

Load Capacity of Ball Lock Pins / Rapid Release Pins

Double Shear Strength

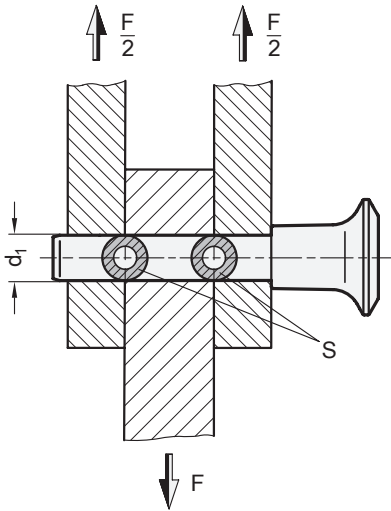
Information

The load capacities specified in the table for the double shear strength (breaking strength) have been calculated or theoretically determined in accordance with DIN 50141.

The endangered bolt cross-section S was considered in two shear planes until breakage, according to the sketch shown opposite.

The details given on load capacity are non-binding guide values without any liability. In general, they do not constitute a warranty of quality. The user must determine from case to case if a product is suitable for the application. Ambient influences may affect the specified values.

An appropriate safety factor must be taken into account in the design.



Metric table

Dimensions in: millimeters - inches

Ball lock pins											
Load capacity F ≈ double shear strength according to DIN 50141 (breaking strength)											
d ₁ Pin diameter	GN 113.3	GN 113.4	GN 113.5	GN 113.6	GN 113.7	GN 113.8	GN 113.9	GN 113.10	GN 113.11	GN 113.12	GN 113.30
5 0.20	14 kN 3147 lbf	24 kN 5395 lbf	14 kN 3147 lbf	24 kN 5395 lbf	14 kN 3147 lbf	24 kN 5395 lbf	14 kN 3147 lbf	24 kN 5395 lbf	14 kN 3147 lbf	24 kN 5395 lbf	-
6 0.24	21 kN 4721 lbf	35 kN 7868 lbf	21 kN 4721 lbf	35 kN 7868 lbf	21 kN 4721 lbf	35 kN 7868 lbf	21 kN 4721 lbf	35 kN 7868 lbf	21 kN 4721 lbf	35 kN 7868 lbf	23 kN 5171 lbf
8 0.31	38 kN 8543 lbf	63 kN 14163 lbf	38 kN 8543 lbf	63 kN 14163 lbf	38 kN 8543 lbf	63 kN 14163 lbf	38 kN 8543 lbf	63 kN 14163 lbf	38 kN 8543 lbf	63 kN 14163 lbf	43 kN 9667 lbf
10 0.39	60 kN 13489 lbf	100 kN 22481 lbf	60 kN 13489 lbf	100 kN 22481 lbf	60 kN 13489 lbf	100 kN 22481 lbf	60 kN 13489 lbf	100 kN 22481 lbf	60 kN 13489 lbf	100 kN 22481 lbf	69 kN 15512 lbf
12 0.47	87 kN 19558 lbf	144 kN 32372 lbf	87 kN 19558 lbf	144 kN 32372 lbf	87 kN 19558 lbf	144 kN 32372 lbf	87 kN 19558 lbf	144 kN 32372 lbf	87 kN 19558 lbf	144 kN 32372 lbf	-
16 0.63	155 kN 34845 lbf	257 kN 57776 lbf	155 kN 34845 lbf	257 kN 57776 lbf	155 kN 34845 lbf	257 kN 57776 lbf	155 kN 34845 lbf	257 kN 57776 lbf	155 kN 34845 lbf	257 kN 57776 lbf	-
20 0.79	244 kN 54853 lbf	403 kN 90598 lbf	-	-	244 kN 54853 lbf	403 kN 90598 lbf	244 kN 54853 lbf	403 kN 90598 lbf	244 kN 54853 lbf	403 kN 90598 lbf	-
25 0.98	386 kN 86776 lbf	631 kN 141854 lbf	-	-	386 kN 86776 lbf	631 kN 141854 lbf	386 kN 86776 lbf	631 kN 141854 lbf	386 kN 86776 lbf	631 kN 141854 lbf	-

Rapid release pins											
Load capacity F ≈ double shear strength according to DIN 50141 (breaking strength)											
d ₁ Pin diameter	GN 114.2	GN 114.3	GN 114.6	GN 124.1	GN 124.2	GN 124.3	GN 214.2	GN 214.3	GN 214.6	GN 314	GN 2342
6 0.24	14 kN 3147 lbf	17 kN 3822 lbf	17 kN 3822 lbf	22 kN 4946 lbf	22 kN 4946 lbf	-	14 kN 3147 lbf	17 kN 3822 lbf	17 kN 3822 lbf	-	-
8 0.31	28 kN 6295 lbf	35 kN 7868 lbf	35 kN 7868 lbf	40 kN 8992 lbf	40 kN 8992 lbf	40 kN 8992 lbf	28 kN 6295 lbf	35 kN 7868 lbf	35 kN 7868 lbf	30 kN 6744 lbf	32 kN 7194 lbf
10 0.39	38 kN 8543 lbf	47 kN 10566 lbf	47 kN 10566 lbf	62 kN 13938 lbf	62 kN 13938 lbf	62 kN 13938 lbf	38 kN 8543 lbf	47 kN 10566 lbf	47 kN 10566 lbf	46 kN 10341 lbf	57 kN 12814 lbf
12 0.47	61 kN 13713 lbf	75 kN 16861 lbf	75 kN 16861 lbf	90 kN 20233 lbf	90 kN 20233 lbf	90 kN 20233 lbf	61 kN 13713 lbf	75 kN 16861 lbf	75 kN 16861 lbf	74 kN 16635 lbf	80 kN 17984 lbf
16 0.63	113 kN 25403 lbf	138 kN 31024 lbf	138 kN 31024 lbf	-	-	-	113 kN 25403 lbf	138 kN 31024 lbf	138 kN 31024 lbf	136 kN 30574 lbf	156 kN 35070 lbf
20 0.79	187 kN 42039 lbf	228 kN 51256 lbf	228 kN 51256 lbf	-	-	-	-	-	-	227 kN 51031 lbf	247 kN 55528 lbf