

WIDE RANGE OF PRODUCTS



> PERFO PLANKS AND STAIR TREADS

STACO 

GRATING TECHNOLOGY

PERFECT IN FORM

STACO. STACO's manufacturing plants provide a complete range of high-quality gratings and stair treads. In steel, aluminium and stainless steel. STACO provides a grating solution for every application, from flooring and railings to cladding material. Galvanizing and powder coating are used to lengthen the products' economic life considerably.

STACO is synonymous with an attractive price/quality ratio, innovative technology and outstanding service. Its vast range of products is ubiquitous in the non-residential sector, at garages and coachbuilders, in offshore companies, in shipbuilding, in civil engineering and in many other applications. Our gratings, steps and associated products also provide a genuine contribution to the visible architecture of countless buildings.

Nearly all our standard products can be supplied directly from stock. Although STACO's sites all use high-tech machinery, we also consider manual skill to be essential when it comes to manufacturing special custom products and constructional gratings under tight deadlines. Our experts are eager to help you find a suitable solution, giving advice on subjects like material strength, complex grating and flooring layouts and the creation of technical designs. In a nutshell, STACO is a dependable and a client-focused partner.



THE POWER OF THE GROUP





Photo courtesy of Andy Moore

A POWERFUL NETWORK



Part of  www.rotogroep.nl

STACO is a ROTO company, a powerful network of companies specializing in expanded metal, steel and steel processing, grating technology and/or surface treatment. ROTO also represents a personal approach at STACO, this means that the client's requirements are key.

STACO 

www.staco.eu

STACO has sites in: Belgium, France, Germany, The Netherlands, Poland, The United Kingdom
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Perfo Planks and Stair Treads

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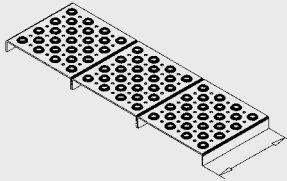
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STACO provides a solution for every application; many of these solutions are included in this brochure. Our website not only provides a great deal of additional information, but also includes current stock and interactive modules for strength and permeability analyses. The website also allows you to request or download our other brochures; “Pressed Gratings, Stair Treads and GRP Gratings”, “Welded Gratings and Stair Treads” and “Architectural Gratings”. For more information, www.staco.pl



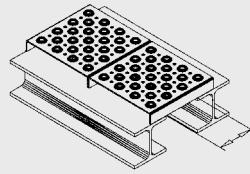
GRATINGS AND TREADS GLOSSARY

Length of grating



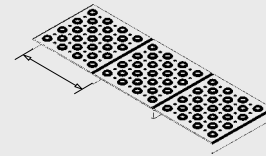
The panels that are required to take the load should be supported at both ends. This is the first and/or underlined size.

Span



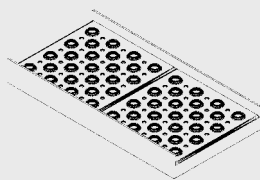
This is the clear width between two supports. A grating can cover multiple supports. The minimum overlap of the grating = 30 mm.

Width of grating



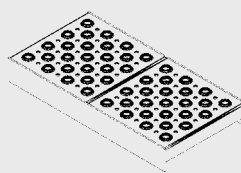
This runs at right angles to the direction of load.

Kicker plate



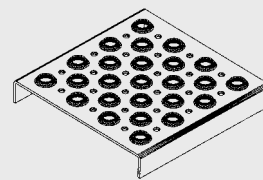
A strip welded to the grating. This strip projects above the grating.

Flush edge



A strip welded to the grating. This strip projects below the grating.

Type of pressing



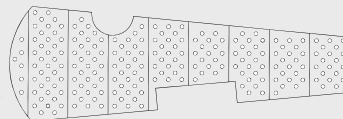
Hole depth and diameter and sheet gauge can all vary.

Gross platform surface area



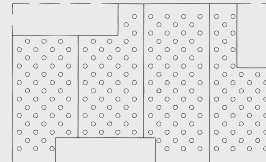
The total platform surface area before it is cut to size and any recesses are created (see dotted line).

Net platform surface area



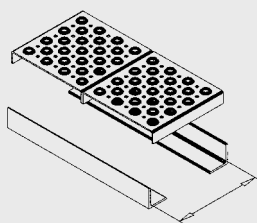
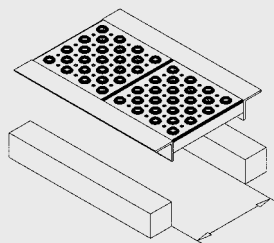
The net platform surface area remaining after it has been cut to size and any recesses have been created.

Recesses



The general term for all holes and cut-outs. This includes cuts that run through the perforations.

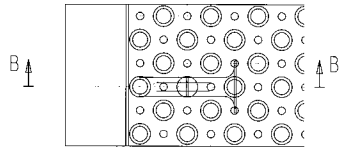
Hole size / Clear width



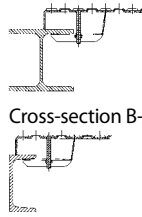
The net internal dimensions, between the mounting profiles, or the net recess dimensions. The grating size must be 4-8 mm smaller than the hole size.

FASTENERS FOR PERFO PLANKS AND TREADS

Fastening set

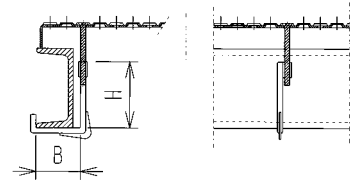


Cross-section B-B



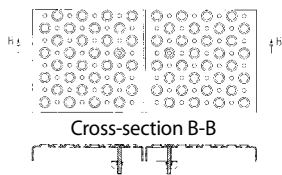
Bolt + nut and lower bracket. Available for various grating types.
Versions: Hot-dip galvanized and stainless steel.

Hook bolt

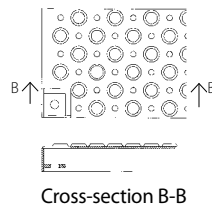


Hook + bolt. Hot-dip galvanized.

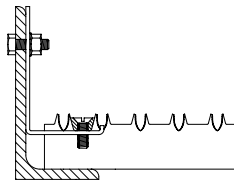
Coupling set



Welded fastening

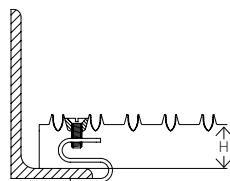


2 x bolts + nuts, 1 x lower bracket.
Hot-dip galvanized and stainless steel.



Fastening system consists of:

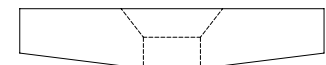
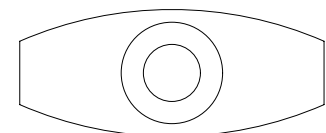
- hook and screw
- disc



Fastening system consists of:

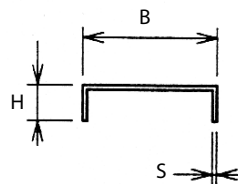
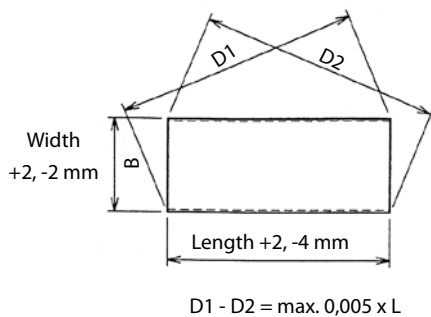
- S-clamp and screw
- disc
- State dimension H when ordering.

dimensions	B	H	suitable for UNP	
			Min.	Max.
	67	100	UNP 100	UNP 160
	77	140	UNP 140	UNP 200
	85	180	UNP 180	UNP 240
	97	220	UNP 220	UNP 280

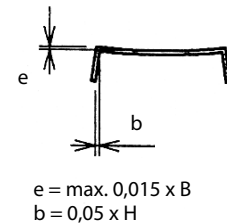
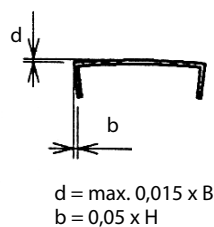
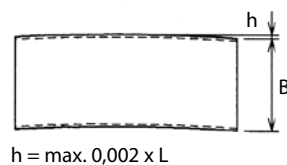
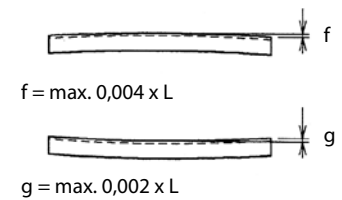


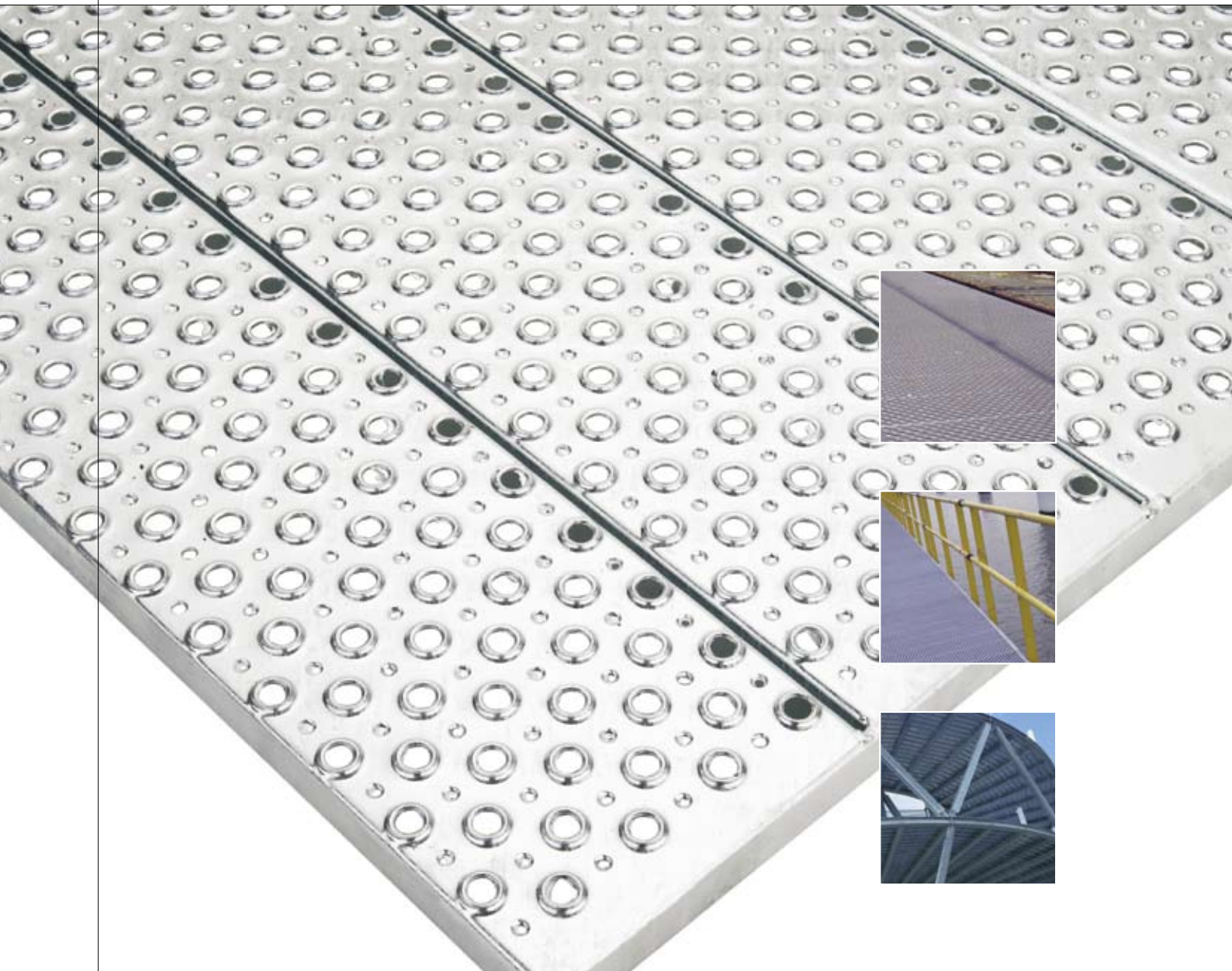
STACO fastening sets for serrated gratings include a special disc to be used as the upper fastening component. Available in steel (galvanized according to EN ISO 1461) or in plastic.

TOLERANCES — AP-TYPES



$B = +2 \text{ mm}, -2 \text{ mm}$
 $H = +1,5 \text{ mm}, -1,5 \text{ mm}$
 $S = \pm 0,2 \text{ mm}$





} PERFO PLANKS – TYPE AP

} Its ease of use really makes this type of perfo planks and stair treads stand out from the crowd. Thanks to STACO's more advanced production process, these products can be supplied fast and at competitive prices. Custom orders are normal at STACO.

