	50	65	72	77	80	83	84	86	86	86	86	86	86	86	86	85	85	85	86
		9,02	**8,24**	**7,65**	**7,16**	**6,10**	**5,31**	**4,70**	**4,20**	**3,78**	**3,43**	**3,12**	**2,86**	**2,62**	**2,42**	**2,25**	**2,10**	**1,97**	**1,85**	**1,75**	**1,66**	**1,59**
2-spans	I, II, III	40	40	40	41	45	48	51	54	56	58	60	62	64	66	68	70	72	73	75	77	78
		6,36	**6,36**	**5,67**	**4,52**	**3,81**	**3,33**	**2,98**	**2,71**	**2,50**	**2,32**	**2,18**	**2,06**	**1,95**	**1,86**	**1,78**	**1,71**	**1,65**	**1,59**	**1,54**	**1,49**	**1,45**
		60	60	74	82	90	96	101	107	111	116	120	124	128	132	136	139	143	146	150	153	156
3-spans	I, II. III	40	40	41	46	50	53	56	59	62	64	67	69	71	73	75	77	79	81	83	85	86
		8,69	**8,48**	**6,36**	**5,05**	**4,25**	**3,70**	**3,30**	**3,00**	**2,76**	**2,57**	**2,41**	**2,27**	**2,16**	**2,06**	**1,97**	**1,89**	**1,82**	**1,76**	**1,70**	**1,65**	**1,59**
		60	65	82	92	100	106	112	118	123	128	133	137	142	146	150	154	158	162	165	169	171

Table R.18: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**8,92**	**8,92**	**6,55**	**5,20**	**4,45**	**3,96**	**3,60**	**3,33**	**3,12**	**2,94**	**2,80**	**2,67**	**2,56**	**2,47**	**2,38**	**2,31**	**2,24**	**2,18**	**2,12**	**2,07**	**2,02**
2-spans	I	**6,08**	**6,08**	**6,08**	**5,20**	**4,45**	**3,96**	**3,60**	**3,34**	**3,12**	**2,95**	**2,80**	**2,67**	**2,51**	**2,37**	**2,25**	**2,14**	**2,05**	**1,96**	**1,89**	**1,82**	**1,75**
	II	**6,08**	**6,08**	**6,08**	**5,20**	**4,45**	**3,96**	**3,60**	**3,34**	**3,12**	**2,94**	**2,78**	**2,59**	**2,44**	**2,30**	**2,19**	**2,08**	**2,00**	**1,91**	**1,84**	**1,77**	**1,71**
	III	**6,08**	**6,08**	**6,08**	**5,20**	**4,45**	**3,96**	**3,60**	**3,33**	**3,10**	**2,85**	**2,64**	**2,47**	**2,33**	**2,20**	**2,10**	**2,00**	**1,92**	**1,84**	**1,77**	**1,71**	**1,65**
3 spans	I	**8,31**	**8,31**	**6,55**	**5,20**	**4,45**	**3,96**	**3,60**	**3,34**	**3,12**	**2,95**	**2,80**	**2,67**	**2,56**	**2,47**	**2,38**	**2,31**	**2,24**	**2,14**	**2,06**	**1,98**	**1,91**
	II	**8,31**	**8,31**	**6,55**	**5,20**	**4,45**	**3,96**	**3,60**	**3,34**	**3,12**	**2,95**	**2,80**	**2,67**	**2,56**	**2,47**	**2,38**	**2,30**	**2,19**	**2,10**	**2,01**	**1,94**	**1,87**
	III	**8,31**	**8,31**	**6,55**	**5,20**	**4,45**	**3,96**	**3,61**	**3,34**	**3,12**	**2,95**	**2,80**	**2,67**	**2,56**	**2,46**	**2,33**	**2,22**	**2,12**	**2,03**	**1,95**	**1,88**	**1,82**

