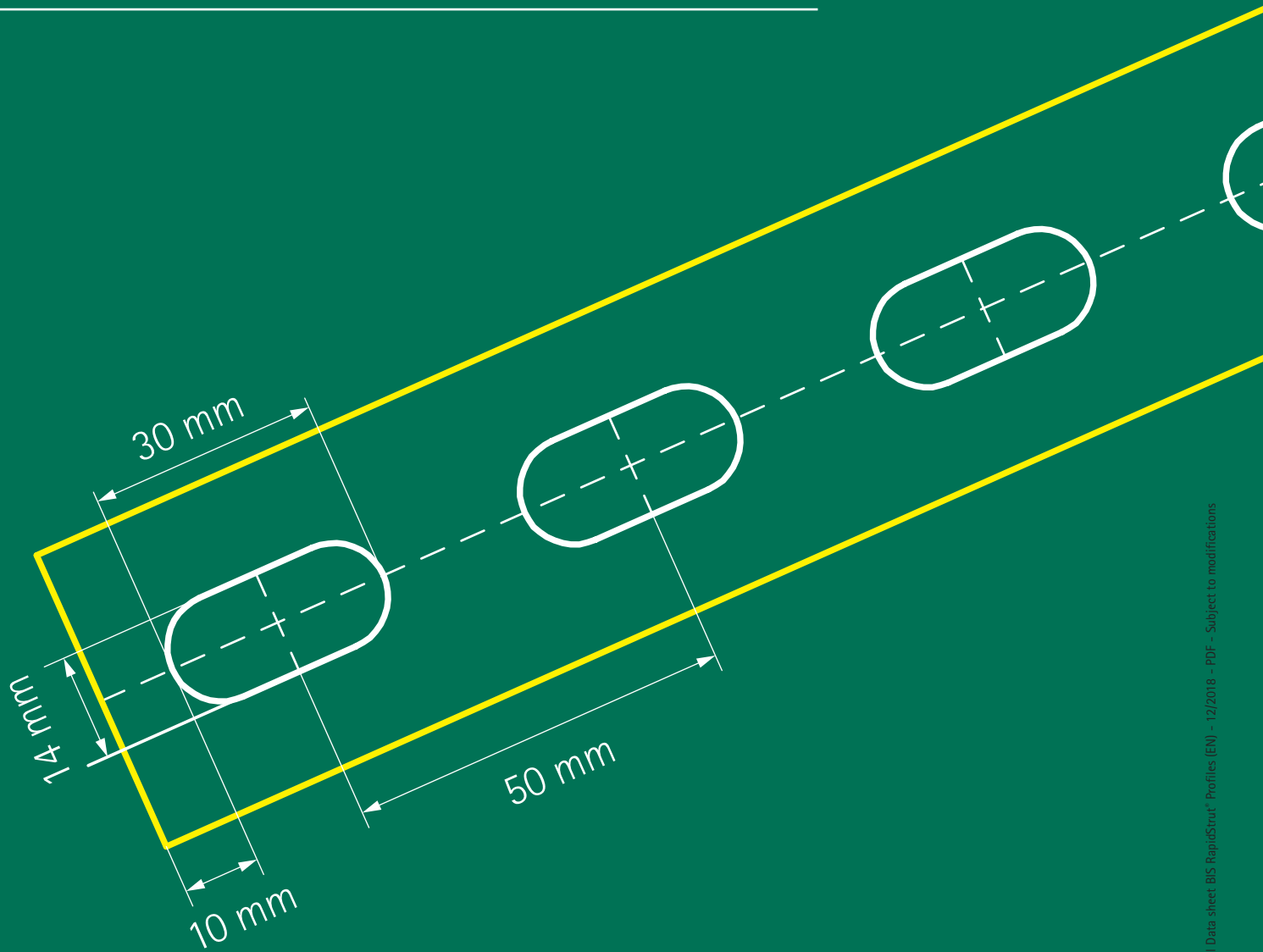


Rail section properties and load tables

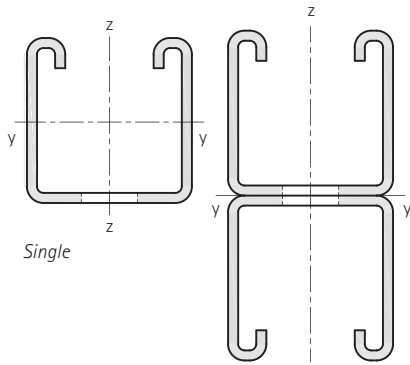


Technical Data sheet BIS RapidStrut® Profiles (EN) - 12/2018 - PDF - Subject to modifications

