

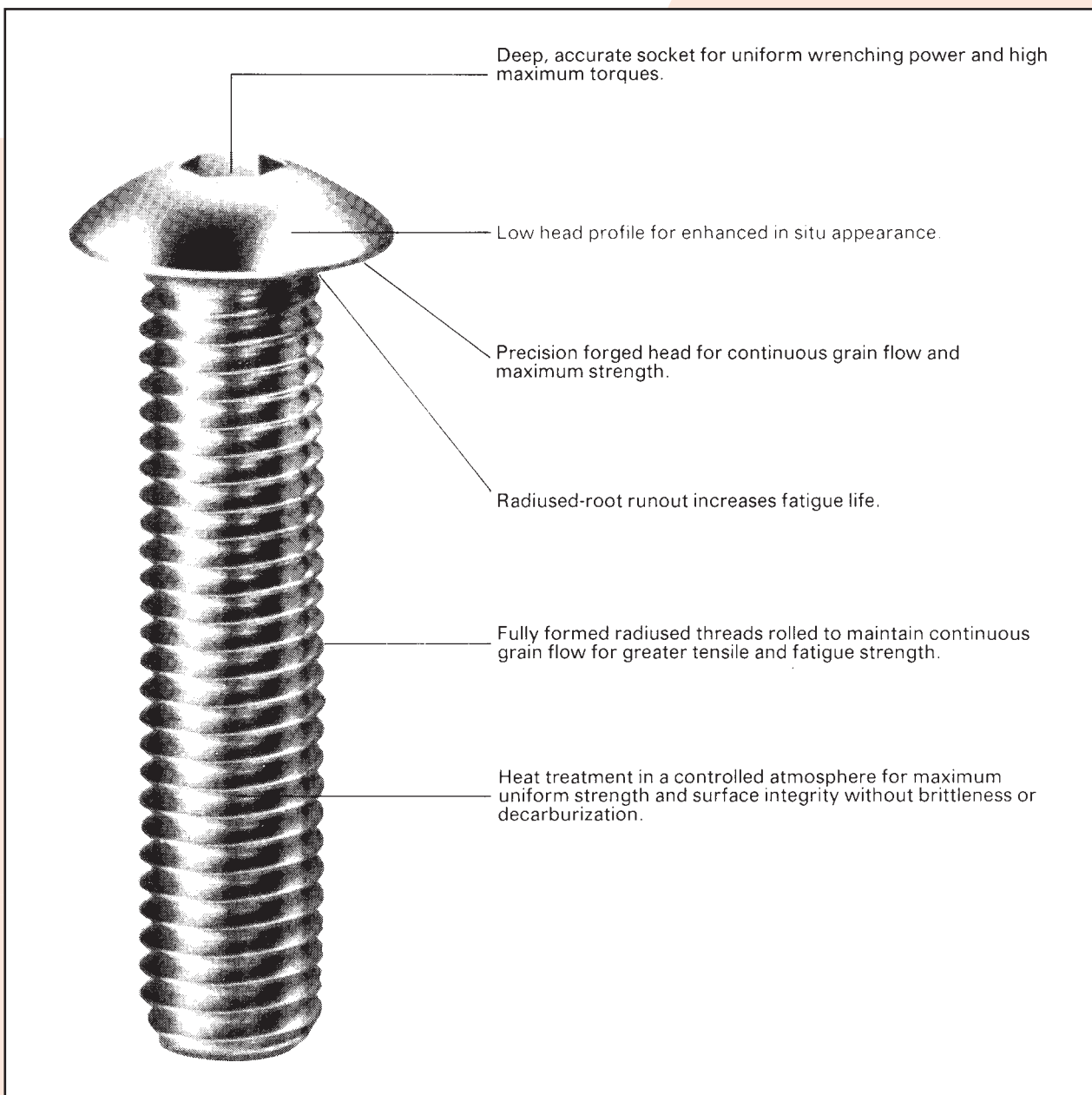
UNBRAKO button head screws are ideally suited for use in materials too thin to countersink, and in non-critical loading applications. Their low head profile gives them a smooth, aesthetic appearance, and their deep accurate sockets ensure non-slip wrench engagement to prevent marring of the surface in which they are installed.