Allowable spans for roof panels type Penta 120, t_N = 0,50/0,40 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-542 dated 24th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.19: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	56	74	82	84	86	88	90	92	94	95	97	99	100	99	98	97	97	96	96
		10,01	**9,17**	**8,53**	**8,02**	**6,95**	**5,81**	**5,03**	**4,45**	**4,01**	**3,66**	**3,38**	**3,15**	**2,95**	**2,79**	**2,62**	**2,42**	**2,26**	**2,11**	**1,98**	**1,87**	**1,77**
2-spans	I, II, III	40	40	40	44	47	50	53	56	58	60	62	64	66	68	70	72	74	75	77	79	80
		6,31	**6,31**	**5,94**	**4,73**	**3,98**	**3,47**	**3,10**	**2,81**	**2,58**	**2,40**	**2,25**	**2,12**	**2,01**	**1,91**	**1,83**	**1,76**	**1,69**	**1,63**	**1,58**	**1,53**	**1,48**
		60	60	78	87	94	100	106	111	115	120	124	128	132	136	140	144	147	150	154	157	160
3-spans	I, II. III	40	40	44	49	52	56	59	61	64	66	68	71	73	75	77	79	81	83	84	86	88
		8,49	**8,49**	**6,64**	**5,26**	**4,41**	**3,84**	**3,42**	**3,10**	**2,84**	**2,64**	**2,47**	**2,33**	**2,21**	**2,10**	**2,01**	**1,93**	**1,86**	**1,79**	**1,73**	**1,68**	**1,63**
		60	67	87	97	104	111	117	122	127	132	136	141	145	149	153	157	161	165	168	172	176

Table R.20: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**9,90**	**9,90**	**7,05**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,33**	**3,14**	**2,98**	**2,84**	**2,72**	**2,62**	**2,53**	**2,45**	**2,38**	**2,31**	**2,25**	**2,19**	**2,14**
2-spans	I	**6,04**	**6,04**	**6,04**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,33**	**3,14**	**2,98**	**2,84**	**2,66**	**2,51**	**2,38**	**2,26**	**2,16**	**2,07**	**1,98**	**1,91**	**1,84**
	II	**6,04**	**6,04**	**6,04**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,33**	**3,14**	**2,95**	**2,75**	**2,58**	**2,44**	**2,31**	**2,20**	**2,10**	**2,01**	**1,93**	**1,86**	**1,80**
	III	**6,04**	**6,04**	**6,04**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,30**	**3,03**	**2,80**	**2,62**	**2,46**	**2,33**	**2,21**	**2,11**	**2,02**	**1,94**	**1,86**	**1,79**	**1,73**
3 spans	I	**8,11**	**8,11**	**7,05**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,33**	**3,14**	**2,98**	**2,84**	**2,72**	**2,62**	**2,53**	**2,45**	**2,35**	**2,24**	**2,15**	**2,07**	**1,99**
	II	**8,11**	**8,11**	**7,05**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,33**	**3,14**	**2,98**	**2,84**	**2,72**	**2,62**	**2,53**	**2,41**	**2,30**	**2,20**	**2,10**	**2,02**	**1,95**
	III	**8,11**	**8,11**	**7,05**	**5,58**	**4,76**	**4,23**	**3,85**	**3,56**	**3,33**	**3,14**	**2,98**	**2,84**	**2,72**	**2,59**	**2,45**	**2,33**	**2,22**	**2,12**	**2,04**	**1,96**	**1,89**

Allowable spans for roof panels type Penta W 50, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.21: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	42	44	47	49	51	53	55	56	58	59	60	61	62	64	65	66	68
		5,24	**5,09**	**3,82**	**3,02**	**2,51**	**2,18**	**1,95**	**1,77**	**1,64**	**1,53**	**1,42**	**1,33**	**1,26**	**1,19**	**1,13**	**1,08**	**1,04**	**1,00**	**0,97**	**0,93**	**0,91**
2-spans	I, II, III	40	40	40	40	41	44	47	49	51	53	55	56	58	59	60	61	62	64	65	66	68
		2,47	**2,47**	**2,47**	**2,47**	**2,47**	**2,18**	**1,95**	**1,77**	**1,64**	**1,53**	**1,42**	**1,33**	**1,26**	**1,19**	**1,13**	**1,08**	**1,04**	**1,00**	**0,97**	**0,93**	**0,91**
		60	60	60	64	82	88	93	97	102	106	109	111	115	117	119	121	124	127	130	131	135
3-spans	I, II. III	40	40	40	40	42	44	47	49	51	53	55	56	58	59	60	61	62	64	65	66	68
		3,12	**3,12**	**3,12**	**3,02**	**2,51**	**2,18**	**1,95**	**1,77**	**1,64**	**1,53**	**1,42**	**1,33**	**1,26**	**1,19**	**1,13**	**1,08**	**1,04**	**1,00**	**0,97**	**0,93**	**0,91**
		60	60	60	79	83	88	93	97	102	106	109	111	115	117	119	121	124	127	130	131	135

