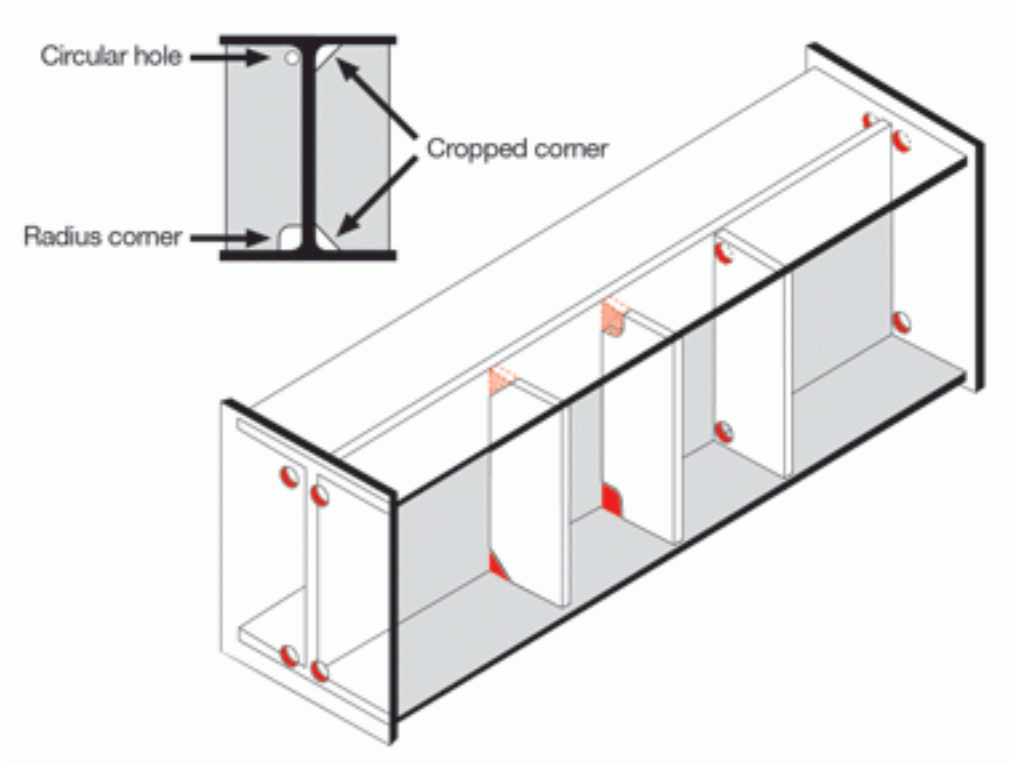
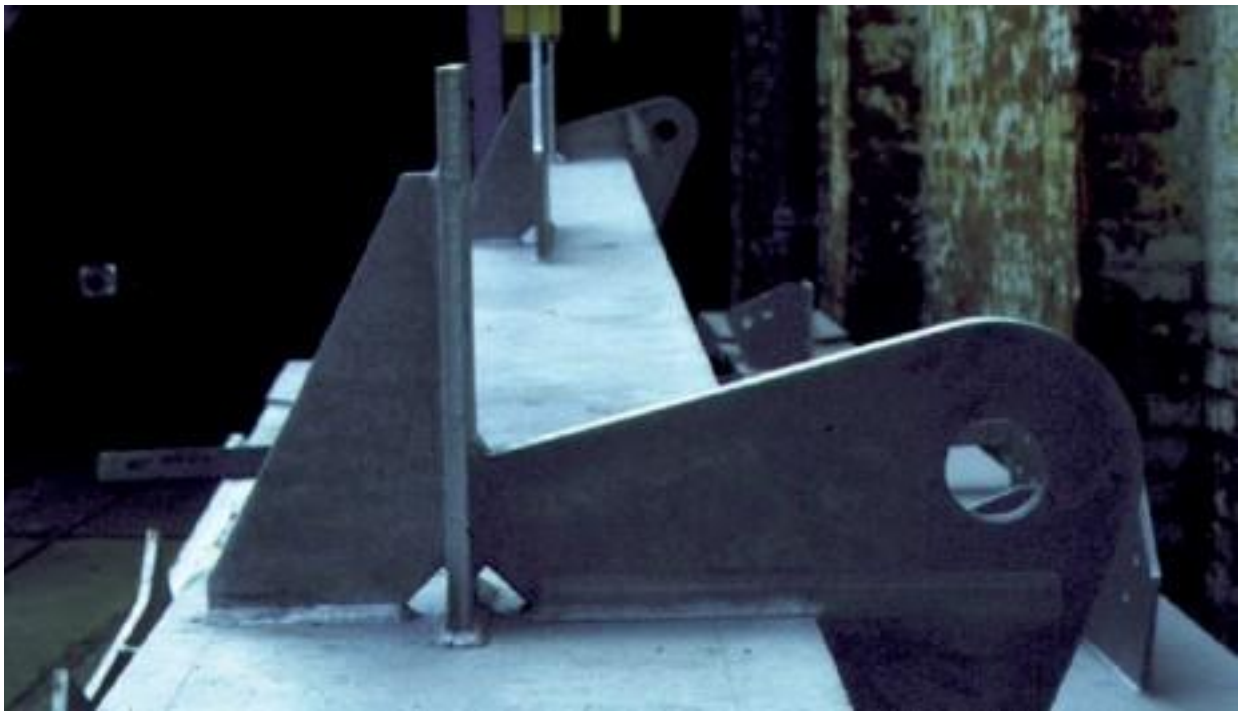
Design detailing

More extensive guidance on design for hot dip galvanizing can be found in EN ISO 14713-2 