OPTIMIZED SURFACE QUALITY

PRODUCTS FOR THE HOT DIP GALVANIZING INDUSTRY

METALWORKING & CLEANING FORMING & PROTECTION **PRETREATMENT** PAINTSHOP

www.kluthe.com

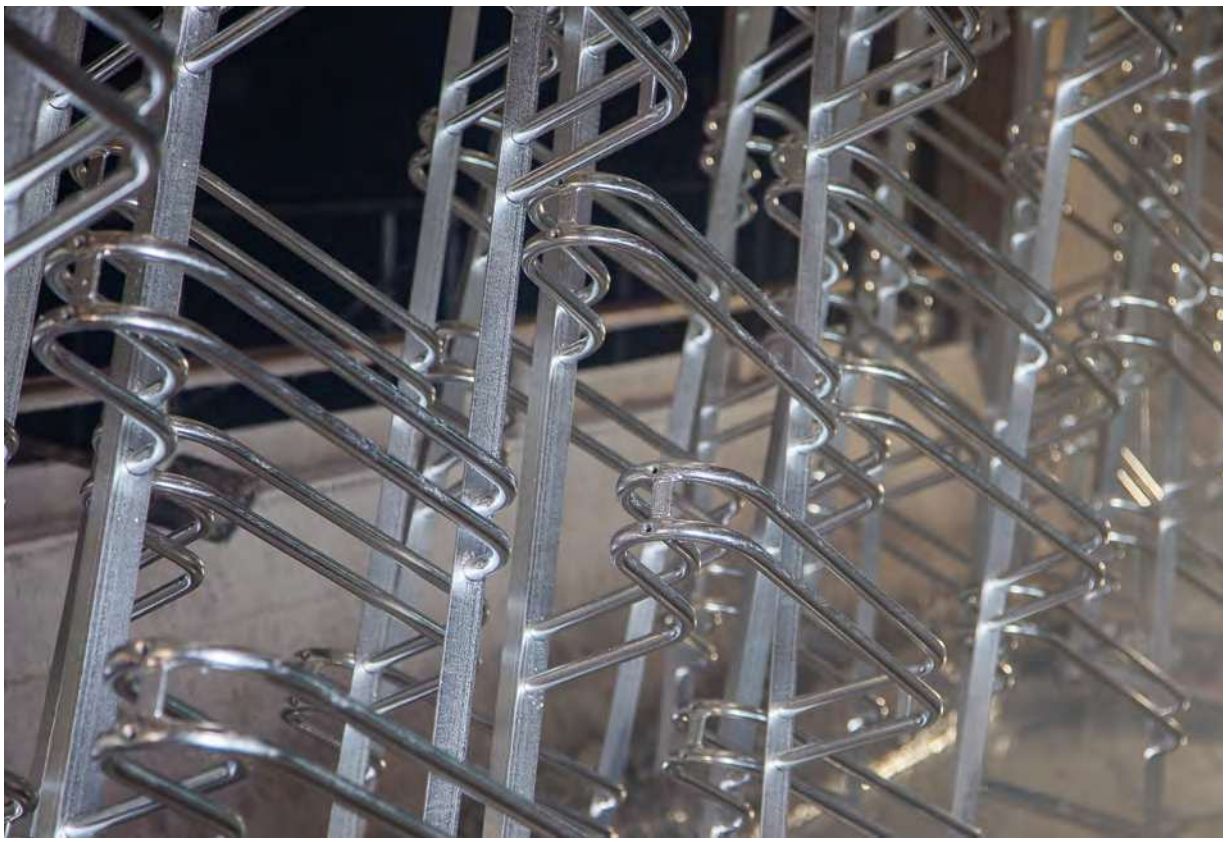
THE MARKET EXPECTS A LOT

Demanding customers of coating companies not only want the coated surfaces to be of higher quality, they are also looking for innovative coatings, such as zinc-aluminum alloys. This is the case throughout all industries – from construction, industrial equipment, vehicle construction to agriculture. As a coating company, you have to be ready. Uniform and flawless surfaces with increased corrosion resistance and processes that guarantee perfect quality at economical prices are in demand.

Surfaces that are guaranteed to be free of spots and pores. The main focus is on stain- and pore-free zinc surfaces. Important here are the descaling and cleaning of the steel surface before galvanizing. This is the only time blotchiness can be avoided.

We know what the markets demand. Our answer: coordinated products with tailored formulations. Products that increase process stability and productivity. You benefit from improved product quality and higher economic viability.

Our offer to you: support for selecting the pre-treatment process and planning the system, suggestions for processes, as well as accompanying the process over the entire service life.