Table R.22: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**5,42**	**5,42**	**4,40**	**3,46**	**2,96**	**2,56**	**2,17**	**1,90**	**1,70**	**1,56**	**1,44**	**1,34**	**1,27**	**1,20**	**1,15**	**1,10**	**1,06**	**1,02**	**0,99**	**0,96**	**0,93**
2-spans	I, II, III	**2,42**	**2,42**	**2,42**	**2,42**	**2,42**	**2,42**	**2,17**	**1,90**	**1,70**	**1,56**	**1,44**	**1,34**	**1,27**	**1,20**	**1,15**	**1,10**	**1,06**	**1,02**	**0,99**	**0,96**	**0,93**
3 spans	I, II, III	**3,04**	**3,04**	**3,04**	**3,04**	**2,96**	**2,56**	**2,17**	**1,90**	**1,70**	**1,56**	**1,44**	**1,34**	**1,27**	**1,20**	**1,15**	**1,10**	**1,06**	**1,02**	**0,99**	**0,96**	**0,93**

Allowable spans for roof panels type Penta W 60, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.23: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	41	43	45	48	50	52	54	56	59	61	62	63	64	65	66	67	68	70	71
		6,38	**5,67**	**4,24**	**3,25**	**2,69**	**2,33**	**2,07**	**1,88**	**1,73**	**1,61**	**1,52**	**1,44**	**1,36**	**1,28**	**1,21**	**1,15**	**1,10**	**1,05**	**1,01**	**0,98**	**0,95**
2-spans	I, II, III	40	40	40	40	44	48	50	52	54	56	59	61	62	63	64	65	66	67	68	70	71
		2,58	**2,58**	**2,58**	**2,58**	**2,58**	**2,33**	**2,07**	**1,88**	**1,73**	**1,61**	**1,52**	**1,44**	**1,36**	**1,28**	**1,21**	**1,15**	**1,10**	**1,05**	**1,01**	**0,98**	**0,95**
		60	60	60	68	87	95	99	104	108	112	117	121	124	126	128	130	132	134	136	139	141
3-spans	I, II. III	40	40	40	42	45	48	50	52	54	56	59	61	62	63	64	65	66	67	68	70	71
		3,18	**3,18**	**3,18**	**3,18**	**2,69**	**2,33**	**2,07**	**1,88**	**1,73**	**1,61**	**1,52**	**1,44**	**1,36**	**1,28**	**1,21**	**1,15**	**1,10**	**1,05**	**1,01**	**0,98**	**0,95**
		60	60	61	84	90	95	99	104	108	112	117	121	124	126	128	130	132	134	136	139	141

Table R.24: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**6,34**	**6,34**	**4,82**	**3,76**	**3,20**	**2,84**	**2,56**	**2,24**	**1,99**	**1,80**	**1,65**	**1,53**	**1,44**	**1,36**	**1,29**	**1,23**	**1,18**	**1,13**	**1,09**	**1,05**	**1,02**
2-spans	I, II, III	**2,52**	**2,52**	**2,52**	**2,52**	**2,52**	**2,52**	**2,52**	**2,24**	**1,99**	**1,80**	**1,65**	**1,53**	**1,44**	**1,36**	**1,28**	**1,23**	**1,17**	**1,13**	**1,09**	**1,05**	**1,02**
3 spans	I, II, III	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**2,84**	**2,56**	**2,24**	**1,99**	**1,80**	**1,65**	**1,53**	**1,44**	**1,36**	**1,28**	**1,23**	**1,17**	**1,13**	**1,09**	**1,05**	**1,02**

Allowable spans for roof panels type Penta W 80, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.25: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	45	47	49	51	53	55	58	60	62	64	66	68	68	69	70	71	72	73	74
		6,79	**6,08**	**4,52**	**3,47**	**2,87**	**2,47**	**2,19**	**1,98**	**1,82**	**1,70**	**1,59**	**1,50**	**1,43**	**1,36**	**1,28**	**1,22**	**1,16**	**1,10**	**1,06**	**1,02**	**0,99**
2-spans	I, II, III	40	40	40	40	46	51	53	55	58	60	62	64	66	68	68	69	70	71	72	73	74
		2,68	**2,68**	**2,68**	**2,68**	**2,68**	**2,47**	**2,19**	**1,98**	**1,82**	**1,70**	**1,59**	**1,50**	**1,43**	**1,36**	**1,28**	**1,22**	**1,16**	**1,10**	**1,06**	**1,02**	**0,99**
		60	60	60	72	92	102	106	110	115	119	123	127	131	135	136	138	140	141	143	145	148
3-spans	I, II. III	40	40	40	44	49	51	53	55	58	60	62	64	66	68	68	69	70	71	72	73	74
		3,23	**3,23**	**3,23**	**3,23**	**2,87**	**2,47**	**2,19**	**1,98**	**1,82**	**1,70**	**1,59**	**1,50**	**1,43**	**1,36**	**1,28**	**1,22**	**1,16**	**1,10**	**1,06**	**1,02**	**0,99**
		60	60	64	87	98	102	106	110	115	119	123	127	131	135	136	138	140	141	143	145	148