PERFO PLANKS – TYPE AP

PERFO PLANKS – TYPE AP

Type AP products have the following advantages:

- perfo has a limited transparency, giving peace of mind to those with a fear of heights
- anti-slip features help to prevent accidents
- the narrow hole size stops falling objects

Choice of the following materials:

- steel quality S235JR
- stainless steel quality AISI 304 (1.4301)
- aluminium quality AlMg3-G22

Versions:

- untreated steel, 1.5/2/2.5 and 3 mm thick
- hot-dip galvanized steel conforms EN-ISO 1461, 1.5/2/2.5 and 3 mm thick
- sendzimir galvanized steel, 1.5/2/2.5 and 3 mm thick
- stainless steel quality AISI 304 (1.4301), 1.5 and 2 mm thick
- aluminium quality AlMg3-G22, 2/2.5 and 3 mm thick
- powder coated in all standard RAL colours
- various perforation options available
- stair treads fitted with rubber caps
- ungalvanized weld-on treads from stock
- ungalvanized spiral weld-on treads from stock
- galvanized spiral treads with welded-on sleeve
- completely assembled platforms

For stock items, go to www.staco.pl

All plank types AP MAW / ZAW / DOP / ZAA / MAA / NOP / VMA / VZA can be manufactured according to below cross-sections:



A



B



C

Version A is the standard and is the base for all calculations on the load tables for the above types.

All plank types AP SER / STE / RUN / OFF / GES can be manufactured according to below cross-sections:



A



B

Version B is the standard and is the base for all calculations on the load table for the above types.



PERFO PLANKS – TYPE AP



Type AP 2-50/MAW (2 mm sheet)

Type AP 3-50/MAW (3 mm sheet)

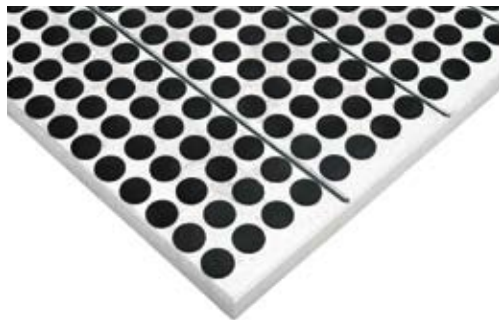
Anti-slip perforation Ø 14 mm, c.t.c. 50 mm, 4 mm high.
Drainage perforation Ø 8 mm, c.t.c. 50 mm, 0 mm deep.



Type AP 2-50/ZAW (2 mm sheet)

Type AP 3-50/ZAW (3 mm sheet)

Anti-slip perforation Ø 14 mm, c.t.c. 50 mm, 4 mm high.



Type APD 2-50/DOP (2 mm sheet)

Type APD 3-50/DOP (3 mm sheet)

Perforation Ø 14 mm, c.t.c. 50 mm, 4 mm deep, also with drainage perforation Ø 8 mm if required, c.t.c. 50 mm, 0 mm deep. Suitable for using rubber caps. Preferred widths in multiples of 50 mm.



Type AP 2-50/ZAA (2 mm sheet)

Type AP 3-50/ZAA (3 mm sheet)

Anti-slip perforation Ø 8 mm, c.t.c. 50 mm, 4 mm high.



Type AP 2-50/MAA (2 mm sheet)

Type AP 3-50/MAA (3 mm sheet)

Anti-slip perforation Ø 8 mm, c.t.c. 50 mm, 4 mm high.
Drainage perforation Ø 11 mm, c.t.c. 50 mm, 0 mm deep.



Type AP 2-50/NOP (2 mm sheet)

Type AP 3-50/NOP (3 mm sheet)

Perforation Ø 14 mm. Dome, c.t.c. 50 mm, 4 mm high.

For stock items, dimensions and detailed drawings of perforation patterns, go to www.staco.pl.

material	quality	gauge
steel	S235JR	2/3 mm
stainless steel	AISI 304 (1.4301)	2 mm
aluminium	AlMg3-G22	3 mm

PERFO PLANKS – TYPE AP



Type AP 2-40/MAW (2 mm sheet)

Type AP 3-40/MAW (3 mm sheet)

Anti-slip perforation Ø 14 mm, c.t.c. 40 mm, 4 mm high.
 Drainage perforation Ø 8 mm, c.t.c. 40 mm, 2 mm deep.



Type AP 2-40/ZAW (2 mm sheet)

Type AP 3-40/ZAW (3 mm sheet)

Anti-slip perforation Ø 14 mm, c.t.c. 40 mm, 4 mm high.



Type AP 2-40/NOP (2 mm sheet)

Type AP 3-40/NOP (3 mm sheet)

Perforation Ø 14 mm. Dome, c.t.c. 40 mm, 4 mm high.

For stock items, dimensions and detailed drawings of perforation patterns, go to www.staco.pl.

material	quality	gauge
steel	S235JR	2/3 mm
stainless steel	AISI 304 (1.4301)	2 mm
aluminium	AlMg3-G22	3 mm

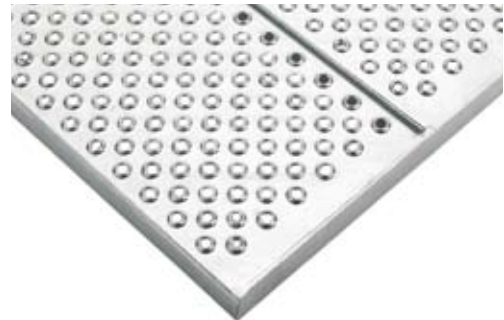


PERFO PLANKS – TYPE AP



Type AP 2-30/MAW (2 mm sheet)

Anti-slip perforation \varnothing 8 mm, c.t.c. 30 mm, 3 mm high.
 Drainage perforation \varnothing 5 mm, c.t.c. 30 mm, 3 mm deep.



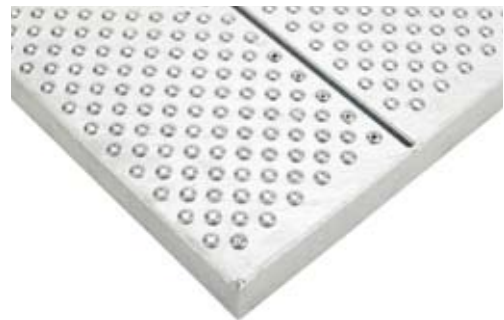
Type AP 2-30/ZAW (2 mm sheet)

Anti-slip perforation, round \varnothing 8 mm, c.t.c. 30 mm,
 3 mm high.



Type AP 2-30/VMA (2 mm sheet)

Anti-slip perforation \varnothing 5 mm, c.t.c. 30 mm, 3 mm high.
 Drainage perforation \varnothing 5 mm, c.t.c. 30 mm, 3 mm deep.



Type AP 2-30/VZA (2 mm sheet)

Anti-slip perforation \varnothing 5 mm, c.t.c. 30 mm, 3 mm high.

For stock items, dimensions and detailed drawings
 of perforation patterns, go to www.staco.pl.

material	quality	gauge
steel	S235JR	2 mm
stainless steel	AISI 304 (1.4301)	2 mm



Type AP 2-50/LAD1 (2 mm sheet)

Anti-slip perforation \varnothing 12 mm, c.t.c. 25 mm, 5 mm high.
 Rung: height 37 mm, width 25 mm.

Type AP 2-50/LAD2 (2 mm sheet)

Anti-slip perforation \varnothing 12 mm, c.t.c. 25 mm, 5 mm high.
 Rung: height 37 mm, width 50 mm.



**Type AP 2-50/LAD2 (2 mm sheet)
 with recess for upright, at 48,3 mm**

Anti-slip perforation \varnothing 12 mm, c.t.c. 25 mm, 5 mm high.
 Rung: height 37 mm, width 50 mm.

material	quality	gauge
steel	S235JR	2 mm

PERFO PLANKS – TYPE AP

}



Type AP 1.5-30/STE (1.5 mm sheet)
Type AP 2-30/STE (2 mm sheet)
Type AP 2.5-30/STE (2.5 mm sheet)
 Anti-slip perforation Ø 8 mm, c.t.c. 60 mm, 2 mm high.



Type AP 1.5-30/SER (1.5 mm sheet)
Type AP 2-30/SER (2 mm sheet)
Type AP 2.5-30/SER (2.5 mm sheet)
 Anti-slip perforation 13 mm, c.t.c. 27 mm, 10 mm high.



Type AP 1.5-30/RUN (1.5 mm sheet)
Type AP 2-30/RUN (2 mm sheet)
Type AP 2.5-30/RUN (2.5 mm sheet)
 Anti-slip perforation 2x Ø 8 mm, c.t.c. 15/30 mm, 2 mm high.
 Drainage perforation Ø 11 mm, c.t.c. 15/30 mm, 3 mm deep.



Type AP 1.5-30/OFF (1.5 mm sheet)
Type AP 2-30/OFF (2 mm sheet)
Type AP 2.5-30/OFF (2.5 mm sheet)
 Anti-slip perforation Ø 11 mm, c.t.c. 15/30 mm, 2 mm high.
 Drainage perforation 2 x Ø 6 mm, c.t.c. 15/30 mm, 0 mm deep.



Type AP 1.5-30/GES (1.5 mm sheet)
Type AP 2-30/GES (2 mm sheet)
Type AP 2.5-30/GES (2.5 mm sheet)
 Anti-slip perforation Ø 15 mm not fully punched out, c.t.c. 20/40 mm, 3 mm high.
 Perforation pattern; 2 equal rows followed by 1 row, staggered.

For stock items, dimensions and detailed drawings of perforation patterns, go to www.staco.pl

material	quality	gauge
steel	S235JR	1,5/2/2,5 mm
stainless steel	AISI 304 (1.4301)	1,5/2 mm
aluminium	AlMg3-G22	2,5 mm

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 2-30 MAW, ZAW

height 32 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	30,1	17140	9639	6169	4284	3148	2410	1904	1542	1275	1071	844	676	550	453	378	318	270	232
85	27,5	14110	7938	5080	3528	2592	1985	1568	1270	1050	882	695	557	453	373	311	262	223	191
100	25,7	12000	6747	4318	2999	2203	1687	1333	1080	892	750	591	473	385	317	264	223	189	162
115	24,4	10430	5867	3755	2608	1916	1467	1159	939	776	652	514	412	335	276	230	194	165	141
130	23,4	9227	5190	3322	2307	1695	1298	1025	831	686	577	455	364	296	244	203	171	146	125
145	22,6	8273	4653	2978	2068	1519	1163	919	745	615	517	408	326	265	219	182	154	131	112
160	22,0	7497	4217	2699	1874	1377	1054	833	675	558	469	369	296	240	198	165	139	118	101
175	21,4	6855	3856	2468	1714	1259	964	762	617	510	428	338	270	220	181	151	127	108	93
190	21,0	6313	3551	2273	1578	1160	888	702	568	470	395	311	249	203	167	139	117	100	85
205	20,6	5851	3291	2107	1463	1075	823	650	527	435	366	288	231	188	155	129	109	92	79
220	20,3	5453	3067	1963	1363	1001	767	606	491	406	341	269	215	175	144	120	101	86	74
235	20,0	5104	2871	1838	1276	938	718	567	459	380	319	252	201	164	135	113	95	81	69
250	19,7	4798	2699	1727	1200	881	675	533	432	357	300	236	189	154	127	106	89	76	65
70-250	f_v	0,04	0,07	0,10	0,15	0,20	0,27	0,34	0,42	0,50	0,60	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 2-30 MAW, ZAW

height 32 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	30,1	771	514	386	309	257	220	193	171	154	140	129	119	104	91	81	72	65	58
85	27,5	635	423	318	254	212	181	159	141	127	116	106	98	86	75	67	59	53	48
100	25,7	540	360	270	216	180	154	135	120	108	98	90	83	73	64	57	50	45	41
115	24,4	469	313	235	188	157	134	117	104	94	85	78	72	63	56	49	44	39	35
130	23,4	415	277	208	166	138	119	104	92	83	76	69	64	56	49	43	39	35	31
145	22,6	372	248	186	149	124	106	93	83	74	68	62	57	50	44	39	35	31	28
160	22,0	337	225	169	135	113	96	84	75	67	61	56	52	45	40	35	32	28	25
175	21,4	309	206	154	123	103	88	77	69	62	56	51	47	42	37	32	29	26	23
190	21,0	284	189	142	114	95	81	71	63	57	52	47	44	38	34	30	27	24	21
205-250		270	180	135	108	90	77	67	60	54	49	45	42	36	32	28	25	23	20
70-250	f_p	0,04	0,06	0,10	0,14	0,18	0,24	0,30	0,36	0,44	0,52	0,60	0,70	0,75	0,80	0,85	0,90	0,95	1,00

Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)

Value of max. load with condition of operational use ($\gamma_f = 1,0$)

f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 2-30/MAW AP 2-30/ZAW

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to [mm]		multipl. factor for F_v		span over [mm]		multipl. factor for F_v		span up to [mm]		multipl. factor for F_p	
		F_v	f_v	F_v	f_v	F_v	f_v	F_p	f_p	F_p	f_p	F_p	f_p
Steel S235JR	40	1400	1,52	0,82	1400	1,86	1,00	1700	1,52	0,82	1700	1,86	1,00
	45	1600	1,90	0,74	1600	2,58	1,00	1900	1,90	0,74	1900	2,58	1,00
	50	1700	2,32	0,67	1700	3,47	1,00	2000	2,32	0,67			
	60	2000	3,27	0,57				2000	3,27	0,57			
Stainless Steel AISI 304 (1.4301)	32	1500	0,79	0,79	1500	1,00	1,00	1800	0,79	0,79	1800	1,00	1,00