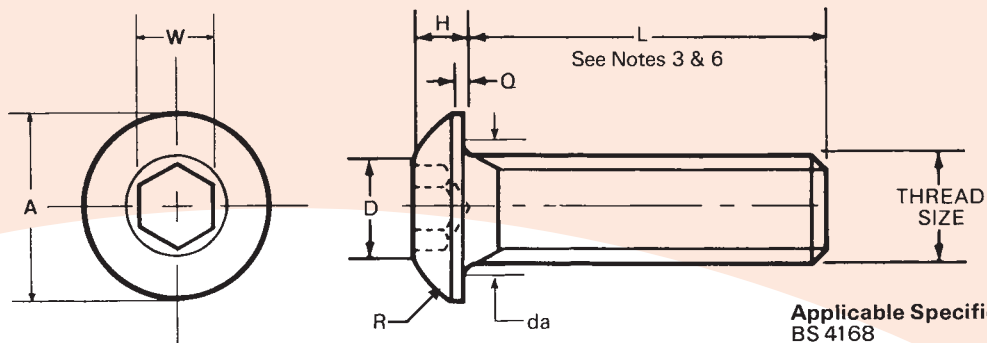
UNBRAKO button head screws are made from high grade alloy steel and every manufacturing operation is closely controlled. Heads are forged for greater strength, and full formed radius-root rolled threads

assure close tolerances, maximum strength, and superior fatigue resistance. Deep accurate sockets allow full tightening, and customized heat treatment of each heat of steel ensures maximum strength and hardness without brittleness.

UNBRAKO button head screws are available in plain or plated finishes. Stainless steel screws are also available.

UNBRAKO flange button head screws in Metric are also available.





Dimensions and Tightening Torques - ISO Metric Threads

Thread Size	Pitch	A Max.	da Max.	D Max.	H Max.	Q Max.	R Ref.	W	Maximum Tightening Torques				Tensile Loads kN
									Unplated		Plated		
									Nm	lbf.in.	Nm	lbf.in.	
M3	0.50	5.70	3.60	3.31	1.65	.38	2.95	2.0	1.4	12	1.1	9	5.28
M4	0.70	7.60	4.70	3.93	2.20	.38	4.10	2.5	3.4	30	2.6	22	9.22
M5	0.80	9.50	5.70	4.50	2.75	.50	5.20	3.0	6.8	60	5.1	45	14.90
M6	1.00	10.50	6.80	5.90	3.30	.80	5.60	4.0	11.0	97	8.3	73	21.10
M8	1.25	14.00	9.20	7.00	4.40	.80	7.50	5.0	28.0	248	21.0	186	38.40
M10	1.50	17.50	11.20	8.20	5.50	.80	10.00	6.0	55.0	486	41.0	363	60.90
M12	1.75	21.00	13.70	10.50	6.60	.80	11.00	8.0	95.0	840	71.0	630	88.50

ALL DIMENSIONS IN MILLIMETRES

MECHANICAL PROPERTIES

Material Unbrako High Grade Alloy Steel
Heat Treatment Rc 38-43
Shear Strength 630 N/mm²
Min. Elongation 9%

NOTES:

1. Thread Class — 4g 6g.
2. da — Transition diameter.
3. Full thread length to within 2½ pitches of head.
4. **Max. Working Temperature** — -50°C, +300°C.
5. Torques calculated in accordance with VDI 2230 "Systematic calculation of high duty bolted joints" with $\sigma_{0.2} = 720 \text{ N/mm}^2$ and $\mu = 0.125$ for plain finish and $\mu = 0.094$ for plated.
6. Length tolerance = $\pm 0.25\text{mm}$

N.B. Because of their head configurations, button head screws may not meet the minimum ultimate tensile load for property class 12.9, specified in table 6 OF BS 6104:Part 1: 1981. They are nevertheless required to meet the other material and property requirements for property class 12.9 in BS 6104:Part 1.