Table R.26: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**6,73**	**6,73**	**5,27**	**4,08**	**3,45**	**3,05**	**2,77**	**2,56**	**2,28**	**2,06**	**1,88**	**1,73**	**1,61**	**1,52**	**1,43**	**1,36**	**1,30**	**1,24**	**1,19**	**1,15**	**1,11**
2-spans	I, II	**2,62**	**2,62**	**2,62**	**2,62**	**2,62**	**2,62**	**2,62**	**2,56**	**2,28**	**2,06**	**1,88**	**1,73**	**1,61**	**1,52**	**1,43**	**1,36**	**1,30**	**1,24**	**1,19**	**1,15**	**1,11**
	III	**2,62**	**2,62**	**2,62**	**2,62**	**2,62**	**2,62**	**2,62**	**2,40**	**2,18**	**2,01**	**1,87**	**1,73**	**1,61**	**1,52**	**1,43**	**1,36**	**1,30**	**1,24**	**1,19**	**1,15**	**1,11**
3 spans	I, II, III	**3,16**	**3,16**	**3,16**	**3,16**	**3,16**	**3,05**	**2,77**	**2,56**	**2,28**	**2,06**	**1,88**	**1,73**	**1,61**	**1,52**	**1,43**	**1,36**	**1,30**	**1,24**	**1,19**	**1,15**	**1,11**

Allowable spans for roof panels type Penta W 100, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.27: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	51	57	59	61	63	65	66	68	70	72	74	76	77	79	81	83	84	86	87	87
		8,29	**7,65**	**5,58**	**4,26**	**3,49**	**2,98**	**2,62**	**2,35**	**2,14**	**1,98**	**1,84**	**1,73**	**1,63**	**1,55**	**1,48**	**1,42**	**1,36**	**1,31**	**1,27**	**1,22**	**1,16**
2-spans	I, II, III	40	40	40	42	52	63	65	66	68	70	72	74	76	77	79	81	83	84	86	87	87
		3,00	**3,00**	**3,00**	**3,00**	**3,00**	**2,98**	**2,62**	**2,35**	**2,14**	**1,98**	**1,84**	**1,73**	**1,63**	**1,55**	**1,48**	**1,42**	**1,36**	**1,31**	**1,27**	**1,22**	**1,16**
		60	60	61	83	104	125	129	132	136	140	143	147	151	154	158	162	165	168	172	174	174
3-spans	I, II. III	40	40	40	49	61	63	65	66	68	70	72	74	76	77	79	81	83	84	86	87	87
		3,52	**3,52**	**3,52**	**3,52**	**3,48**	**2,98**	**2,62**	**2,35**	**2,14**	**1,98**	**1,84**	**1,73**	**1,63**	**1,55**	**1,48**	**1,42**	**1,36**	**1,31**	**1,27**	**1,22**	**1,16**
		60	60	72	97	121	125	129	132	136	140	143	147	151	154	158	162	165	168	172	174	174

Table R.28: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**8,21**	**8,21**	**6,36**	**4,86**	**4,09**	**3,60**	**3,26**	**3,00**	**2,80**	**2,63**	**2,49**	**2,32**	**2,15**	**2,00**	**1,88**	**1,77**	**1,68**	**1,60**	**1,52**	**1,46**	**1,40**
2-spans	I	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,80**	**2,63**	**2,47**	**2,30**	**2,15**	**2,00**	**1,88**	**1,77**	**1,68**	**1,60**	**1,52**	**1,46**	**1,40**
	II	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,74**	**2,50**	**2,31**	**2,15**	**2,02**	**1,91**	**1,81**	**1,73**	**1,65**	**1,58**	**1,52**	**1,46**	**1,40**
	III	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,94**	**2,71**	**2,44**	**2,24**	**2,08**	**1,94**	**1,83**	**1,74**	**1,66**	**1,58**	**1,52**	**1,46**	**1,41**	**1,36**	**1,32**
3 spans	I, II, III	**3,44**	**3,44**	**3,44**	**3,44**	**3,44**	**3,44**	**3,26**	**3,00**	**2,80**	**2,63**	**2,49**	**2,32**	**2,15**	**2,00**	**1,88**	**1,77**	**1,68**	**1,60**	**1,52**	**1,46**	**1,40**