Go to www.staco.pl to calculate

the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 2-30 VMA, VZA

height 32 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	30,1	17640	9922	6350	4410	3240	2481	1960	1588	1312	1102	890	713	580	478	398	335	285	245
85	27,5	14530	8171	5230	3632	2668	2043	1614	1307	1081	908	733	587	477	393	328	276	235	201
100	25,7	12350	6946	4445	3087	2268	1736	1372	1111	918	772	623	499	406	334	279	235	200	171
115	24,4	10740	6040	3865	2684	1972	1510	1193	966	799	671	542	434	353	291	242	204	174	149
130	23,4	9498	5343	3419	2375	1745	1336	1055	855	707	594	479	384	312	257	214	181	154	132
145	22,6	8516	4790	3066	2129	1564	1198	946	766	633	532	430	344	280	231	192	162	138	118
160	22,0	7717	4341	2778	1929	1417	1085	858	695	574	482	390	312	254	209	174	147	125	107
175	21,4	7056	3969	2540	1764	1296	992	784	635	525	441	356	285	232	191	159	134	114	98
190	21,0	6499	3656	2340	1625	1194	914	722	585	483	406	328	263	214	176	147	124	105	90
205	20,6	6023	3388	2168	1506	1106	847	669	542	448	377	304	243	198	163	136	115	97	83
220	20,3	5613	3157	2021	1403	1031	789	624	505	418	351	283	227	184	152	127	107	91	78
235	20,0	5254	2956	1892	1314	965	739	584	473	391	328	265	212	173	142	119	100	85	73
250	19,7	4939	2778	1778	1235	907	695	549	445	367	309	249	200	162	134	112	94	80	68
70-250	f_v	0,04	0,06	0,10	0,15	0,20	0,26	0,33	0,41	0,49	0,58	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 2-30 VMA, VZA

height 32 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	30,1	794	529	397	318	265	227	198	176	159	144	132	122	110	96	85	76	68	61
85	27,5	654	436	327	262	218	187	163	145	131	119	109	101	90	79	70	63	56	51
100	25,7	556	370	278	222	185	159	139	124	111	101	93	85	77	67	60	53	48	43
115	24,4	483	322	242	193	161	138	121	107	97	88	81	74	67	59	52	46	41	37
130	23,4	427	285	214	171	143	122	107	95	85	78	71	66	59	52	46	41	37	33
145	22,6	383	256	192	153	128	110	96	85	77	70	64	59	53	46	41	37	33	30
160	22,0	347	232	174	139	116	99	87	77	69	63	58	53	48	42	37	33	30	27
175	21,4	318	212	159	127	106	91	79	71	64	58	53	49	44	38	34	30	27	25
190	21,0	293	195	146	117	97	84	73	65	58	53	49	45	40	35	31	28	25	23
205-250		278	185	139	111	93	79	69	62	56	51	46	43	38	34	30	27	24	22
70-250	f_p	0,04	0,06	0,09	0,13	0,18	0,23	0,29	0,35	0,43	0,50	0,59	0,68	0,75	0,80	0,85	0,90	0,95	1,00

- Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)
- Value of max. load with condition of operational use ($\gamma_f = 1,0$)

f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 2-30/VMA AP 2-30/VZA

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]											
		span up to [mm]		multipl. factor for F_v		span over [mm]		multipl. factor for f_v		span up to [mm]		multipl. factor for F_p		span over [mm]		multipl. factor for f_p			
		[mm]	F_v	f_v	[mm]	F_v	f_v	[mm]	F_p	f_p	[mm]	F_p	f_p	[mm]	F_p	f_p	[mm]	F_p	f_p
Steel S235JR	40	1500	1,52	0,82	1500	1,85	1,00	1700	1,52	0,82	1700	1,85	1,00						
	45	1600	1,90	0,74	1600	2,57	1,00	1900	1,90	0,74	1900	2,57	1,00						
	50	1800	2,31	0,67	1800	3,44	1,00	2000	2,31	0,67									
	60	2000	3,26	0,57				2000	3,26	0,57									
Stainless Steel AISI 304 (1.4301)	32	1500	0,79	0,79	1500	1,00	1,00	1800	0,79	0,79	1800	1,00	1,00						

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 2-40 MAW, ZAW, NOP

height 35 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	31,4	19860	11170	7149	4964	3647	2792	2206	1787	1477	1241	1042	835	679	559	466	393	334	286
90	27,9	15440	8687	5560	3861	2837	2172	1716	1390	1149	965	811	649	528	435	363	305	260	223
110	25,7	12640	7108	4549	3159	2321	1777	1404	1137	940	790	663	531	432	356	297	250	213	182
130	24,2	10690	6014	3849	2673	1964	1504	1188	962	795	668	561	449	365	301	251	211	180	154
150	23,0	9267	5212	3336	2317	1702	1303	1030	834	689	579	486	389	317	261	218	183	156	134
170	22,2	8176	4599	2944	2044	1502	1150	909	736	608	511	429	344	279	230	192	162	138	118
190	21,5	7316	4115	2634	1829	1344	1029	813	658	544	457	384	307	250	206	172	145	123	106
210	20,9	6619	3723	2383	1655	1216	931	735	596	492	414	347	278	226	186	155	131	111	95
230	20,5	6043	3399	2176	1511	1110	850	672	544	450	378	317	254	207	170	142	120	102	87
250	20,1	5560	3127	2002	1390	1021	782	618	500	414	348	292	234	190	157	131	110	93	80
270	19,8	5148	2896	1853	1287	946	724	572	463	383	322	270	216	176	145	121	102	87	74
290	19,5	4793	2696	1726	1198	880	674	533	431	357	300	252	201	164	135	113	95	81	69
310	19,2	4484	2522	1614	1121	824	631	498	404	334	280	235	188	153	126	105	89	75	65
70-310	f_v	0,04	0,06	0,10	0,14	0,19	0,25	0,32	0,39	0,47	0,56	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 2-40 MAW, ZAW, NOP

height 35 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	31,4	894	596	447	357	298	255	223	199	179	163	149	138	128	113	100	89	80	72
90	27,9	695	463	348	278	232	199	174	154	139	126	116	107	99	88	78	69	62	56
110	25,7	569	379	284	228	190	163	142	126	114	103	95	87	81	72	63	57	51	46
130	24,2	481	321	241	193	160	138	120	107	96	87	80	74	69	61	54	48	43	39
150	23,0	417	278	209	167	139	119	104	93	83	76	70	64	60	53	47	41	37	34
170	22,2	368	245	184	147	123	105	92	82	74	67	61	57	53	46	41	37	33	30
190	21,5	329	220	165	132	110	94	82	73	66	60	55	51	47	42	37	33	29	26
210-310		313	209	156	125	104	89	78	70	63	57	52	48	45	39	35	31	28	25
70-310	f_p	0,03	0,06	0,09	0,13	0,17	0,22	0,28	0,34	0,41	0,48	0,57	0,65	0,75	0,80	0,85	0,90	0,95	1,00

- Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)
- Value of max. load with condition of operational use ($\gamma_f = 1,0$)

f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 2-40/MAW, AP 2-40/ZAW, AP 2-40/NOP

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to [mm]	multipl. factor for F_v		span over [mm]	multipl. factor for f_v		span up to [mm]	multipl. factor for F_p		span over [mm]	multipl. factor for f_p	
Steel S235JR	40	1400	1,29	0,89	1400	1,45	1,00	1700	1,29	0,89	1700	1,45	1,00
	45	1600	1,61	0,80	1600	2,02	1,00	1900	1,61	0,80	1900	2,02	1,00
	50	1700	1,96	0,72	1700	2,72	1,00	2000	1,96	0,72			
	60	2000	2,77	0,61				2000	2,77	0,61			
Stainless Steel AISI 304 (1.4301)	35	1600	0,79	0,79	1600	1,00	1,00	1900	0,79	0,79	1900	1,00	1,00

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 2-50 MAW, ZAW, NOP, APD 2-50 DOP

height 35 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	29,4	17370	9773	6255	4344	3191	2443	1931	1564	1292	1086	912	730	594	489	408	344	292	251
105	26,2	13240	7446	4766	3310	2431	1862	1471	1191	985	827	695	556	452	373	311	262	223	191
130	24,2	10690	6014	3849	2673	1964	1504	1188	962	795	668	561	449	365	301	251	211	180	154
155	22,8	8968	5044	3228	2242	1647	1261	996	807	667	561	471	377	306	253	211	177	151	129
180	21,8	7722	4344	2780	1931	1418	1086	858	695	574	483	405	325	264	217	181	153	130	111
205	21,1	6780	3814	2441	1695	1245	954	753	610	504	424	356	285	232	191	159	134	114	98
230	20,5	6043	3399	2176	1511	1110	850	672	544	450	378	317	254	207	170	142	120	102	87
255	20,0	5451	3066	1962	1363	1001	767	606	491	405	341	286	229	186	154	128	108	92	79
280	19,6	4964	2792	1787	1241	912	698	552	447	369	310	261	209	170	140	117	98	83	72
305	19,3	4557	2564	1641	1139	837	641	506	410	339	285	239	192	156	128	107	90	77	66
330	19,0	4212	2369	1516	1053	774	592	468	379	313	263	221	177	144	119	99	83	71	61
80-330	f_v	0,04	0,06	0,10	0,14	0,19	0,25	0,32	0,39	0,47	0,56	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 2-50 MAW, ZAW, NOP, APD 2-50 DOP

height 35 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	29,4	782	521	391	313	261	223	196	174	156	142	130	120	112	99	87	78	70	63
105	26,2	596	397	298	238	199	170	149	132	119	108	99	92	85	75	66	59	53	48
130	24,2	481	321	241	193	160	138	120	107	96	87	80	74	69	61	54	48	43	39
155	22,8	404	269	202	161	135	115	101	90	81	73	67	62	58	51	45	40	36	32
180	21,8	348	232	174	139	116	99	87	77	70	63	58	53	50	44	39	35	31	28
205-330		313	209	156	125	104	89	78	70	63	57	52	48	45	39	35	31	28	25
80-330	f_p	0,03	0,06	0,09	0,13	0,17	0,22	0,28	0,34	0,41	0,48	0,57	0,65	0,75	0,80	0,85	0,90	0,95	1,00

- Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)
- Value of max. load with condition of operational use ($\gamma_f = 1,0$)

f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 2-50/MAW, AP 2-50/ZAW, AP 2-50/NOP, APD 2-50/DOP

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to [mm]		multipl. factor for		span over [mm]		multipl. factor for		span up to [mm]		multipl. factor for	
		F_v	f_v	F_v	f_v	F_v	f_v	F_p	f_p	F_p	f_p	F_p	f_p
Steel S235JR	40	1400	1,29	0,89	1400	1,45	1,00	1700	1,29	0,89	1700	1,45	1,00
	45	1600	1,61	0,80	1600	2,02	1,00	1900	1,61	0,80	1900	2,02	1,00
	50	1700	1,96	0,72	1700	2,72	1,00	2000	1,96	0,72			
	60	2000	2,77	0,61				2000	2,77	0,61			
Stainless Steel AISI 304 (1.4301)	35	1600	0,79	0,79	1600	1,00	1,00	1900	0,79	0,79	1800	1,00	1,00

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 2-50 MAA, ZAA

height 35 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	29,4	18430	10370	6634	4607	3385	2592	2048	1659	1371	1152	981	812	660	544	453	382	325	279
105	26,2	14040	7898	5055	3510	2579	1975	1560	1264	1044	878	748	619	503	414	346	291	248	212
130	24,2	11340	6379	4083	2835	2083	1595	1260	1021	844	709	604	500	406	335	279	235	200	171
155	22,8	9512	5350	3424	2378	1747	1338	1057	856	708	595	507	419	341	281	234	197	168	144
180	21,8	8191	4607	2949	2048	1504	1152	910	737	609	512	436	361	293	242	202	170	144	124
205	21,1	7192	4045	2589	1798	1321	1011	799	647	535	450	383	317	258	212	177	149	127	109
230	20,5	6410	3606	2308	1603	1177	901	712	577	477	401	341	282	230	189	158	133	113	97
255	20,0	5782	3252	2081	1445	1062	813	642	520	430	361	308	255	207	171	142	120	102	87
280	19,6	5265	2962	1896	1316	967	740	585	474	392	329	280	232	189	155	130	109	93	80
305	19,3	4834	2719	1740	1208	888	680	537	435	360	302	257	213	173	143	119	100	85	73
330	19,0	4468	2513	1608	1117	821	628	496	402	332	279	238	197	160	132	110	93	79	68
80-330	f_v	0,03	0,06	0,09	0,13	0,18	0,24	0,30	0,37	0,45	0,54	0,63	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 2-50 MAA, ZAA

height 35 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	29,4	829	553	415	332	276	237	207	184	166	151	138	128	119	110	97	86	78	70
105	26,2	632	421	316	253	211	181	158	140	126	115	105	97	90	84	74	66	59	53
130	24,2	510	340	255	204	170	146	128	113	102	93	85	79	73	67	60	53	48	43
155	22,8	428	285	214	171	143	122	107	95	86	78	71	66	61	57	50	45	40	36
180	21,8	369	246	184	147	123	105	92	82	74	67	61	57	53	49	43	38	34	31
205-330		332	221	166	133	111	95	83	74	66	60	55	51	47	44	39	35	31	28
80-330	f_p	0,03	0,06	0,09	0,12	0,16	0,21	0,27	0,32	0,39	0,46	0,54	0,62	0,71	0,80	0,85	0,90	0,95	1,00

Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)

f_p [cm] = deflection in case of load F_p

Value of max. load with condition of operational use ($\gamma_f = 1,0$)

Calculation table for different heights, spans and materials:

Type: AP 2-50/MAA, AP 2-50/ZAA

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to [mm]		multipl. factor for		span over [mm]		multipl. factor for		span up to [mm]		multipl. factor for	
		F_v	f_v	F_v	f_v	F_v	f_v	F_p	f_p	F_p	f_p	F_p	f_p
Steel S235JR	40	1500	1,29	0,89	1500	1,45	1,00	1700	1,29	0,89	1700	1,45	1,00
	45	1600	1,60	0,80	1600	2,00	1,00	2000	1,60	0,80			
	50	1800	1,95	0,73	1800	2,68	1,00	2000	1,95	0,73			
	60	2000	2,75	0,62				2000	2,75	0,62			
Stainless Steel AISI 304 (1.4301)	35	1700	0,79	0,79	1700	1,00	1,00	2000	0,79	0,79			

Go to www.staco.pl to calculate

the missing parameters automatically

using our calculation module.

