

HOW TO FIX TO WALLS



FIXING TO MASONRY & BRICK WALLS.

When mounting flat signs to solid masonry or brick walls, plastic wall plugs are the most popular way of fixing to these surfaces. They are available in different colour coded sizes and come with a recommended drilling guide. The plug to use will depend on the size and weight of the sign you are fitting. Red or brown coded plugs will be suitable for most applications.

Using a hammer drill and a masonry bit of the correct size, holes will need to be drilled in the surface approx 20mm deeper than the length of the plug you have chosen. Then tap the plugs into the holes until they are flush with the surface. The sign can be attached to the wall using either normal coated wood or stainless steel (if being fitted in salt air environments) screws. The red plugs will usually accept screw sizes of 3.5 - 5mm and the brown ones 4 - 6mm.

CONCRETE ANCHOR BOLTS & THUNDERBOLTS

These are generally used for much heavier loads e.g. projecting sign brackets, swing sign brackets and large banner brackets which are under high wind load and the fixing must never fail. The wall should be solid and in good condition.

These are supplied in different lengths and diameters, to accept different loading requirements. The thunder bolts don't need wall plugs, they just require a pre-drilled in the wall and the dust removed from the hole. They can then be screwed in; the outer spiral on the bolt will cut its own thread into the masonry giving a high strength fixing.

EXPANDING SLEEVE ANCHORS & EXPANSION BOLTS

These are supplied in various diameters and lengths, and just require a pre-drilled into the wall's surface with the dust removed. The anchor is pushed into the hole flush to the surface, with the inner threaded bolt protruding out past the surface enough to pass through the hole in the bracket and engage with the nut and washer.

Then simply tighten the nut which pulls the inner tapered rod outwards - this expands the outer part of the anchor inside the wall until it won't tighten any more.

RESIN / CHEMICAL ANCHORS

These systems come with a solid threaded metal rod, which is bonded into a pre-drilled hole in the wall. The hole must have all of the debris and dust removed. Then the adhesive dispensed into the hole and the threaded rod inserted, leaving enough thread protruding to accept the bracket hole and the nyloc nut and washer. Depending on the hardening time of the adhesive, you won't be able to fit the sign immediately, so this needs to be taken into consideration.

If done correctly, this will give a very high strength fixing which will last a lifetime.

PLASTERBOARD FIXINGS

Internal plasterboard walls are normally only 15mm thick after the skim is applied and hollow thereafter meaning the board is extremely weak internally. You can use conventional wall plugs and screws for fitting lightweight materials to them, but they will fail if the weight becomes too much and the plugs will pull out.

Some of these special fixings use an extremely large tapered thread which cut its own thread into the board, along with its own special self tapping screw. There are various other types which need a special fitting gun which collapse the fixing in behind the actual board, leaving a mechanical thread in the wall to fix into. Others fit into a conventionally drilled hole and are designed to collapse behind the board when tightening the screw it comes with.

SELF DRILLING SCREWS

Available in many different lengths and head types (e.g. pan head, countersunk, torx, Phillips).

Can be easily recognised by the drill on its tip. These are designed to fix medium weight items onto various thicknesses of metals such as posts and frame work, where nuts and bolts cannot be used. Tests should be performed on very thin coated materials such as industrial cladding as it may not be thick enough for the screw to hold especially if overtightened.

They should always go through a pre-drilled clearance hole in your sign. Do not drill through 2 substrates together.

When driven by a cordless drill, it will cut its own thread into the metal you are fixing into. No pre-drilling holes in the fixing substrate should be necessary as the drill bit on the tip does this for you.