Allowable spans for roof panels type Penta W 120, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.29: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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 **9,10**	58 **8,44**	66 **6,23**	67 **4,76**	69 **3,89**	71 **3,32**	72 **2,90**	74 **2,60**	76 **2,36**	78 **2,17**	80 **2,02**	81 **1,89**	83 **1,78**	84 **1,68**	86 **1,60**	88 **1,53**	90 **1,47**	91 **1,41**	93 **1,36**	95 **1,32**	97 **1,28**
2-spans	I, II, III	40 **3,19** 60	40 **3,19** 60	40 **3,19** 67	45 **3,19** 90	57 **3,19** 113	68 **3,16** 135	71 **2,84** 141	74 **2,60** 148	76 **2,36** 151	78 **2,17** 155	80 **2,02** 159	81 **1,89** 162	83 **1,78** 165	84 **1,68** 168	86 **1,60** 172	88 **1,53** 175	90 **1,47** 179	91 **1,41** 182	93 **1,36** 185	95 **1,32** 189	97 **1,28** 193
3-spans	I, II. III	40 **3,68** 60	40 **3,68** 60	40 **3,68** 77	52 **3,68** 104	65 **3,68** 130	71 **3,32** 141	72 **2,90** 144	74 **2,60** 148	76 **2,36** 151	78 **2,17** 155	80 **2,02** 159	81 **1,89** 162	83 **1,78** 165	84 **1,68** 168	86 **1,60** 172	88 **1,53** 175	90 **1,47** 179	91 **1,41** 182	93 **1,36** 185	95 **1,32** 189	97 **1,28** 193

Table R.30: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**9,02**	**9,02**	**7,10**	**5,37**	**4,50**	**3,95**	**3,56**	**3,28**	**3,05**	**2,86**	**2,71**	**2,58**	**2,47**	**2,34**	**2,18**	**2,05**	**1,94**	**1,84**	**1,75**	**1,68**	**1,60**
2-spans	I	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,05**	**2,86**	**2,63**	**2,44**	**2,28**	**2,15**	**2,03**	**1,93**	**1,84**	**1,76**	**1,69**	**1,63**	**1,57**
	II	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**2,92**	**2,66**	**2,45**	**2,28**	**2,14**	**2,02**	**1,91**	**1,82**	**1,74**	**1,66**	**1,60**	**1,54**	**1,49**
	III	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**3,12**	**2,88**	**2,60**	**2,37**	**2,20**	**2,05**	**1,93**	**1,83**	**1,74**	**1,66**	**1,59**	**1,53**	**1,48**	**1,42**	**1,38**
3 spans	I, II	**3,60**	**3,60**	**3,60**	**3,60**	**3,60**	**3,60**	**3,56**	**3,28**	**3,05**	**2,86**	**2,71**	**2,58**	**2,47**	**2,33**	**2,18**	**2,05**	**1,94**	**1,84**	**1,75**	**1,68**	**1,60**
	III	**3,60**	**3,60**	**3,60**	**3,60**	**3,60**	**3,60**	**3,56**	**3,28**	**3,05**	**2,86**	**2,67**	**2,46**	**2,29**	**2,15**	**2,03**	**1,92**	**1,83**	**1,75**	**1,67**	**1,61**	**1,55**

Allowable spans for roof panels type Penta W 150, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.31: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	69	79	80	82	83	85	86	88	90	91	93	94	96	98	99	101	102	104	106	106
		10,21	**9,41**	**7,16**	**5,50**	**4,49**	**3,82**	**3,34**	**2,98**	**2,70**	**2,47**	**2,29**	**2,14**	**2,00**	**1,89**	**1,80**	**1,71**	**1,64**	**1,57**	**1,51**	**1,46**	**1,40**
2-spans	I, II, III	40	40	40	50	63	73	77	80	83	86	88	91	93	95	98	99	101	102	104	106	106
		3,44	**3,44**	**3,44**	**3,44**	**3,44**	**3,35**	**3,01**	**2,75**	**2,54**	**2,36**	**2,21**	**2,09**	**1,98**	**1,88**	**1,80**	**1,71**	**1,64**	**1,57**	**1,51**	**1,46**	**1,40**
		64	64	76	100	125	146	153	159	165	171	176	181	186	190	195	197	201	204	207	211	212
3-spans	I, II. III	40	40	43	57	71	82	85	86	88	90	91	93	94	96	98	99	101	102	104	106	106
		3,91	**3,91**	**3,91**	**3,91**	**3,91**	**3,77**	**3,34**	**2,98**	**2,70**	**2,47**	**2,29**	**2,14**	**2,00**	**1,89**	**1,80**	**1,71**	**1,64**	**1,57**	**1,51**	**1,46**	**1,40**
		60	60	86	114	142	164	169	173	176	179	182	185	188	191	195	197	201	204	207	211	212

