Socket Button Head Cap Screws

When it comes to Socket Button Head Cap Screws, insist on "Unilok"

Here's why :

"UNILOK" Button Head Socket Screws are ideally suitable for use in materials too thin to countersunk and in non-critical loading applications. Their low head profile gives them a modern streamlined appearance. And their deep accurate sockets ensure non-slip wrench engagement preventing marring of the surface on which they are installed.

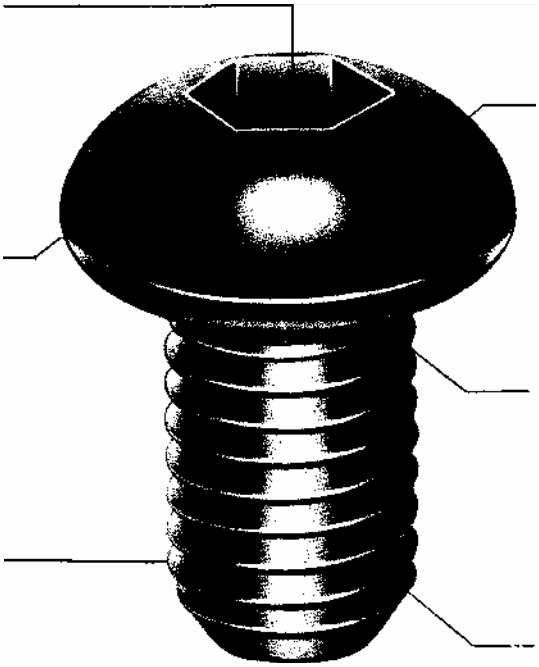
Feature for feature the superior Button Head Socket Screw

- Manufactured from high grade heat treated alloy steel.
- Heads are specially cold forged for greater strength.
- Fully formed radiused root rolled threads assure closer tolerances, maximum strength and superior fatigue resistance.
- Deep accurate sockets allow full tightening.
- Customised heat treatment of each batch of steel ensures maximum strength and hardness without brittleness.
- No straight flow lines along which shear can occur.

Accurate Control of Sockets Depth: Gives more wrench engagement than other screws, permits full tightening without cracking or reaming socket. Provides sufficient metal in crucial fillet areas for maximum head strength.

Controlled Head Forging :---------- Provides uniform grain flow with unbroken flow lines; makes head stronger, prevents failure in the vital underhead fillet area; adds to fatigue strength of screw.

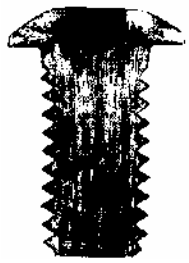
Threads :---------- Provide closest fit possible without selective assembly; gives maximum cross-section for strength; makes parts fit better to utilise full strength of screw.



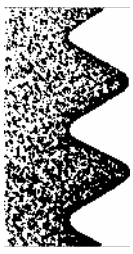
Low Head Profile : For a modern streamlined look.

Controlled Radiused Root Runouts Doubles fatigue life of threads by reducing stress concentrations and avoiding sharp corners where failures may start.

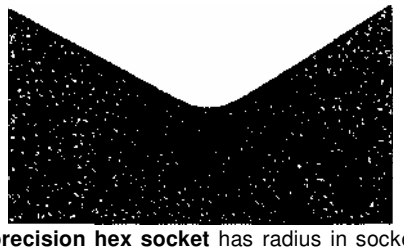
Heat Treated Alloy Steel For maximum strength.



continuous grain flow in head, shank and fillet makes the whole screw stronger. Deep socket provides maximum wrench engagement.



fully formed threads provide maximum strength and precision fit in tapped holes. There are no straight flow lines along which shear can occur.



precision hex socket has radius in socket corners to eliminate the sharp angles where cracks start.

Socket Button Head Cap Screws

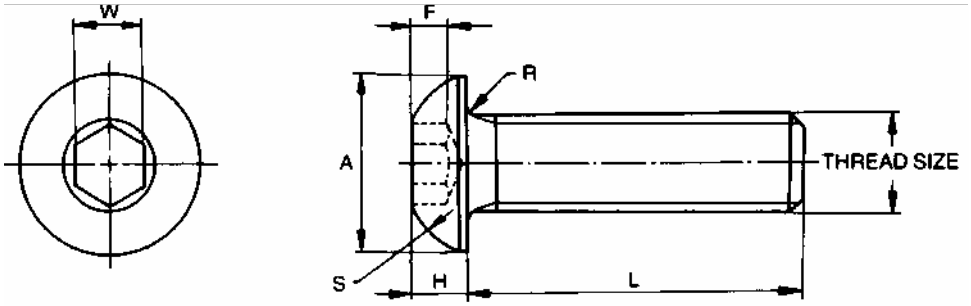
Unilok

Metric Series

Dimensions - Physical Properties - Tightening Torques

Notes :

1. Threads will conform to class 4g6g of IS. 4218. ISO-261/965, Coarse Series
2 Material : "UNILOK" High Grade Alloy Steel.
3 Heat Treatment : HRc 38-44.
4. Property Class : 129
   (Because of their head configurations, these screws may not meet the minimum ultimate tensile load for Property Class 12.9).
5. All dimensions are in millimeters.



Thread Size	M3	M4	MS	M6	*MS*	M10	M12
Pitch	0.50	0.70	0.80	1.00	1.25	1.50	1.75
A Max.	5.70	7.60	9.50	10.50	14.00	17.5	21.00
HMax.	1.65	2.20	2.75	3.30	4.40	5.50	6.60
FMin.	1.05	1.35	1.92	2.08	2.75	3.35	4.16
SRef.	3.1	4.2	5.3	5.5	7.4	9.3	11.0
RMax.	0.35	0.35	0.45	0.45	0.50	0.60	0.70
WNom.	2.0	2.5	3.0	4.0	5.0	6.0	8.0
LMax.	20	40	40	50	50	50	50

Physical Properties

Ultimate tensile strength, Min.	1,220 N/mm^2	124 kgf/mm^2
Yield strength, 0.2% offset, Min.	1,100 N/mm^2	112 kgf/mm^2
Shear strength, Min.	730 N/mm^2	74.6 kgf/mm^2
Elongation % on GL = 5.65 VA~ Where A = Cross sectional area.	9% Min.	

Typical Tightening Torque (Max.) and Induced load

Thread Size	Stress Area	Tightening Torque		Induced Load	
		Unplated*			
	mm^2	Nm	Kgfm	N	Kgf
M3	5.03	1.20	0.122	2,113	215
M4	8.78	2.80	0.285	3,688	376
MS	14.20	5.50	0.561	5,964	608
M6	20.10	9.50	0.968	8,442	861
M8	36.60	24.00	2.450	15,372	1,567
M10	58.00	47.00	4.790	24,360	2,483
M12	84.30	82.00	8.360	35,406	3,609

Note:
The tightening torque calculated to induce 420 N/mm^2 stress in screw threads.

* Torque values listed are for plain screws. For Cadmium plated screws, multiply listed values by 0.75. For Zinc plated screws, multiply listed values by 1.40.