



Load table for **GTPN-I**

Thickness of plank 2 and 2,5 mm

Material S 235JR

Data

Type GTPN-I	approx. gal. weight kg/m ²	*	span in mm																											
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2200	2400	2600	2800	3000	3200	3400	3600	3800	4000		
150/30/2	24,6	Fv	62,95	43,70	32,10	24,60	19,40	15,75	13,00	10,95	9,30	8,05	7,00	6,15	5,45	4,85	4,35	3,95	3,25	2,75	2,35	2,00								
		f	0,09	0,12	0,17	0,22	0,28	0,34	0,41	0,49	0,58	0,67	0,77	0,88	0,99	1,11	1,24	1,37	1,66	1,97	2,31	2,68								
200/30/2	22,7	Fv	48,05	33,35	24,50	18,75	14,85	12,00	9,95	8,35	7,10	6,15	5,35	4,70	4,15	3,70	3,35	3,00	2,50	2,10										
		f	0,08	0,12	0,16	0,21	0,26	0,33	0,40	0,47	0,55	0,64	0,74	0,84	0,95	1,06	1,18	1,31	1,58	1,88										
150/50/2	29,2	Fv	142,50	98,95	72,70	55,65	44,00	35,65	29,45	24,75	21,10	18,20	15,85	13,90	12,35	11,00	9,85	8,90	7,35	6,20	5,25	4,55	3,95	3,50	3,10	2,75	2,45	2,25		
		f	0,05	0,08	0,11	0,14	0,17	0,22	0,26	0,31	0,36	0,42	0,48	0,55	0,62	0,70	0,78	0,86	1,04	1,24	1,45	1,69	1,94	2,20	2,49	2,79	3,11	3,44		
200/50/2	26,1	Fv	109,65	76,15	55,95	42,85	33,85	27,40	22,65	19,05	16,20	14,00	12,20	10,70	9,50	8,45	7,60	6,85	5,65	4,75	4,05	3,50	3,05	2,70	2,35	2,10				
		f	0,05	0,07	0,10	0,13	0,17	0,20	0,25	0,29	0,35	0,40	0,46	0,52	0,59	0,66	0,74	0,82	0,99	1,18	1,38	1,60	1,84	2,09	2,36	2,65				
150/75/2	34,7	Fv	277,20	192,50	141,45	108,30	85,55	69,30	57,25	48,15	41,00	35,35	30,80	27,05	24,00	21,40	19,20	17,35	14,30	12,05	10,25	8,85	7,70	6,75	6,00	5,35	4,80	4,35		
		f	0,04	0,05	0,07	0,10	0,12	0,15	0,18	0,22	0,25	0,30	0,34	0,39	0,44	0,49	0,54	0,60	0,73	0,87	1,02	1,18	1,36	1,54	1,74	1,95	2,17	2,41		
200/75/2	30,3	Fv	214,90	149,25	109,65	83,95	66,35	53,75	44,40	37,30	31,80	27,40	23,90	21,00	18,60	16,60	14,90	13,45	11,10	9,35	7,95	6,85	6,00	5,25	4,65	4,15	3,70	3,35		
		f	0,04	0,05	0,07	0,09	0,12	0,14	0,17	0,21	0,24	0,28	0,32	0,37	0,41	0,46	0,51	0,57	0,69	0,82	0,96	1,12	1,28	1,46	1,65	1,85	2,06	2,28		
150/100/2	40,3	Fv	448,00	311,10	228,55	175,00	138,25	112,00	92,55	77,80	66,25	57,15	49,80	43,75	38,75	34,55	31,00	28,00	23,15	19,45	16,55	14,30	12,45	10,95	9,70	8,65	7,75	7,00		
		f	0,03	0,04	0,06	0,08	0,10	0,12	0,14	0,17	0,20	0,23	0,26	0,30	0,34	0,38	0,42	0,47	0,57	0,68	0,79	0,92	1,06	1,20	1,36	1,52	1,70	1,88		
200/100/2	34,5	Fv	349,15	242,45	178,15	136,40	107,75	87,30	72,15	60,60	51,65	44,55	38,80	34,10	30,20	26,95	24,20	21,80	18,05	15,15	12,90	11,15	9,70	8,50	7,55	6,75	6,05	5,45		
		f	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,16	0,19	0,22	0,25	0,28	0,32	0,36	0,40	0,44	0,54	0,64	0,75	0,87	1,00	1,14	1,28	1,44	1,60	1,78		

Material stress (permissible tension):
16 kN/cm² (material S 235 JR = St 37-3)

Safety factor to yield point: 1,5

Safety factor to breaking limit: 2,05

The perforated metal plank support should provide a bearing distance at each end of at least 25 mm. Deviations may be permitted, providing suitable measures are taken to prevent excessive movement away from the supports (see instruction sheet BDI 588).

Pedestrian traffic

Yellow: Gratings manufactured in accordance with the requirements of instruction sheet BGI 588 of the professional association and to quality instruction RAL-GZ 638, are considered suitable for pedestrian traffic when they meet the following design criteria:

The maximum permissible deflection 'f', does not exceed 1/200th of the span 'L' or 4 mm whichever is the lesser, under a concentrated load of 1.5 kN applied in the most unfavourable position, over a concentrated load area of 200 x 200 mm

Green: The maximum permissible deflection 'f', does not exceed 1/200th of the span 'L', under a concentrated load of 1.5 kN applied in the most unfavourable position, over a concentrated load area of 200 x 200 mm.

Blue: The maximum permissible deflection 'f', does not exceed 1/200th of the span 'L', under a uniformly distributed load of 5 kN/m².

Multiplication factor for other materials

Material	load	deflection
INOX 1.4301	0,82	0,84
INOX 1.4571	0,88	0,90

Multiplication factor for type GTPN-O

The appropriate loads may be determined by using multiplication factors ranging between 0,86 (for 150/30/2) and 0,73 (for 250/100/3) depending on the plank type considered. The corresponding deflections under load may be determined by using multiplication factors ranging between 1,34 and 1,41.

* = key to symbols

larger spans are possible

Fv = uniformly distributed load in kN/m²

1 kN = 1000 N = approx. 100 kg

f = deflection in cm at load Fv