Table R.32: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**10,11**	**10,11**	**8,20**	**6,09**	**5,07**	**4,44**	**3,99**	**3,66**	**3,40**	**3,19**	**3,02**	**2,87**	**2,74**	**2,63**	**2,53**	**2,44**	**2,34**	**2,22**	**2,10**	**2,00**	**1,92**
2-spans	I	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,10**	**2,84**	**2,63**	**2,46**	**2,31**	**2,18**	**2,07**	**1,97**	**1,88**	**1,80**	**1,73**	**1,67**
	II	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,17**	**2,88**	**2,64**	**2,45**	**2,29**	**2,16**	**2,04**	**1,94**	**1,85**	**1,78**	**1,70**	**1,64**	**1,58**
	III	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,37**	**3,09**	**2,77**	**2,54**	**2,35**	**2,19**	**2,06**	**1,95**	**1,85**	**1,77**	**1,69**	**1,62**	**1,56**	**1,51**	**1,46**
3 spans	I	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,66**	**3,40**	**3,19**	**3,02**	**2,87**	**2,74**	**2,60**	**2,44**	**2,31**	**2,19**	**2,08**	**1,99**	**1,90**	**1,83**
	II	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,66**	**3,40**	**3,19**	**3,02**	**2,86**	**2,65**	**2,48**	**2,32**	**2,20**	**2,08**	**1,98**	**1,90**	**1,82**	**1,74**
	III	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,82**	**3,66**	**3,40**	**3,14**	**2,86**	**2,63**	**2,44**	**2,28**	**2,15**	**2,03**	**1,93**	**1,84**	**1,76**	**1,69**	**1,63**

Allowable spans for roof panels type Penta W 180, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.33: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	51	76	87	89	90	92	94	95	97	99	100	102	103	105	106	108	110	111	113	113	112
		11,13	**9,26**	**7,30**	**5,65**	**4,64**	**3,96**	**3,47**	**3,10**	**2,80**	**2,57**	**2,38**	**2,22**	**2,08**	**1,96**	**1,86**	**1,77**	**1,70**	**1,62**	**1,56**	**1,49**	**1,40**
2-spans	I, II, III	40	40	42	55	69	79	83	86	90	92	95	98	100	103	105	107	109	111	113	113	112
		3,51	**3,51**	**3,51**	**3,51**	**3,51**	**3,40**	**3,06**	**2,80**	**2,59**	**2,41**	**2,26**	**2,13**	**2,02**	**1,92**	**1,84**	**1,76**	**1,69**	**1,62**	**1,56**	**1,49**	**1,40**
		73	73	84	110	137	158	165	172	179	184	190	195	200	205	210	214	218	221	225	226	223
3-spans	I, II. III	42	42	43	56	70	83	92	95	97	99	100	102	103	105	106	108	110	111	113	113	112
		3,58	**3,58**	**3,58**	**3,58**	**3,58**	**3,58**	**3,41**	**3,10**	**2,80**	**2,57**	**2,38**	**2,22**	**2,08**	**1,96**	**1,86**	**1,77**	**1,70**	**1,62**	**1,56**	**1,49**	**1,40**
		60	60	86	112	139	166	184	190	193	197	200	203	206	209	212	215	219	221	225	226	223

