



Nickel plating is one of the steps applied in metallisation concepts using plating on Ag paste seed or direct plating on silicon.

NBT has developed the **sunNiSi** nickel plating chemistry for direct metallisation on silicon using an electroplating process instead of electroless coating.

In such application, there are various requirements on the Ni layer properties and on the desired features of the plating chemistry such as

- low stress of Ni layer and low change of stress under heat treatment
- uniform thickness
- easy chemistry handling in setup, operation and maintenance
- compatibility with resist

The **sunNiSi** chemistry is set up to form **porous silicon** by electrochemical etching **and** to electroplate the **Ni layer** for the later silicide formation **from a single bath**.

The **sunNiSi** bath, enabling the combination of porosification and plating, is another important piece in our metallisation concept of direct plating on silicon (patent pending).



### Major benefits

- Ni plating at room temperature, no need for heating, less evaporation
- Easy handling, no fall out of compounds at storage
- Compatibility with resists with low process temperature budget
- Combination with porous silicon formation for direct plating on silicon
- High grain stability under temperature in post-processing, such as silicide formation or soldering

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