Technical Data

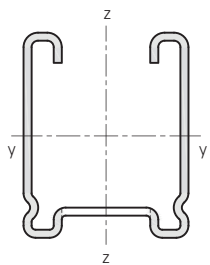
BIS RapidStrut® Profiles

System BIS RapidStrut® - Table of rail section properties



Single

Double



BIS RapidStrut® DS 5

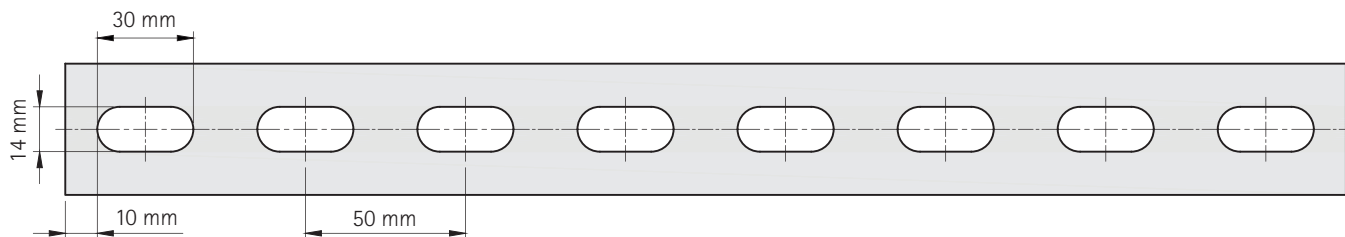
Type	Weight (kg / m)	Moment of inertia cm ⁴		Section modulus cm ³	
		I _y	I _z	W _y	W _z
41x21 - 1.5	1.15	0.78	3.70	0.72	1.80
41x21 - 2.0	1.34	0.90	4,59	0.84	2.22
41x21 - 2.5	1.78	1.01	5.40	0.93	2.61
41x41 - 1.5	1.65	4.46	6.20	2.12	3.00
41x41 - 2.0	2.35	5.34	7.79	2.56	3.77
41x41 - 2.5	2.45	6.26	9.30	2.97	4.50
41x51 - 2.0 (DS 5)	2.62	8.81	9.49	3.44	4.60
41x62 - 2.5	3.33	18.03	13.20	5.75	6.39
41x82 - 2.5	4.08	37.31	16.89	9.00	8.18
41x21D - 2.5	3.56	5.70	10.76	2.77	5.21
41x41D - 2.5	4.90	36.79	18.56	8.91	8.99
41x62D - 2.5	6.66	111.21	26.37	17.94	12.77
41x82D - 2.5	8.16	240.93	33.90	29.38	16.42

See Rail load tables for safe working loads.

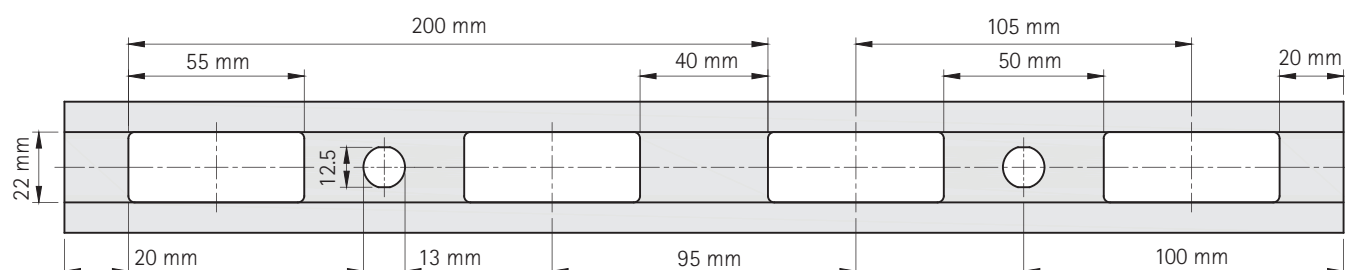
Perforation pattern of rails

Distance between rail end and first hole is always equal.

BIS RapidStrut® - 1.5 / 2.0 / 2.5 mm



BIS RapidStrut® DS 5 - 2.0 mm



Calculation method

The published safe working loads are calculated with perforated (slotted) rail.

Loads are calculated taking into consideration a maximum deflection (f) of $L/200$ (according to RAL-GZ 655/B) and a maximum bending stress of 160 N/mm^2 . (see picture 1)

1 N (Newton) = 0.102 kg

1 kg = 9.8 N (Newton)

Fixing of rails to walls or ceilings

The strength of the anchoring of the rail has not been taken into consideration. The installer must verify that the bolts and wall plugs used are suitable for the maximum permitted loading of the rail.

Reading the rail loading tables

The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified. The stated maximum safe load is calculated for a static load at free bending support. (see picture 2)

Where the segment is marked with a hyphen, the stated length cannot be safely loaded.