and The Engineers & Architects' Guide

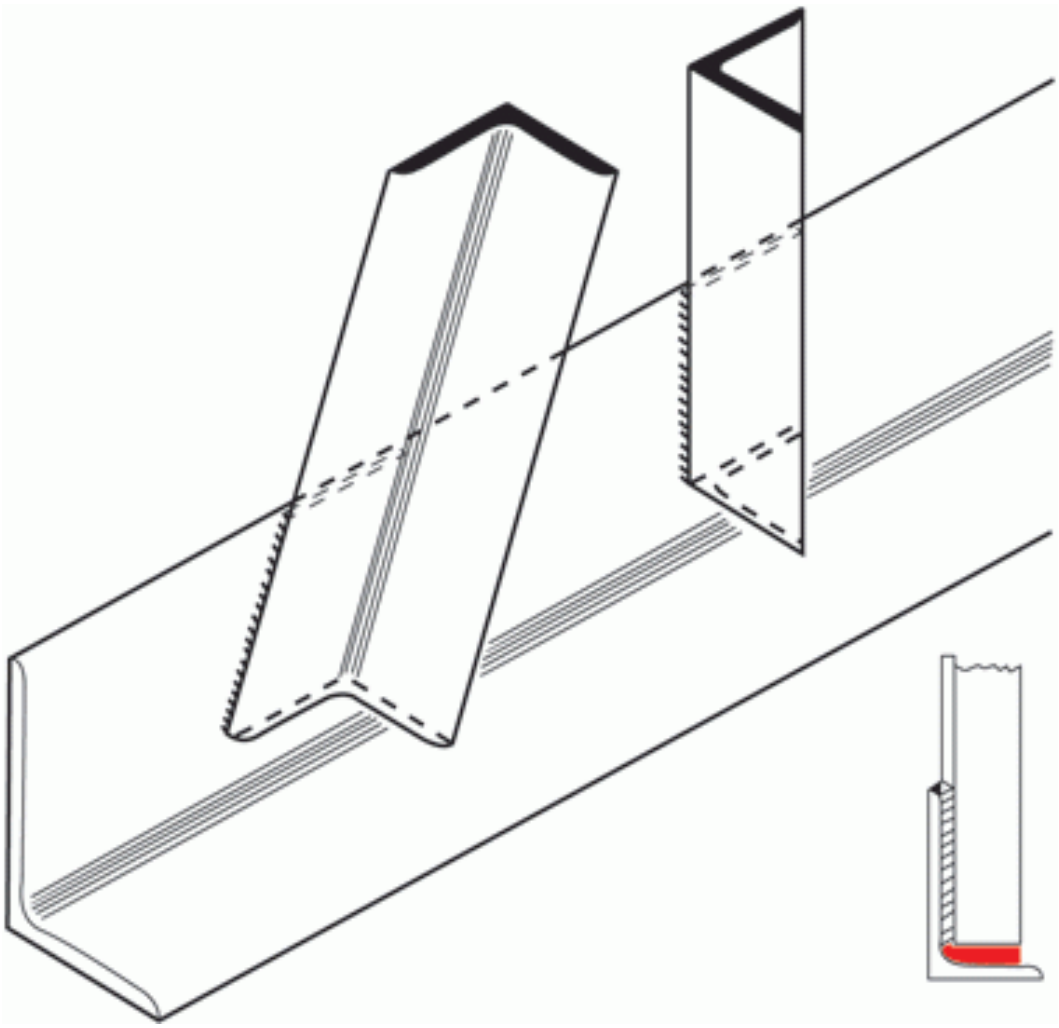
Stiffeners, welded gussets and webs on columns and beams, and gussets in channel sections should have their corners cropped.



