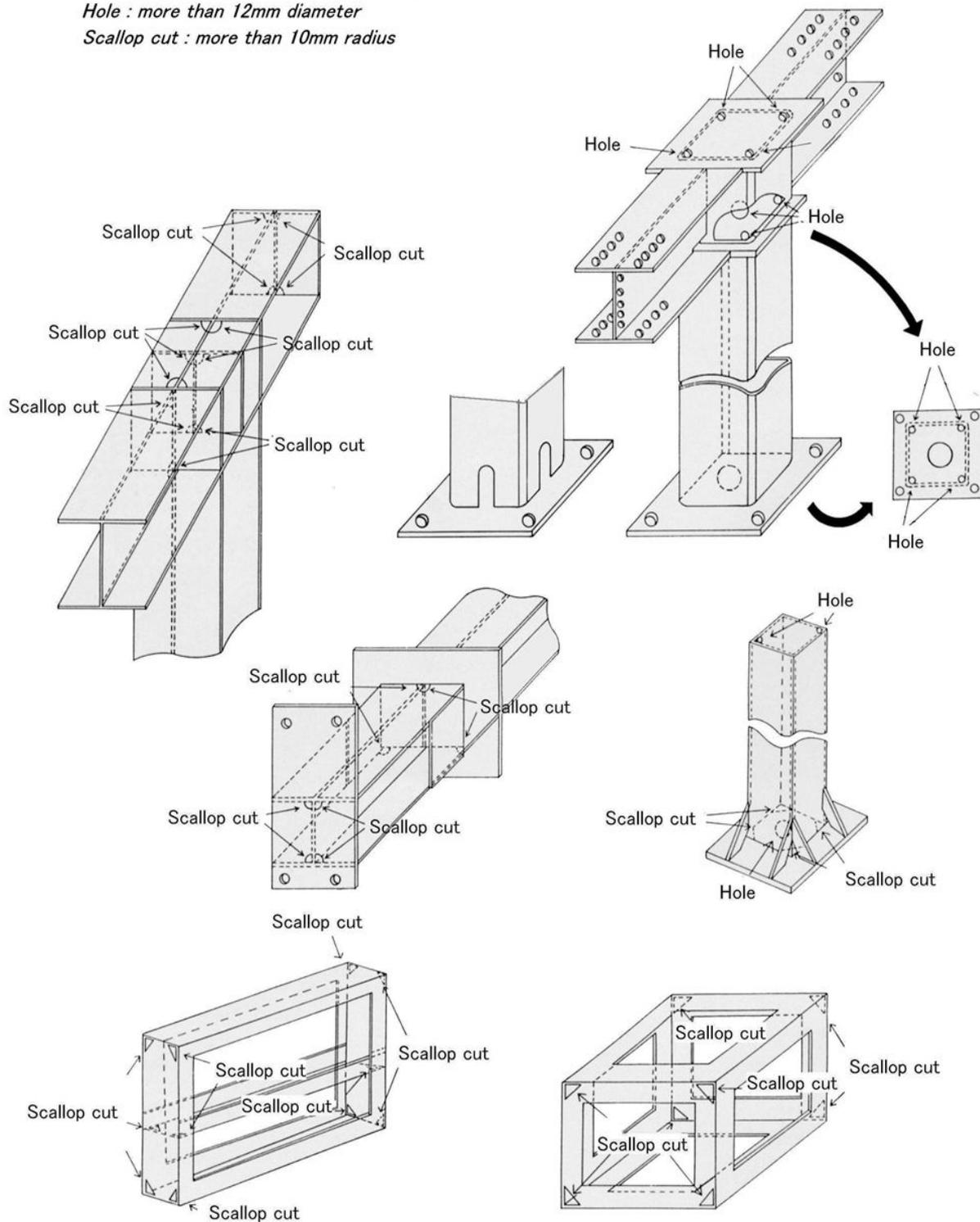# Basic fabrication rules for Hot Dip Galvanizing (1/2)

Galvanizing process need vent hole and drain hole
Hole : more than 12mm diameter
Scallop cut : more than 10mm radius

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Basic fabrication rules for Hot Dip Galvanizing (2/2)

