

Application and core hole diameter for tapping screws

The following are some guidelines for the use of tapping screws. The types of screw joint illustrated are given as examples.

Form C (replacing obsolete form B) tapping screws with cone ends (also known as gimlet points) are most commonly used. This is especially the case when several sheets are being joined, where allowance has to be made for misalignment of the holes.

Form F (replacing obsolete form BZ) tapping screws with flat ends are generally only preferred where the screw end lies free and in the case of Form C there would be danger of injury from the point.

For simple screw joints, i.e. those in which the tapping screw cuts its own nut thread, the combined thickness of the metal sheets to be screwed together must be larger than the screw pitch. If the total thickness of the sheet metal is smaller, it is advisable to pierce or extrude the core holes. This allows the necessary tightening to be secured. Otherwise the use of self-locking nuts (also known as spring nuts or speed nuts) is recommended.

Often, however, the pressed-hole screw joints are advantageous – especially in mass production. Using a special tool the pressed-hole is punched, slit, and formed spirally conforming to the thread pitch of the corresponding tapping screw. It can be either punched into the sheet metal to be screwed itself, or also into a special sheet metal – similar to a lock nuts. Pressed-hole screw joints are generally only recommended for low-carbon steel sheets. There are circumstances where heat-treated steels or non-ferrous metals will require a special construction of pressed-holes.

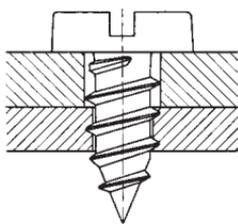


Fig. 1 Simple fastening of metal sheets whose thickness is larger than the screw pitch.

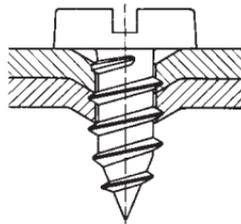


Fig. 2 Fastening with pierced or extruded core hole (for thin sheets)

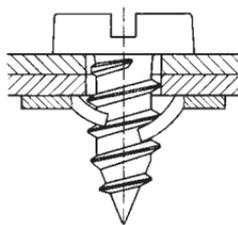


Fig. 3 Fastening with locking nut (speed nut)

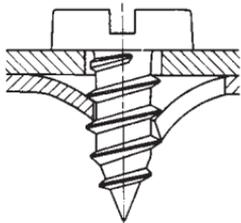


Fig. 4 Pressed-hole fastening joint