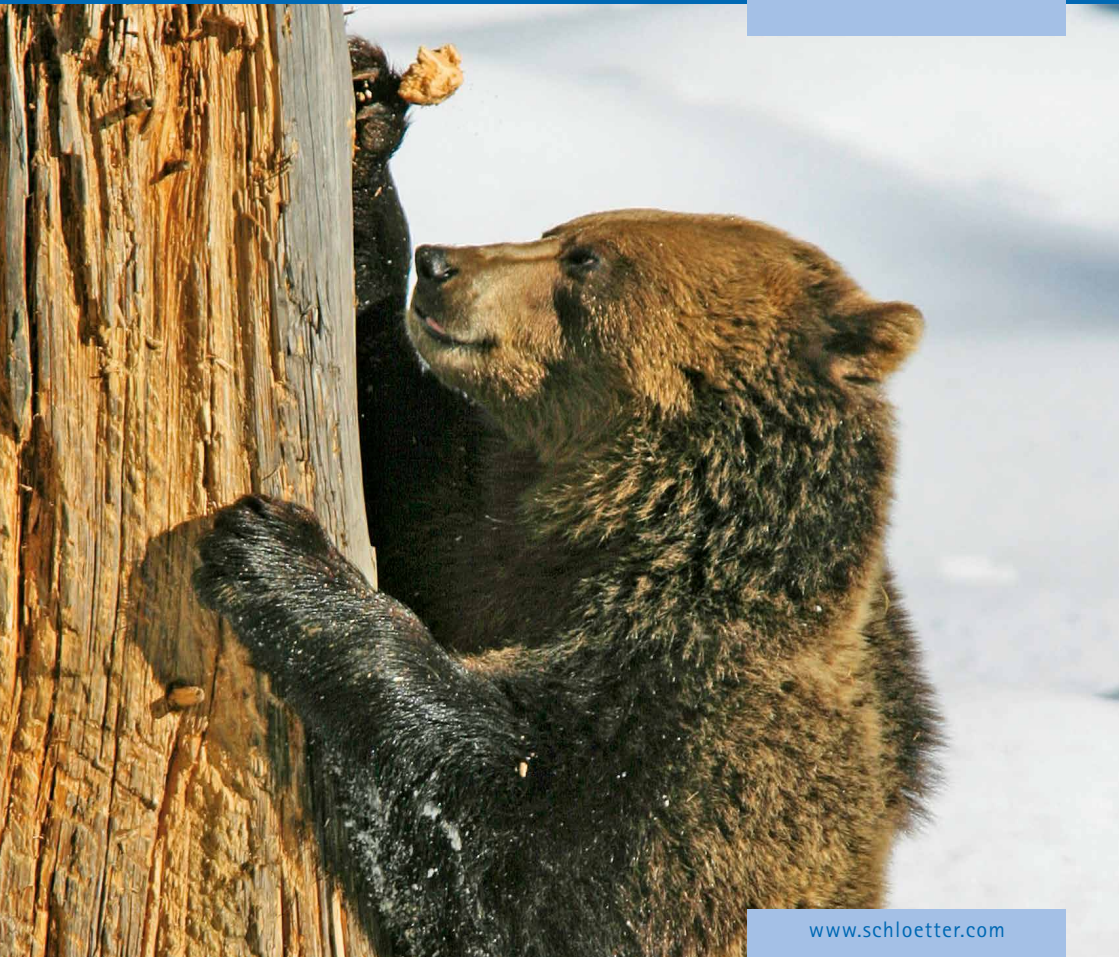


Electroless Nickel Electrolytes

If Extreme Resistance is Required !

lead,- cadmium and
PFOS-free processes

ELV- and RoHS-compliant



SLOTONIP NP 1150

Electroless Nickel SLOTONIP NP 1150 is a RoHS-compliant electroless process for the deposition of nickel-phosphorus coatings onto metals and non-conductive material. The deposited nickel layers from Electroless Nickel SLOTONIP NP 1150 are light, semi-bright to bright and contain 6 - 9 % (w/w) phosphorus. The deposition rate is app. 18 - 22 $\mu\text{m}/\text{h}$. An easy electrolyte operation without any problems in combination with high electrolyte stability, are the features of this electrolyte. The pH is adjusted with ammonia. The electrolyte is made-up and replenished with combined additives during operation. This simplifies the handling during electrolyte operation. Single additives will also be available for individual adjustment of the electrolyte.