Galvanizing process need vent hole and drain hole
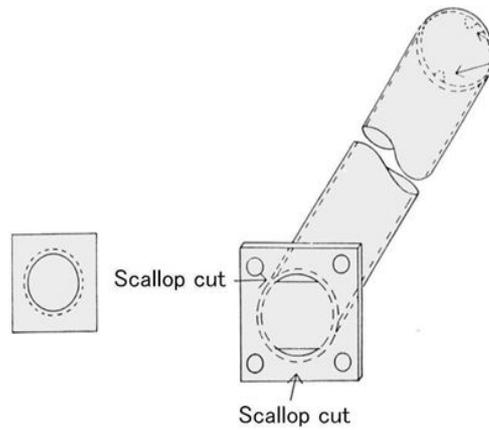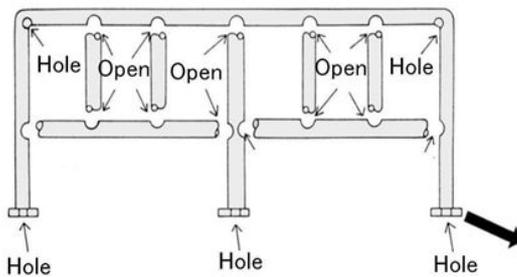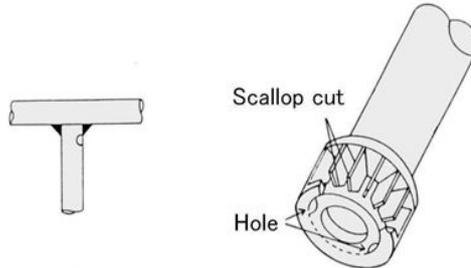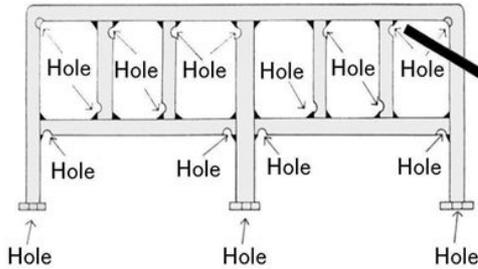Hole : more than 12mm diameter
Scallop cut : more than 10mm radius

Hole Hole Hole Hole Hole Hole

Hole Hole Hole Hole

Hole Hole Hole

Scallop cut

Hole

Hole Open Open Open Hole

Hole Hole Hole

Scallop cut

Scallop cut

Galvanizing process need sling hole
Sling hole : more than 10mm diameter

Sling Hole

need both side

Sling Hole Hole Sling Hole

Hole

Hole

Hole

Hole

Hole

Sling Hole

Sling Hole

More than 500x500 mm
Steel Plate
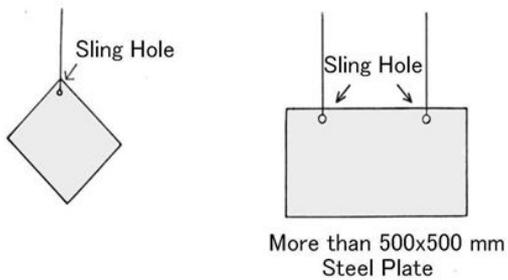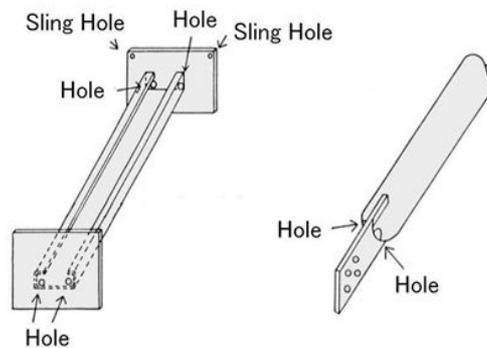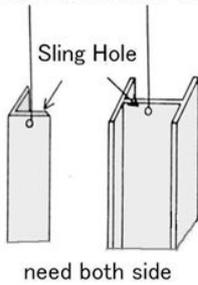
Fabricator shuld fallow process before galvanizing
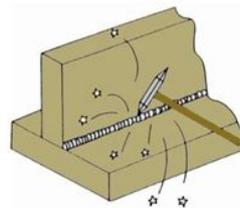
* Remove weld slags
* Remove any paint
* Remove oil maker
* Remove rusted

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Technical Information for Hot Dip Galvanized Coatings

This specification has been prepared by the galvanizing industry through its technical working group.
It is intended to be used in conjunction with Japanese Industrial Standard H8641 and
is designed for simple insertion into specifiers' overall materials specifications.

