

Method of Nitride coating

Titanium nitride coating can be produced in a short time in the atmosphere by microwave irradiation

Overview

In conventional titanium nitride coating, sputtering method, a method in which titanium ions and nitrogen gas ions are irradiated on a substrate, and a plasma CVD method are known.

Compared with these methods, the present invention uses nitrogen in air as a nitrogen source and does not require vacuum process. Therefore, the coating of titanium nitride can be performed at a low cost by a simple process, sliding property heat resistance and hardness can be easily added.

The same effect can be obtained for ceramics as well as metals. In addition to titanium, nitrides such as chromium and manganese can be produced as coating materials.

Product Application

- Titanium Nitride Coating on Complex Shaped Tools
Base material condition :
The melting point of material is more than 1000 °C.

IP Data

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Features・Outstandings

Coating example

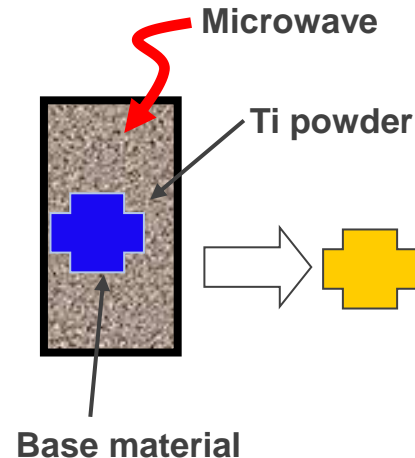


Thickness of TiN coating can be controlled by microwave condition.
*Color tone depend on thickness.

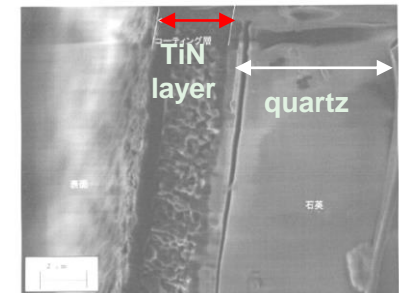


Homogeneously coating can be applied on 3D shapes material.

Fabrication method



Observation photograph of TiN coating



TiN coating having 2-3 mm thickness was coated on the quartz surface.

Contact