Special conditions

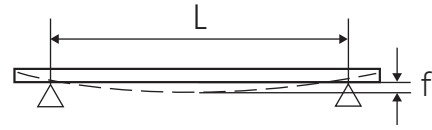
In case of doubt or for special conditions not stated in the loading tables, please do not hesitate to contact our technical department for their advice.

Hanging of rails from the ceiling

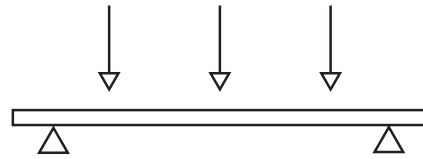
When hanging rails from the ceiling we recommend the use of U-formed washers on the open side of the rail (see picture 3).

Methods of loading

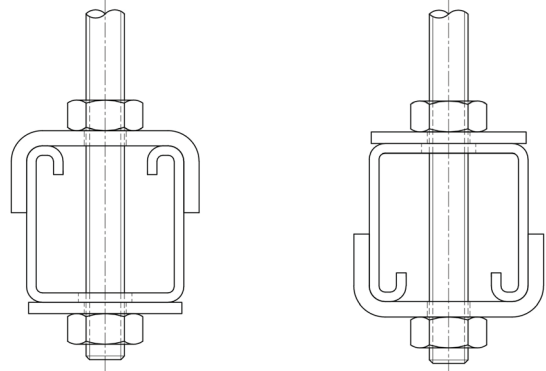
Where loads are suspended beneath rails (e.g. hanging pipes), the load must not exceed the relevant safe load of the slide nut. To increase rigidity of the installation we recommend the use of a U-formed washer (see picture 4).



