

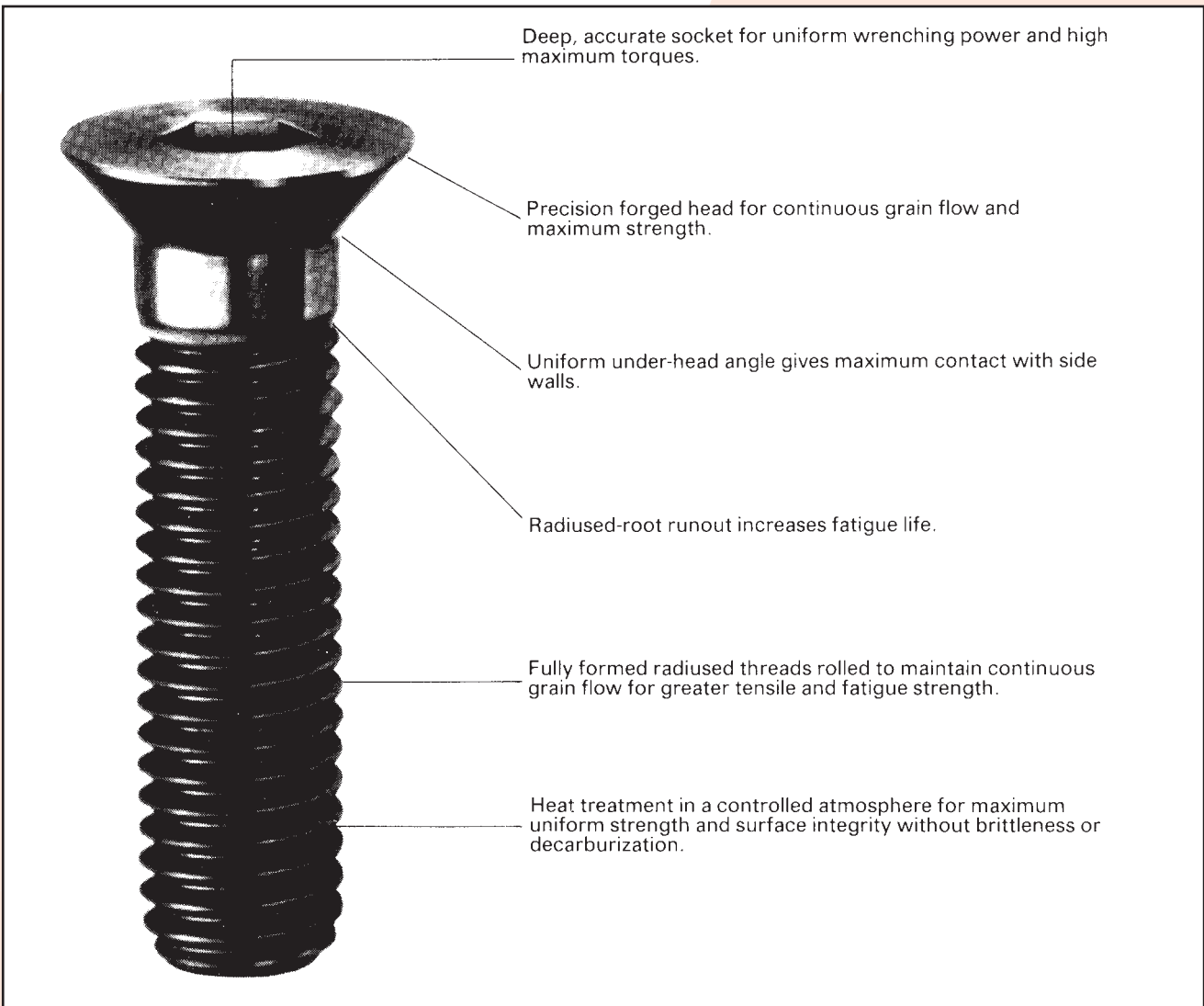
Modern equipment and machinery requires stronger more reliable joints to hold their parts together—and stronger more reliable fasteners. This requirement for dependability also holds true for fasteners used to hold thin section metals together in applications that also require a neat smooth surface.