MATERIAL S235JR, $R_D = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 3-40 MAW, ZAW, NOP

height 35 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	47,1	28750	16170	10350	7187	5281	4043	3194	2587	2138	1797	1478	1183	962	793	661	557	473	406
90	41,9	22360	12580	8050	5590	4107	3144	2485	2012	1663	1398	1149	920	748	616	514	433	368	316
110	38,5	18300	10290	6586	4574	3360	2573	2033	1647	1361	1143	940	753	612	504	421	354	301	258
130	36,2	15480	8708	5573	3870	2843	2177	1720	1393	1151	968	796	637	518	427	356	300	255	219
150	34,5	13420	7547	4830	3354	2464	1887	1491	1207	998	839	690	552	449	370	308	260	221	189
170	33,2	11840	6659	4262	2960	2174	1665	1315	1065	881	740	608	487	396	326	272	229	195	167
190	32,2	10590	5958	3813	2648	1945	1489	1177	953	788	662	544	436	354	292	243	205	174	150
210	31,4	9583	5391	3450	2396	1760	1348	1065	863	713	599	493	394	321	264	220	186	158	135
230	30,7	8750	4922	3150	2187	1607	1230	972	788	651	547	450	360	293	241	201	169	144	124
250	30,1	8050	4528	2898	2012	1479	1132	894	725	599	503	414	331	269	222	185	156	133	114
270	29,7	7454	4193	2683	1863	1369	1048	828	671	554	466	383	307	249	206	171	144	123	105
290	29,2	6940	3904	2498	1735	1275	976	771	625	516	434	357	286	232	191	160	134	114	98
310	28,9	6492	3652	2337	1623	1192	913	721	584	483	406	334	267	217	179	149	126	107	92
70-310	f_v	0,04	0,06	0,10	0,14	0,20	0,26	0,32	0,40	0,48	0,57	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 3-40 MAW, ZAW, NOP

height 35 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
70	47,1	1294	863	647	518	431	370	323	288	259	235	216	199	182	160	141	126	113	102
90	41,9	1006	671	503	403	335	288	252	224	201	183	168	155	142	124	110	98	88	79
110	38,5	823	549	412	329	274	235	206	183	165	150	137	127	116	102	90	80	72	65
130	36,2	697	464	348	279	232	199	174	155	139	127	116	107	98	86	76	68	61	55
150	34,5	604	403	302	242	201	173	151	134	121	110	101	93	85	75	66	59	53	48
170	33,2	533	355	266	213	178	152	133	118	107	97	89	82	75	66	58	52	47	42
190	32,2	477	318	238	191	159	136	119	106	95	87	79	73	67	59	52	46	42	38
210-310		453	302	226	181	151	129	113	101	91	82	75	70	64	56	49	44	40	36
70-310	f_p	0,04	0,06	0,09	0,13	0,18	0,23	0,28	0,35	0,42	0,49	0,58	0,67	0,75	0,80	0,85	0,90	0,95	1,00

- Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)
- Value of max. load with condition of operational use ($\gamma_f = 1,0$)

f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 3-40/MAW, AP 3-40/ZAW, AP 3-40/NOP

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to [mm]		multipl. factor for		span over [mm]		multipl. factor for		span up to [mm]		multipl. factor for	
		F_v	f_v	F_v	f_v	F_v	f_v	F_p	f_p	F_p	f_p	F_p	f_p
Steel S235JR	40	1400	1,29	0,88	1400	1,46	1,00	1600	1,29	0,88	1600	1,46	1,00
	45	1500	1,62	0,79	1500	2,04	1,00	1800	1,62	0,79	1800	2,04	1,00
	50	1700	1,98	0,72	1700	2,75	1,00	2000	1,98	0,72			
	60	2000	2,81	0,61				2000	2,81	0,61			
Aluminium AlMg3-G22	35	700	0,55	1,62	700	0,34	1,00	800	0,55	1,62	800	0,34	1,00

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP 3-50 MAW, ZAW, NOP, APD 3-50 DOP

height 35 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	44,2	25160	14150	9056	6289	4620	3538	2795	2264	1871	1572	1293	1035	842	694	578	487	414	355
105	39,2	19170	10780	6900	4792	3520	2695	2130	1725	1426	1198	985	789	641	528	441	371	316	271
130	36,2	15480	8708	5573	3870	2843	2177	1720	1393	1151	968	796	637	518	427	356	300	255	219
155	34,2	12980	7303	4674	3246	2385	1826	1443	1169	966	812	667	534	434	358	298	251	214	183
180	32,7	11180	6289	4025	2795	2054	1572	1242	1006	832	699	575	460	374	308	257	217	184	158
205	31,6	9817	5522	3534	2454	1803	1381	1091	884	730	614	505	404	328	271	226	190	162	139
230	30,7	8750	4922	3150	2187	1607	1230	972	788	651	547	450	360	293	241	201	169	144	124
255	30,0	7892	4439	2841	1973	1450	1110	877	710	587	493	406	325	264	218	181	153	130	111
280	29,4	7187	4043	2587	1797	1320	1011	799	647	535	449	369	296	241	198	165	139	118	101
305	29,0	6598	3712	2375	1650	1212	928	733	594	491	412	339	272	221	182	152	128	109	93
330	28,5	6098	3430	2195	1525	1120	858	678	549	454	381	313	251	204	168	140	118	100	86
80-330	f_v	0,04	0,06	0,10	0,14	0,20	0,26	0,32	0,40	0,48	0,57	0,65	0,70	0,75	0,80	0,85	0,90	0,95	1,00

f_v [cm] = deflection in case of load F_v

STACO Perfo type AP 3-50 MAW, ZAW, NOP, APD 3-50 DOP

height 35 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	44,2	1132	755	566	453	377	323	283	252	226	206	189	174	159	140	124	110	99	89
105	39,2	863	575	431	345	288	246	216	192	173	157	144	133	121	107	94	84	75	68
130	36,2	697	464	348	279	232	199	174	155	139	127	116	107	98	86	76	68	61	55
155	34,2	584	390	292	234	195	167	146	130	117	106	97	90	82	72	64	57	51	46
180	32,7	503	335	252	201	168	144	126	112	101	91	84	77	71	62	55	49	44	40
205-330		453	302	226	181	151	129	113	101	91	82	75	70	64	56	49	44	40	36
80-330	f_p	0,04	0,06	0,09	0,13	0,18	0,23	0,28	0,35	0,42	0,49	0,58	0,67	0,75	0,80	0,85	0,90	0,95	1,00

Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)

Value of max. load with condition of operational use ($\gamma_r = 1,0$)

f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 3-50/MAW, AP 3-50/ZAW, AP 3-50/NOP, APD 3-50/DOP

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to		multipl. factor for		span over		multipl. factor for		span up to		multipl. factor for	
		[mm]	F_v	f_v	[mm]	F_v	f_v	[mm]	F_p	f_p	[mm]	F_p	f_p
Steel S235JR	40	1400	1,29	0,88	1400	1,46	1,00	1600	1,29	0,88	1600	1,46	1,00
	45	1500	1,62	0,79	1500	2,04	1,00	1800	1,62	0,79	1800	2,04	1,00
	50	1700	1,98	0,72	1700	2,75	1,00	2000	1,98	0,72			
	60	2000	2,81	0,61				2000	2,81	0,61			
Aluminium AlMg3-G22	35	700	0,55	1,62	700	0,34	1,00	800	0,55	1,62	800	0,34	1,00

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_d = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461**STACO Perfo type AP 3-50 MAA, ZAA**

height 35 mm

Uniformly distributed load F_v [daN/m²]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	44,2	26760	15050	9633	6689	4915	3763	2973	2408	1990	1672	1425	1156	940	775	646	544	463	397
105	39,2	20390	11470	7339	5097	3744	2867	2265	1835	1516	1274	1086	881	716	590	492	415	352	302
130	36,2	16470	9262	5928	4117	3024	2316	1830	1482	1225	1029	877	712	579	477	397	335	285	244
155	34,2	13810	7768	4972	3453	2537	1942	1534	1243	1027	863	736	597	485	400	333	281	239	205
180	32,7	11890	6689	4281	2973	2184	1672	1321	1070	885	743	633	514	418	344	287	242	206	176
205	31,6	10440	5874	3759	2610	1918	1468	1160	940	777	653	556	451	367	302	252	212	181	155
230	30,7	9307	5235	3350	2327	1709	1309	1034	838	692	582	496	402	327	269	225	189	161	138
255	30,0	8394	4722	3022	2099	1542	1180	933	756	624	525	447	363	295	243	203	171	145	124
280	29,4	7645	4300	2752	1911	1404	1075	849	688	569	478	407	330	269	221	185	155	132	113
305	29,0	7018	3948	2527	1755	1289	987	780	632	522	439	374	303	247	203	169	143	121	104
330	28,5	6487	3649	2335	1622	1191	912	721	584	483	405	345	280	228	188	157	132	112	96
80-330	f_b	0,03	0,06	0,09	0,14	0,19	0,24	0,31	0,38	0,46	0,55	0,64	0,70	0,75	0,80	0,85	0,90	0,95	1,00

 f_v [cm] = deflection in case of load F_v **STACO Perfo type AP 3-50 MAA, ZAA**

height 35 mm

Point load on 200 x 200 mm surface F_p [daN]

grating width [mm]	grating weight [kg/m ²]	span L [mm]																	
		300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
80	44,2	1204	803	602	482	401	344	301	268	241	219	201	185	172	156	138	123	111	100
105	39,2	917	612	459	367	306	262	229	204	184	167	153	141	131	119	105	94	84	76
130	36,2	741	494	371	296	247	212	185	165	148	135	124	114	106	96	85	76	68	61
155	34,2	622	414	311	249	207	178	155	138	124	113	104	96	89	81	71	64	57	51
180	32,7	535	357	268	214	178	153	134	119	107	97	89	82	76	69	61	55	49	44
205-330		482	321	241	193	161	138	120	107	96	88	80	74	69	62	55	49	44	40
80-330	f_b	0,03	0,06	0,09	0,12	0,17	0,22	0,27	0,33	0,40	0,47	0,55	0,63	0,73	0,80	0,85	0,90	0,95	1,00

 Value of max. load with condition of carries capacity ($\gamma_r = 1,5$) Value of max. load with condition of operational use ($\gamma_r = 1,0$) f_p [cm] = deflection in case of load F_p

Calculation table for different heights, spans and materials:

Type: AP 3-50/MAA, AP 3-50/ZAA

material	grating height [mm]	uniformly distributed load [daN/m ²]						point load on 200 x 200 mm surface [daN]					
		span up to [mm]	multipl. factor for F_v		span over [mm]	multipl. factor for f_v		span up to [mm]	multipl. factor for F_p		span over [mm]	multipl. factor for f_p	
			F_v	f_v		F_v	f_v		F_p	f_p		F_p	f_p
Steel S235JR	40	1400	1,29	0,89	1400	1,45	1,00	1700	1,29	0,89	1700	1,45	1,00
	45	1600	1,61	0,80	1600	2,02	1,00	1900	1,61	0,80	1900	2,02	1,00
	50	1800	1,97	0,73	1800	2,71	1,00	2000	1,97	0,73			
	60	2000	2,78	0,61				2000	2,78	0,61			
Aluminium AlMg3-G22	35	800	0,55	1,62	800	0,34	1,00	900	0,55	1,62	900	0,34	1,00

