

Fastener Terminology

ACME SCREW THREADS: A translating thread form used on fasteners with special thread requirements.

BEARING AREA: That part of bolt or fastener subjected to bearing load against the wall of the hole.

BEARING FACE OR SURFACE: The underside of a bolt head, screw head, or nut.

BODY: Area of the screw or bolt that is unthreaded between the thread and the head.

BOLT: A headed fastener, externally threaded. Generally used through a hole with a mating nut as opposed to a screw which is normally used in a threaded hole.

CASE HARDEN: The hardening of a ferrous alloy so the outer area of the case is made harder than the inner section.

CLASS OF THREAD: A system used to designate differences in thread tolerance. Classes 1A, 2A, and 3A apply to external threads, and 1B, 2B, and 3B to internal threads. Classes 2 and 3 apply to both external and internal threads.

COMPLETE THREAD: The part of the thread having full form at both crest and root. Also, to identify threads which extend full distance of specified fastener thread length.

COUNTERSUNK HEAD: A fastener with underside of head beveled to fit a flaring hole. Most head types have bearing surface perpendicular to body axis.

CREST: Term applied to outermost tip of male thread, or the innermost tip of the female thread.

DRIVE SCREW: A multi-threaded drive-type fastener which forms mating threads as it is driven into a hole.

DRIVING RECESS: Various types of slots or depressions in fastener head designed to accept a driving tool.

EXTERNAL THREAD: The male thread is external from the cylinder surface.

FINISHED FASTENER: A close tolerance fastener, with all surfaces finished to give a superior appearance.

FIN: A thin external rib found on special design fasteners.

GALVANIZE: Anti-rust treatment of steel parts, in a bath of lead and zinc.

HARDENING: Heat treating of metals to a desired temperature, not to exceed the critical range, for a given time and then cooling the metal rapidly.

INTERNAL THREAD: Female thread is on the inside surface of a cylinder or cone . . . as in a threaded hole or nut.

LEAD: The distance a threaded fastener moves along its axis in one complete turn.

LEFT-HAND THREAD: When viewed from the starting end of a fastener the thread winds counter-clockwise, whereas a standard right hand thread follows a clockwise direction.

LENTIL HEAD SCREW: Term for oval head screw — no longer in common use.

MAJOR DIAMETER: The greatest diameter of a screw thread. On a machine screw it is the diameter measured at the crest of an external thread or the root of an internal thread.

MINOR DIAMETER: The smallest diameter of a straight thread measured at the root of an external thread or the crest of an internal thread.

NOMINAL DIAMETER: Commonly designated diameter of a fastener as normally ordered, or as specified for assembly purpose.

NON-FERROUS METAL: Any metal or alloy which contains no significant amount of iron—such as copper, brass, aluminum, etc.

NORMALIZE: Process to alleviate internal stress. The part is heated to its critical temperature and allowed to cool slowly.

PASSIVATE: Surface treatment to neutralize stainless steels as an aid in resisting corrosion. An oxidizing solution is used.

PITCH DIAMETER: On a machine screw thread, the diameter measured at the point where the width of the groove equals the width of the thread.

PLATE: Coating a metal part with a thin layer of another metal by electro-mechanical means.

QUENCHING: The rapid cooling of a metal — as used in hardening process.

REAM: Use of a special rotating tool in finishing a hole to critical specifications.

RECESSED HEAD: Any fastener head with a special recess which accepts a matched driving tool.

RIGHT-HAND THREAD: A clockwise winding thread of a fastener (when viewed from the starting end).

ROLL THREADING: Process of rolling a blank piece between two grooved die plates to form threads.

ROOT: The point at which the minor diameter of a thread is measured.

SCREW: An externally threaded fastener with any type of head.

SEMS: Pre-assembled screw and washer combination. Washers are placed on blanks before roll threading. Large diameter of rolled thread allows washer to spin freely without falling off.

SHANK: The length of a fastener between the head and the point or starting end.

STUD: A rod or cylinder threaded for its entire length.

TAPPING SCREW: A hardened thread screw which cuts or forms its own mating thread.

THREAD PITCH: Distance between threads when measured at the crest or between any corresponding points on adjoining threads.

THREAD SERIES: Standardized diameter and pitch combinations with a designated number of threads per inch for a given diameter. There are eleven such group combinations.

TORQUING: Tightening a threaded fastener to an indicated torque value.

UPSETTING: Axial compression of wire without preheating to form heads on fasteners. Used in the cold-heading process to produce an almost limitless variety of special design products.

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