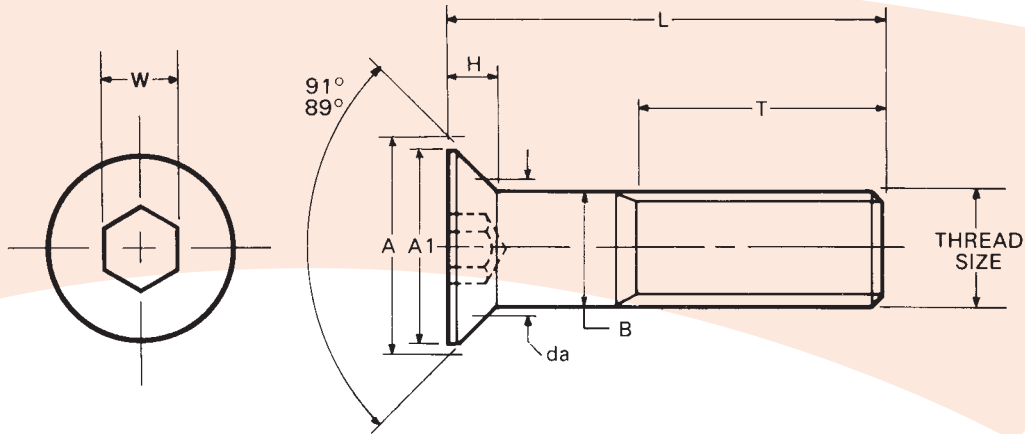
That's why UNBRAKO countersunk screws are so widely used for fastening of plates, strips, mouldings, and other thin section parts. UNBRAKO countersunk screws provide reliable fastening and a smooth, attractive, flush mounting that enhances the appearance of the product on which they are used.

UNBRAKO countersunk screws provide more clamping force because they are manufactured

from high grade alloy steel, and held to exacting tolerances to ensure the highest degree of dimensional uniformity. The closely controlled head angle assures flush seating, and close all-round head contact by initially contacting at the upper portion of the head bearing area in the countersunk hole. Closely controlled threads mean tighter and more secure fits, and stronger assemblies. Deep accurate non-slip sockets provide maximum key engagement for full tightening without marring the surrounding surface.

UNBRAKO countersunk screws are available with either plain or plated finish. Stainless steel screws are also available.





Dimensions and Tightening Torques - ISO Metric Threads

Thread Size	Threads Per Inch	A Max. (See Note 2)	A1 Min. (See Note 3)	B Max.	da Max.	H Ref.	W	Maximum Tightening Torques lbf. in				Tensile Load lb.f.	
								Unplated		Plated		BA	
								BA	BSW	BSF	BSW	BSF	BSW
8BA	59.1	.164	.147	.0866	.104	.038	.050	2.0		1.5		638	
6BA	47.9	.211	.189	.1102	.133	.050	.050	4.0		3.0		1050	
5BA	43.1	.239	.215	.1260	.154	.056	1/16	6.0		5.0		1390	
4BA	38.5	.269	.243	.1417	.172	.063	1/16	8.5		6.5		1760	
3BA	34.8	.307	.277	.1614	.191	.072	5/64	14.0		10.5		2310	
2BA	31.4	.351	.319	.1850	.215	.083	3/32	32.0		24.0		3070	
1BA	28.2	.396	.360	.2087	.239	.093	3/32	35.0		26.0		3929	
0BA	25.4	.449	.408	.2362	.266	.106	1/8	72.0		54.0		5070	
		BSW	BSF					BSW	BSF	BSW	BSF	BSW	BSF
1/8	40	—	.239	.215	.1250	.155	1/16	9.0	—	7.0	—	1280	—
3/16	24	32	.356	.323	.1875	.217	3/32	27.5	32	20.5	24	2730	3120
1/4	20	26	.475	.432	.2500	.280	5/32	95.0	98	71.0	74	5130	5710
5/16	18	22	.594	.542	.3125	.343	3/16	217.0	232	163.0	174	8440	9080
								lbf. ft.					
3/8	16	20	.712	.651	.3750	.405	7/32	26.0	32	19.5	24	12500	13400
7/16	14	18	.831	.761	.4375	.468	1/4	39.0	42	29.0	32	17100	18500
1/2	12	16	.950	.870	.5000	.530	5/16	72.0	85	54.0	64	22200	24300
9/16	12	16	1.069	.979	.5625	.593	5/16	103.0	112	77.0	837	29300	31700
5/8	11	14	1.187	1.089	.6250	.655	3/8	136.0	138	102.0	104	36400	38900
3/4	10	12	1.425	1.308	.7500	.780	3/8	138.0	140	104.0	105	53700	56400
7/8	9	11	1.662	1.526	.8750	.906	1/2	338.0	356	253.0	266	74200	77800
1	8	10	1.900	1.745	1.0000	1.030	9/16	506.0	535	380.0	401	97300	102700
1 1/8	7	9	2.138	1.964	1.1250	1.155	5/8	718.0	763	537.0	572	122500	130200
1 1/4	7	9	2.375	2.183	1.2500	1.280	5/8	1013.0	1070	760.0	802	155600	164300

