

VERZINKSHOP NICKEL BLUE PASSIVATION INSTRUCTION MANUAL

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Important information

Verzinkshop Blue Passivation is a trivalent blue conversion layer for nickel. It gives a clear to slightly iridescent blue appearance and slightly increases corrosion resistance.

This ready-to-use solution can be used immediately. The quality of the result depends partly on the gloss and thickness of the nickel layer; therefore, work on a clean, grease-free and oxide-free finish. Do not touch parts with bare hands after cleaning.

Corrosion resistance

The applied layer is mainly cosmetic and slightly increases the oxide resistance.

Required equipment

Tanks and suspension devices from

- 304/316 stainless steel
- Koroseal-lined steel, polyethylene or PVC.

Heating is usually not necessary: works at ambient temperature.

Use demi/DI water for rinsing.

Preparation

The nickel layer must be clean, degreased and free of oxides. For old nickel, first clean mechanically or chemically until a uniform, fresh nickel layer is visible, then rinse well. After an acidic pre-treatment, always neutralize briefly and rinse again. Do not let it dry between steps; continue working immediately.

Step-by-step plan

Prepare

- nickel layer ready, clean and grease-free.
- Do not touch with bare hands after cleaning.

Rinse

- Rinse cold with clean demi/DI water.
- Do not allow to dry between steps.

Neutralize (optional)

Neutralization or etching is usually not necessary. Rinsing well is sufficient.

If this is necessary, you can use the following:

- Dissolve 50–100 g of **citric acid (crystals)** in **1 litre of water**.
- **10 ml of concentrated sulfuric acid (~96%) to 990 ml of water.**
- **10 ml nitric acid (~65%) to 990 ml of water.**

Then rinse immediately cold.

Note: always pour acid into water, never the other way around.

Passivation

- Immerse in the ready-to-use blue passivation solution.
- Process time: 5–30 seconds; guideline value ~10 seconds.
- Move lightly or gently swirl for an even film.

Rinsing

- Rinse thoroughly cold with clean water.
- Drain the workpiece briefly over the bath.

Drying & curing

- Dry with warm air at around 65 °C or let it air-dry; do not use contaminated compressed air.

Preferably let it harden for 24 hours before loading or packaging parts.

Working conditions

Working temperature 18–32 °C

Optimal working temperature around 24 °C.

Process time 5–30 seconds with a practical target time of around 10 seconds.

Maintenance, storage and refreshment

Keep rinsing baths clean and prevent dragging in. Cover the working solution when stationary. Store in a sealable, chemical-resistant container; cool, dry and ventilated. Label content and date. Replace when color, time or uniformity visibly fade away despite clean preparation and correct working conditions.

Technical characteristics

field name	value
System	Trivalent blue-clear finish/sealer for nickel
Substrates	Nickel deposits (electrolytic or currentless)
Operating Range Temperature	18–32 °C (guideline value ~24 °C)
Immersion time	5–30 s (guideline value ~10 s)
Agitation	Light swivel/light agitation for uniform film (optional)
Rinse	Cold water before and after passivation
Neutralize	Optional (only if alkaline introduction from previous steps is suspected)
Dry	Warm air ~65 °C or in the air; preferably allow to cure for 24 hours before loading/packaging
Remark	Product gives nickel a clear/blue-clear appearance; no separate B117 hours for nickel in datasheet (salt spray figures in datasheet refer to zinc).

Problems and solutions

Problem	Probable cause	Solution
Uneven/blotchy image	Insufficient cleaning/degreasing; lint/paste residue; too short/too long contact	Improve pre-treatment; rinse parts longer; stay within 5–30 s and operate at ~24 °C .
Streaks or stains after drying	Poor rinsing; Uneven drying	Rinse thoroughly cold; dry with warm air ~65 °C and drain evenly.
Dull zones	Base nickel too matte/rough; residues present	Fine-tune the base surface (clean/polish or choose an even finish); Additional flushing step or optional neutralization if necessary.
Poor adhesion of film	Passive/oily spots; Transfer time too long (drying out)	Do not let dry between steps; immediate passivation after rinsing; Degrease/activate repeat.
Too little effect/color does not catch	Time/temperature outside window; Solution contaminated	Work within 5–30 s and 18–32 °C ; avoid introduction; refresh/condition if uniformity runs away.

Warning!

The passivating agent is acidic. Avoid contact with eyes, skin and clothing. Wear eye protection (goggles, goggles, or face shield), protective rubber gloves, and aprons when preparing solutions and while working with the solutions. Do not mix the product with cyanide or alkaline materials, or other chemical substances. The product is toxic when used internally.

- Do not work with Verzinkshop products without first reading and understanding the safety information.
- The safety data sheet can be found on the product page or can be requested from verzinkshop.nl by e-mail: info@verzinkshop.nl
 - Do you have any questions? Contact us via:
 - Mail: info@verzinkshop.nl
 - Whatsapp or call: +31 6 28090022
 - [Www.verzinkshop.nl](http://www.verzinkshop.nl)

Safety

- Always wear a dust mask, respirator, gloves, and apron when necessary.
 - Always treat any chemical as if it could kill you.
- Always label buckets and storage containers with a permanent marker so that you and others know what's inside.
- Never pour water into acid; it can heat up and explode. Always pour acid into water.
- Never leave electroplating baths or other systems that use power unattended. These products may cause a short circuit and cause a fire.
- Never come into direct contact with chemicals. They can cause serious burns or other damage and are very dangerous substances if not treated with respect.
- Never think you can get away without taking safety precautions! That is not possible!
 - Never leave the lids off the tanks when not in use.
 - Always work safely and ensure good protection and ventilation.
- The safety data sheet can be found on the product page or can be requested from verzinkshop.nl by e-mail: info@verzinkshop.nl

Disclaimer

Did you find an error or something unclear in the manual? Please let us know via info@verzinkshop.nl

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