

Gratings with welded chequer plates

FLEXI COMBI DECK

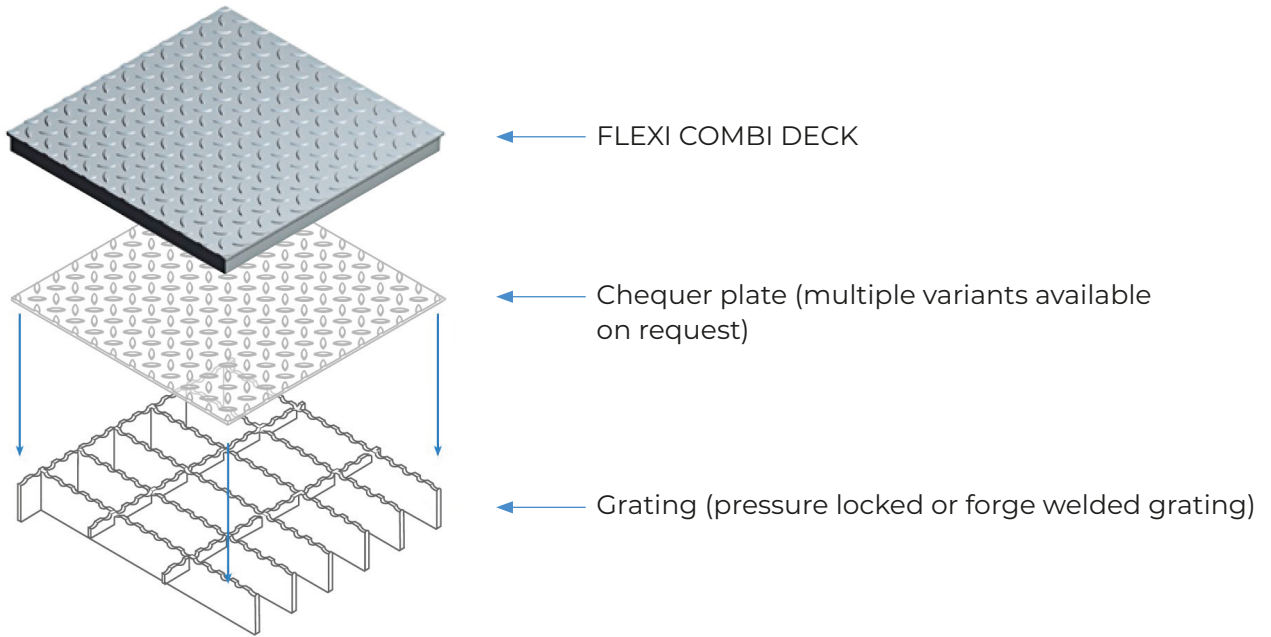


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FLEXI COMBI DECK

FLEXI COMBI DECK consists of gratings with welded checker plates, providing an optimal combination of the advantages of both products.

The checker plates ensure a closed surface with slip resistance, while the gratings deliver high load-bearing capacity with low self-weight.



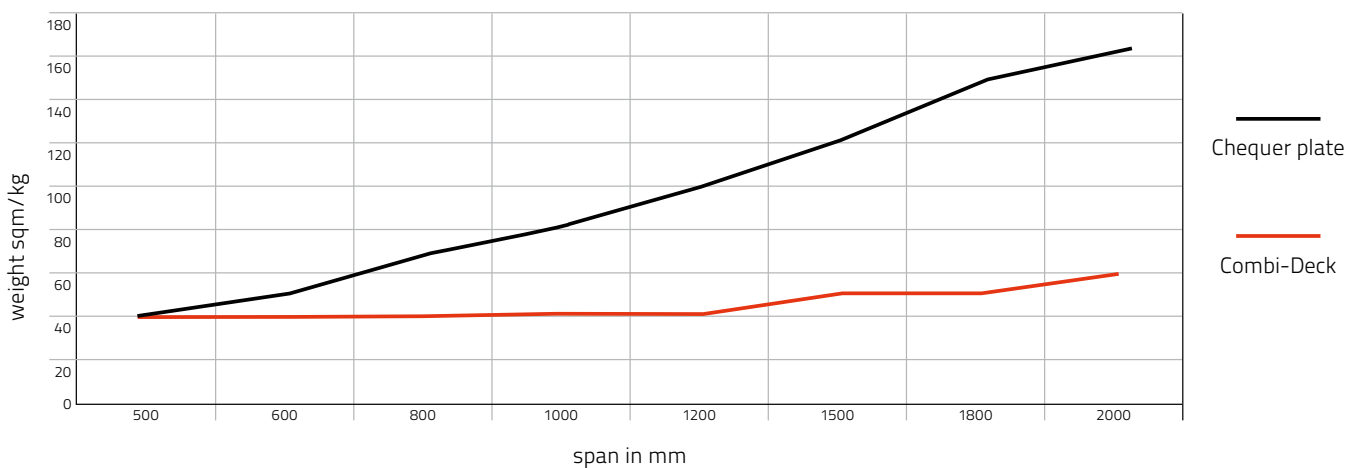
WEIGHT COMPARISON

Weight comparison of the products chequer plates and combi deck in relation to the respective span.

