

Lifting lugs should be provided opposite the biggest and most accessible filling / draining holes and adjacent to the vent hole on the opposite end (figure 43). The lugs must be designed to accommodate the excess mass of molten zinc within the cylinder / pipe on withdrawal.

Large vessels require an appropriate size manhole in the baffle.

When vessels and heat exchangers etc., are not to be galvanized internally, 'snorkels' or extended vent pipes must be fitted to allow air or steam to exit above the level of molten zinc in the galvanizing bath (figure 60).

9.3 MASKING, WELDING, HANDLING, MINIMIZING DISTORTION, CLEARANCE FOR MOVING PARTS AND IDENTIFICATION

Masking

Masking materials have been developed, which if applied prior to hot dip galvanizing, will prevent the formation of the galvanized coating on surfaces where it is not required.

Combinations of Ferrous Surfaces

Fabrications containing a combination of castings and steels, or rusted and mill scaled surfaces must be abrasive blast cleaned before hot dip galvanizing.

Provision for Handling

Work not suitable for handling with chains, baskets, hooks or jigs must be provided with suspension holes or lifting lugs (figure 43). If in doubt, consult the galvanizer.

Materials Suitable for Hot Dip Galvanizing

All ferrous materials are suitable, including sound stress-free castings.

Brazed assemblies may be hot dip galvanized but first consult the galvanizer. Assemblies soft soldered or aluminium rivetted cannot be hot dip galvanized.

Distortion

Distortion can be minimised by:

- Use of symmetrical designs (figure 62).
- Use of sections of a similar thickness (figure 63).
- Use of stiffened sections, particularly when steel is unsupported and of less than 3 - 4mm thick (figure 64).
- Use of preformed members with

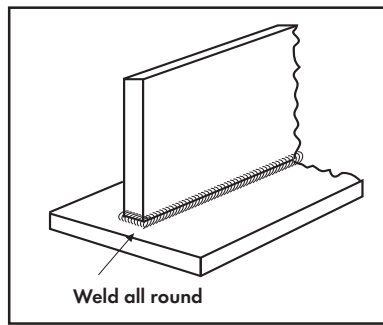


Figure 61.

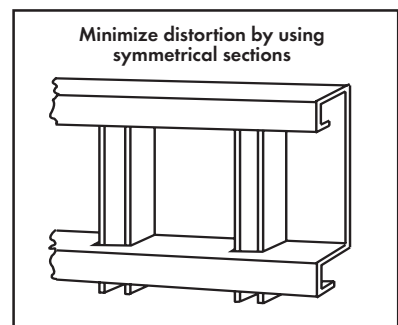


Figure 62.

the correct minimum bend radius to minimise stress.

- Use of balanced or sequence welding techniques to minimise stresses.
- Large open fabrications, thin walled trough sections and rectangular tanks may require temporary cross stays to prevent distortion during hot dip galvanizing.
- Maximise fill, drain and vent hole sizes and optimize their relative positions.
- Complete and rapid immersion of the item in the galvanizing bath i.e. avoid double end dipping if possible.
- Air cooling after hot dip galvanizing in preference to water quenching.

Use of symmetrical sections minimises distortion during hot dip galvanizing. Avoid combinations of thick and thin material. Bolted connections are rec-

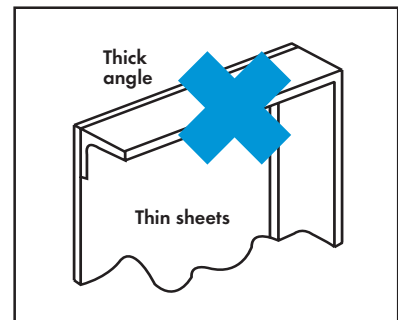


Figure 63.

ommended for assembly after hot dip galvanizing.

Overlapping Surfaces

A minimum gap of at least 2mm between overlapping surfaces and back-to-back angles and channels, must be provided (figures 65, 66 and 67).

When small overlaps are unavoidable, seal edges by welding.

In circumstances where seal welding is not practical, a degree of temporary

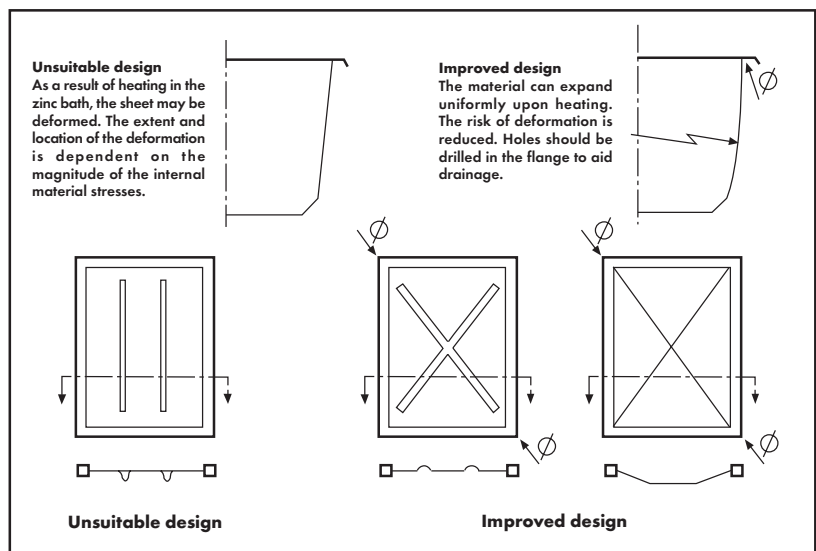


Figure 64.