



Rail Loading Tables

RapidRail® & RapidStrut®



BIS
FIXING SYSTEMS

Use of fixing rail loading tables

Calculation method

The published safe working loads are based on tests with perforated (slotted) rail. For non perforated rail the safe working loads can be taken as 20 % higher. Loads are calculated taking into consideration a maximum deflection (f) of length $1/200 \times L$ and a maximum bending stress of 160 N/mm².

1 N (Newton) = 0,102 kg

1 kg = 9,8 N (Newton)

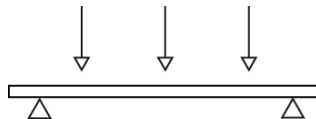


Fixing of rails to walls or ceilings

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.

Methods of loading

Where loads are suspended beneath rails, 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-shaped washer.

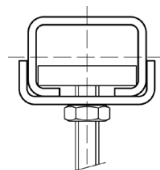


Reading the rail loading tables

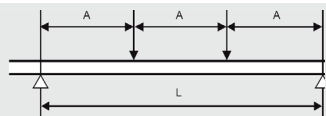
The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified. The stated maximum safe load is calculated for a static load at free sliding support. Where the segment is marked with a hyphen, the stated length cannot be safely loaded.

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.



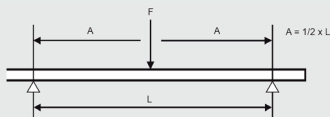
**BIS Rapidrail & BIS Rapidstrut:
2 equal loads**



L (mm)	BIS RapidRail®		BIS RapidStrut®	
	30x20 WM15	30x30 WM2	41x21 2.5	41x41 2.5
250	96	248	182	582
300	80	206	152	485
350	68	177	130	416
400	60	155	114	364
450	53	138	101	324
500	48	124	91	291
600	37	103	76	243
700	27	88	56	208
800	21	73	43	182
900	16	58	34	162
1.000	13	47	28	146
1.200	9	32	19	119
1.400	7	24	14	87
1.600	5	18	11	67
1.800	4	14	8	53
2.000	3	12	7	43
2.250	3	9	5	34
2.500	2	7	4	27
2.750	2	6	4	23
3.000	2	5	3	19

Maximum allowed load in kg. The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified.

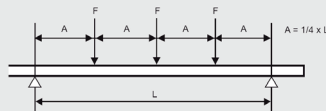
BIS Rapidrail & BIS Rapidstrut: Suspension on 1 point



L (mm)	BIS RapidRail®		BIS RapidStrut®	
	30x20 WM15	30x30 WM2	41x21 2.5	41x41 2.5
250	127	330	243	777
300	106	275	202	647
350	91	236	174	555
400	80	206	152	485
450	71	184	135	431
500	64	165	121	388
600	53	138	101	324
700	46	118	87	277
800	36	103	73	243
900	28	92	58	216
1.000	23	80	47	194
1.200	16	55	33	162
1.400	12	41	24	139
1.600	9	31	18	114
1.800	7	25	14	90
2.000	6	20	12	73
2.250	4	16	9	58
2.500	4	13	8	47
2.750	3	11	6	38
3.000	3	9	5	32

Maximum allowed load in kg. The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified.

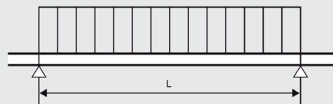
BIS Rapidrail & BIS Rapidstrut: 3 equal loads



L (mm)	BIS RapidRail®		BIS RapidStrut®	
	30x20 WM15	30x30 WM2	41x21 2.5	41x41 2.5
250	64	165	121	388
300	53	138	101	324
350	46	118	87	277
400	40	103	76	243
450	35	92	67	216
500	32	83	61	194
600	27	69	51	162
700	19	59	40	139
800	15	52	31	121
900	12	41	24	108
1.000	10	33	20	97
1.200	7	23	14	81
1.400	5	17	10	63
1.600	4	13	8	48
1.800	3	10	6	38
2.000	2	8	5	31
2.250	2	7	4	24
2.500	2	5	3	20
2.750	1	4	3	16
3.000	1	4	2	14

Maximum allowed load in kg. The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified.

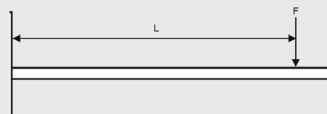
BIS Rapidrail & BIS Rapidstrut: Uniformly distributed load



L (mm)	BIS RapidRail®		BIS RapidStrut®	
	30x20 WM15	30x30 WM2	41x21 2.5	41x41 2.5
250	255	661	486	1.553
300	212	551	405	1.294
350	182	472	347	1.109
400	159	413	304	971
450	142	367	270	863
500	127	330	243	777
600	101	275	202	647
700	74	236	153	555
800	57	199	117	485
900	45	157	93	431
1.000	36	127	75	388
1.200	25	88	52	323
1.400	19	65	38	238
1.600	14	50	29	182
1.800	11	39	23	144
2.000	9	32	19	116
2.250	7	25	15	92
2.500	6	20	12	74
2.750	5	17	10	62
3.000	4	14	8	52

Maximum allowed load in kg. The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified.

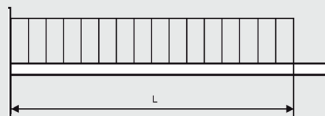
BIS Cantilever Arms: Suspension on 1 point



L (mm)	BIS RapidRail®		BIS RapidStrut®	
	30x20 WM15	30x30 WM2	41x21 2.5	41x41 2.5
100	80	206	152	485
150	53	138	101	324
200	36	103	73	243
250	23	80	47	194
300	16	55	33	162
350	12	41	24	139
400	9	31	18	114
450	7	25	14	90
500	6	20	12	73
550	5	16	10	60
600	4	14	8	51
700	3	10	6	37
800	2	8	5	28
900	2	6	4	22
1.000	1	5	3	18
1.100	1	4	2	15
1.200	-	3	2	13
1.300	-	3	2	11
1.400	-	3	2	9
1.500	-	2	1	8

Maximum allowed load in kg. The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified.

BIS Cantilever Arms: Uniformly distributed load



L (mm)	BIS RapidRail®		BIS RapidStrut®	
	30x20 WM15	30x30 WM2	41x21 2.5	41x41 2.5
100	159	413	304	971
150	106	275	202	647
200	80	206	152	485
250	61	165	121	388
300	42	138	87	324
350	31	108	64	277
400	24	83	49	243
450	19	66	39	216
500	15	53	31	194
550	13	44	26	160
600	11	37	22	135
700	8	27	16	99
800	6	21	12	76
900	5	16	10	60
1.000	4	13	8	49
1.100	3	11	6	40
1.200	3	9	5	34
1.300	2	8	5	29
1.400	2	7	4	25
1.500	2	6	3	22

Maximum allowed load in kg. The stated values are only valid for the fixing rail. The maximum safe load of all other construction parts have to be verified.