Concentrations and operating conditions

	Range	Optimum
Nickel g/l	6 - 8	7
pH range	4,6 - 5	4,7
Operating temperature °C	88 - 93	90
layer phosphorus content % (w/w)	6 - 9	-
Deposition rate $\mu\text{m}/\text{h}$	18 - 22	-



SLOTONIP NP 1220

Concentrations and operating conditions

	Range	Optimum
Nickel g/l	6 - 8	7
pH range	4,7 - 5	4,8
Operating temperature °C	78 - 82	80
Deposition rate $\mu\text{m}/\text{h}$	18 - 22	-
layer phosphorus content % (w/w)	6 - 9	-



Electroless Nickel SLOTONIP NP 1220 is an electroless process for the deposition of nickel-phosphorus coatings onto metals and non-conductive material at an operating temperature of 80 °C. The deposited nickel layers are light, semi-bright to bright and contain 6 - 9 % (w/w) phosphorus. An easy electrolyte operation without any problems is the feature of this electrolyte. Therefore it's primarily used in plating shops with a discontinuous operation of the electroless nickel process. Energy can be saved by the low operating temperature which reduces the long heating-up period. The electrolyte is made-up and replenished during operation with combined additives.

SLOTONIP VN 20

Concentrations and operating conditions

	Range	Optimum
Nickel g/l	6 - 8	7
pH range	8,5 - 9,5	9,0
Operating temperature °C	23 - 27	25

Electroless Nickel SLOTONIP VN 20 is a process for strike plating electroless nickel onto aluminium and aluminium alloys. It is used as a pre-coating for subsequent electroless nickel processes. This process minimizes the drag-in of zinc from zincate pre-treatment into the main electroless nickel bath and this extends the service life remarkably. Electroless Nickel SLOTONIP VN 20 is considerably less sensitive to zinc contamination than common electroless nickel solutions.

SLOTONIP 90

Concentrations and operating conditions

	Range	Optimum
Nickel g/l	6-8	7
pH range	4,5-4,8	4,7
Operating temperature °C	88-93	91-92
layer phosphorus content % (w/w)	10,5-11,5	-
Deposition rate µm/h	10-13	-
MTO (Metal Turn Over)	4-5	-

Electroless Nickel SLOTONIP 90 is a chemical process for the deposition of nickel-phosphorus coatings onto metals and non-conductive material. The deposited layers are highly phosphorus with a light, semi bright to bright appearance. The bath is easy to operate and maintain and has notably high stability. The bath is made up and replenished with combined additives, which eases handling during bath operation. Single additives will also be available for individual adjustment of the bath.



SLOTONIP 70 A

Concentrations and operating conditions

	Range	Optimum
Nickel g/l	6-8	7
pH range	4,5-4,8	4,7
Operating temperature °C	88-93	91-92
layer phosphorus content % (w/w)	9-10	-
Deposition rate µm/h	18-22	-
MTO (Metal Turn Over)	8-10	-

Electroless Nickel SLOTONIP 70 A is an electroless process for the deposition of nickel-phosphorus coatings onto metals and non-conductive material. The deposited nickel layers are semi-bright to bright. The bath is easy to operate and maintain and has notably high stability. Due to the high deposition rate, SLOTONIP 70 is the preferred process when high Ni-P layer thickness is required in minimum production time.

SLOTONIP 30 3

Concentrations and operating conditions

	Range	Optimum
Nickel g/l	6-8	7
pH range	4,3-4,6	4,4-4,5
Operating temperature °C	85-92	88-90
layer phosphorus content % (w/w)	7-9	-
Deposition rate µm/h	15-18	-
MTO (Metal Turn Over)	8-10	-

Electroless Nickel SLOTONIP 30 3 is an electroless process for the deposition of nickel-phosphorus coatings onto metals and non-conductive material. Easy operation, high bath stability and extremely long service life are the features of Electroless Nickel SLOTONIP 30 3. The deposited nickel layers are semi-bright to bright. This highly stable bath is easy to operate and maintain and distinguishes by a high stability. It is therefore the preferred process in the PCB industry and for the coating of aluminium.

Dr.-Ing. Max Schlötter GmbH & Co. KG

Talgraben 30
73312 Geislingen/Steige
Germany

T +49 (0) 7331 205-0
F +49 (0) 7331 205-123

info@schloetter.com
www.schloetter.com



DIN EN ISO 9001: 2008
DIN EN ISO 14001: 2004



06/2014