

## Technical Information

### Definition of Screw Thread Tolerances

It is generally recognised that, in mass production, it is impossible to reproduce in exact detail the theoretically perfect product as laid out on the drawing board. The allowed slight variation between the theoretically perfect product drawing and each unit of the actual product is called the tolerance.

#### Allowance

An intentional difference in correlated dimensions of mating parts. It is the minimum clearance or maximum interference between such parts.

#### Angle of Thread

The angle included between the flanks of the thread measured in an axial plane.

#### Half Angle of Thread

The angle included between a flank of the thread and the normal (90°) to the axis, measured in an axial plane.

#### Lead of Thread

The distance a screw thread advances axially in one turn. On a single-thread screw, the lead and pitch are identical. On a double thread, the lead is 2x pitch; on a triple thread, the lead is 3x pitch, etc.

#### Major Diameter

The largest diameter of a straight-screw thread.

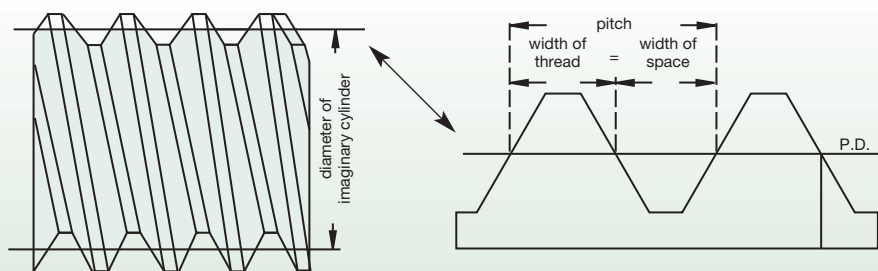
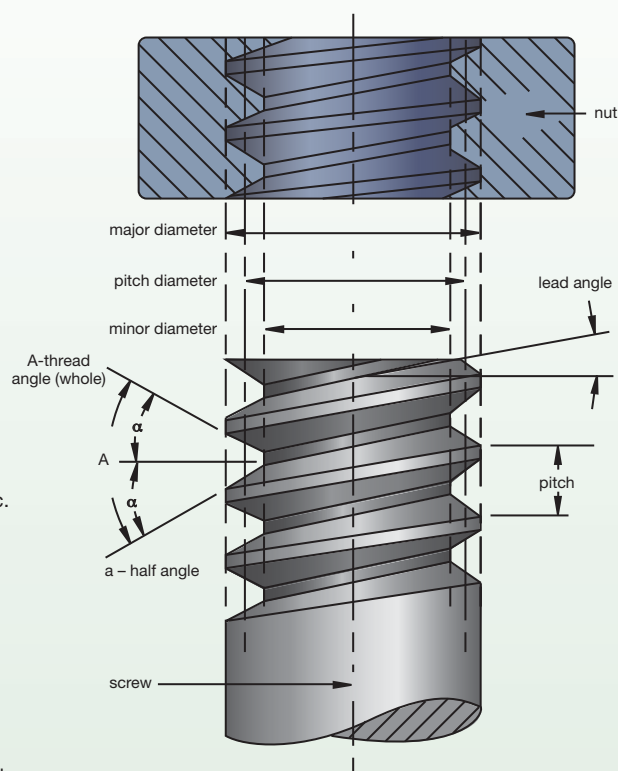
#### Minor Diameter

The smallest diameter of a straight-screw thread.

#### Pitch

The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the axis.

The pitch in inches =  $\frac{1}{\text{number of threads per inch}}$



#### Pitch Diameter

On a straight-screw thread, the diameter of an imaginary cylinder that would pass through the threads at such points as to make equal the width of the threads and the width of the spaces cut by the surface of the cylinder.