

## GENERAL AND TECHNICAL HOT-DIP GALVANIZATION TERMS AND CONDITIONS

- 1. The company Metal-cinkara d.o.o. carries out hot-dip galvanization of steel elements in accordance with the regulations of the SIST EN ISO 1461: 2009 standard hot-dip galvanized coatings on fabricated iron and steel articles.
- 2. The articles or elements shall be prepared in accordance with the EN ISO 14713 standard and/or with the following documentation of the company Pocinkovalnica, the General and Technical Terms for Hot-Dip Galvanizing and the Guidelines for Correct Construction Prior to Hot-Dip Galvanizing, published on the website www.metalcinkara.co.rs
- 3. The maximum weight of the construction may amount to 10~000kg, and the possible dimensions are:  $13800 \times 1700 \times 3200$  (mm). When the length of an element exceeds 12m, the client shall consult the galvanizing company.
- 4. The price of the service, the appearance, and the quality of the zinc coating depend on the quality of the material to be galvanized. When ordering steel from the supplier, the following shall be noted: "Steel suitable for hot-dip galvanizing." Its chemical composition and the condition of the surface are important. The chemical consistency of silicon in the material shall be less than 0.02%; the same applies for phosphorus. The following shall also apply: silicon consistency (in %) + 2.5× phosphorus consistency (in %) shall be less than 0.04%. This type of steel has lower zinc consumption and therefore a lower galvanizing cost, but at the same time it has a more appealing, highquality

## coating with the same lifespan.

Silicon consistency between 0.14 and 0.25% shall also be satisfactory. The results of a different steel composition are: greyness, grey spots, intense roughness and even peeling of the zinc coating. The galvanizing company cannot have any influence on the chemical composition of the steel and shall therefore not be held liable and shall not take into account any possible complaints.

- 5. The surface of the elements that have been delivered to be galvanized may not include paint remains, painted markings, old surface protection coatings or zinc coatings, as well as any welding sprays and oils and greases that may not be removed in inorganic degreasers.
- 6. The constructions shall be in accordance with the SIST EN ISO 14713 standard. They will be furnished with boreholes for the release of air and the outflow of zinc from all pipes, closed corners, and pockets. Air needs to be removed from each pipe twice right next to the welded seam, above/below or left/right. The boreholes are located in a diagonal line of the pipe and their size needs to correspond to the table of boreholes. Air shall be removed from closed spaces between two completely welded surfaces. The construction, the pipe, or the profile shall have
- a lifting point (boreholes, handles (ears), etc.). Examples are shown in the EN ISO 14713 standard, the Guidelines for Correct Construction, and the Little Handbook for the Preparation of Materials (see <a href="https://www.metalcinkara.co.rs">www.metalcinkara.co.rs</a>). In the case of "hidden" boreholes, the client needs to confirm in writing that they have been made.
- 7. The welded seams need to be non-porous, completed, and without welding scales. Otherwise, these spots will remain non-galvanized and acid (rust) may additionally leak from them. The galvanizing company cannot do anything regarding this, so it shall not take into account any complaints.
- 8. Hot-dip galvanizing is a procedure of submerging into the galvanizing bath with the temperature, at which internal stresses in materials are released, allowing the construction to be thermally deformed to a larger or smaller extent. Larger thermal distortions occur with thinner sheet metal of larger dimensions, thin sheet metal casings, frames, frames with mesh, pipes made of multiple welded parts, sliding doors, mesh fences, lids, poles, etc. The galvanizing company may not affect the thermal deformations, so it shall not be held liable for its consequences and shall not take into account any complaints.
- 9. In the event of special requirements concerning the thickness of the application (e.g. for highways), the client shall inform the galvanizing company in a timely manner, consult with him, and also enter the special requirements into the order form. The galvanizing company carries out the service in accordance with the EN ISO 1461 requirements and shall not take into account any complaints.
- 10. The coils shall be re-cut after galvanization or protected beforehand.
- 11. Constructions with hinges and sliding elements shall be disassembled for galvanization. The galvanization of turned or milled elements is not recommended.
- 12. Fences that are riveted still need to include welded joints, otherwise they may sink or fall from the diagonal upon hot-dip galvanization.
- 13. In the event of additional varnishing after galvanization, the client shall include into their budget the additional work and costs related to the polishing of the zinc coating. The zinc coating needs to be much smoother than what is set forth in the hot-dip galvanization standard.
- 14. After galvanization, hot or cold forming/re-shaping shall not be permitted because the zinc coating may be permanently damaged.
- 15. A freshly galvanized surface is highly susceptible to the formation of white rust. The client may order passivation which prevents the formation of white rust. This service shall be charged according to the price list. Otherwise, it is recommended that the elements be well stored in a covered outdoor space up to the moment of exploitation. In the event that the passivation has not been ordered, the client shall not have a right to file a complaint concerning white rust.
- 16. In the event that the elements are to be painted after galvanization, the galvanizing company shall be informed of this, so that the surface is not passivated, unless a paint adhesion test to passivated film has been previously performed and passed.
- 17. The shipments that arrived to be galvanized shall be correctly sorted on pallets, enabling forklift unloading that does not damage the
- 18. The deadline for complaints regarding visible defects is 8 days after the acceptance of the shipment; however, it shall not apply for mechanical damages.
- 19. The company Metal-Cinkara d.o.o. reserves the right to produce openings, without which hot-dip galvanization would not be possible. Boreholes and additional work shall be charged according to the valid price list.
- 20. The non-ventilated hollow parts from one or both extremities cause an explosion during galvanization. In the event that these should be "hidden" but are not present, an explosion may occur. In this case, all damages shall be borne by the party who ordered the galvanization.
- 21. Daily demurrage in the amount of 1.00 EUR/100kg shall be charged for a shipment that has not been accepted within 14 days after the day of the invoicing.
- 22. For more technical information, please e-mail us at: prodaja@mentalcinkara.co.rs or call +381631059914, +38163 381906.