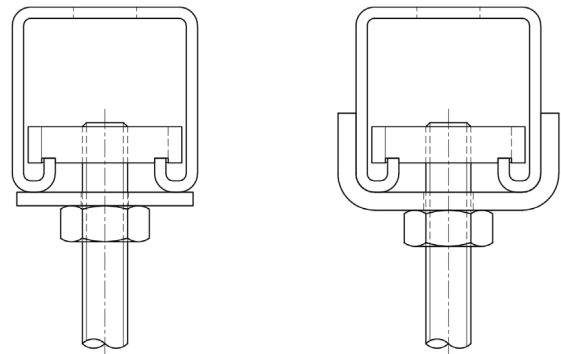
Picture 1



Picture 2

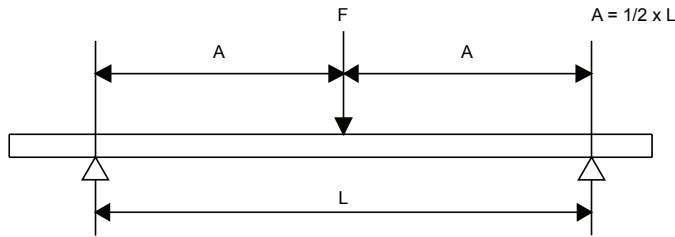


Picture 3



Picture 4

BIS RapidStrut® Fixing rail: suspension on 1 point



L (mm)	Single									Double			
	41x21 x1.5	41x21 x2.0	41x21 x2.5	41x41 x1.5	41x41 x2.0	41x41 x2.5	41x51 x2.0	41x62 x2.5	41x82 x2.5	41x21D	41x41D	41x62D	41x82D
250	1,848	2,153	2,381	5,427	6,556	7,611	8,812	14,730	23,035	7,081	22,797	46,461	75,937
300	1,540	1,794	1,984	4,523	5,463	6,342	7,343	12,275	19,196	5,901	18,997	38,718	63,281
350	1,320	1,538	1,701	3,877	4,683	5,436	6,294	10,522	16,453	5,058	16,283	33,187	54,241
400	1,155	1,346	1,488	3,392	4,098	4,757	5,507	9,206	14,397	4,426	14,248	29,038	47,461
450	1,027	1,196	1,323	3,015	3,642	4,228	4,895	8,183	12,797	3,934	12,665	25,812	42,187
500	924	1,076	1,190	2,714	3,278	3,805	4,406	7,365	11,517	3,540	11,398	23,231	37,969
600	770	897	992	2,261	2,732	3,171	3,671	6,138	9,598	2,950	9,499	19,359	31,641
700	660	769	850	1,938	2,341	2,718	3,147	5,261	8,227	2,529	8,142	16,593	27,120
800	557	642	719	1,696	2,049	2,378	2,754	4,603	7,198	2,213	7,124	14,519	23,730
900	440	508	568	1,508	1,821	2,114	2,448	4,092	6,399	1,967	6,332	12,906	21,094
1,000	356	411	460	1,357	1,639	1,903	2,203	3,683	5,759	1,770	5,699	11,615	18,984
1,200	247	286	320	1,131	1,366	1,586	1,836	3,069	4,799	1,475	4,749	9,679	15,820
1,400	182	210	235	969	1,171	1,359	1,573	2,630	4,113	1,264	4,071	8,297	13,560
1,600	139	161	180	794	952	1,114	1,377	2,302	3,599	1,015	3,562	7,260	11,865
1,800	110	127	142	628	752	881	1,224	2,046	3,199	802	3,166	6,453	10,547
2,000	89	103	115	508	609	713	1,004	1,841	2,879	650	2,850	5,808	9,492
2,250	70	81	91	402	481	564	794	1,624	2,559	513	2,533	5,162	8,437
2,500	57	66	74	325	390	456	643	1,315	2,303	416	2,280	4,646	7,594
2,750	47	54	61	269	322	377	531	1,087	2,094	344	2,072	4,224	6,903
3,000	40	46	51	226	271	317	446	913	1,890	289	1,863	3,872	6,328
3,250	34	39	44	193	231	270	380	778	1,611	246	1,588	3,574	5,841
3,500	29	34	38	166	199	233	328	671	1,389	212	1,369	3,319	5,424
3,750	25	29	33	145	173	203	286	584	1,210	185	1,193	3,097	5,062
4,000	22	26	29	127	152	178	251	514	1,063	162	1,048	2,904	4,746
4,250	20	23	25	113	135	158	222	455	942	144	928	2,733	4,467
4,500	18	20	23	100	120	141	198	406	840	128	828	2,504	4,219
4,750	16	18	20	90	108	126	178	364	754	115	743	2,248	3,997
5,000	14	16	18	81	97	114	161	329	680	104	671	2,029	3,797
5,250	13	15	17	74	88	104	146	298	617	94	608	1,840	3,616
5,500	12	14	15	67	81	94	133	272	562	86	554	1,676	3,452
5,750	11	12	14	62	74	86	122	249	515	79	507	1,534	3,302
6,000	-	11	13	56	68	79	112	228	473	72	466	1,409	3,052

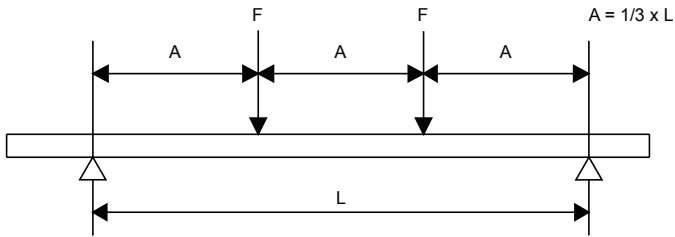
Max. allowed load in N.

The stated values are only valid for the fixing rail.

The maximum safe load of all other construction parts have to be verified.

For large spans and high rail flanks (> = 62mm), depending on the load, appropriate measures against occurring torsional forces may have to be taken.

