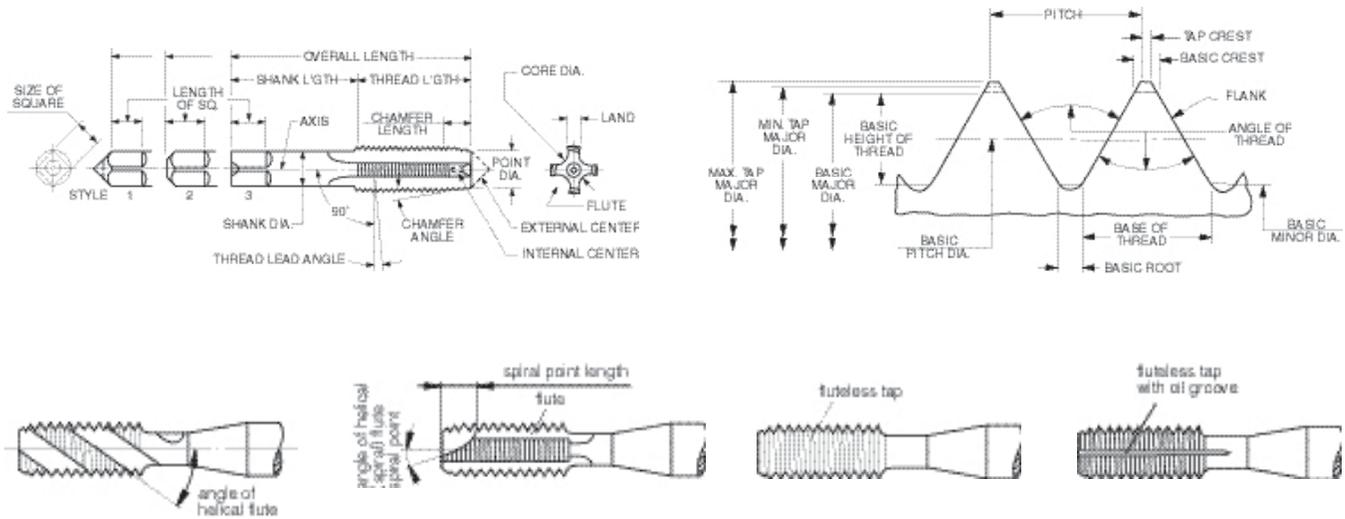


# TECHNICAL DATA

## TAP AND SCREW THREAD NOMENCIATURE



**Allowance:** The minimum clearance or maximum interference which is intended between mating parts.

**Angle of Thread:** The angle included between the flanks of a thread measured in an axial plane.

**Back Taper:** A slight taper on the threaded portion of the tap making the pitch diameter near the shank smaller than that at the chamfer.

**Basic:** The theoretical or nominal standard size from which all variations are made.

**Chamfer:** The tapered and relieved cutting teeth at the front end of the threaded section. Common types of chamfer are taper, 8 to 10 pitches long, plug, 3 to 5 pitches and bottoming, 1 to 2 pitches.

**Crest:** The top surface joining the two sides or flanks of a thread.

**Cutting Face:** the leading side of the land.

**Flute:** The longitudinal channels formed on a tap to create cutting edges on the thread profile.

**Heel:** The following side of the land.

**Height of Thread:** In profile, distance between crest and bottom section of thread measured normal to the axis.

**Hook Face:** A concave cutting face of the land. This may be varied for different materials and conditions.

**Interrupted thread:** Alternate teeth are removed in the thread helix on a tap; usually restricted to those having an odd number of flutes.

**Land:** One of the threaded sections between the flutes of a tap.

**Lead of Thread:** The distance a screw thread advances axially in one turn.

**Major Diameter:** The largest diameter of the screw or nut on a straight screw thread.

**Minor Diameter:** The smallest diameter of the screw or nut on a straight screw thread.

**Neck:** The reduced diameter, on some taps, between the threaded portion and the shank.

**Pitch:** The distance from a point on one thread to a corresponding point on the next thread, measured parallel to the axis.

**Pitch Diameter:** On a straight screw thread, the diameter of an imaginary cylinder where the width of the thread and the width of the space between threads is equal.

**Point Diameter:** The diameter at the leading end of the chamfered portion.

**Radial:** The straight face of a land, the plane of which passes through the axis of the tap.

**Rake:** The angle of the cutting face of the land in relation to an axial plane intersecting the cutting face at the major diameter.

**Relief:** The removal of metal behind the cutting edge to provide clearance between the part being threaded and a portion of the threaded land. Also, see back taper.

**CHAMFER RELIEF:** The gradual decrease in land height from cutting edge to heel on the chamfered portion of the tap land to provide radial clearance for the cutting edge.

**CON-ECCENTRIC RELIEF:** Radial relief in the thread form starting at the back of a concentric margin.

**ECCENTRIC THREAD RELIEF:** Radial relief in the thread form starting at the cutting edge and continuing to the heel.

**Root:** The bottom surface joining the flanks of two adjacent threads.

**Side or flank of thread:** The surface of the thread which connects the crest with the root.

**Shank:** The portion of the tap by which it is held and driven.

**Spiral Point:** An oblique cutting edge ground into the lands to provide a shear cutting action on the first few threads.

**Square:** The squared end of the tap shank.

**Thread:** The helical formed tooth of the tap which produces the thread in a tapped hole.

**Thread Lead Angle:** The angle made by the helix of the thread at the pitch diameter, with a plane perpendicular to the axis.

**Threads Per Inch:** The number of threads in one inch of length.

**Thread:**

**SINGLE:** A thread in which lead is equal to pitch.

**DOUBLE:** A thread in which lead is equal to twice the pitch.

**TRIPLE:** A thread in which lead is equal to triple the pitch.