Table R.34: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**11,02**	**11,02**	**8,99**	**6,56**	**5,42**	**4,72**	**4,24**	**3,88**	**3,60**	**3,38**	**3,19**	**3,03**	**2,90**	**2,78**	**2,67**	**2,58**	**2,49**	**2,42**	**2,35**	**2,24**	**2,13**
2-spans	I	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,15**	**2,85**	**2,61**	**2,42**	**2,26**	**2,12**	**2,00**	**1,90**	**1,81**	**1,73**	**1,66**	**1,59**	**1,53**
	II	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,22**	**2,88**	**2,61**	**2,40**	**2,24**	**2,10**	**1,98**	**1,87**	**1,78**	**1,70**	**1,63**	**1,56**	**1,50**	**1,45**
	III	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,17**	**2,75**	**2,49**	**2,30**	**2,16**	**2,05**	**1,95**	**1,87**	**1,78**	**1,69**	**1,62**	**1,55**	**1,49**	**1,44**	**1,39**	**1,34**
3 spans	I	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,27**	**2,97**	**2,72**	**2,52**	**2,36**	**2,21**	**2,09**	**1,98**	**1,88**	**1,80**	**1,72**	**1,65**
	II	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,43**	**3,07**	**2,79**	**2,56**	**2,38**	**2,22**	**2,09**	**1,97**	**1,87**	**1,78**	**1,71**	**1,64**	**1,58**
	III	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,50**	**3,09**	**2,77**	**2,52**	**2,32**	**2,16**	**2,02**	**1,91**	**1,81**	**1,72**	**1,64**	**1,58**	**1,52**	**1,46**

Allowable spans for roof panels type Penta W 200, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.35: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	59	80	90	92	93	95	97	98	100	102	103	105	107	109	110	112	110	107	104	102	101
		11,51	**8,92**	**7,00**	**5,46**	**4,50**	**3,85**	**3,38**	**3,02**	**2,74**	**2,51**	**2,33**	**2,17**	**2,04**	**1,93**	**1,83**	**1,74**	**1,61**	**1,48**	**1,37**	**1,28**	**1,20**
2-spans	I, II, III	40	40	46	60	74	84	88	92	95	98	101	104	107	109	110	112	110	107	104	102	101
		3,56	**3,56**	**3,56**	**3,56**	**3,56**	**3,40**	**3,07**	**2,81**	**2,60**	**2,42**	**2,28**	**2,15**	**2,04**	**1,93**	**1,83**	**1,74**	**1,61**	**1,48**	**1,37**	**1,28**	**1,20**
		81	81	92	119	147	168	175	183	189	195	202	207	213	217	220	223	219	213	208	204	201
3-spans	I, II. III	48	48	48	58	71	85	97	98	100	102	103	105	107	109	110	112	110	107	104	102	101
		3,43	**3,43**	**3,43**	**3,43**	**3,43**	**3,43**	**3,38**	**3,02**	**2,74**	**2,51**	**2,33**	**2,17**	**2,04**	**1,93**	**1,83**	**1,74**	**1,61**	**1,48**	**1,37**	**1,28**	**1,20**
		60	61	88	115	142	169	193	196	200	203	206	209	213	217	220	223	219	213	208	204	201

Table R.36: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**11,25**	**11,25**	**9,50**	**6,83**	**5,62**	**4,88**	**4,38**	**4,00**	**3,71**	**3,48**	**3,28**	**3,12**	**2,98**	**2,85**	**2,75**	**2,65**	**2,56**	**2,48**	**2,41**	**2,32**	**2,21**
2-spans	I	**3,48**	**3,48**	**3,48**	**3,48**	**3,48**	**3,48**	**3,48**	**3,26**	**2,90**	**2,62**	**2,41**	**2,23**	**2,09**	**1,96**	**1,85**	**1,76**	**1,68**	**1,60**	**1,54**	**1,48**	**1,42**
	II	**3,48**	**3,48**	**3,48**	**3,48**	**3,48**	**3,48**	**3,36**	**2,94**	**2,63**	**2,40**	**2,21**	**2,06**	**1,93**	**1,82**	**1,73**	**1,65**	**1,57**	**1,51**	**1,45**	**1,40**	**1,35**
	III	**3,48**	**3,48**	**3,48**	**3,48**	**2,97**	**2,59**	**2,36**	**2,19**	**2,06**	**1,95**	**1,86**	**1,78**	**1,72**	**1,64**	**1,56**	**1,50**	**1,44**	**1,38**	**1,33**	**1,29**	**1,25**
3 spans	I	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,34**	**2,98**	**2,71**	**2,48**	**2,30**	**2,15**	**2,02**	**1,91**	**1,81**	**1,72**	**1,65**	**1,58**	**1,52**
	II	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,10**	**2,78**	**2,52**	**2,32**	**2,15**	**2,02**	**1,90**	**1,80**	**1,71**	**1,63**	**1,56**	**1,50**	**1,44**
	III	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,36**	**3,12**	**2,74**	**2,46**	**2,25**	**2,08**	**1,94**	**1,83**	**1,73**	**1,64**	**1,57**	**1,50**	**1,44**	**1,39**	**1,34**

Allowable spans for roof panels type Penta W 240, t_N = 0,60/0,50 mm from Italpannelli Deutschland GmbH

The given allowable spans are designed according to EN 14509 and on the base of German approval no. Z-10.49-681 dated 19th September 2018 for the worst load combination due of self-weight of panels, snow, wind, temperature and creeping. The explanations given at page 3/2 are to be considered.

