Title (en)

Process and apparatus for the regeneration of tin plating solutions

Title (de)

Verfahren und Vorrichtung zum Regenerieren von Verzinnungslösungen

Title (fr)

Procédé et dispositif pour la régéneration des solutions de plaçage d'étain

Publication

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Application

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Priority

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Abstract (en)

[origin: US6120673A] The invention relates to a method and a device for regenerating exhausted tin-plating solutions which contain tin and copper ions, free complexing agent and complexing agent bound to the copper ions, as well as expended and unexpended reducing agent. By means of a suitable rinsing technique, the rinse water of the tin-plating process is concentrated to a 10 to 15 percent dilution of the process solution. The regenerating solution thus produced is fed to an electrolytic cell. The electrolytic cell comprises a cathode chamber, a middle chamber and an anode chamber. The cathode chamber is separated from the middle chamber by an anion-exchange membrane and the anode chamber is separated from the middle chamber by a cation-exchange membrane. The regenerating solution is initially provided in the cathode chamber. Here, the interfering copper component is cathodically deposited. After an appropriate residence time, the regenerating solution, depleted of copper, is transferred by pumping into the middle chamber where tin enrichment is effected by tin ions diffused from the anode chamber through the cation-exchange membrane. The regenerated solution is subsequently fed back into the tin-plating process.

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C23C 18/16; C25D 21/22

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