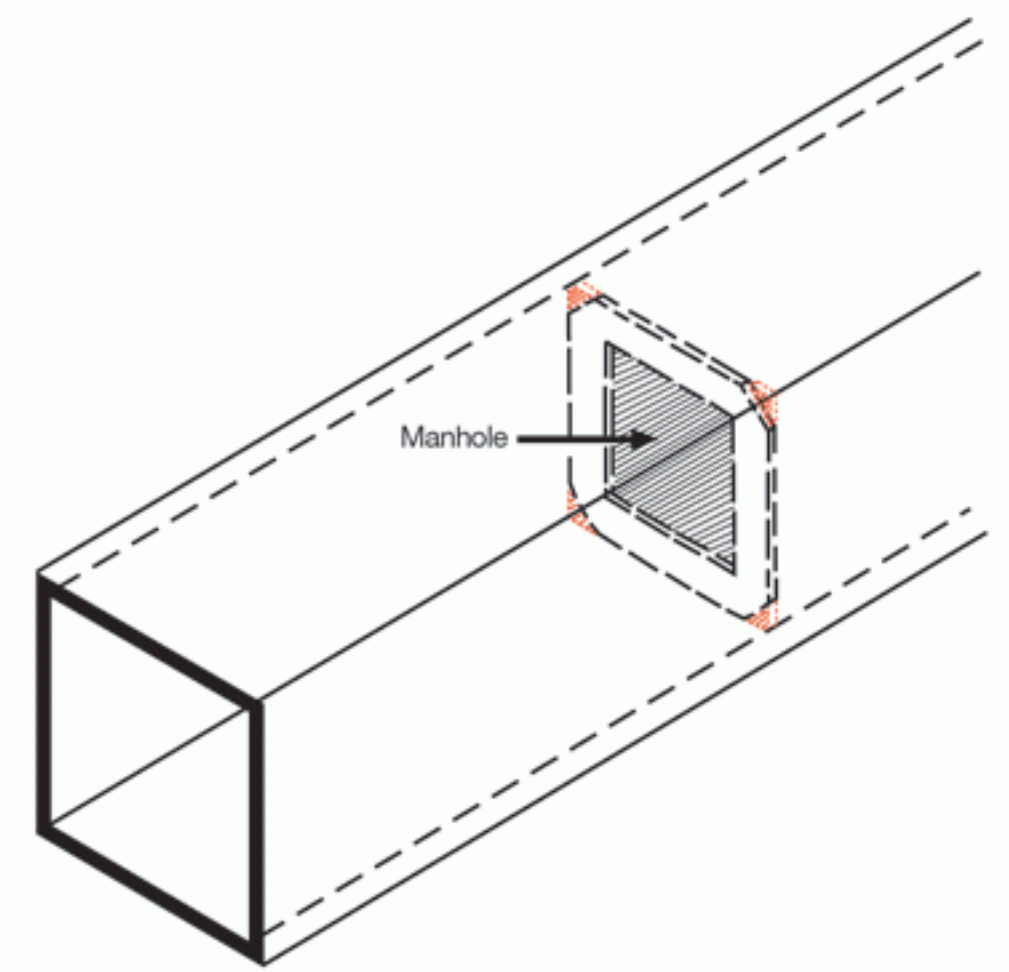
Cropping the corners of these brackets will aid access and drainage of molten zinc and a cleaner coating will be obtained.