BIS RapidStrut® Fixing rail: 2 equal loads



L (mm)	Single									Double			
	41x21 x1.5	41x21 x2.0	41x21 x2.5	41x41 x1.5	41x41 x2.0	41x41 x2.5	41x51 x2.0	41x62 x2.5	41x82 x2.5	41x21D	41x41D	41x62D	41x82D
250	1,386	1,615	1,786	4,070	4,917	5,708	6,609	11,048	17,276	5,311	17,098	34,846	56,953
300	1,155	1,346	1,488	3,392	4,098	4,757	5,507	9,206	14,397	4,426	14,248	29,038	47,461
350	990	1,153	1,275	2,907	3,512	4,077	4,720	7,891	12,340	3,793	12,213	24,890	40,681
400	866	1,009	1,116	2,544	3,073	3,568	4,130	6,905	10,798	3,319	10,686	21,779	35,596
450	770	897	992	2,261	2,732	3,171	3,671	6,138	9,598	2,950	9,499	19,359	31,641
500	693	807	893	2,035	2,459	2,854	3,304	5,524	8,638	2,655	8,549	17,423	28,476
600	578	670	744	1,696	2,049	2,378	2,754	4,603	7,198	2,213	7,124	14,519	23,730
700	427	492	552	1,454	1,756	2,039	2,360	3,946	6,170	1,897	6,106	12,445	20,340
800	327	377	422	1,272	1,537	1,784	2,065	3,452	5,399	1,660	5,343	10,889	17,798
900	258	298	334	1,131	1,366	1,586	1,836	3,069	4,799	1,475	4,749	9,679	15,820
1,000	209	241	270	1,018	1,229	1,427	1,652	2,762	4,319	1,328	4,274	8,712	14,238
1,200	145	168	188	829	993	1,163	1,377	2,302	3,599	1,059	3,562	7,260	11,865
1,400	107	123	138	609	730	854	1,180	1,973	3,085	778	3,053	6,223	10,170
1,600	82	94	106	466	559	654	921	1,726	2,699	596	2,672	5,445	8,899
1,800	65	74	83	368	442	517	728	1,489	2,399	471	2,375	4,840	7,910
2,000	52	60	68	298	358	419	590	1,206	2,160	381	2,137	4,356	7,119
2,250	41	48	53	236	283	331	466	953	1,920	301	1,900	3,872	6,328
2,500	33	39	43	191	229	268	377	772	1,598	244	1,575	3,485	5,695
2,750	28	32	36	158	189	221	312	638	1,320	202	1,302	3,168	5,178
3,000	23	27	30	133	159	186	262	536	1,109	169	1,094	2,904	4,746
3,250	20	23	26	113	135	159	223	457	945	144	932	2,680	4,381
3,500	17	20	22	97	117	137	192	394	815	124	804	2,430	4,068
3,750	15	17	19	85	102	119	168	343	710	108	700	2,117	3,797
4,000	13	15	17	75	89	105	147	302	624	95	615	1,860	3,560
4,250	12	13	15	66	79	93	131	267	553	84	545	1,648	3,350
4,500	10	12	13	59	71	83	116	238	493	75	486	1,470	3,164
4,750	-	11	12	53	63	74	105	214	443	68	436	1,319	2,858
5,000	-	-	11	48	57	67	94	193	399	61	394	1,191	2,579
5,250	-	-	-	43	52	61	86	175	362	55	357	1,080	2,340
5,500	-	-	-	39	47	55	78	159	330	50	325	984	2,132
5,750	-	-	-	36	43	51	71	146	302	46	298	900	1,950
6,000	-	-	-	33	40	47	66	134	277	42	273	827	1,791

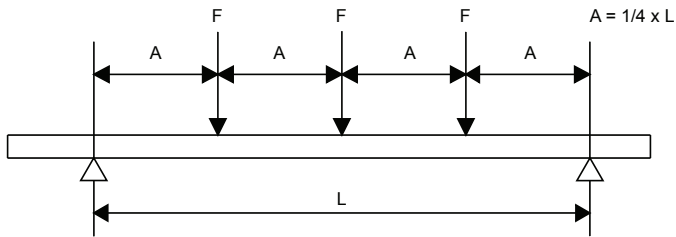
Max. allowed load in N. per suspension point (F).

The stated values are only valid for the fixing rail.

The maximum safe load of all other construction parts have to be verified.

For large spans and high rail flanks (> = 62mm), depending on the load, appropriate measures against occurring torsional forces may have to be taken.

BIS RapidStrut® Fixing rail: 3 equal loads



L (mm)	Single									Double			
	41x21 x1.5	41x21 x2.0	41x21 x2.5	41x41 x1.5	41x41 x2.0	41x41 x2.5	41x51 x2.0	41x62 x2.5	41x82 x2.5	41x21D	41x41D	41x62D	41x82D
250	924	1,076	1,190	2,714	3,278	3,805	4,406	7,365	11,517	3,540	11,398	23,231	37,969
300	770	897	992	2,261	2,732	3,171	3,671	6,138	9,598	2,950	9,499	19,359	31,641
350	660	769	850	1,938	2,341	2,718	3,147	5,261	8,227	2,529	8,142	16,593	27,120
400	578	673	744	1,696	2,049	2,378	2,754	4,603	7,198	2,213	7,124	14,519	23,730
450	513	598	661	1,508	1,821	2,114	2,448	4,092	6,399	1,967	6,332	12,906	21,094
500	462	538	595	1,357	1,639	1,903	2,203	3,683	5,759	1,770	5,699	11,615	18,984
600	385	449	496	1,131	1,366	1,586	1,836	3,069	4,799	1,475	4,749	9,679	15,820
700	306	353	396	969	1,171	1,359	1,573	2,630	4,113	1,264	4,071	8,297	13,560
800	234	270	303	848	1,024	1,189	1,377	2,302	3,599	1,106	3,562	7,260	11,865
900	185	214	239	754	911	1,057	1,224	2,046	3,199	983	3,166	6,453	10,547
1,000	150	173	194	678	820	951	1,101	1,841	2,879	885	2,850	5,808	9,492
1,200	104	120	135	565	683	793	918	1,534	2,399	738	2,375	4,840	7,910
1,400	77	88	99	437	524	613	787	1,315	2,057	558	2,035	4,148	6,780
1,600	59	68	76	335	401	469	661	1,151	1,800	427	1,781	3,630	5,933
1,800	46	53	60	264	317	371	522	1,023	1,600	338	1,583	3,226	5,273
2,000	38	43	48	214	257	300	423	865	1,440	274	1,425	2,904	4,746
2,250	30	34	38	169	203	237	334	684	1,280	216	1,266	2,581	4,219
2,500	24	28	31	137	164	192	271	554	1,146	175	1,130	2,323	3,797
2,750	20	23	26	113	136	159	224	458	947	145	934	2,112	3,452
3,000	17	19	22	95	114	133	188	385	796	122	785	1,936	3,164
3,250	14	16	18	81	97	114	160	328	678	104	669	1,787	2,921
3,500	12	14	16	70	84	98	138	283	585	89	576	1,659	2,712
3,750	11	12	14	61	73	85	120	246	509	78	502	1,518	2,531
4,000	-	11	12	54	64	75	106	216	448	68	441	1,335	2,373
4,250	-	-	11	47	57	67	94	192	397	61	391	1,182	2,233
4,500	-	-	-	42	51	59	84	171	354	54	349	1,054	2,109
4,750	-	-	-	38	45	53	75	153	317	48	313	946	1,998
5,000	-	-	-	34	41	48	68	138	287	44	282	854	1,850
5,250	-	-	-	31	37	44	61	126	260	40	256	775	1,678
5,500	-	-	-	28	34	40	56	114	237	36	233	706	1,529
5,750	-	-	-	26	31	36	51	105	217	33	214	646	1,399
6,000	-	-	-	24	29	33	47	96	199	30	196	593	1,285

