Load table for ProMetall press-locked gratings made of stainless steel, mesh width 31 / 31mm. (corresponds to 31/9 mm).

Supporting bar	Load	Span in mm											Span in mm							
		300	400	500	600	700	800	900	1,000	1,100	1,200		1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
20 ∞ 2	Fv	5,120.51	2,880.29	1,843.38	1,280.13	940.50	720.07	568.95	460.85	380.86	320.03		272.69	235.13	204.82	180.02	159.46	142.24	127.66	115.21
	f	0.08	0.13	0.21	0.30	0.41	0.53	0.68	0.83	1.01	1.20		1.41	1.63	1.88	2.13	2.41	2.70	3.01	3.33
	Fp	358.30	238.86	179.15	143.32	119.43	102.37	89.57	79.62	71.66	65.14		59.72	55.12	51.19	47.77	44.79	42.15	39.81	37.72
	f1	0.07	0.13	0.19	0.27	0.37	0.47	0.59	0.73	0.87	1.03		1.21	1.39	1.59	1.81	2.03	2.27	2.53	2.79
25 ∞ 2	Fv	8,000.80	4,500.45	2,880.29	2,000.20	1,469.53	1,125.11	888.98	720.07	595.10	500.05		426.08	367.38	320.03	281.28	249.16	222.24	199.47	180.02
	f	0.06	0.11	0.17	0.24	0.33	0.43	0.54	0.67	0.81	0.96		1.13	1.31	1.50	1.71	1.93	2.16	2.41	2.67
	Fp	555.04	370.02	277.52	222.01	185.01	158.58	138.76	123.34	111.01	100.92		92.51	85.39	79.29	74.00	69.38	65.30	61.67	58.42
	f1	0.06	0.10	0.16	0.22	0.29	0.38	0.48	0.58	0.70	0.83		0.97	1.12	1.28	1.45	1.63	1.82	2.02	2.23
30 ∞ 2	Fv	11,521.15	6,480.65	4,147.61	2,880.29	2,116.13	1,620.16	1,280.13	1,036.90	856.95	720.07		613.55	529.03	460.85	405.04	358.79	320.03	287.23	259.23
	f	0.05	0.09	0.14	0.20	0.27	0.36	0.45	0.56	0.67	0.80		0.94	1.09	1.25	1.42	1.61	1.80	2.01	2.22
	Fp	792.34	528.23	396.17	316.94	264.11	226.38	198.08	176.08	158.47	144.06		132.06	121.90	113.19	105.65	99.04	93.22	88.04	83.40
	f1	0.05	0.08	0.13	0.18	0.24	0.32	0.40	0.48	0.58	0.69		0.80	0.93	1.06	1.20	1.36	1.52	1.68	1.86
35 ∞ 2	Fv	15,681.57	8,820.88	5,645.36	3,920.39	2,880.29	2,205.22	1,742.40	1,411.34	1,166.40	980.10		835.11	720.07	627.26	551.31	488.35	435.60	390.95	352.84
	f	0.04	0.08	0.12	0.17	0.23	0.31	0.39	0.48	0.58	0.69		0.81	0.93	1.07	1.22	1.38	1.54	1.72	1.91
	Fp	1,067.88	711.92	533.94	427.15	355.96	305.11	266.97	237.31	213.58	194.16		177.98	164.29	152.55	142.38	133.48	125.63	118.65	112.41
	f1	0.04	0.07	0.11	0.16	0.21	0.27	0.34	0.42	0.50	0.59		0.69	0.80	0.91	1.03	1.16	1.30	1.44	1.60
40 ∞ 2	Fv	20,482.05	11,521.15	7,373.54	5,120.51	3,762.01	2,880.29	2,275.78	1,843.38	1,523.46	1,280.13		1,090.76	940.50	819.28	720.07	637.85	568.95	510.63	460.85
	f	0.04	0.07	0.10	0.15	0.20	0.27	0.34	0.42	0.50	0.60		0.70	0.82	0.94	1.07	1.20	1.35	1.50	1.67
	Fp	1,382.49	921.66	691.25	553.00	460.83	395.00	345.62	307.22	276.50	251.36		230.42	212.69	197.50	184.33	172.81	162.65	153.61	145.53
	f1	0.04	0.06	0.10	0.14	0.18	0.24	0.30	0.36	0.44	0.52		0.60	0.70	0.80	0.90	1.02	1.14	1.26	1.40