Go to www.staco.pl to calculate

the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP SER

height 40 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	120	F_v	7363	5113	3757	2876	2272	1841	1521	1278	1089	939	818	719	599	505	429	368	318	277	242	213	189
	180	F_v	4909	3409	2504	1917	1515	1227	1014	852	726	626	545	479	400	337	286	245	212	184	161	142	126
	240	F_v	3681	2557	1878	1438	1136	920	761	639	545	470	409	360	300	253	215	184	159	138	121	107	94
	300	F_v	2945	2045	1503	1150	909	736	609	511	436	376	327	288	240	202	172	147	127	111	97	85	75
	360	F_v	2454	1704	1252	959	758	614	507	426	363	313	273	240	200	168	143	123	106	92	81	71	63
	420	F_v	2104	1461	1073	822	649	526	435	365	311	268	234	205	171	144	123	105	91	79	69	61	54
	480	F_v	1841	1278	939	719	568	460	380	320	272	235	205	180	150	126	107	92	80	69	61	53	47
	120	F_p	460	368	307	263	230	205	184	167	153	142	132	123	115	108	102	92	84	76	70	64	59
	180	F_p	307	245	205	175	153	136	123	112	102	94	88	82	77	72	68	62	56	51	47	43	39
	240-480	F_p	276	221	184	158	138	123	110	100	92	85	79	74	69	65	61	55	50	46	42	38	35
2,0	120	F_v	9398	6526	4795	3671	2901	2350	1942	1632	1390	1199	1044	918	765	645	548	470	406	353	309	272	241
	180	F_v	6265	4351	3197	2447	1934	1566	1295	1088	927	799	696	612	510	430	365	313	271	235	206	181	160
	240	F_v	4699	3263	2397	1836	1450	1175	971	816	695	599	522	459	383	322	274	235	203	177	155	136	120
	300	F_v	3759	2611	1918	1468	1160	940	777	653	556	480	418	367	306	258	219	188	162	141	124	109	96
	360	F_v	3133	2175	1598	1224	967	783	647	544	463	400	348	306	255	215	183	157	135	118	103	91	80
	420	F_v	2685	1865	1370	1049	829	671	555	466	397	343	298	262	219	184	157	134	116	101	88	78	69
	480	F_v	2350	1632	1199	918	725	587	485	408	348	300	261	229	191	161	137	118	102	88	77	68	60
	120	F_p	587	470	392	336	294	261	235	214	196	181	168	157	147	138	131	118	107	98	89	82	75
	180	F_p	392	313	261	224	196	174	157	142	131	121	112	104	98	92	87	79	71	65	59	55	50
	240-480	F_p	352	282	235	201	176	157	141	128	118	108	101	94	88	83	78	71	64	59	54	49	45
2,5	120	F_v	11240	7808	5737	4392	3470	2811	2323	1952	1663	1434	1249	1098	916	772	656	562	486	423	370	326	288
	180	F_v	7496	5205	3824	2928	2314	1874	1549	1301	1109	956	833	732	611	514	437	375	324	282	247	217	192
	240	F_v	5622	3904	2868	2196	1735	1405	1162	976	832	717	625	549	458	386	328	281	243	211	185	163	144
	300	F_v	4497	3123	2295	1757	1388	1124	929	781	665	574	500	439	366	309	262	225	194	169	148	130	115
	360	F_v	3748	2603	1912	1464	1157	937	774	651	554	478	416	366	305	257	219	188	162	141	123	109	96
	420	F_v	3212	2231	1639	1255	992	803	664	558	475	410	357	314	262	220	187	161	139	121	106	93	82
	480	F_v	2811	1952	1434	1098	868	703	581	488	416	359	312	275	229	193	164	141	122	106	92	81	72
	120	F_p	703	562	469	402	351	312	281	256	234	216	201	187	176	165	156	141	128	117	107	98	90
	180	F_p	469	375	312	268	234	208	187	170	156	144	134	125	117	110	104	94	85	78	71	65	60
	240-480	F_p	422	337	281	241	211	187	169	153	141	130	121	112	105	99	94	85	77	70	64	59	54
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	120-480	f_v	0,08	0,11	0,15	0,20	0,25	0,31	0,38	0,45	0,53	0,61	0,70	0,80	0,85	0,90	0,95	1,00	1,05	1,10	1,15	1,20	1,25
2,0		f_p	0,07	0,10	0,14	0,18	0,22	0,27	0,33	0,39	0,45	0,52	0,60	0,68	0,76	0,85	0,95	1,00	1,05	1,10	1,15	1,20	1,25
2,5																							

Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)

Value of max. load with condition of operational use ($\gamma_r = 1,0$)

Legend:

F_v = Load data for uniformly distributed load [daN/m²]

Maximal length: up to 6000 mm.

f_v = Deflection in [cm] in case of load F_v

F_p = Load data for point load [daN] on 200x200 mm surface

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

f_p = Deflection in [cm] in case of load F_p

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP SER

height 50 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	120	F_v	10510	7299	5363	4106	3244	2628	2172	1825	1555	1341	1168	1026	909	811	728	642	554	482	422	371	329
	180	F_v	7007	4866	3575	2737	2163	1752	1448	1217	1037	894	779	684	606	541	485	428	370	321	281	248	219
	240	F_v	5256	3650	2681	2053	1622	1314	1086	912	777	670	584	513	455	406	364	321	277	241	211	186	164
	300	F_v	4204	2920	2145	1642	1298	1051	869	730	622	536	467	411	364	324	291	257	222	193	169	149	131
	360	F_v	3504	2433	1788	1369	1081	876	724	608	518	447	389	342	303	270	243	214	185	161	141	124	110
	420	F_v	3003	2086	1532	1173	927	751	621	521	444	383	334	293	260	232	208	183	158	138	121	106	94
	480	F_v	2628	1825	1341	1026	811	657	543	456	389	335	292	257	227	203	182	160	139	121	106	93	82
	120	F_p	657	526	438	375	329	292	263	239	219	202	188	175	164	155	146	138	131	125	119	112	103
	180	F_p	438	350	292	250	219	195	175	159	146	135	125	117	110	103	97	92	88	83	80	75	69
	240-480	F_p	394	315	263	225	197	175	158	143	131	121	113	105	99	93	88	83	79	75	72	67	62
2,0	120	F_v	13510	9381	6892	5277	4169	3377	2791	2345	1998	1723	1501	1319	1169	1042	936	825	713	620	542	477	422
	180	F_v	9006	6254	4595	3518	2780	2251	1861	1564	1332	1149	1001	880	779	695	624	550	475	413	362	318	282
	240	F_v	6754	4691	3446	2638	2085	1689	1396	1173	999	862	751	660	584	521	468	412	356	310	271	239	211
	300	F_v	5404	3752	2757	2111	1668	1351	1116	938	799	689	600	528	467	417	374	330	285	248	217	191	169
	360	F_v	4503	3127	2297	1759	1390	1126	930	782	666	574	500	440	390	348	312	275	238	207	181	159	141
	420	F_v	3860	2680	1969	1508	1191	965	798	670	571	492	429	377	334	298	267	236	204	177	155	136	121
	480	F_v	3377	2345	1723	1319	1042	844	698	586	500	431	375	330	292	261	234	206	178	155	136	119	106
	120	F_p	844	675	563	483	422	375	338	307	281	260	241	225	211	199	188	178	169	161	154	144	132
	180	F_p	563	450	375	322	281	250	225	205	188	173	161	150	141	132	125	119	113	107	102	96	88
	240-480	F_p	507	405	338	290	253	225	203	184	169	156	145	135	127	119	113	107	101	96	92	86	79
2,5	120	F_v	16270	11300	8303	6357	5023	4068	3362	2825	2407	2076	1808	1589	1408	1256	1127	994	859	747	654	575	509
	180	F_v	10850	7534	5535	4238	3348	2712	2242	1884	1605	1384	1205	1059	939	837	751	663	573	498	436	384	339
	240	F_v	8137	5651	4151	3178	2511	2034	1681	1413	1204	1038	904	795	704	628	564	497	429	374	327	288	255
	300	F_v	6509	4520	3321	2543	2009	1627	1345	1130	963	830	723	636	563	502	451	398	344	299	262	230	204
	360	F_v	5425	3767	2768	2119	1674	1356	1121	942	802	692	603	530	469	419	376	331	286	249	218	192	170
	420	F_v	4650	3229	2372	1816	1435	1162	961	807	688	593	517	454	402	359	322	284	245	213	187	164	145
	480	F_v	4068	2825	2076	1589	1256	1017	841	706	602	519	452	397	352	314	282	249	215	187	163	144	127
	120	F_p	1017	814	678	581	509	452	407	370	339	313	291	271	254	239	226	214	203	194	185	173	160
	180	F_p	678	543	452	388	339	301	271	247	226	209	194	181	170	160	151	143	136	129	123	116	106
	240-480	F_p	610	488	407	349	305	271	244	222	203	188	174	163	153	144	136	129	122	116	111	104	96
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	120-480	f_v	0,06	0,09	0,13	0,16	0,21	0,26	0,31	0,37	0,43	0,50	0,58	0,66	0,74	0,83	0,92	1,00	1,05	1,10	1,15	1,20	1,25
2,0		f_p	0,06	0,08	0,11	0,15	0,18	0,22	0,27	0,32	0,37	0,43	0,49	0,56	0,62	0,70	0,78	0,86	0,94	1,03	1,13	1,20	1,25
2,5																							

Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)

Value of max. load with condition of operational use ($\gamma_r = 1,0$)

Legend:

F_v = Load data for uniformly distributed load [daN/m²]

Maximal length: up to 6000 mm.

f_v = Deflection in [cm] in case of load F_v

F_p = Load data for point load [daN] on 200x200 mm surface

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

f_p = Deflection in [cm] in case of load F_p

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP SER

height 75 mm

sheet thickness	grating width	span L [mm]																					
		[mm]	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	120	F_v	20360	14140	10390	7953	6284	5090	4207	3535	3012	2597	2262	1988	1761	1571	1410	1272	1154	1052	962	884	814
	180	F_v	13570	9426	6925	5302	4189	3393	2804	2356	2008	1731	1508	1326	1174	1047	940	848	770	701	642	589	543
	240	F_v	10180	7069	5194	3977	3142	2545	2103	1767	1506	1298	1131	994	881	786	705	636	577	526	481	442	407
	300	F_v	8144	5656	4155	3181	2514	2036	1683	1414	1205	1039	905	795	705	628	564	509	462	421	385	354	326
	360	F_v	6787	4713	3463	2651	2095	1697	1402	1178	1004	866	754	663	587	524	470	424	385	351	321	295	272
	420	F_v	5817	4040	2968	2272	1795	1454	1202	1010	861	742	646	568	503	449	403	364	330	301	275	253	233
	480	F_v	5090	3535	2597	1988	1571	1272	1052	884	753	649	566	497	440	393	353	318	289	263	241	221	204
	120	F_p	1272	1018	848	727	636	566	509	463	424	392	364	339	318	299	283	268	255	242	231	221	212
	180	F_p	848	679	566	485	424	377	339	309	283	261	242	226	212	200	189	179	170	162	154	148	141
240-480	F_p	764	611	509	436	382	339	305	278	255	235	218	204	191	180	170	161	153	145	139	133	127	
2,0	120	F_v	26430	18350	13480	10320	8157	6607	5460	4588	3909	3371	2936	2581	2286	2039	1830	1652	1498	1365	1249	1147	1057
	180	F_v	17620	12240	8989	6882	5438	4405	3640	3059	2606	2247	1958	1721	1524	1359	1220	1101	999	910	833	765	705
	240	F_v	13210	9176	6742	5162	4078	3303	2730	2294	1955	1685	1468	1290	1143	1020	915	826	749	683	625	574	529
	300	F_v	10570	7341	5393	4129	3263	2643	2184	1835	1564	1348	1175	1032	915	816	732	661	599	546	500	459	423
	360	F_v	8809	6118	4495	3441	2719	2202	1820	1529	1303	1124	979	860	762	680	610	551	499	455	416	382	352
	420	F_v	7551	5244	3852	2950	2330	1888	1560	1311	1117	963	839	737	653	583	523	472	428	390	357	328	302
	480	F_v	6607	4588	3371	2581	2039	1652	1365	1147	977	843	734	645	572	510	458	413	375	341	312	287	264
	120	F_p	1652	1321	1101	944	826	734	661	601	551	508	472	441	413	389	367	348	330	315	300	287	275
	180	F_p	1101	881	734	629	551	489	441	400	367	339	315	294	275	259	245	232	220	210	200	192	184
240-480	F_p	991	793	661	566	496	441	396	360	330	305	283	264	248	233	220	209	198	189	180	172	165	
2,5	120	F_v	32160	22330	16410	12560	9925	8039	6644	5583	4757	4102	3573	3140	2782	2481	2227	2010	1823	1661	1520	1396	1286
	180	F_v	21440	14890	10940	8374	6616	5359	4429	3722	3171	2734	2382	2093	1854	1654	1485	1340	1215	1107	1013	930	858
	240	F_v	16080	11170	8203	6280	4962	4020	3322	2791	2378	2051	1786	1570	1391	1241	1113	1005	912	831	760	698	643
	300	F_v	12860	8932	6562	5024	3970	3216	2658	2233	1903	1641	1429	1256	1113	993	891	804	729	664	608	558	515
	360	F_v	10720	7444	5469	4187	3308	2680	2215	1861	1586	1367	1191	1047	927	827	742	670	608	554	507	465	429
	420	F_v	9187	6380	4687	3589	2836	2297	1898	1595	1359	1172	1021	897	795	709	636	574	521	475	434	399	368
	480	F_v	8039	5583	4102	3140	2481	2010	1661	1396	1189	1025	893	785	695	620	557	502	456	415	380	349	322
	120	F_p	2010	1608	1340	1148	1005	893	804	731	670	618	574	536	502	473	447	423	402	383	365	350	335
	180	F_p	469	375	312	268	234	208	187	170	156	144	134	125	117	110	104	99	94	89	85	81	78
240-480	F_p	1206	965	804	689	603	536	482	439	402	371	345	322	302	284	268	254	241	230	219	210	201	
1,5 2,0 2,5	120-480	f_v	0,04	0,06	0,09	0,11	0,14	0,18	0,22	0,26	0,30	0,35	0,40	0,46	0,51	0,58	0,64	0,71	0,78	0,86	0,94	1,03	1,11
		f_p	0,04	0,06	0,08	0,10	0,13	0,16	0,19	0,22	0,26	0,30	0,34	0,39	0,43	0,49	0,54	0,60	0,66	0,72	0,78	0,85	0,92

Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)

Value of max. load with condition of operational use ($\gamma_f = 1,0$)