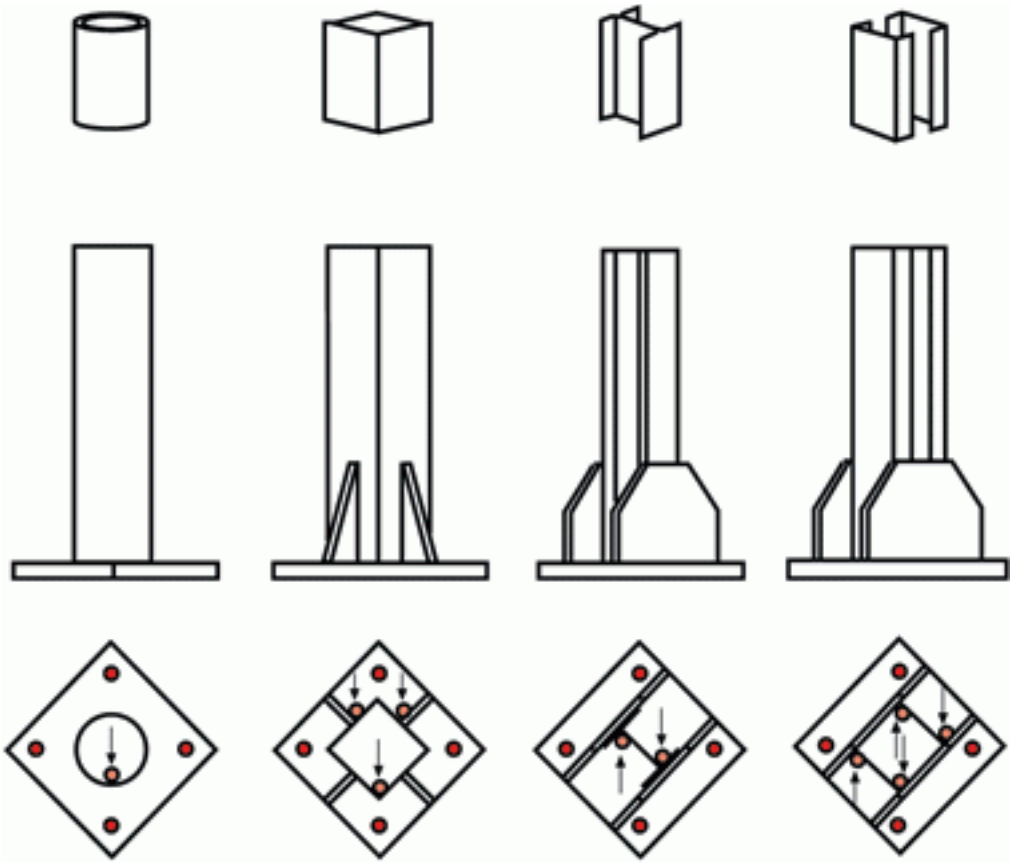
Angle bracings should, if possible, be stopped short of the main boom flange. This will allow the free flow of molten zinc across the surface of the flange, enhancing drainage from the structure. This will assist the development of a smoother galvanized coating, reduce the potential for retention of ash on the surface of the flange and help to avoid air traps within the structure, which could lead to uncoated areas.



