



Socket Screws

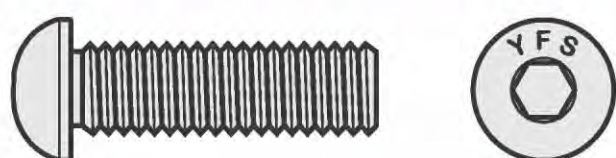
SOCKET HEAD CAP SCREWS



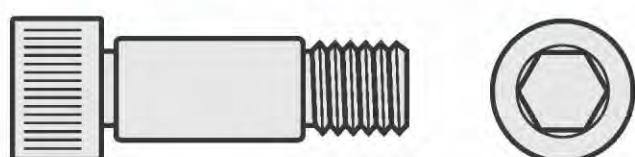
FLAT SOCKET CAP SCREWS



BUTTON SOCKET CAP SCREWS



SOCKET SHOULDER SCREWS



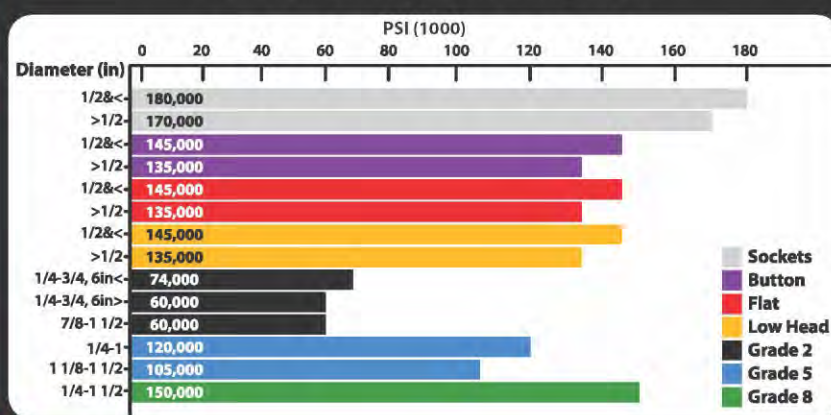
LOW HEAD SOCKET CAP SCREWS



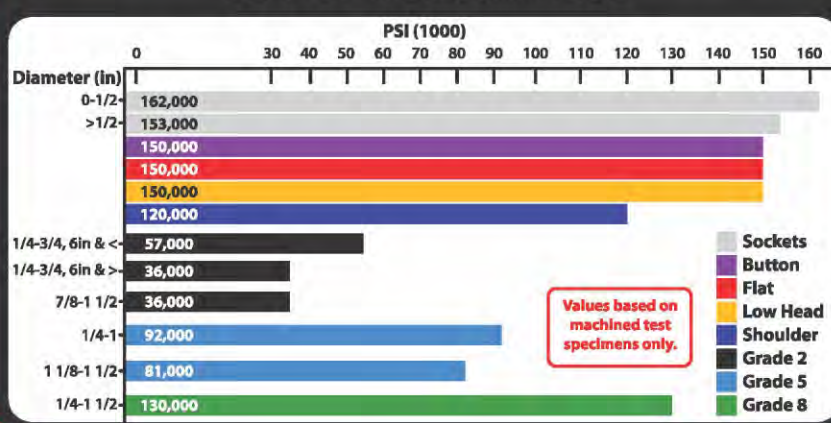
SOCKET SET SCREWS



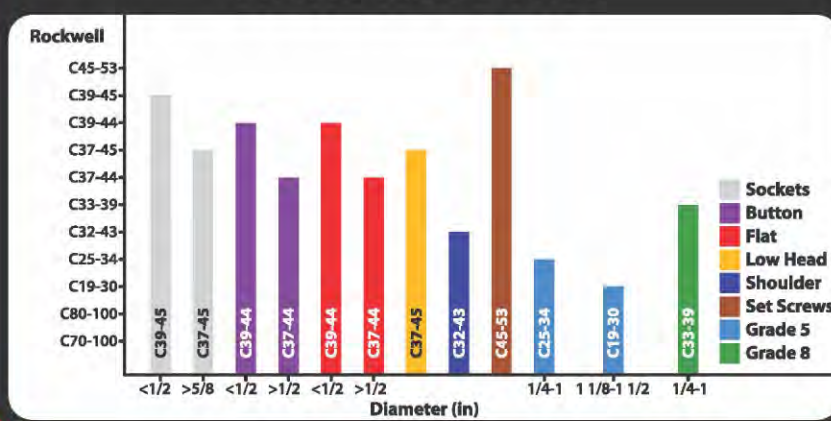
TENSILE STRENGTH



YIELD STRENGTH



HARDNESS HRC



BBI's partnership with YFS ensures that all socket products purchased from BBI are meticulously manufactured utilizing industry "best practices" and, have been rigidly tested to insure product reliability and superior performance.