Legend:

F_v = Load data for uniformly distributed load [daN/m²]

Maximal length: up to 6000 mm.

f_v = Deflection in [cm] in case of load F_v

F_p = Load data for point load [daN] on 200x200 mm surface

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

f_p = Deflection in [cm] in case of load F_p

MATERIAL S235JR, $R_d = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP STE

height 40 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150	F_v	6204	4309	3166	2424	1915	1551	1282	1077	918	791	689	598	498	420	357	306	264	230	201	177	157
	200	F_v	4653	3231	2374	1818	1436	1163	961	808	688	594	517	448	374	315	268	230	198	172	151	133	118
	250	F_v	3723	2585	1899	1454	1149	931	769	646	551	475	414	359	299	252	214	184	159	138	121	106	94
	300	F_v	3102	2154	1583	1212	958	776	641	539	459	396	345	299	249	210	178	153	132	115	101	89	78
	150	F_p	388	310	259	222	194	172	155	141	129	119	111	103	97	91	85	77	70	63	58	53	49
	200-300	F_p	291	233	194	166	145	129	116	106	97	89	83	78	73	68	64	58	52	48	44	40	37
2,0	150	F_v	7927	5505	4044	3096	2447	1982	1638	1376	1173	1011	881	764	637	536	456	391	338	294	257	226	200
	200	F_v	5945	4129	3033	2322	1835	1486	1228	1032	880	758	661	573	478	402	342	293	253	220	193	170	150
	250	F_v	4756	3303	2427	1858	1468	1189	983	826	704	607	529	458	382	322	274	235	203	176	154	136	120
	300	F_v	3963	2752	2022	1548	1223	991	819	688	586	506	440	382	318	268	228	196	169	147	129	113	100
	150	F_p	495	396	330	283	248	220	198	180	165	152	142	132	124	117	109	98	89	81	74	68	63
	200-300	F_p	372	297	248	212	186	165	149	135	124	114	106	99	93	87	82	74	67	61	56	51	47
2,5	150	F_v	9493	6592	4843	3708	2930	2373	1961	1648	1404	1211	1055	915	763	642	546	468	405	352	308	271	240
	200	F_v	7119	4944	3632	2781	2197	1780	1471	1236	1053	908	791	686	572	482	410	351	303	264	231	203	180
	250	F_v	5696	3955	2906	2225	1758	1424	1177	989	843	727	633	549	458	385	328	281	243	211	185	163	144
	300	F_v	4746	3296	2422	1854	1465	1187	981	824	702	605	527	457	381	321	273	234	202	176	154	136	120
	150	F_p	593	475	396	339	297	264	237	216	198	183	170	158	148	140	130	118	107	97	89	82	75
	200-300	F_p	445	356	297	254	223	198	178	162	148	137	127	119	111	105	98	88	80	73	67	61	56
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150-300	f_v	0,08	0,11	0,16	0,20	0,26	0,32	0,38	0,46	0,54	0,62	0,71	0,80	0,85	0,90	0,95	1,00	1,05	1,10	1,15	1,20	1,25
2,0		f_p	0,07	0,10	0,14	0,18	0,23	0,28	0,33	0,39	0,46	0,53	0,61	0,69	0,77	0,86	0,95	1,00	1,05	1,10	1,15	1,20	1,25
2,5																							

- Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)
- Value of max. load with condition of operational use ($\gamma_f = 1,0$)

Legend:

F_v = Load data for uniformly distributed load [daN/m²]

f_v = Deflection in [cm] in case of load F_v

F_p = Load data for point load [daN] on 200x200 mm surface

f_p = Deflection in [cm] in case of load F_p

Maximal length: up to 6000 mm.

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP STE

height 50 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150	F_v	8798	6110	4489	3437	2716	2200	1818	1527	1302	1122	978	859	761	679	609	531	458	399	349	307	272
	200	F_v	6599	4582	3367	2578	2037	1650	1363	1146	976	842	733	644	571	509	457	398	344	299	262	230	204
	250	F_v	5279	3666	2693	2062	1629	1320	1091	917	781	673	587	516	457	407	366	318	275	239	209	184	163
	300	F_v	4399	3055	2244	1718	1358	1100	909	764	651	561	489	430	381	339	305	265	229	199	174	154	136
	150	F_p	550	440	367	314	275	244	220	200	183	169	157	147	138	129	122	116	110	105	100	92	85
	200-300	F_p	412	330	275	236	206	183	165	150	138	127	118	110	103	97	92	87	82	79	75	69	64
2,0	150	F_v	11320	7858	5773	4420	3493	2829	2338	1965	1674	1443	1257	1105	979	873	784	683	590	513	449	395	350
	200	F_v	8487	5894	4330	3315	2619	2122	1753	1473	1255	1083	943	829	734	655	588	512	442	385	337	296	262
	250	F_v	6790	4715	3464	2652	2096	1697	1403	1179	1004	866	754	663	587	524	470	410	354	308	269	237	210
	300	F_v	5658	3929	2887	2210	1746	1414	1169	982	837	722	629	553	489	437	392	341	295	256	224	198	175
	150	F_p	707	566	472	404	354	314	283	257	236	218	202	189	177	166	157	149	141	135	129	119	110
	200-300	F_p	530	424	354	303	265	236	212	193	177	163	152	141	133	125	118	112	106	101	96	89	82
2,5	150	F_v	13640	9473	6960	5329	4210	3410	2819	2368	2018	1740	1516	1332	1180	1053	945	823	711	619	541	476	422
	200	F_v	10230	7105	5220	3997	3158	2558	2114	1776	1514	1305	1137	999	885	790	709	617	533	464	406	357	316
	250	F_v	8185	5684	4176	3197	2526	2046	1691	1421	1211	1044	910	799	708	632	567	494	427	371	325	286	253
	300	F_v	6821	4737	3480	2664	2105	1705	1409	1184	1009	870	758	666	590	526	472	412	356	309	271	238	211
	150	F_p	853	682	568	487	426	379	341	310	284	262	244	227	213	201	190	180	171	162	155	143	132
	200-300	F_p	640	512	426	365	320	284	256	233	213	197	183	171	160	151	142	135	128	122	116	108	99
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150-300	f_v	0,06	0,09	0,13	0,17	0,21	0,26	0,31	0,37	0,44	0,51	0,58	0,66	0,75	0,84	0,94	1,00	1,05	1,10	1,15	1,20	1,25
2,0		f_p	0,06	0,08	0,11	0,15	0,18	0,23	0,27	0,32	0,38	0,43	0,50	0,56	0,63	0,71	0,79	0,87	0,96	1,05	1,14	1,20	1,25
2,5																							

- Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)
- Value of max. load with condition of operational use ($\gamma_r = 1,0$)

Legend:

F_v = Load data for uniformly distributed load [daN/m²]

Maximal length: up to 6000 mm.

f_v = Deflection in [cm] in case of load F_v

F_p = Load data for point load [daN] on 200x200 mm surface

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

f_p = Deflection in [cm] in case of load F_p

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461**STACO Perfo type AP STE**

height 75 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150	F_v	16860	11710	8602	6586	5204	4215	3483	2927	2494	2150	1873	1646	1458	1301	1168	1054	956	871	797	732	674
	200	F_v	12640	8781	6451	4939	3903	3161	2613	2195	1871	1613	1405	1235	1094	976	876	790	717	653	598	549	506
	250	F_v	10120	7025	5161	3951	3122	2529	2090	1756	1496	1290	1124	988	875	781	701	632	574	523	478	439	405
	300	F_v	8430	5854	4301	3293	2602	2107	1742	1464	1247	1075	937	823	729	650	584	527	478	435	398	366	337
	150	F_p	1054	843	703	602	527	468	422	383	351	324	301	281	263	248	234	222	211	201	192	183	176
	200-300	F_p	790	632	527	452	395	351	316	287	263	243	226	211	198	186	176	166	158	151	144	137	132
2,0	150	F_v	21890	15200	11170	8552	6757	5473	4523	3801	3239	2793	2433	2138	1894	1689	1516	1368	1241	1131	1035	950	876
	200	F_v	16420	11400	8378	6414	5068	4105	3393	2851	2429	2094	1824	1604	1420	1267	1137	1026	931	848	776	713	657
	250	F_v	13140	9122	6702	5131	4054	3284	2714	2281	1943	1676	1460	1283	1136	1014	910	821	745	679	621	570	525
	300	F_v	10950	7602	5585	4276	3379	2737	2262	1900	1619	1396	1216	1069	947	845	758	684	621	565	517	475	438
	150	F_p	1368	1095	912	782	684	608	547	498	456	421	391	365	342	322	304	288	274	261	249	238	228
	200-300	F_p	1026	821	684	586	513	456	411	373	342	316	293	274	257	242	228	216	205	196	187	179	171
2,5	150	F_v	26650	18510	13600	10410	8225	6663	5506	4627	3942	3399	2961	2603	2305	2056	1846	1666	1511	1377	1259	1157	1066
	200	F_v	19990	13880	10200	7808	6169	4997	4130	3470	2957	2549	2221	1952	1729	1542	1384	1249	1133	1032	945	868	800
	250	F_v	15990	11100	8158	6246	4935	3998	3304	2776	2365	2040	1777	1562	1383	1234	1107	999	907	826	756	694	640
	300	F_v	13330	9254	6799	5205	4113	3331	2753	2313	1971	1700	1481	1301	1153	1028	923	833	755	688	630	578	533
	150	F_p	1666	1333	1110	952	833	740	666	606	555	513	476	444	416	392	370	351	333	317	303	290	278
	200-300	F_p	1249	999	833	714	625	555	500	454	416	384	357	333	312	294	278	263	250	238	227	217	208
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150-300	f_v	0,04	0,06	0,09	0,11	0,15	0,18	0,22	0,26	0,30	0,35	0,40	0,46	0,52	0,58	0,65	0,72	0,79	0,87	0,95	1,03	1,12
2,0		f_p	0,04	0,06	0,08	0,10	0,13	0,16	0,19	0,22	0,26	0,30	0,34	0,39	0,44	0,49	0,54	0,60	0,66	0,73	0,79	0,86	0,93
2,5		f_p	0,04	0,06	0,08	0,10	0,13	0,16	0,19	0,22	0,26	0,30	0,34	0,39	0,44	0,49	0,54	0,60	0,66	0,73	0,79	0,86	0,93

Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)

Value of max. load with condition of operational use ($\gamma_r = 1,0$)

Legend:

F_v = Load data for uniformly distributed load [daN/m²]

Maximal length: up to 6000 mm.

f_v = Deflection in [cm] in case of load F_v

F_p = Load data for point load [daN] on 200x200 mm surface

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

f_p = Deflection in [cm] in case of load F_p

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP RUN, AP OFF, AP GES

height 40 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150	F _v	6201	4306	3164	2422	1914	1550	1281	1077	917	791	689	597	498	420	357	306	264	230	201	177	157
		F _p	517	413	345	295	258	230	207	188	172	158	137	120	107	95	85	77	70	63	58	53	49
	200	F _v	5012	3480	2557	1958	1547	1253	1035	870	741	639	557	473	394	332	282	242	209	182	159	140	124
		F _p	313	251	209	179	157	139	125	114	104	96	89	84	78	74	67	61	55	50	46	42	39
	250	F _v	4265	2962	2176	1666	1316	1066	881	741	631	544	474	395	330	278	236	202	175	152	133	117	104
		F _p	333	267	222	190	167	148	133	121	111	103	95	89	83	78	70	64	58	52	48	44	41
	300	F _v	3793	2634	1935	1481	1171	948	784	658	561	484	418	345	287	242	206	176	152	133	116	102	90
		F _p	356	284	237	203	178	158	142	129	119	109	102	95	89	82	74	66	60	55	50	46	42
	350	F _v	2461	1709	1256	961	760	615	508	427	364	314	273	240	202	170	144	124	107	93	81	72	63
		F _p	269	215	179	154	135	120	108	98	90	83	77	72	67	63	60	54	49	45	41	38	35
	400	F _v	2325	1615	1186	908	718	581	481	404	344	297	258	224	187	157	134	115	99	86	75	66	59
		F _p	388	310	258	222	194	172	155	141	129	118	103	90	80	71	64	58	52	48	44	40	37
2,0	150	F _v	7923	5502	4042	3095	2445	1981	1637	1375	1172	1011	880	763	636	536	456	391	338	294	257	226	200
		F _p	495	396	330	283	248	220	198	180	165	151	131	115	102	91	82	74	67	61	56	51	47
	200	F _v	6411	4452	3271	2504	1979	1603	1325	1113	948	818	712	605	504	425	361	310	268	233	204	179	159
		F _p	401	321	267	229	200	178	160	146	134	123	115	107	100	94	86	78	71	64	59	54	50
	250	F _v	5461	3792	2786	2133	1685	1365	1128	948	808	697	607	506	422	356	302	259	224	195	170	150	133
		F _p	427	341	284	244	213	190	171	155	142	131	122	114	107	100	90	81	74	67	61	56	52
	300	F _v	4860	3375	2480	1899	1500	1215	1004	844	719	620	536	442	368	310	264	226	195	170	149	131	116
		F _p	456	365	304	260	228	203	182	166	152	140	130	122	114	105	94	85	77	70	64	59	54
	350	F _v	3140	2180	1602	1226	969	785	649	545	464	401	349	307	257	217	184	158	137	119	104	91	81
		F _p	343	275	229	196	172	153	137	125	115	106	98	92	86	81	76	69	63	57	52	48	44
	400	F _v	2971	2063	1516	1161	917	743	614	516	440	379	330	286	239	201	171	147	127	110	96	85	75
		F _p	371	297	248	212	186	165	149	135	124	114	106	99	93	87	82	74	67	61	56	51	47
2,5	150	F _v	9488	6589	4841	3706	2928	2372	1960	1647	1403	1210	1054	914	762	642	546	468	404	352	308	271	240
		F _p	593	474	395	339	297	264	237	216	198	181	157	138	122	109	98	88	80	73	67	61	56
	200	F _v	7687	5338	3922	3003	2372	1922	1588	1334	1137	980	854	726	605	510	433	371	321	279	244	215	190
		F _p	480	384	320	275	240	214	192	175	160	148	137	128	120	113	104	93	85	77	70	65	60
	250	F _v	6554	4551	3344	2560	2023	1638	1354	1138	970	836	728	608	507	427	363	311	269	234	205	180	159
		F _p	512	410	341	293	256	228	205	186	171	158	146	137	128	121	108	98	89	81	74	68	62
	300	F _v	5838	4054	2979	2281	1802	1460	1206	1014	864	745	644	531	442	373	317	272	235	204	179	157	139
		F _p	547	438	365	313	274	243	219	199	182	168	156	146	137	127	114	102	93	85	77	71	65
	350	F _v	3754	2607	1915	1466	1159	939	776	652	555	479	417	367	308	259	221	189	163	142	124	109	97
		F _p	411	329	274	235	205	183	164	149	137	126	117	110	103	97	91	83	75	69	63	58	53
	400	F _v	3558	2471	1815	1390	1098	890	735	618	526	454	395	343	286	241	205	176	152	132	115	102	90
		F _p	445	356	297	254	222	198	178	162	148	137	127	119	111	105	98	88	80	73	67	61	56
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150–400	f _v	0,08	0,11	0,16	0,20	0,26	0,32	0,38	0,46	0,54	0,62	0,71	0,80	0,85	0,90	1,00	1,05	1,10	1,15	1,20	1,25	
2,0		f _p	0,10	0,14	0,19	0,24	0,30	0,37	0,44	0,52	0,61	0,70	0,75	0,80	0,85	0,90	1,00	1,05	1,10	1,15	1,20	1,25	
2,5																							

- Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)
- Value of max. load with condition of operational use ($\gamma_r = 1,0$)

Maximal length: up to 6000 mm.

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

Legend on page 27

MATERIAL S235JR, $R_d = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP RUN, AP OFF, AP GES

height 50 mm

sheet thickness [mm]	grating width [mm]		span L [mm]																				
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150	F _v	8794	6107	4487	3435	2714	2199	1817	1527	1301	1122	977	859	761	679	609	530	458	399	349	307	272
		F _p	733	586	489	419	366	326	293	267	244	226	209	195	183	165	148	133	121	110	101	92	85
	200	F _v	7043	4891	3593	2751	2174	1761	1455	1223	1042	898	783	688	609	544	487	417	360	313	274	241	214
		F _p	440	352	294	252	220	196	176	160	147	135	126	117	110	104	98	93	88	84	79	73	67
	250	F _v	5952	4133	3037	2325	1837	1488	1230	1033	881	759	661	581	515	459	405	347	300	261	228	201	178
		F _p	465	372	310	266	233	207	186	169	155	143	133	124	116	109	103	98	93	89	82	76	70
	300	F _v	5256	3650	2682	2053	1622	1314	1086	913	778	670	584	513	455	406	351	301	260	226	198	174	154
		F _p	493	394	329	282	246	219	197	179	164	152	141	131	123	116	110	104	99	94	86	79	72
	350	F _v	3525	2448	1798	1377	1088	881	728	612	521	450	392	344	305	272	244	216	187	163	142	125	111
		F _p	386	308	257	220	193	171	154	140	129	119	110	103	96	91	86	81	77	73	70	66	61
	400	F _v	3298	2290	1683	1288	1018	825	681	573	488	421	366	322	285	255	228	199	172	149	131	115	102
		F _p	550	440	366	314	275	244	220	200	183	169	157	147	137	124	111	100	91	83	75	69	64
2,0	150	F _v	11310	7855	5771	4418	3491	2828	2337	1964	1673	1443	1257	1105	978	873	783	682	590	513	449	395	349
		F _p	707	566	471	404	354	314	283	257	236	218	202	189	177	159	143	129	117	106	97	89	82
	200	F _v	9067	6297	4626	3542	2798	2267	1873	1574	1341	1157	1007	886	784	700	627	537	464	404	353	311	275
		F _p	567	453	378	324	283	252	227	206	189	174	162	151	142	133	126	119	113	108	102	94	86
	250	F _v	7668	5325	3912	2995	2367	1917	1584	1331	1134	978	852	749	663	592	521	447	386	336	294	259	229
		F _p	599	479	399	342	300	266	240	218	200	184	171	160	150	141	133	126	120	114	106	97	90
	300	F _v	6776	4706	3457	2647	2091	1694	1400	1176	1002	864	753	662	586	523	453	388	335	292	255	225	199
		F _p	635	508	424	363	318	282	254	231	212	196	182	169	159	150	141	134	127	121	111	101	93
	350	F _v	4529	3145	2311	1769	1398	1132	936	786	670	578	503	442	392	349	314	278	240	209	183	161	142
		F _p	495	396	330	283	248	220	198	180	165	152	142	132	124	117	110	104	99	94	90	85	78
	400	F _v	4242	2946	2164	1657	1309	1060	876	736	627	541	471	414	367	327	294	256	221	192	168	148	131
		F _p	530	424	354	303	265	236	212	193	177	163	152	141	133	125	118	112	106	101	96	89	82
2,5	150	F _v	13640	9469	6957	5326	4208	3409	2817	2367	2017	1739	1515	1332	1180	1052	944	823	711	618	541	476	421
		F _p	852	682	568	487	426	379	341	310	284	262	244	227	213	192	172	155	141	128	117	108	99
	200	F _v	10940	7598	5582	4274	3377	2735	2261	1900	1619	1396	1216	1069	947	844	756	648	560	487	426	375	332
		F _p	684	547	456	391	342	304	274	249	228	210	195	182	171	161	152	144	137	130	123	113	104
	250	F _v	9260	6431	4725	3617	2858	2315	1913	1608	1370	1181	1029	904	801	715	630	540	467	406	355	313	277
		F _p	724	579	482	413	362	322	289	263	241	223	207	193	181	170	161	152	145	138	128	118	108
	300	F _v	8189	5687	4178	3199	2528	2047	1692	1422	1211	1045	910	800	708	632	547	469	405	353	309	272	240
		F _p	768	614	512	439	384	341	307	279	256	236	219	205	192	181	171	162	154	146	134	123	113
	350	F _v	5453	3787	2782	2130	1683	1363	1127	947	807	696	606	533	472	421	378	335	290	252	220	194	172
		F _p	597	477	398	341	298	265	239	217	199	184	170	159	149	140	133	126	119	114	108	102	94
	400	F _v	5113	3551	2609	1997	1578	1278	1056	888	756	652	568	499	442	395	354	309	267	232	203	179	158
		F _p	639	511	426	365	320	284	256	232	213	197	183	170	160	150	142	135	128	122	116	108	99
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5	150–400	f _v	0,06	0,09	0,13	0,17	0,21	0,26	0,31	0,37	0,44	0,51	0,58	0,66	0,75	0,84	0,94	1,00	1,05	1,10	1,15	1,20	1,25
2,0		f _p	0,08	0,11	0,15	0,20	0,25	0,30	0,36	0,43	0,50	0,58	0,66	0,75	0,84	0,90	0,95	1,00	1,05	1,10	1,15	1,20	1,25
2,5																							

- Value of max. load with condition of carries capacity ($\gamma_f = 1,5$)
- Value of max. load with condition of operational use ($\gamma_f = 1,0$)

Maximal length: up to 6000 mm.

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

Legend on page 27

MATERIAL S235JR, $R_p = 235 \text{ N/mm}^2$, GALVANIZED acc. to EN-ISO 1461

STACO Perfo type AP RUN, AP OFF, AP GES

height 75 mm

sheet thickness [mm]	grating width [mm]	span L [mm]																					
		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	
1,5	150	F _v	16850	11700	8599	6584	5202	4213	3482	2926	2493	2150	1873	1646	1458	1300	1167	1053	955	871	797	732	674
		F _p	1404	1124	936	803	702	624	562	511	468	432	401	375	351	331	312	296	281	268	255	244	234
	200	F _v	13300	9234	6784	5194	4104	3324	2747	2309	1967	1696	1477	1299	1150	1026	921	831	754	687	628	577	532
		F _p	831	665	554	475	416	369	332	302	277	256	237	222	208	196	185	175	166	158	151	145	139
	250	F _v	11100	7711	5665	4337	3427	2776	2294	1928	1643	1416	1234	1084	961	857	769	694	630	574	525	482	444
		F _p	868	694	578	496	434	386	347	316	289	267	248	231	217	204	193	183	174	165	158	151	145
	300	F _v	9688	6728	4943	3784	2990	2422	2002	1682	1433	1236	1076	946	838	748	671	606	549	500	458	421	388
		F _p	908	727	606	519	454	404	363	330	303	280	260	242	227	214	202	191	182	173	165	158	151
	350	F _v	6865	4767	3503	2682	2119	1716	1418	1192	1016	876	763	670	594	530	475	429	389	355	324	298	275
		F _p	751	601	501	429	375	334	300	273	250	231	215	200	188	177	167	158	150	143	137	131	125
	400	F _v	6320	4389	3225	2469	1951	1580	1306	1097	935	806	702	617	547	488	438	395	358	327	299	274	253
		F _p	1053	843	702	602	527	468	421	383	351	324	301	281	263	248	234	222	211	201	192	183	176
2,0	150	F _v	21890	15200	11170	8549	6755	5471	4522	3800	3238	2792	2432	2137	1893	1689	1516	1368	1241	1130	1034	950	875
		F _p	1368	1094	912	782	684	608	547	497	456	421	391	365	342	322	304	288	274	261	249	238	228
	200	F _v	17280	12000	8815	6749	5332	4319	3570	3000	2556	2204	1920	1687	1495	1333	1196	1080	979	892	817	750	691
		F _p	1080	864	720	617	540	480	432	393	360	332	309	288	270	254	240	227	216	206	196	188	180
	250	F _v	14430	10020	7365	5638	4455	3609	2982	2506	2135	1841	1604	1410	1249	1114	1000	902	818	746	682	627	577
		F _p	1128	902	752	644	564	501	451	410	376	347	322	301	282	265	251	237	226	215	205	196	188
	300	F _v	12600	8750	6428	4922	3889	3150	2603	2187	1864	1607	1400	1230	1090	972	873	788	714	651	595	547	504
		F _p	1181	945	788	675	591	525	473	430	394	363	338	315	295	278	263	249	236	225	215	205	197
	350	F _v	8909	6187	4545	3480	2750	2227	1841	1547	1318	1136	990	870	771	687	617	557	505	460	421	387	356
		F _p	974	780	650	557	487	433	390	354	325	300	278	260	244	229	217	205	195	186	177	170	162
	400	F _v	8207	5699	4187	3206	2533	2052	1696	1425	1214	1047	912	802	710	633	568	513	465	424	388	356	328
		F _p	1026	821	684	586	513	456	410	373	342	316	293	274	257	241	228	216	205	195	187	178	171
2,5	150	F _v	26640	18500	13590	10410	8223	6660	5504	4625	3941	3398	2960	2602	2305	2056	1845	1665	1510	1376	1259	1156	1066
		F _p	1665	1332	1110	952	833	740	666	606	555	512	476	444	416	392	370	351	333	317	303	290	278
	200	F _v	21040	14610	10740	8220	6495	5261	4348	3653	3113	2684	2338	2055	1820	1624	1457	1315	1193	1087	995	913	842
		F _p	1315	1052	877	752	658	585	526	478	438	405	376	351	329	310	292	277	263	251	239	229	219
	250	F _v	17590	12220	8974	6871	5429	4397	3634	3054	2602	2244	1954	1718	1522	1357	1218	1099	997	909	831	763	704
		F _p	1374	1099	916	785	687	611	550	500	458	423	393	367	344	323	305	289	275	262	250	239	229
	300	F _v	15360	10670	7837	6000	4741	3840	3174	2667	2272	1959	1707	1500	1329	1185	1064	960	871	793	726	667	614
		F _p	1440	1152	960	823	720	640	576	524	480	443	412	384	360	339	320	303	288	274	262	251	240
	350	F _v	10840	7526	5529	4233	3345	2709	2239	1882	1603	1382	1204	1058	938	836	751	677	614	560	512	470	434
		F _p	1185	948	790	677	593	527	474	431	395	365	339	316	296	279	263	250	237	226	216	206	198
	400	F _v	9990	6938	5097	3903	3083	2498	2064	1734	1478	1274	1110	976	864	771	692	624	566	516	472	434	400
		F _p	1249	999	833	714	624	555	500	454	416	384	357	333	312	294	278	263	250	238	227	217	208
			500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500
1,5 2,0 2,5	150–400	f _v	0,04	0,06	0,09	0,11	0,15	0,18	0,22	0,26	0,30	0,35	0,40	0,46	0,52	0,58	0,65	0,72	0,79	0,87	0,95	1,03	1,12
		f _p	0,06	0,08	0,11	0,14	0,17	0,21	0,25	0,30	0,35	0,40	0,46	0,52	0,58	0,65	0,73	0,80	0,88	0,97	1,06	1,15	1,24

- Value of max. load with condition of carries capacity ($\gamma_r = 1,5$)
- Value of max. load with condition of operational use ($\gamma_r = 1,0$)

Profiles are available up to 6000 mm.

