CASWELL ONE PLATE NICKEL PLASTIC ACTIVATOR MANUAL

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Short description

With the 3-piece Plastic Activator, you can catalytically make plastic and 3D prints in a few minutes so that they immediately take an even nickel layer in the One-Plate® Nickel bath, without conductive paint.

Works ideally on complex shapes and small details. The component must be able to withstand the bath temperature of the nickel (± 85 °C).

What does each product do

- **Plastic Sensitizer** — pre-treatment/sensitization: makes the plastic surface uniformly receptive, so that the activator can bind evenly everywhere (including pores and edges).
- **Plastic Activator** — activate/nucleation: applies a finely divided layer of catalytically active centers that enable the start of nickel deposition.
- **Plastic Reducer** — reduction/activation to the active state: converts the applied catalytic converter to the active form, so that an autocatalytic nickel deposit is immediately initiated in the One-Plate® bath.

Safety

Work ventilated and tidy. Wear goggles/face shield, chemical-resistant gloves, and apron. Use demi/DI water for rinsing. Do not mix with other chemicals. Do not allow parts to dry between steps.

Supplies

- 3 baths (plastic: PP/PE/PVC), lids + drip tray
- Hanging material: nylon thread or PP/PE hooks; basket/mesh pocket for small parts
- Demi/DI water (rinsing bath)
- One-Plate® Nickel bath (± 85 °C), separate tank
- Cleaning/degreaser to match the plastic used
- Timer

Prepare

- Clean/degrease until water drains evenly (waterbreak test). Take your time for this.
- Optional: a few seconds of very light processing with a gas burner for some plastics/3D prints. Do not make it hot. Watch for dangerous fumes that are released.
- Use plastic hanging material (no metal), make sure that the part can be freely hung in/out of the bath.
- Prepare the three baths at room temperature; the Caswell One Plate nickel bath separately at ± 85 °C.

Step-by-step plan

All times are guideline values. Work undiluted. Do not allow the part to dry between steps.

- Sensitizer – dip 3 min → rinse briefly with demi/DI water
- Activator – dip 3 min → do not rinse
- Reducer – dip 3 min → do not rinse

Straight through into One-Plate® Nickel (± 85°C) until desired coverage is achieved

Rinse thoroughly with water, then dry/treat as desired

Important: never let it dry in between; Keep the transfer times short.

Tips

- Move the part slowly when immersing it to loosen air bubbles (especially with 3D prints).
- Small stuff goes fine in a nylon mesh bag or plastic basket.
- Don't see a start in the nickel bath within ~1–2 min? Get out of the bath, rinse briefly, repeat Step 2 + 3 and enter the nickel bath again.
- For 3D prints: print cleanly, degrease well, rinse with DI water, and avoid residue from support equipment.

Working conditions

- Sensitizer / Activator / Reducer: undiluted, room temperature
- One-Plate® Nickel: ± 85 °C, well conditioned
- Rinse: Demi/DI water; only after Step 1 and after the nickel bath
- Material: part heat-resistant (± 85 °C)

Technical characteristics

Property	Directive
Lawsuit	Sensitize → Activate → Reduce → One-Plate® Nickel
Media temperature S/A/R	Room temperature
Time per step S/A/R	ca. **3 min** per step
Rinse	**After Sensitizer**: short DI coil. **After Activator & Reducer**: **do not** rinse.
Transfer	**Do not let dry**, work quickly
Nickel bath	One-Plate® Nickel, **± 85 °C**
Tanks	PP/PE/PVC, with lid/drip tray
Suspension	Nylon thread, PP/PE hooks/basket
Water quality	Demi/DI for rinsing

Problems and solutions

Problem	Cause	Solution
No or slow start in nickel bath	Insufficient activation/reduction; part dried; poor degreasing	Repeat **Step 2 + 3** and immediately back into the nickel bath; **do not allow to dry**; Degrease thoroughly again.
Irregular mating/"islands"	Air bubbles, complex geometry, metal clamp touch	Move part **slowly** when immersing; use **plastic** hanging; ensure **free flow** around the part.
Poor adhesion, layer peels off	Pollution/grease; wrong order/rinsing in the wrong place	**Keeping to a tight order**; Rinse only **after Step 1** ; at least degrease until waterbreak-clean.
Too lacklustre start/picks slow	Nickel bath not up to temperature or exhausted	Bring bath to **± 85 °C** and conditions in order; refresh/condition nickel bath.
Stains afterwards	Insufficient rinsing	**Rinse thoroughly** with clean water immediately after the nickel bath.

Warning!

The solutions are chemically active. 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. Mix the product only with water and no other chemicals. The solution is toxic when used internally.
Do not work with the Galvanizing Shop 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

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. They will fall over!
- 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

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