NOTE:

1 The designer is referred to the recommendations contained in our Basic Fabrication Rules to
    minimise distortion and reduce the likelihood of embrittlement occuring.

2 High strength low alloy steels, particularly those containing silicon can when galvanized,
    produce brittle coatings which are thicker and different in colour to normal coatings. The high

   silicon content in weld deposits made by automatic welding processes may result in thicker

   coatings being formed on these areas. These coating characteristics are usually beyond the
    control of the galvanizer.

3 If the galvanized coating is to be subsequently painted or if an architectural finish or any other
    special treatment is required, these requirements should be brought to the attention of the
    galvanizer at the time of inquiry and order.

SCOPE

This specification covers the galvanized coating applied to general steel articles, structural sections,
angles, channels, beams, columns, fabricated steel assemblies, threaded fasteners and other
steel components.
This specification does not apply to the galvanized coating on semi-finished products such as wire,
tube or sheet galvanized in specialised or automatic plants.

RELEVANT STANDARD

JIS H8641 Hot dip galvanizing standard - Japan

FABRICATION

Care shall be taken to avoid fabrication techniques which could cause distortion or embrittlement
of the steel. All welding slag and burrs shall be removed prior to delivery to the galvanizer. Holes
and/or lifting lugs to facilitate handling, venting, and draining during the galvanizing process shall be
provided at positions as agreed between the designer and the galvanizer.

SURFACE PREPARATION

Surface contaminants and coatings, which cannot be removed by the normal chemical-cleaning
process in the galvanizing operation shall be removed by abrasive blast cleaning or some other
suitable method.

COATING REQUIREMENTS

1 CoatingThickness

Table 1. Hot Dip Galvanizing Japan Standard JIS H8641

	Code	Material thickness mm	Coating thickness µm	Coating mass in g/m^2
Grade 2	HDZ 35	**1 ≤ thick ≥ 2mm**	49 above	350 above
	HDZ 40	**2 ≤ thick ≥ 3mm**	56 above	400 above
	HDZ 45	**3 ≤ thick ≥ 5mm**	63 above	450 above
	HDZ 50	5mm <	69 above	500 above
	HDZ 55	special case	76 above	550 above

2 Surface Finish

The galvanized coating shall be continuous, adherent, as smooth and evenly distributed as possible, and free from any defect that is detrimental to the stated end use of the coated article. On silicon killed streets, the coating may be dull grey, provided the coating is sound and continuous.

The integrity of the coating shall be determined by visual inspection and coating thickness measurements. Where slip factors are required to enable high strength friction grip bolting, where shown these shall be obtained after galvanizing by suitable mechanical treatment of the faying surfaces. Where the paint finish is to be applied to the galvanized coating, all spikes shall be removed and all edges shall be free from lumps and runs.

3 Adhesion

The galvanized coating shall be sufficiently adherent to withstand normal handling during transport and erection.

INSPECTION

Inspection shall be carried out at the galvanizer's workplace by a designated party, or at some other place as agreed between fabricator and galvanizer.

TRANSPORT AND STORAGE

Galvanized components shall, wherever possible, be transported and stored under dry, ventilated conditions to prevent the formation of wet storage staining.

A chromate passivation treatment after galvanizing may be used to minimise the wet storage staining which may occur on articles unable to be stored in dry, well-ventilated conditions.

Any wet storage staining shall be removed by the galvanizer if formed prior to leaving the galvanizers' plant, unless late pick-up or acceptance of delivery has necessitated the material being stored in unfavourable conditions. Provided the coating thickness complies with the requirements and no further remedial action is required to the stained areas.

WELDING

Where galvanized steel is to be welded, adequate ventilation shall be provided. If adequate ventilation is not available, supplementary air circulation shall be provided. In confined spaces a respirator shall be used.

Grinding edges prior to welding may be permitted to reduce zinc oxide fumes formed during welding and eliminate weld porosity which can sometimes occur.

COATING REINSTATEMENT

Areas of significant surface that are uncoated shall, by agreement between the purchaser and the galvanizer be reinstated or by other methods nominated by the galvanizer and approved by the contractor.   Similar repair methods shall be used for areas damaged by welding of flame cutting, or during handling, transport and erection.

The size of the area able to be repaired shall be relevant to the size of the object and the conditions of service.