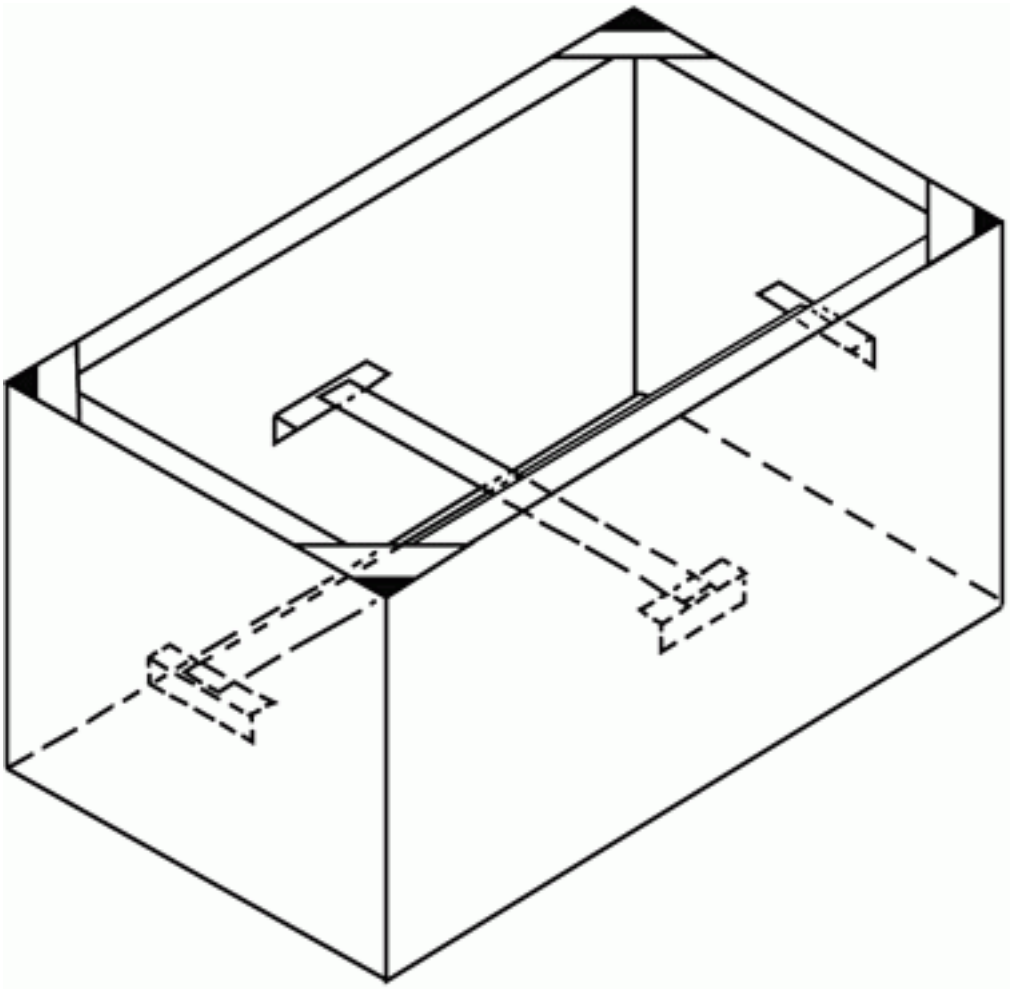
Internal diaphragms in large box sections should have cropped corners and a ‘manhole’. Internal diaphragms on small box sections should have cropped corners. Where any hollow section is vented internally it is essential, for safety reasons, that the galvanizer is able to view such venting.



Shown below are alternative designs for venting sections fixed to base plates:



Large open top tanks should be stayed to minimise distortion. Where angles are used to rim the tank, appertures must be provided in the corners. Angles or flats used as stays should be as close as possible to the tank wall thickness.



Vents should be diametrically opposite and at least 50mm in diameter. Internal baffles should be cropped top and bottom. Lifting lugs are required as indicated. It should be possible to view the baffles through either the vent holes or an inspection hole – the placement of the inspection hole should be discussed with the galvanizer.