

The quality, uniformity and durability of an electroplated deposit are defined before the plating bath is energized. Successful electroplating depends on rigorous **surface preparation**, a correct evaluation of **component geometry** and controlled **current distribution** throughout the process.

Surface preparation is a mandatory prerequisite for adhesion and process repeatability. Pre-treatment steps must fully remove

contaminants and surface oxides while creating a chemically receptive substrate. All three specified pre-treatment steps, including their dedicated intermediate rinses, must be carried out exactly as indicated.

Rinse water and pre-treatment solutions are consumables and must be maintained accordingly. Rinse water, degreasing solutions and neutralization baths must be regularly renewed based on process load and usage frequency.

Component geometry directly governs local current density during electroplating. Edges, sharp profiles and exposed areas attract higher current density which promote color non-uniformity and thickness build-up, while recessed or shielded zones receive reduced metal deposition.

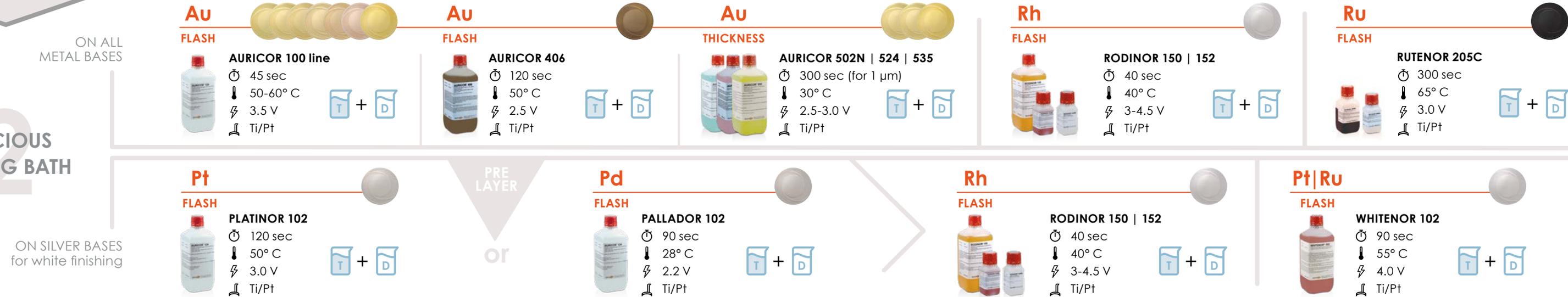
Current distribution must therefore be actively managed through bath formulation, electrical parameters, racking design, shielding and, where necessary, auxiliary electrodes.

DEPOSIT TYPE	THICKNESS RANGE	PURPOSE
Thickness	0.5 - 10 µm	Functional Protection Durability
Flash	≤ 0.2 µm	Decorative Activation Layer

1 PRE-TREATMENTS



2 PRECIOUS PLATING BATH



PASSIVATION | ANTI-TARNISH



AIR DRYING
until dry

TRANSPARENT CATAPHORETIC COATING



3 POST-TREATMENTS for oxidation protection

LEGEND

⌚ time ⚡ voltage
⬇ temperature ⚙ anode

T TAP WATER ⌚ 5 - 10 sec
⬇ room temp.

D DEMINERALIZED WATER ⌚ 5 - 10 sec
⬇ room temp.

H HOT DEMINERALIZED WATER ⌚ 5 - 10 sec
⬇ 60 - 70°C

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