50 ∞ 2	Fv	32,003.20	18,001.80	11,521.15	8,000.80	5,878.14	4,500.45	3,555.91	2,880.29	2,80.40	2,000.20		1,704.31	1,469.53	1,280.13	1,25.11	996.64	888.98	797.86	720.07
	f	0.03	0.05	0.08	0.12	0.16	0.21	0.27	0.33	0.40	0.48		0.56	0.65	0.75	0.85	0.96	1.08	1.20	1.33
	Fp	2,119.34	1,412.90	1,059.67	847.74	706.45	605.53	529.84	470.97	423.87	385.34		353.22	326.05	302.76	282.58	264.92	249.33	235.48	223.09
	f1	0.03	0.05	0.08	0.11	0.15	0.19	0.24	0.29	0.35	0.41		0.48	0.56	0.64	0.72	0.81	0.91	1.01	1.12
20 ∞ 3	Fv	7,680.77	4,320.43	2,765.08	1,920.19	1,410.75	1,080.11	853.42	691.27	571.30	480.05		409.03	352.69	307.23	270.03	239.19	213.35	191.49	172.82
	f	0.08	0.13	0.21	0.30	0.41	0.53	0.68	0.83	1.01	1.20		1.41	1.63	1.88	2.13	2.41	2.70	3.01	3.33
	Fp	537.44	358.30	268.72	214.98	179.15	153.56	134.36	119.43	107.49	97.72		89.57	82.68	76.78	71.66	67.18	63.23	59.72	56.57
	f1	0.07	0.13	0.19	0.27	0.37	0.47	0.59	0.73	0.87	1.03		1.21	1.39	1.59	1.81	2.03	2.27	2.53	2.79
25 ∞ 3	Fv	12,001.20	6,750.68	4,320.43	3,000.30	2,204.30	1,687.67	1,333.47	1,080.11	892.65	750.08		639.12	551.08	480.05	421.92	373.74	333.37	299.20	270.03
	f	0.06	0.11	0.17	0.24	0.33	0.43	0.54	0.67	0.81	0.96		1.13	1.31	1.50	1.71	1.93	2.16	2.41	2.67
	Fp	832.55	555.04	416.28	333.02	277.52	237.87	208.14	185.01	166.51	151.37		138.76	128.09	118.94	111.01	104.07	97.95	92.51	87.64
	f1	0.06	0.10	0.16	0.22	0.29	0.38	0.48	0.58	0.70	0.83		0.97	1.12	1.28	1.45	1.63	1.82	2.02	2.24
30 ∞ 3	Fv	17,281.73	9,720.97	6,221.42	4,320.43	3,174.19	2,430.24	1,920.19	1,555.36	1,285.42	1,080.11		920.33	793.55	691.27	607.56	538.19	480.05	430.85	388.84
	f	0.05	0.09	0.14	0.20	0.27	0.36	0.45	0.56	0.67	0.80		0.94	1.09	1.25	1.42	1.61	1.80	2.01	2.22
	Fp	1,188.51	792.34	594.25	475.40	396.17	339.57	297.13	264.11	237.70	216.09		198.08	182.85	169.79	158.47	148.56	139.82	132.06	125.11
	f1	0.05	0.08	0.13	0.18	0.24	0.32	0.40	0.48	0.58	0.69		0.80	0.93	1.06	1.20	1.36	1.52	1.68	1.86
35 ∞ 3	Fv	23,522.35	13,231.32	8,468.05	5,880.59	4,320.43	3,307.83	2,613.59	2,117.01	1,749.60	1,470.15		1,252.67	1,080.11	940.89	826.96	732.53	653.40	586.43	529.25
	f	0.04	0.08	0.12	0.17	0.23	0.31	0.39	0.48	0.58	0.69		0.81	0.93	1.07	1.22	1.38	1.54	1.72	1.91
	Fp	1,601.82	1,067.88	800.91	640.73	533.94	457.66	400.45	355.96	320.36	291.24		266.97	246.43	228.83	213.58	200.23	188.45	177.98	168.61
	f1	0.04	0.07	0.11	0.16	0.21	0.27	0.34	0.42	0.50	0.59		0.69	0.80	0.91	1.03	1.16	1.30	1.44	1.60
40 ∞ 3	Fv	30,723.07	17,281.73	11,060.31	7,680.77	5,643.01	4,320.43	3,413.67	2,765.08	2,285.19	1,920.19		1,636.14	1,410.75	1,228.92	1,080.11	956.77	853.42	765.95	691.27
