



Future Coat Technology

FCT NI 22M SERIES

The high leveled, ductile and mirror bright decorative FCT NI 9999 is used for rack plating applications on complicated parts or when the article is bent afterwards.

Make up data

	Optimum	Range
NiSO ₄ *6H ₂ O	270gm/Ltr	250-290gm/Ltr
NiCl ₂ *6H ₂ O	60gm/Ltr	50-70gm/Ltr
H ₃ BO ₃	45gm/Ltr	40-50gm/Ltr
FCT NI 22 M	10ml/Ltr	5-20ml/Ltr
FCT NI 9999	0.8ml/Ltr	0.4-1ml/Ltr

Make up procedure

1. In to a separate and clean tank, hot water is filled up to approximately 60% tank volume.
2. While stirring, add slowly and carefully the required quantity of Nickel chloride in to the water.
3. While continue stirring, add slowly and carefully the required quantity of boric acid into the water.
4. While further stirring , add slowly and in small quantities the required quantity of Nickel sulphate into the water.
5. Add 3g/l activated carbon powder into the solution and stir for at least 30 minuts , then stop all agitation and allow carbon to settle down.
6. Filter the solution through a 5 micrometer mesh filter media into the working tank. Make sure no active carbon particles are in the working solution.
7. Top working tank with water up to operation level and switch on air agitation.
8. Measure and adjust the pH with diluted (1:10) sulphuric acid to operation range.
9. Add the necessary quantity of additives.
10. Switch on circulation filter pump.
11. Adjust operation temperature if necessary to operation range.

12. Dummy plate for approximately 2 ampere hours per litre.

13. Solution is ready for start up.

Operation Conditions

Agitation	Necessary, Preferably air, mechanical also possible
Filtration	Continuous, 5-8 tank volumes per hour throughput, 5-10 Micrometer mesh filter media.
Cathodic Current Density	Up to 8A/dm ²
Temperature	55 ⁰ C-65 ⁰ C
Anodes	Bagged Nickel anode pieces in Titanium baskets
Plating speed	1micron/minute at 5A/dm ²
Tank ventilation	Necessary

Maintenance

Under standard production conditions dosing of the FCT NI 22 M and the FCT NI 9999 to the electrolyte is done according to ampere hours. In case ampere hours are not known, additions of FCT NI 9999 should not exceed 0.2ml/Ltr.At once. It is recommended to make corrective additions in small doses. Dosing ratio of FCT NI 9999 to FCT NI 22 M is approximately 1:1.

Consumption per 1000 Ampere

FCT NI 22 M	150-200 ml
FCT NI 9999	100-150 ml

Trouble shooting

- Poor LCD performance is caused by lack of FCT NI 22 M or by excess of FCT NI 9999 or by third party Nickel additives and residues. Add 2ml/Ltr FCT NI 22 M to correct and stop dosing of FCT NI 9999 for a while.
- Orange skin formation at high and mid current densities indicates excessive FCT NI 9999or is caused by foreign additives.
- Permanent loss of compressive stress is caused by foreign additives and indicates the need for carbon treatment.

Effluent treatment

All concentrates and rinsing waters have to be treated according to local regulations.

“The above information is given in good faith and is based on our experience but no condition of warranty is to be implied”