ALL DIMENSIONS IN INCHES

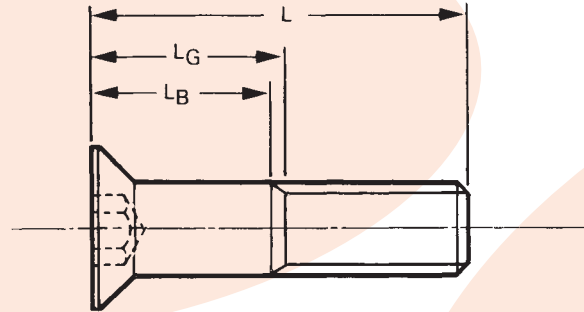
MECHANICAL PROPERTIES

Material Unbrako High Grade Alloy Steel
 Heat Treatment Rc 38-43
 Shear Strength 96,000 lbf/in²
 Min. Elongation 9%

NOTES:

1. A — Maximum theoretical sharp corner.
2. A1 — Absolute minimum head diameter.
3. da — Transition diameter.
4. Thread Class BA — Close
BSW and BSF — Medium
5. Working Temperature — -50°C.
+300°C.

N.B. Because of their head configurations, countersunk head screw tensile loads, are based on 160,000 lbf/in².



Body & Grip Lengths - ISO Metric

Thread Size	Body and Grip Lengths	Length 'L'										
		30	35	40	45	50	55	60	65	70	80	90
M3	LB. Max.	To Head	14.5	19.5	24.5	29.5	34.5					
	LG. Max.		17.0	22.0	27.0	32.0	37.0					
M4	LB. Max.	To Head	11.5	16.5	21.5	26.5	31.5	36.5	41.5	46.5	56.5	
	LG. Max.		15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	60.0	
M5	LB. Max.	→ To Head	14.0	19.0	24.0	29.0	34.0	39.0	44.0	54.0	64.0	
	LG. Max.		18.0	23.0	28.0	33.0	38.0	43.0	48.0	58.0	68.0	
M6	LB. Max.		→ To Head	16.0	21.0	26.0	31.0	36.0	41.0	51.0	61.0	
	LG. Max.			21.0	26.0	31.0	36.0	41.0	46.0	56.0	66.0	
M8	LB. Max.			→ To Head	15.75	20.75	25.75	30.75	35.75	45.75	55.7	
	LG. Max.				22.0	27.0	32.0	37.0	42.0	52.0	62.0	
M10	LB. Max.					→ To Head	20.5	25.5	30.5	40.5	50.5	
	LG. Max.						28.0	33.0	38.0	48.0	58.0	
M12	LB. Max.						→ To Head	20.2	25.2	35.2	45.2	
	LG. Max.							29.0	34.0	44.0	54.0	
M14	LB. Max.							→ To Head	20.0	30.0	40.0	
	LG. Max.								30.0	40.0	50.0	
M16	LB. Max.								→ To Head	26.0	36.0	
	LG. Max.									36.0	46.0	
M18	LB. Max.									→ To Head	29.5	
	LG. Max.										42.0	
M20	LB. Max.											→
	LG. Max.											
M22	LB. Max.											
	LG. Max.											
M24	LB. Max.											
	LG. Max.											

ALL DIMENSIONS IN MILLIMETRES

