Hot-dip *galvanising* for architectural steel

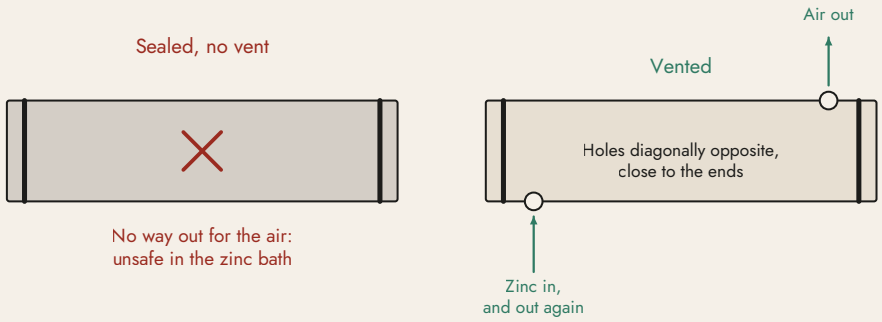
The BS EN ISO 1461 thickness bands, the venting rules and the points to approve on a sample, as published by the Galvanizers Association. General guidance: have the galvaniser approve vents and drains before steel is made.

Compliance guidance. Figures are from the Galvanizers Association (UK) web pages and HDG Datasheet 4a (October 2024), which reproduce BS EN ISO 1461:2022 and EN ISO 14713-2:2020; the standards were not read. Venting rules protect people in a zinc bath: have the galvaniser approve vent and drain details before steel is made. Guidance, not engineering or legal advice: confirm with the structural engineer, fabricator and galvaniser.

AT A GLANCE

Topic	What the source says	Source	What to write or ask
The standard	BS EN ISO 1461:2022, hot dip galvanized coatings on fabricated iron and steel articles. BSI lists it as Current, published 30 September 2022.	BSI Knowledge listing	Name the edition: *hot dip galvanized to BS EN ISO 1461:2022*.
Minimum coating by steel thickness	Over 6 mm: 70 µm local, 85 µm mean. Over 3 to 6 mm: 55 and 70. 1.5 to 3 mm: 45 and 55. Under 1.5 mm: 35 and 45. Castings: 70 and 80 (6 mm and over), 60 and 70 (under 6 mm).	GA, and HDG Datasheet 4a (Oct 2024)	The thickness grows with the steel; you do not choose it per piece. Thin parts distort most: ask the galvaniser.
Thicker than the table	Grit blasting before dipping, or a reactive (higher-silicon) steel. Agree it with the galvaniser first; the figure is a nominal target, not a guarantee.	GA; Datasheet 4a	Rarely needed. A thick coating can be dull grey and easier to damage.
Sealed hollow sections	Must be vented, for safety, with holes diagonally opposite and close to the ends.	GA, venting and drainage page	Draw the holes on the shop drawing. Ask the galvaniser to approve their size.
Overlapping welded plates	Over 100 cm² sealed by a continuous weld: vent them (overlap table in the full guide).	GA page, citing EN ISO 14713-2:2020	Air trapped between plates can turn to steam in the bath and burst the part.
How long it lasts	The Galvanizers Association says most environments allow a maintenance-free life of 60 years, and sometimes over 100.	GA, EN ISO 1461 page	A trade body's claim, not a warranty, and it depends on the environment.

Thickness is in micrometres (µm; 1,000 µm is 1 mm). The bands are for articles that are not centrifuged. Local minimum means the lowest reading at any point; mean minimum means the average over the article.



A sealed hollow section against a vented one, in side view. The holes are shown larger than life. Original drawing by Make Bespoke Studio; not to scale and not a fabrication drawing.

SPECIFICATION WORDING

GALVANISING

Steel fabrications to be hot dip galvanized to BS EN ISO 1461:2022 [by a galvaniser approved by the project], after fabrication and weld dressing. Coating thickness as the standard for the steel thickness; thicker coating [not required / to be agreed in writing with the galvaniser before ordering, nominal [ ] µm]. Fabricator to deliver steel free of paint, grease, weld slag and anti-spatter. Fabricator to pass this clause to the galvaniser.

VENTING AND DRAINAGE

Every sealed hollow section and every overlapping area of more than 100 cm² sealed by continuous welding to be vented as EN ISO 14713-2:2020 and the galvaniser's written advice, with holes or cut corners diagonally opposite and close to the ends, sizes [as the galvaniser confirms]. Vent and drain details to be shown on the shop drawings and approved by the galvaniser before fabrication. No sealed section is to be sent for galvanising.

DUPLEX SYSTEM

Galvanised steel to be [painted / powder coated] with a system made for galvanised steel by [maker], surface prepared by [T-wash / etch primer / sweep blasting / weathering] as the coating maker instructs, colour [RAL [ ]], gloss [ ] GU. Damage to the coating before handover to be repaired to the same system. [Pre-treatment and first coat applied within [ ] days of galvanising.]

SAMPLE, INSPECTION AND STORAGE

A sample [300 mm] piece of the actual steel, galvanised and [coated], to be approved before production, with thickness readings [by magnetic gauge]. Galvanised steel to be stored dry and ventilated on spacers, not wrapped wet. Bolted joints to be made after galvanising; welded joints to be renovated to [the galvaniser's repair method].

TERMS USED

Hot-dip galvanising

Dipping a finished steel fabrication in molten zinc so that a zinc coating forms on every surface the zinc reaches, inside and out. The coating is hard zinc-iron alloy layers under a soft outer layer of zinc (Galvanizers Association).

Local and mean coating thickness

In BS EN ISO 1461, the local figure is the lowest acceptable reading at any one place, and the mean figure is the average over the article. Both are minimums.

Vent and drain hole

A hole or cut corner that lets air escape from a hollow or sealed part and lets molten zinc flow in and out again during dipping.

Duplex system

A metallic coating, here galvanising, overcoated with an organic coating such as paint or powder (Galvanizers Association).

Wet storage stain

A white powdery layer of zinc corrosion products that forms when galvanised steel stays damp and cannot dry.

STANDARDS AND SOURCES

- BS EN ISO 1461:2022: BSI listing: Current, published 30 Sep 2022. Text not read.
- BS EN ISO 14713-1:2017 and BS EN ISO 14713-2:2020: listings only; confirm the edition in force.
- Galvanizers Association (UK): EN ISO 1461 and design for galvanizing pages; HDG Datasheet 4a (October 2024): read 7 Nov 2026.

Full guide: https://makebespoke.com/trade/technical/hot-dip-galvanising-for-architectural-steel. Make Bespoke Studio coordinates manufacture through its partner workshops. Figures are guidance only and your specification governs; some may be superseded, so contact the studio to verify.