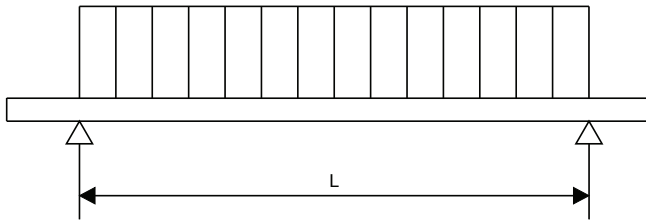
Max. allowed load in N. per suspension point (F).

The stated values are only valid for the fixing rail.

The maximum safe load of all other construction parts have to be verified.

For large spans and high rail flanks (> = 62mm), depending on the load, appropriate measures against occurring torsional forces may have to be taken.

BIS RapidStrut® Fixing rail: uniformly distributed load



L (mm)	Single									Double			
	41x21 x1.5	41x21 x2.0	41x21 x2.5	41x41 x1.5	41x41 x2.0	41x41 x2.5	41x51 x2.0	41x62 x2.5	41x82 x2.5	41x21D	41x41D	41x62D	41x82D
250	3,697	4,306	4,762	10,854	13,112	15,222	17,623	29,460	46,070	14,162	45,594	92,923	151,875
300	3,081	3,588	3,968	9,045	10,927	12,685	14,686	24,550	38,391	11,802	37,995	77,436	126,562
350	2,640	3,076	3,401	7,753	9,366	10,873	12,588	21,043	32,907	10,116	32,567	66,373	108,482
400	2,310	2,691	2,976	6,784	8,195	9,514	11,014	18,413	28,794	8,851	28,496	58,077	94,922
450	2,054	2,392	2,645	6,030	7,285	8,457	9,791	16,367	25,594	7,868	25,330	51,624	84,375
500	1,848	2,153	2,381	5,427	6,556	7,611	8,812	14,730	23,035	7,081	22,797	46,461	75,937
600	1,540	1,794	1,984	4,523	5,463	6,342	7,343	12,275	19,196	5,901	18,997	38,718	63,281
700	1,163	1,342	1,503	3,877	4,683	5,436	6,294	10,522	16,453	5,058	16,283	33,187	54,241
800	891	1,028	1,151	3,392	4,098	4,757	5,507	9,206	14,397	4,426	14,248	29,038	47,461
900	704	812	909	3,015	3,642	4,228	4,895	8,183	12,797	3,934	12,665	25,812	42,187
1,000	570	658	737	2,714	3,278	3,805	4,406	7,365	11,517	3,540	11,398	23,231	37,969
1,200	396	457	512	2,260	2,708	3,170	3,671	6,138	9,598	2,887	9,499	19,359	31,641
1,400	291	336	376	1,660	1,989	2,329	3,147	5,261	8,227	2,121	8,142	16,593	27,120
1,600	223	257	288	1,271	1,523	1,783	2,511	4,603	7,198	1,624	7,124	14,519	23,730
1,800	176	203	227	1,004	1,204	1,409	1,984	4,059	6,399	1,283	6,332	12,906	21,094
2,000	143	164	184	814	975	1,141	1,607	3,288	5,759	1,039	5,699	11,615	18,984
2,250	113	130	146	643	770	902	1,270	2,598	5,119	821	5,066	10,325	16,875
2,500	91	105	118	521	624	730	1,028	2,104	4,355	665	4,293	9,292	15,187
2,750	75	87	97	430	516	604	850	1,739	3,599	550	3,548	8,448	13,807
3,000	63	73	82	362	433	507	714	1,461	3,024	462	2,981	7,744	12,656
3,250	54	62	70	308	369	432	609	1,245	2,577	394	2,540	7,148	11,683
3,500	47	54	60	266	318	373	525	1,074	2,222	339	2,190	6,624	10,848
3,750	41	47	52	231	277	325	457	935	1,936	296	1,908	5,770	10,125
4,000	36	41	46	203	244	285	402	822	1,701	260	1,677	5,071	9,492
4,250	32	36	41	180	216	253	356	728	1,507	230	1,486	4,492	8,934
4,500	28	32	36	161	193	225	317	649	1,344	205	1,325	4,007	8,437
4,750	25	29	33	144	173	202	285	583	1,206	184	1,189	3,596	7,791
5,000	23	26	29	130	156	183	257	526	1,089	166	1,073	3,246	7,031
5,250	21	24	27	118	141	166	233	477	988	151	974	2,944	6,378
5,500	19	22	24	108	129	151	212	435	900	137	887	2,682	5,811
5,750	17	20	22	98	118	138	194	398	823	126	812	2,454	5,317
6,000	16	18	20	90	108	127	179	365	756	115	745	2,254	4,883