	f	0.04	0.07	0.10	0.15	0.20	0.27	0.34	0.42	0.50	0.60		0.70	0.82	0.94	1.07	1.20	1.35	1.50	1.67
	Fp	2,073.74	1,382.49	1,036.87	829.50	691.25	592.50	518.43	460.83	414.75	377.04		345.62	319.04	296.25	276.50	259.22	243.97	230.42	218.29
	f1	0.04	0.06	0.10	0.14	0.18	0.24	0.30	0.36	0.44	0.52		0.60	0.70	0.80	0.90	1.02	1.14	1.26	1.40
50 ∞ 3	Fv	48,004.80	27,002.70	17,281.73	12,001.20	8,817.21	6,750.68	5,333.87	4,320.43	3,570.60	3,000.30		2,556.47	2,204.30	1,920.19	1,687.67	1,494.96	1,333.47	1,196.80	1,080.11
	f	0.03	0.05	0.08	0.12	0.16	0.21	0.27	0.33	0.40	0.48		0.56	0.65	0.75	0.85	0.96	1.08	1.20	1.33
	Fp	3,179.02	2,119.34	1,589.51	1,271.61	1,059.67	908.29	794.75	706.45	635.80	578.00		529.84	489.08	454.15	423.87	397.38	374.00	353.22	334.63
	f1	0.03	0.05	0.08	0.11	0.15	0.19	0.24	0.29	0.35	0.41		0.48	0.56	0.64	0.72	0.81	0.91	1.01	1.12
60 ∞ 3	Fv	69,126.91	38,883.89	24,885.69	17,281.73	12,696.78	9,720.97	7,680.77	6,221.42	5141.67	4,320.43		3,681.31	3,174.19	2,765.08	2,430.24	2,152.74	1,920.19	1,723.39	1,555.36
	f	0.03	0.04	0.07	0.10	0.14	0.18	0.23	0.28	0.34	0.40		0.47	0.54	0.63	0.71	0.80	0.90	1.00	1.11
	Fp	4,494.84	2,996.56	2,247.42	1,797.94	1,498.28	1,284.24	1,123.71	998.85	898.97	817.24		749.14	691.51	642.12	599.31	561.85	528.80	499.43	473.14
	f1	0.02	0.04	0.06	0.09	0.12	0.16	0.20	0.24	0.29	0.34		0.40	0.46	0.53	0.60	0.68	0.76	0.84	0.93

Fv = load values for distributed load capacty in daN/m² f = deflection in cm at load Fv Fp = stress levels for concentrated load on 200 x 200 mm f1 = deflection in cm at load Fp

Accessibility.
For perfect accessibility, this area must not be exceeded. At loaded condition the deflection is 4 mm at a concentrated load of 150 daN with a load charge area of 200 x 200 mm.

At this limit, ProMetall gratings are able to absorb a migrating concentrated load of 150 daN with a load charge area of 200 x 200 mm at the most vulnerable part, whereby the maximum deflection of 1/200 of the span is not exceeded (see Arbeitsgemeinschaft Industriebau e. V.).

At a distributed load of 500 daN/m², this area has a max. deflection of 4 mm².

The max. deflection of 1/200 of the span is not exceeded by this limit at a distributed load capacity of 500 daN/m².

Material stress.
Permissible stress: 160 N/mm²
Safety factor to yield point: 1.5
Safety factor to breaking point: 3.0

Slip-resistant designs where the supporting bar is profiled, show a decreased load capacity due to the punch-outs.

Reduced load capacities in %.
Slip-resistant gratings

Grating height	Reduction of the load capacities in %
20	15
25	12
30	10
35	8.6
40	7.5
50	6
60	5