Table R.37: Snow load

Stat. System	Colour group	Characteristical snow-load in kN/m²																				
		0	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	59	78	88	95	99	101	100	99	95	91	88	84	81	78	77	75	75	75	75	75	74
		9,52	**7,62**	**6,11**	**5,09**	**4,33**	**3,72**	**3,21**	**2,78**	**2,40**	**2,08**	**1,82**	**1,60**	**1,43**	**1,29**	**1,18**	**1,09**	**1,02**	**0,97**	**0,91**	**0,87**	**0,82**
2-spans	I, II, III	40	40	54	69	85	91	95	99	95	91	88	84	81	78	77	75	75	75	75	75	74
		3,71	**3,71**	**3,71**	**3,71**	**3,71**	**3,35**	**3,04**	**2,78**	**2,40**	**2,08**	**1,82**	**1,60**	**1,43**	**1,29**	**1,18**	**1,09**	**1,02**	**0,97**	**0,91**	**0,87**	**0,82**
		92	92	107	138	169	181	190	197	190	182	175	167	161	156	153	150	149	150	149	149	148
3-spans	I, II. III	57	57	57	62	76	89	100	99	95	91	88	84	81	78	77	75	75	75	75	75	74
		3,30	**3,30**	**3,30**	**3,30**	**3,30**	**3,30**	**3,21**	**2,78**	**2,40**	**2,08**	**1,82**	**1,60**	**1,43**	**1,29**	**1,18**	**1,09**	**1,02**	**0,97**	**0,91**	**0,87**	**0,82**
		60	68	95	123	151	178	200	197	190	182	175	167	161	156	153	150	149	150	149	149	148

Table R.38: Wind suction load

Stat. System	Colour group	Characteristical wind suction load in kN/m²																				
		0	-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	**9,31**	**9,31**	**9,31**	**7,30**	**5,93**	**5,13**	**4,58**	**4,18**	**3,88**	**3,63**	**3,42**	**3,25**	**3,10**	**2,97**	**2,85**	**2,75**	**2,66**	**2,58**	**2,50**	**2,43**	**2,37**
2-spans	I	**3,63**	**3,63**	**3,63**	**3,63**	**3,63**	**3,50**	**2,94**	**2,58**	**2,31**	**2,10**	**1,93**	**1,80**	**1,68**	**1,58**	**1,50**	**1,42**	**1,36**	**1,30**	**1,24**	**1,19**	**1,15**
	II	**3,63**	**3,63**	**3,63**	**3,63**	**3,42**	**2,86**	**2,54**	**2,30**	**2,08**	**1,91**	**1,78**	**1,66**	**1,56**	**1,48**	**1,40**	**1,34**	**1,28**	**1,22**	**1,18**	**1,14**	**1,10**
	III	**3,63**	**3,22**	**2,54**	**2,26**	**2,08**	**1,94**	**1,82**	**1,73**	**1,65**	**1,58**	**1,52**	**1,47**	**1,41**	**1,34**	**1,28**	**1,23**	**1,18**	**1,14**	**1,10**	**1,06**	**1,02**
3 spans	I	**3,22**	**3,22**	**3,22**	**3,22**	**3,22**	**3,22**	**3,22**	**2,92**	**2,56**	**2,30**	**2,10**	**1,93**	**1,80**	**1,69**	**1,59**	**1,51**	**1,44**	**1,37**	**1,31**	**1,26**	**1,22**
	II	**3,22**	**3,22**	**3,22**	**3,22**	**3,22**	**3,22**	**3,07**	**2,64**	**2,33**	**2,10**	**1,93**	**1,79**	**1,67**	**1,58**	**1,49**	**1,42**	**1,36**	**1,30**	**1,25**	**1,20**	**1,16**
	III	**3,22**	**3,22**	**3,22**	**3,22**	**3,22**	**2,66**	**2,30**	**2,08**	**1,92**	**1,80**	**1,70**	**1,60**	**1,51**	**1,43**	**1,36**	**1,30**	**1,25**	**1,20**	**1,16**	**1,12**	**1,08**