

FOCUS ON THE GALVANISATION

JOSKIN[®] OCYNKOWNIA

YOUR METAL. YOUR EQUIPMENT. OUR PROTECTION.



Galvanising is more than just dipping!

JOSKIN[®]
POLSKA

OFFICES

- Management of galvanised parts for the various units of the JOSKIN Group.
- Galvanising service and quotations for third parties.
- Reception of orders.
- Administrative work.
- Permanent control of the composition of the treatment and zinc baths, which is essential for the quality and penetration of the zinc into the steel.



HANGING

This first stage is crucial for a good treatment: after checking that parts are suitable for galvanising (drain holes, etc.), they are carefully hung on hoisting beams at a predetermined angle to ensure good penetration into the baths, perfect evacuation of the treatment products and, when the parts come out of the baths, good drainage of the zinc.



PRE-TREATMENT

The pre-treatment line comprises 13 baths, some of which are double or triple baths for long operations, and a 3-position drying oven. A huge, hermetically sealed hood draws fumes from the baths and sends them to a filtration centre including a fume scrubber. The sequence for dipping the hoisting beams into the baths is either fully automated, or controlled by a qualified operator.

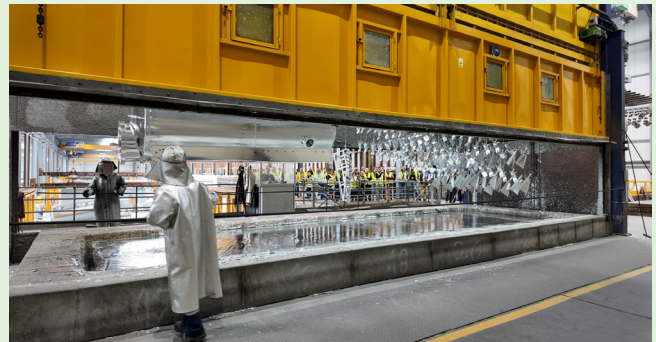
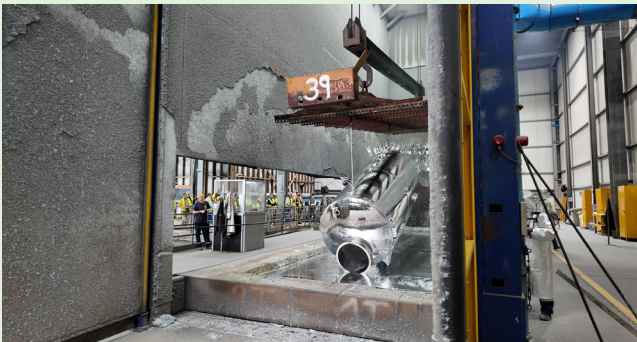
Pre-treatment of the material includes:

- degreasing,
- a first rinse,
- pickling in an acid solution,
- a second rinse,
- fluxing to improve zinc adhesion,
- drying at 80°C during 90 minutes.



ZINC BATH

- The zinc bath is composed of a 450°C molten solution of pure zinc and precise alloys, specifically formulated for good adhesion, long-lasting brightness and high mechanical strength, all of which are necessary to ensure the high quality of JOSKIN and third-party products.
- After a final check of the primer and any rectification, the parts are gently immersed in the molten zinc solution, at an angle and speed appropriate to the individual type of part. The immersion time – a few minutes – is determined by the type, dimensions and thickness of the parts.
 - Getting the parts out of the bath is a crucial operation for superior finish and protection quality. The operator's experience, skills and watchful eye are all needed to prevent galvanising salts and ashes from sticking to the surface of products.



UNHOOKING AND CLEANING

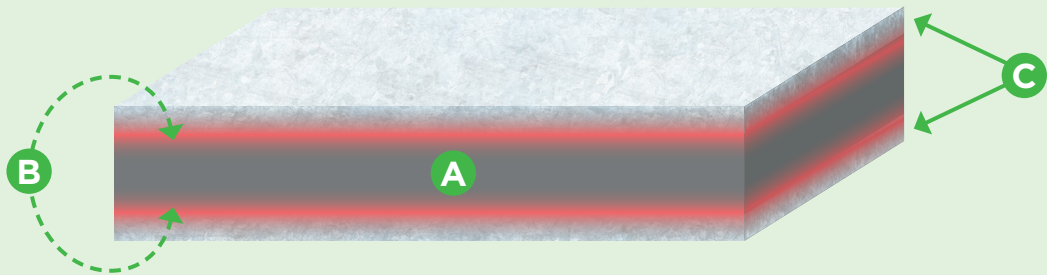
- After galvanising, some components are dipped into water to stop the steel-zinc fusion process in order to reinforce the galvanised layer and/or accelerate cooling.
 - Hoisting beams are then automatically transferred to an output conveyor where the galvanised parts cool down before being unhooked.
 - Finally, the parts are unhooked, checked, deburred (removal of burs, zinc excess and ash, etc.) and carefully stored in storage areas.



GALVANISATION

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Galvanising ensures the longevity of materials thanks to the penetration of zinc into the heart of the steel!



Galvanised protection

(A) Basic steel.

(B) Melting zone of the zinc penetrating the steel core at 450°C.

(C) 70-micron galvanized protective coating on both steel sides.

Galvanising not only protects the steel surface from corrosion, but also, and above all, penetrates to the core of the material.



KEY FIGURES

Zinc bath dimensions:

- width: 2.8 m,
- length: 9.8 m,
- depth: 3.2 m.

700 tonnes of molten zinc alloy permanently in the bath (regularly topped up with 1 to 1.5-t jumbo blocks of zinc and alloy).

Samples are taken from the zinc bath **once a week** to check that the exact chemical composition is maintained at all times.

The JOSKIN galvanising unit is one of the most ecological and economical in Europe!

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