

## Masonry Fasteners.

The name masonry fasteners is applied to those products that are used to fasten building components or machinery to concrete, brick or other masonry products. The range can be split loosely into four groups:

- Male masonry fasteners set by expansion.
- Female masonry fasteners set by expansion.
- Chemically set masonry fasteners.
- Screws that self tap into concrete.

All masonry fasteners require predrilled holes

This product range tends to be described by trade names and part numbers making product identification relatively simple. Rather than be specific we will discuss the range in broad terms.

### Male Masonry Fasteners.

Products from this group normally consist of a bolt contained within a metal sleeve. The product is usually supplied assembled, including a nut and washer

The sketch shows slight tapering of the bolt, increasing toward the head. The sleeve, shown here in section, is pushed toward the bolt head by the nut and washer during tightening. The taper on the bolt causes the sleeve to expand into the side of the hole in the masonry, forming a tight anchor.

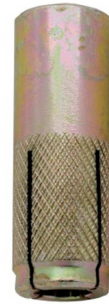


Hole depth and proper selection of the fastener length is critical to ensure sufficient male thread is left protruding from the hole for the attachment of the items being fastened to the masonry.

Some manufacturers also offer alternatives to standard nuts for this type of masonry fastener. The nut substitutes can cater for flush and low profile requirements and semi decorative fastenings. Also offered are components designed for rod and wire suspension applications.

### **Female Masonry Fasteners.**

These normally take the form of a square tapered nut contained within a specially formed steel sleeve. This assembly is placed in the pre-drilled hole in the masonry, with the end of the sleeve level with the top of the hole. The end of the assembly containing the nut is at the bottom of fastened and engaged in the tapered nut.



During tightening, the nut is drawn forward, forcing the sleeve to expand. The sleeves expansion wedges it against the side of the hole to the point where the nut becomes firmly fastened within the assembly. The nut cannot turn due to its square shape.

The benefit of this system is that materials of any thickness can be fastened to masonry. This is achieved by selection of the appropriate bolt length.

### **Chemical Masonry Fasteners.**

This system uses studs and chemicals. The chemicals are supplied in a cartridge or contained in glass capsules. The chemicals, in both cases are “two pots”. In the case of the cartridge mixing is achieved in a mixing nozzle. Capsules are even simpler to use. The capsules are placed in the bottom of the hole in the masonry. The stud is then driven into the hole, braking the capsule, and releasing the chemicals, resin, hardener and aggregate to cure. The stud is in fact “glued” into the hole. After permitting proper curing of the chemicals, fastening of materials using the studs can proceed. Curing time varies with masonry temperature.



### **Screw Bolts**

Again, pre drilled holes are necessary to use these fasteners. These are not expanding anchors, and can consequently be used closer to edges than expanding anchors. Easily removable and re-useable. There is a range of head shapes available. Screws are applied using normal driving methods.



**For more detailed information refer to manufacturers' catalogues**