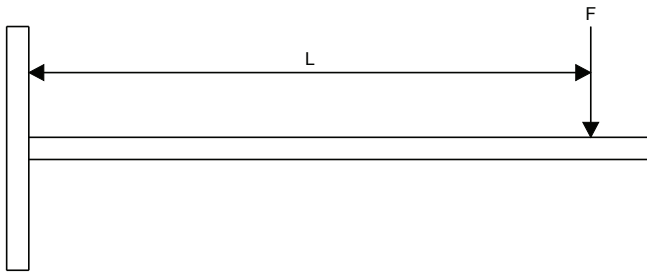
Max. allowed load in N.

The stated values are only valid for the fixing rail.

The maximum safe load of all other construction parts have to be verified.

For large spans and high rail flanks (> = 62mm), depending on the load, appropriate measures against occurring torsional forces may have to be taken.

BIS RapidStrut® Cantilever arms: suspension on 1 point



L (mm)	Single									Double			
	41x21 x1.5	41x21 x2.0	41x21 x2.5	41x41 x1.5	41x41 x2.0	41x41 x2.5	41x51 x2.0	41x62 x2.5	41x82 x2.5	41x21D	41x41D	41x62D	41x82D
100	1,155	1,346	1,488	3,392	4,098	4,757	5,507	9,206	14,397	4,426	14,248	29,038	47,461
150	770	897	992	2,261	2,732	3,171	3,671	6,138	9,598	2,950	9,499	19,359	31,641
200	557	642	719	1,696	2,049	2,378	2,754	4,603	7,198	2,213	7,124	14,519	23,730
250	356	411	460	1,357	1,639	1,903	2,203	3,683	5,759	1,770	5,699	11,615	18,984
300	247	286	320	1,131	1,366	1,586	1,836	3,069	4,799	1,475	4,749	9,679	15,820
350	182	210	235	969	1,171	1,359	1,573	2,630	4,113	1,264	4,071	8,297	13,560
400	139	161	180	794	952	1,114	1,377	2,302	3,599	1,015	3,562	7,260	11,865
450	110	127	142	628	752	881	1,224	2,046	3,199	802	3,166	6,453	10,547
500	89	103	115	508	609	713	1,004	1,841	2,879	650	2,850	5,808	9,492
550	74	85	95	420	504	589	830	1,674	2,618	537	2,591	5,280	8,629
600	62	71	80	353	423	495	697	1,427	2,399	451	2,375	4,840	7,910
700	45	52	59	259	311	364	512	1,048	2,057	331	2,035	4,148	6,780
800	35	40	45	199	238	279	392	803	1,661	254	1,638	3,630	5,933
900	27	32	36	157	188	220	310	634	1,313	200	1,294	3,226	5,273
1,000	22	26	29	127	152	178	251	514	1,063	162	1,048	2,904	4,746
1,100	18	21	24	105	126	147	208	425	879	134	866	2,619	4,315
1,200	15	18	20	88	106	124	174	357	738	113	728	2,201	3,955
1,300	13	15	17	75	90	106	149	304	629	96	620	1,875	3,651
1,400	11	13	15	65	78	91	128	262	542	83	535	1,617	3,390
1,500	-	11	13	56	68	79	112	228	473	72	466	1,409	3,052