SOLUTIONS FOR OPTIMIZED QUALITY

KLUTHE OFFERS AN EXTENSIVE RANGE OF PRODUCTS

Pre-treatment of steel surface before hot-dip coating

- Alkaline or acidic cleaners/degreasers (lye or mineral-acid based)
- Acidic pickling agents that contain pickling inhibitors, acid-stable surfactants (non-ionic, cationic) and optionally pickling accelerators
- Flux agents (also liquid formulations based on zinc chloride, ammonium chloride)

Passivation of the zinc surface on the basis of e.g. chromium (III) and/or titanium salts, sodium silicates, amines, silanoles

Zinc surface preparation with pretreatment process and coating (alkaline or acidic cleaning, pickling, passivation, or a combination of pickling) for a subsequent coating (DUPLEX systems)

Degreasing products

HAKUPUR 10-920
Highly alkaline, complexing, 5–15%, 55–65 °C

DECORRDAL 35-87-2
Acidic cleaner H_3PO_4 / H_2SO_4, 5–10%, 45–55 °C

WETTING AGENT 200-6
Non-ionic and cationic mixtures + glycol, 1–2%

WETTING AGENT 353
Non-ionic mixture and hydrotropes, 2–4%

Additional pickling products

DECORRDAL 29-100
Surfactant + inhibitor + solubilizer, 1–2%

DECORRDAL 29-105
Inhibitor, 1–2%

TONER F8
Pickling enhancer 0.5–2%

DECORRDAL 29-115
Non-ionic surfactant as defoamer, 0.5–2%

Passivation products

DECORRDAL ZN 320
Chromium (III) / titanium salt mixture, 2–5%

DECORRDAL ZN 325
Sodium silicate solution, 4–6%

ANALYSIS

Alkaline degreasing
- Free alkalinity/total alkalinity
- Surface tension

Acid degreasing
- Free/total acid
- Iron content
- Surface tension (including inhibitor)

Hydrochloric acid pickling agent
- Free/total acid
- Density (calculation of the iron content/nomogram)
- Surface tension (including inhibitor)
- Ammonium content
- Pickling accelerator content

Flux
- Zinc, ammonium
- Salinity: 500–600 g/l
- Zinc crystal formation on surface

Passivation
- Free/total acid
- Chromium (III) content
- Iron and zinc content
- Free/total alkalinity

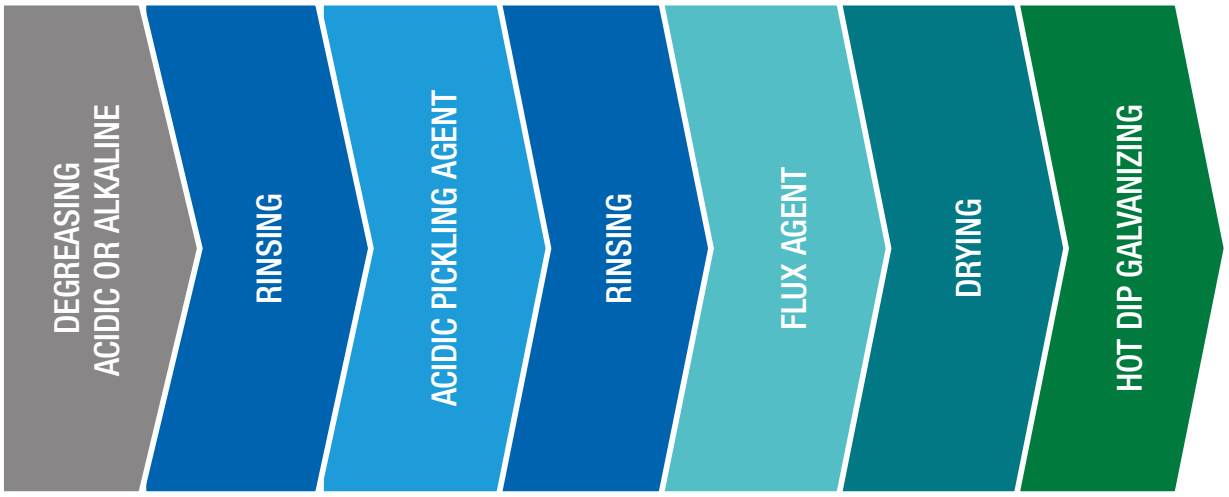
READY FOR THE FUTURE

Many batch galvanizers still use mainly raw materials as their process bath base and add-on. This approach can be problematic for the surface quality, process workflows, and productivity.

For coatings and refinements, the future belongs to formulated preparations that can be tailored to the different process steps.

Kluthe develops customized formulations and procedures that enable the optimization of your processes and meet the more stringent demands of your customers.

TYPICAL PROCESS



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Chemische Werke Kluthe GmbH
Gottlieb-Daimler-Str. 12
69115 Heidelberg, Germany
Tel.: +49 6221 5301-0
info@kluthe.com · www.kluthe.com