Go to www.staco.pl to calculate the missing parameters automatically using our calculation module.

Legend on page 27



} TYPE AP – APPLICATIONS

Perfo planks are characterized by excellent anti-slip properties, which enable the design of a safe work station in almost any environment. Through many holes in the perforation all slippery liquids are drained from its surface in a very fast and easy way. These gratings are especially applicable to achieve a better grip in case of hard weather conditions, sloping traffic routes or places exposed to the impact of oils or lubricants.



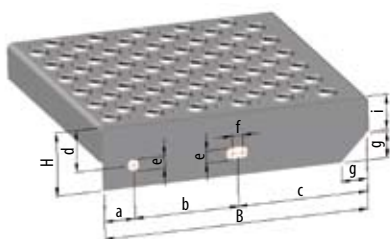
STAIR TREADS TYPE AP

Corresponding perfo plank stair treads are available for all AP types. The treads can be fitted if required with mounting plates for fastening between the stringers.

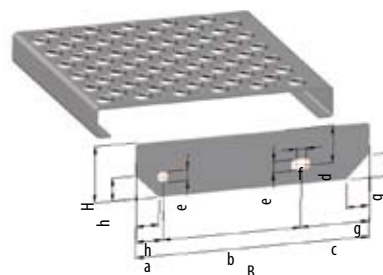
Straight treads type AP 3-50/T/MAW:

- steel ungalvanized (weld-on treads).
- hot-dip galvanized with mounting plates.

Type AP MAW, ZAW, VMA, VZA, NOP, DOP, ZAA, MAA



Type AP STE, SER, RUN, OFF, GES



For dimensions of mounting plate see illustration

tread width B [mm]	[mm]								
	a	b	c	d	e	f	g	i	H
205	35	100	70	55	13	20	30	42	70
230	35	120	75	55	13	20	30	42	70
255	35	150	70	55	13	20	30	42	70
280	35	180	65	55	13	20	30	42	70

Other dimensions on request.

For dimensions of mounting plate see illustration

tread width B [mm]	[mm]								
	a	b	c	d	e	f	g	h	H
180	35	90	55	55	14	20	30	30	70
240	35	120	85	55	14	20	30	30	70
300	35	180	85	55	14	20	30	30	70

Other dimensions on request.

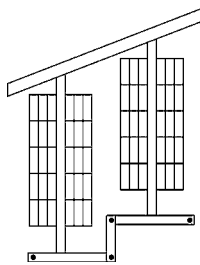
SPIRAL STAIRS WITH AP TYPE TREADS

STACO offers spiral treads made up of AP type grating for production and installation of spiral stairs of two available diameters: 1600 and 2000 mm. Spiral stairs are a perfect solution when you require a staircase in a confined or limited space where a conventional staircase is not possible. They are applying themselves to both indoor and outdoor applications. After agreement with the producer you can also order a complete spiral staircase for your own installation, which consist of: a central tube, spiral treads and railing.

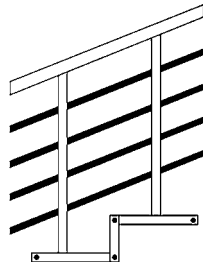
To order you must have the following data:

- height (difference between levels)
- outer diameter
- type of railing
- type of grating
- location of entries and exits on the levels

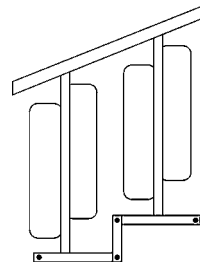
Railings – examples



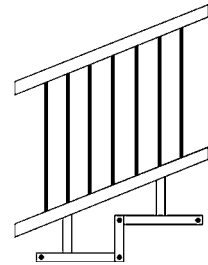
with grating panels



with horizontal bars/tubes



with rod panels

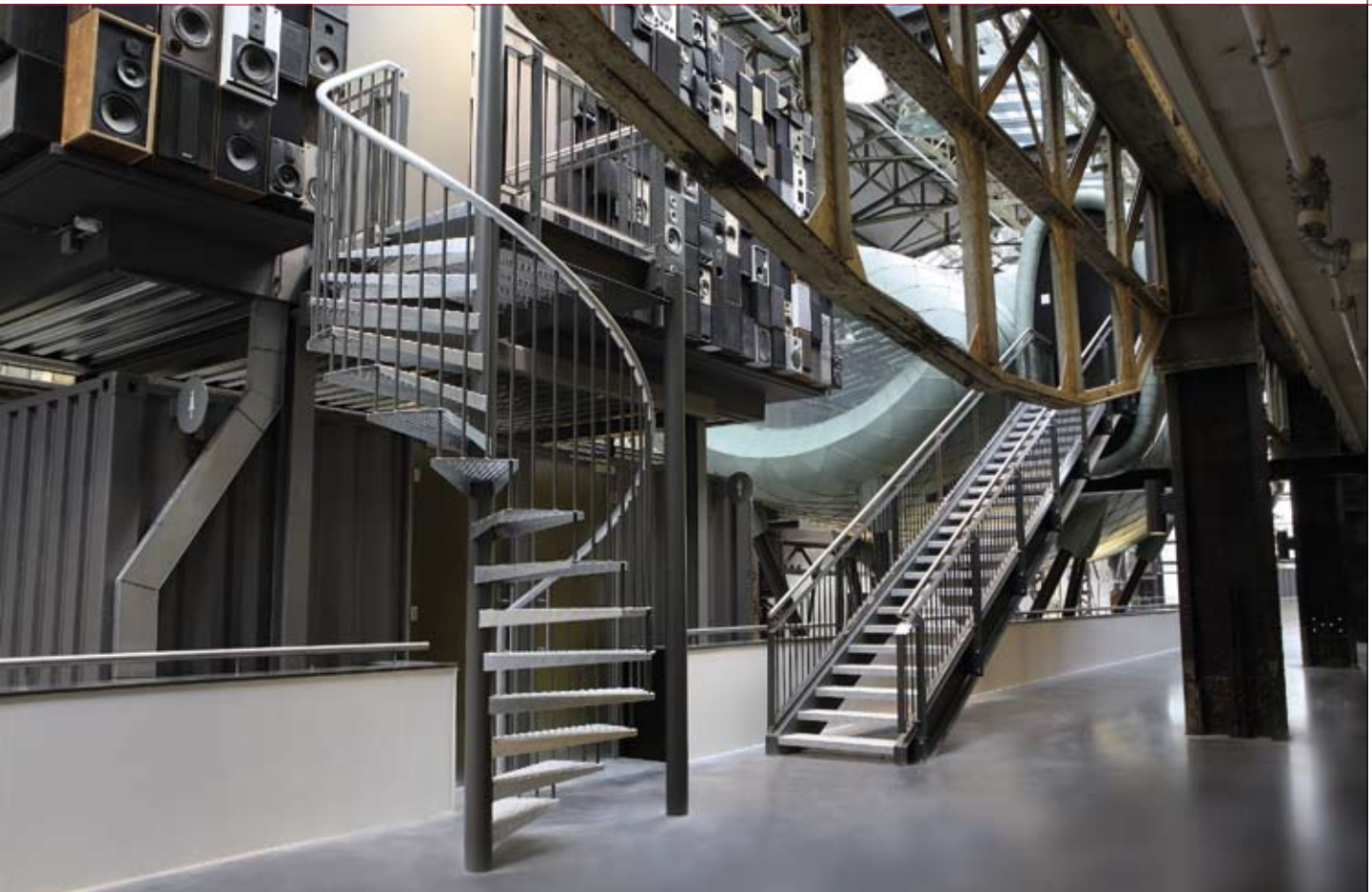


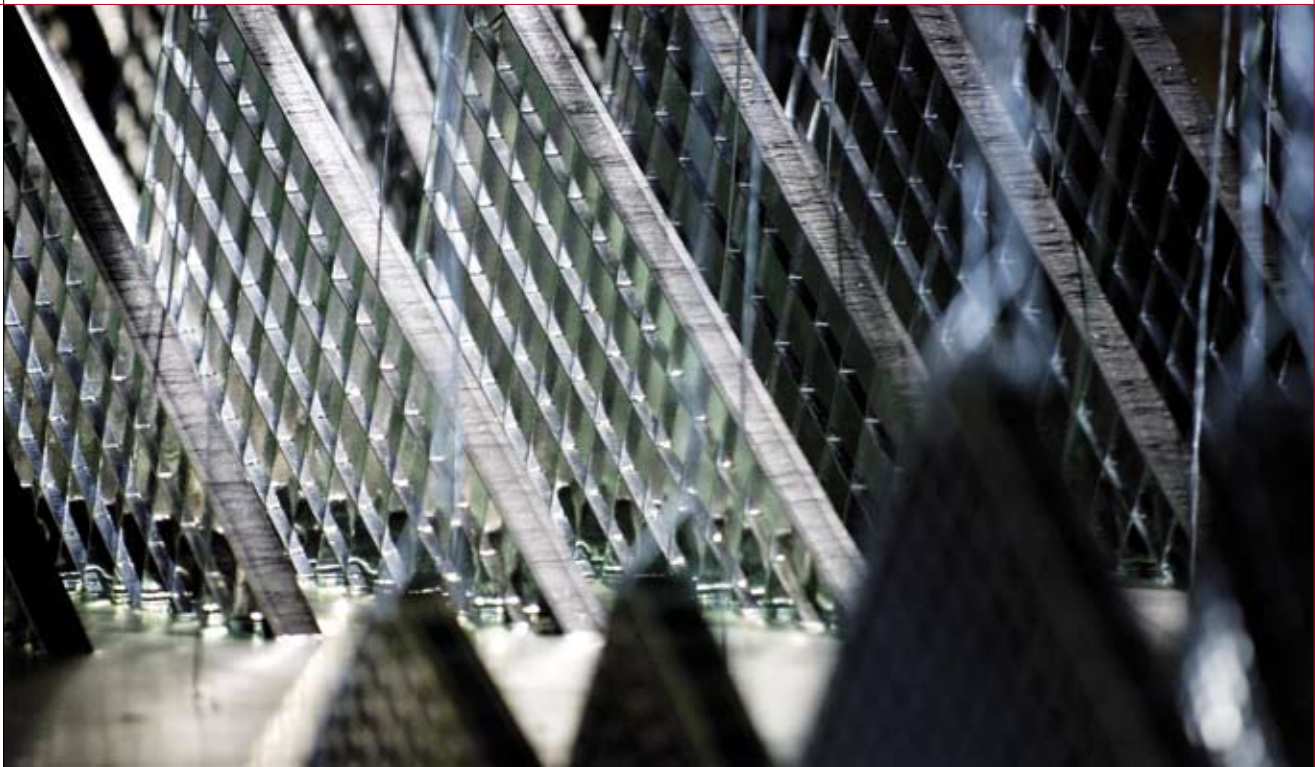
with vertical bars/tubes

Spiral treads of AP type grating



Example of AP type spiral stair application:





} HOT-DIP GALVANIZING

} Hot-dip galvanizing in accordance with EN ISO 1461:

For permanent protection of its products, the steel gratings, stair treads and fasteners are hot-dip galvanized in STACO's own workshops. For more information on hot-dip galvanizing, go to www.staco.pl

Process:

Norm	EN ISO 1461
Degreasing	degreasing bath
Etching	hydrochloric acid solution
Dipping	flux solution
Drying/preheating	approx 100° Celsius
Galvanising	445° Celsius

Thickness of layer in accordance with EN ISO 1461:

Material thickness in mm	Zinc coating thickness in µm
< 1,5	45
> 1,5 – 3	55
> 3 – 6	70
> 6	85

} Finishing in accordance with EN ISO 1461:

Any irregularities are manually removed and the material is free from projections such as:

- blisters
- sharp points
- rough spots

Colour differences:

After hot-dip galvanizing, the colour of the zinc coating may change. This is usually caused by zinc iron alloy elements coming through.

Electrostatic powder coating according to VISEM quality requirements

In order to ensure STACO products have an attractive appearance, and are therefore more likely to be used in architectural applications, we equip STACO's galvanized, stainless steel and aluminium products with any required RAL colour. Either in house or with carefully selected powder coating units. STACO supplies in compliance with quality requirements for the industrial application of organic coatings on hot-dip galvanized steel. For more information on electrostatic powder coating, go to www.staco.pl

PROCESS

Coating applied in accordance with EN ISO 5254 warrants:

- no irregularities protruding through the coating
- steel splinters removed from visible surfaces
- no obvious irregularities visible from a distance of 3 metres, unless inherent to the hot-dip galvanizing process

Chemical pre-treatment

Drying where necessary

Application of coating

Enamelling

Advice:

In order to ensure the best result, STACO always advises applying a double-layered coating to the products.

Maintenance:

It is important that the coating is cleaned regularly to prevent chlorides from adhering to the coating and shortening its working life.

ELECTROSTATIC POWDER COATING



STACO also publishes
the following brochures

PRESSED GRATINGS,
STAIR TREADS
AND GRP GRATINGS



WELDED GRATINGS
AND STAIR TREADS



ARCHITECTURAL
GRATINGS



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