Earnest Technical Bulletin

5/4/12

Flat Head Slotted Cap Screws

Flat head slotted cap screws are used in applications that require a low profile head. Flat head slotted screws are more cost effective than a flat head hex socket screws in applications that experience excessive bending and flexing that will cause the higher hardness socket screws to fatigue and break.

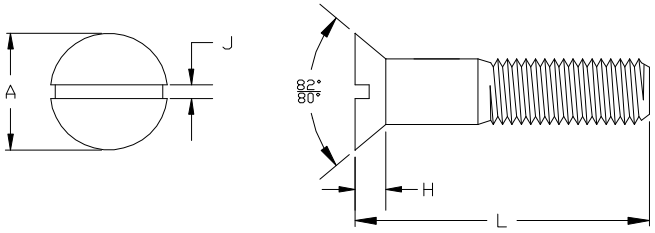
Earnest Machine Products line of Flat Head Slotted Cap Screws (also called Slotted Flat Countersunk Head Cap Screws) are manufactured to the dimensional requirements specified in ASME/ANSI B18.6.2. The flat head design provides a low profile head that provides a large bearing area under the head when installed into an 82° countersunk hole.

Earnest stocks diameters up to 1 1/4 and in the most popular lengths.

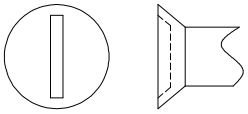
The material and physical properties meet the requirements specified in SAE J429 for Grade 5 screws.

	Tensile Strength	Rockwell Hardness
Dia up to 1":	120,000 psi min	Rc 25/34
Dia 1 1/8 and larger	105,000 psi min	Rc 19/30

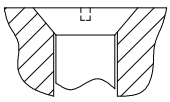
Flat head slotted screws are very popular in conveyer belt applications because of the flexing and strain that is exerted on the fasteners. The higher hardness of flat head hex socket screws results in heads popping when they are subjected to the flexing and fatigue forces that are encountered in this application. The grade 5 hardness and strength level of Earnest's line provides the right combination of strength and toughness to withstand the forces exerted on the fasteners.



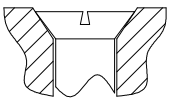
Nom Dia.	Head Dia A	H Head Height	Slot Width J
	Max	Ref	Max
1/2	.875	.210	.106
5/8	1.125	.281	.133
3/4	1.375	.352	.149
7/8	1.625	.423	.167
1	1.875	.494	.188
1 1/8	2.062	.529	.196
1 1/4	2.312	.600	.211



Alternative Cold Struck Slot



Stronger cold formed slot resists collapsing



Standard slots can collapse

The slots on the Earnest line of flat heads may be manufactured by slotting the full length of the head or may be manufactured with a cold formed struck slot. The cold formed struck slot increases the head strength and prevents collapsing of the slot when the screws are assembled into missed formed or damaged slots or subjected to high working loads in the application.