Basis of calculation:

Combi-Deck: Accessibility acc. to EN ISO 14122 = 1,5 kN to 200 x 200 mm; deflection 4 mm

Chequer plate: applied system, without reinforcement ribs 5 kN/sqm; deflection l/200



LOAD TABLE COMBI DECK

Grating Type	Bearing Bar	approx. galv. weight kg/sqm		Clear span in mm															
				500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
Combi-Deck XP 225-33/66-2, chequer plate 3/5	25 x 2 mm	42	F_v	58,10	40,35	29,64	22,69	17,93	14,52	12,00	10,09	8,59	7,41	6,46	5,67	5,03	4,48	4,02	3,63
			f_{Fv}	0,89	1,28	1,74	2,28	2,88	3,56	4,31	5,13	6,02	6,98	8,01	9,11	10,29	11,53	12,85	14,24
			F_p	4,94	3,95	3,29	2,82	2,47	2,20	1,98	1,80	1,65	1,52	1,41	1,32	1,24	1,16	1,10	1,04
			f_{Fp}	0,83	1,17	1,57	2,02	2,53	3,10	3,73	4,41	5,15	5,95	6,81	7,72	8,68	9,71	10,79	11,93
Combi-Deck XP 230-33/66-2, chequer plate 3/5	30 x 2 mm	45	F_v	80,68	56,03	41,16	31,52	24,90	20,17	16,67	14,01	11,93	10,29	8,96	7,88	6,98	6,23	5,59	5,04
			f_{Fv}	0,77	1,11	1,50	1,96	2,49	3,07	3,71	4,42	5,19	6,02	6,91	7,86	8,87	9,95	11,08	12,28
			F_p	6,82	5,45	4,54	3,89	3,41	3,03	2,73	2,48	2,27	2,10	1,95	1,82	1,70	1,60	1,51	1,43
			f_{Fp}	0,71	1,01	1,35	1,74	2,19	2,68	3,22	3,81	4,45	5,13	5,87	6,66	7,49	8,38	9,31	10,29
Combi-Deck XP 330-33/66-3, chequer plate 3/5	30 x 3 mm	53	F_v	113,74	78,99	58,03	44,43	35,11	28,44	23,50	19,75	16,83	14,51	12,64	11,11	9,84	8,78	7,88	7,11
			f_{Fv}	0,82	1,18	1,61	2,10	2,66	3,28	3,97	4,72	5,55	6,43	7,38	8,40	9,48	10,63	11,85	13,12
			F_p	9,61	7,69	6,41	5,49	4,80	4,27	3,84	3,49	3,20	2,96	2,75	2,56	2,40	2,26	2,14	2,02
			f_{Fp}	0,76	1,08	1,44	1,86	2,34	2,86	3,44	4,07	4,75	5,49	6,27	7,11	8,01	8,95	9,95	11,00
Combi-Deck XP 240-33/66-2, chequer plate 3/5	40 x 2 mm	50	F_v	135,84	94,34	69,31	53,06	41,93	33,96	28,07	23,58	20,10	17,33	15,09	13,27	11,75	10,48	9,41	8,49
			f_{Fv}	0,61	0,88	1,19	1,56	1,97	2,43	2,94	3,50	4,11	4,77	5,47	6,23	7,03	7,88	8,78	9,73
			F_p	11,32	9,06	7,55	6,47	5,66	5,03	4,53	4,12	3,77	3,48	3,23	3,02	2,83	2,66	2,52	2,38
			f_{Fp}	0,56	0,80	1,07	1,38	1,73	2,12	2,55	3,02	3,52	4,07	4,65	5,27	5,94	6,64	7,38	8,15
Combi-Deck XP 340-33/66-3, chequer plate 3/5	40 x 3 mm	61	F_v	190,13	132,04	97,01	74,27	58,68	47,53	39,28	33,01	28,13	24,25	21,13	18,57	16,45	14,67	13,17	11,88
			f_{Fv}	0,65	0,94	1,28	1,67	2,11	2,61	3,16	3,76	4,41	5,12	5,87	6,68	7,54	8,46	9,42	10,44
			F_p	15,84	12,68	10,56	9,05	7,92	7,04	6,34	5,76	5,28	4,88	4,53	4,23	3,96	3,73	3,52	3,34
			f_{Fp}	0,61	0,86	1,15	1,48	1,86	2,28	2,74	3,24	3,78	4,36	4,99	5,66	6,37	7,12	7,91	8,75

KEY TO SYMBOLS

- F_v uniformly distributed load in kN/sqm
- f_{Fv} deflection in mm at load F_v
- F_p concentrated load in kN uniformly distributed over an area of 200 x 200 mm
- f_{Fp} deflection values in mm at load F_p

1 kN = 1000 N = approx. 100 kg

DATA

Material S 235 JR
part factor of safety according to RAL-GZ 638
side of load $\gamma_Q = 1,5$
side of stress $\gamma_M = 1,0$

PEDESTRIAN TRAFFIC

Gray 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 of 200 x 200 mm.

Advantages of Flexi Combi Deck

- Coverage of large spans with relatively low self-weight, reducing installation costs
- Increase of the free span by 30%
- Savings on secondary support and reduced dimensioning of the primary steel structure
- **FLEXI COMBI DECK** can be manufactured in any height, allowing height differences with adjacent floors to be avoided

Material and surface treatments

- **Steel:** Untreated or hot-dip galvanized in accordance with DIN EN ISO 1461
- **Stainless steel:** Untreated, pickled, or electropolished
- **Aluminium:** Untreated or anodized