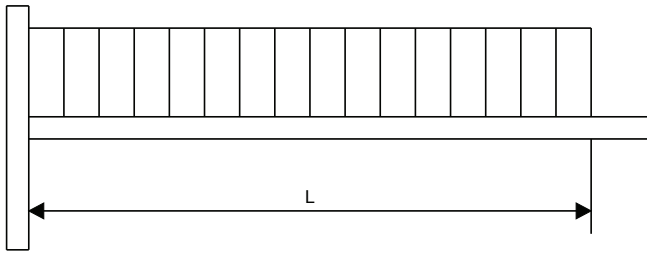
Max. allowed load in N.

The stated values are only valid for the fixing rail.

The maximum safe load of all other construction parts have to be verified.

For large spans and high rail flanks (> = 62mm), depending on the load, appropriate measures against occurring torsional forces may have to be taken.

BIS RapidStrut® Cantilever arms: uniformly distributed load



L (mm)	Single									Double			
	41x21 x1.5	41x21 x2.0	41x21 x2.5	41x41 x1.5	41x41 x2.0	41x41 x2.5	41x51 x2.0	41x62 x2.5	41x82 x2.5	41x21D	41x41D	41x62D	41x82D
100	2,310	2,691	2,976	6,784	8,195	9,514	11,014	18,413	28,794	8,851	28,496	58,077	94,922
150	1,540	1,794	1,984	4,523	5,463	6,342	7,343	12,275	19,196	5,901	18,997	38,718	63,281
200	1,155	1,346	1,488	3,392	4,098	4,757	5,507	9,206	14,397	4,426	14,248	29,038	47,461
250	924	1,076	1,190	2,714	3,278	3,805	4,406	7,365	11,517	3,540	11,398	23,231	37,969
300	660	761	853	2,261	2,732	3,171	3,671	6,138	9,598	2,950	9,499	19,359	31,641
350	485	559	626	1,938	2,341	2,718	3,147	5,261	8,227	2,529	8,142	16,593	27,120
400	371	428	480	1,696	2,049	2,378	2,754	4,603	7,198	2,213	7,124	14,519	23,730
450	293	338	379	1,508	1,821	2,114	2,448	4,092	6,399	1,967	6,332	12,906	21,094
500	238	274	307	1,356	1,625	1,902	2,203	3,683	5,759	1,732	5,699	11,615	18,984
550	196	227	254	1,121	1,343	1,572	2,003	3,348	5,235	1,432	5,181	10,559	17,258
600	165	190	213	942	1,128	1,321	1,836	3,069	4,799	1,203	4,749	9,679	15,820
700	121	140	157	692	829	970	1,367	2,630	4,113	884	4,071	8,297	13,560
800	93	107	120	530	635	743	1,046	2,140	3,599	677	3,562	7,260	11,865
900	73	85	95	418	501	587	827	1,691	3,199	535	3,166	6,453	10,547
1,000	59	69	77	339	406	476	670	1,370	2,835	433	2,795	5,808	9,492
1,100	49	57	63	280	336	393	553	1,132	2,343	358	2,310	5,280	8,629
1,200	41	48	53	235	282	330	465	951	1,969	301	1,941	4,840	7,910
1,300	35	41	45	201	240	281	396	811	1,678	256	1,654	4,467	7,302
1,400	30	35	39	173	207	243	342	699	1,447	221	1,426	4,148	6,780
1,500	26	30	34	151	181	211	298	609	1,260	192	1,242	3,757	6,328

Max. allowed load in N.

The stated values are only valid for the fixing rail.

The maximum safe load of all other construction parts have to be verified.

For large spans and high rail flanks (> = 62mm), depending on the load, appropriate measures against occurring torsional forces may have to be taken.

BIS RapidStrut®

For all medium rail applications



Fast and easy

The accessories are pre-assembled and delivered 'ready to use' on site. The plastic spring allows the slide nut to be fixed easily into the rail, retaining the assembly in place before final tightening.

For indoor and outdoor use

Extreme corrosion resistance. For more information about the BIS UltraProtect® 1000 System, see walraven.com



Extensive system

The BIS RapidStrut® fixing system offers an extensive choice for rail profiles and cantilever arms. A broad range of accessories are also available including: slide nuts, T-bolt assemblies and swivel hangers.



BIS RapidStrut® Fixing Rail DS 5

The DS 5 has a unique hole pattern allowing BIS RapidStrut® Accessories to be mounted quickly on both sides of the rail.