Critical Manufacturing Steps Closely Controlled by YFS

ANNEALING

This process is important in preparing the raw material for cold heading as it changes the material structure into a finer crystalline state to allow for proper cold forming. The closely controlled heat and atmospheric conditions in the annealing process at YFS insure against brittle material events that can potentially lead to internal cracks within the finished component

FORMING

By utilizing rigid process controls out on the manufacturing floor during the heading process, all YFS sockets exemplify superior fit, form and function. Tooling and dies are closely monitored for fatigue and wear at each forming station to help maintain sharp dimensions and tight tolerances.

THREAD FORMING

Thread rolling plates are meticulously monitored to produce consistent corners and angles in the thread profile, allowing for a uniform distribution of stress in the threaded area of each YFS component.

HEAT TREATING

During heat treatment, YFS closely monitors the level of carbon in the atmosphere. The proper management of quenching, tempering and temperature throughout the heat treat cycle is imperative in producing components that meet the correct mechanical and chemical specifications.

As each process above impacts the integrity of the finished component – What socket product would you prefer to use in your final assemblies?

APPLICATIONS

Description	Use / Application
Socket Screws	
Socket Head Cap Screws	Used in fastening or clamping components together, die castings, and machine assemblies among other use.
Flat Socket Cap Screws	Used in applications where counter sinking is desired. Used when a flush finish is required for either safety or appearance requirements.
Button Socket Cap Screws	Used when appearance is a factor and clamping material is too thin for counter sink. Examples are end panels, display shelving, and carts.
Socket Shoulder Screws	Used in many tool and die applications as well as stationary guides, pulley shafts, moving shafts, or pivots.
Low Head Socket Cap Screws	Used in applications where not enough clearance is available for a standard socket head cap screw.
Dowel Pins	Formed ends, controlled heat treat; close tolerances; standard for die work; also used as bearings, gages, precision parts, etc.
Pipe Plugs	3/4" taper (dry seal to help prevent leaks). 7/8" taper (flush seal to seat plug level with standard tapped hole).
Set Screws (Multiple Point Types)	
Cup Point Set Screws	Used against hardened shafts or where frequent adjustments are needed and no locking point is required.
Knurl Cup Set Screws	Similar to cup point but where vibration might be a problem. Knurls lock onto seating material and prevent screw from loosening.
Cone Point Set Screws	Used for permanent location of machine parts to shafts. Also used for pivots and fine adjustments.
Oval Point Set Screws	The oval point is used where frequent adjustments may be required. It may be used in applications where the point contacts the mating part at an angle.
Half Dog Set Screws	Used for permanent location of one part to another. Point is often set into a drilled hole. May sometimes take the place of a dowel pin.
Full Dog Set Screws	Used for permanent location of one part to another. Point is often set into a drilled hole. May sometimes take the place of a dowel pin.
Flat Point Set Screws	Used when parts must frequently be reset. Causes very minor damage to part it seats against.

ANNEALING



BEFORE SPHEROIDIZE



AFTER SPHEROIDIZE

FORMING

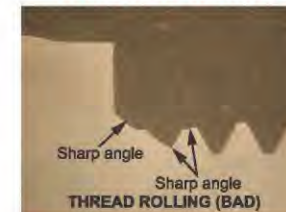


SOCKET HEAD CAP SCREW
GRAIN FLOW-NOT UNIFORM (BAD)



SOCKET HEAD CAP SCREW
GRAIN FLOW-UNIFORM (GOOD)

THREAD FORMING



Sharp angle Sharp angle
THREAD ROLLING (BAD)



Round angle Round angle
THREAD ROLLING (GOOD)

DISCLAIMER: INFORMATION PROVIDED IS FOR GENERAL REFERENCE ONLY

BUTTONS & FLAT SPEC: ANSI B18.3-1986 AND ASTM F835 | SOCKETS & SHOULDERS SPEC: ANSI B18.3-1986 AND ASTM A574-92A | DOWEL PINS: ASME B18.8.2 | PIPE PLUGS: ANSI B1.20.3-1976