

## Connections, handling and masking



## **Connections**

Galvanized articles can be joined by bolting (including friction grip connections), welding, riveting and adhesive bonding. Bolted joints are best made after galvanizing.

## **Handling of articles**

Depending upon size and shape, articles for galvanizing may require suspension holes or lifting lugs. They may alternatively be handled by chains or, for smaller articles, on racks or in baskets. In the case of tanks (in particular, open tanks), cross stays may be necessary to ensure the shape of the vessel is maintained during handling.

## **Overlapping surfaces**

Overlapping surfaces should be avoided as far as possible. Care must be taken not to specify sealed articles for galvanizing. If overlaps are completely sealed by welding there is a risk of explosion during dipping due to increased pressure of any entrapped air. If overlaps are not completely sealed there is a danger of cleaning fluid entering the cavity and then weeping out and causing localised staining.

## **Castings**

Castings must be grit blasted before galvanizing as embedded sand from the casting process cannot be removed by conventional chemical cleaning. When designing castings to be galvanized, features such as sharp corners and deep recesses should be avoided as these may develop excessive distortion and thermal stresses during hot dip galvanizing. Large fillet radii and uniform section thickness are also desirable.

## **Moveable parts**

Adequate clearance on mating surfaces, such as hinges, should be allowed if they are to move freely after galvanizing. An extra clearance of at least 1mm is usually sufficient.

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**Masking and Prevention of Hot Dip Galvanized Coating**

Some galvanizing steel articles require articles to prevent a galvanizing solution from coating areas which are not required. Examples such as:

- at the top of a vertical pipe
- at the bottom of a vertical pipe
- at the end of a horizontal pipe

There are several different methods to prevent galvanizing solution from coating the steelwork, the galvanizer being responsible for the choice of the area after consultation of the customer.

**High Temperature Masking Tape**  
 Masking tape is a high temperature resistant tape which is applied to the steelwork before galvanizing. It is made of a special material which is resistant to the galvanizing solution and will not be affected by the galvanizing solution. It is available in a range of widths and lengths and can be cut to suit the customer's requirements. It is available in a range of colors (black, white, yellow, red, blue, green, orange, purple, pink, silver, gold, etc.).



**Fig 1 Masking with high temperature tape prevents galvanizing solution from coating the steelwork.**

**Other Methods**  
 To prevent galvanizing solution from coating the steelwork and to prevent galvanizing solution from coating the steelwork, the galvanizer should be consulted. The galvanizer will advise the customer on the best method to use for the particular article. The galvanizer will also advise the customer on the best method to use for the particular article.



**Fig 2 Use of an anti galvanizing paint solution on steelwork.**

**Anti Galvanizing Solution**  
 To prevent galvanizing solution from coating the steelwork, the galvanizer should be consulted. The galvanizer will advise the customer on the best method to use for the particular article. The galvanizer will also advise the customer on the best method to use for the particular article.



**Fig 3 Use of an anti galvanizing paint solution on steelwork.**

**Masking Cases**  
 Masking cases are used to prevent galvanizing solution from coating the steelwork. They are made of a special material which is resistant to the galvanizing solution and will not be affected by the galvanizing solution. They are available in a range of widths and lengths and can be cut to suit the customer's requirements. They are available in a range of colors (black, white, yellow, red, blue, green, orange, purple, pink, silver, gold, etc.).

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**GALVANIZERS ASSOCIATION**

## Prevention of Galvanized Coating

### Masking

If certain areas of steelwork need to remain uncoated this can be achieved by masking, using high temperature tape, grease or paint. Again, the galvanizer should be consulted about any areas required to be masked.