

Abstract

Disclosed is a plating solution which does not generate pinholes in a gold film even if the gold film has a thickness of less than 0.1 μ m. Partial plating is performed using an electrolytic hard gold plating solution containing gold cyanide and/or gold cyanide salt, water-soluble cobalt salt or water-soluble nickel salt, an electric conductive salt of organic acid, an aromatic sulfonic acid compound, a combination of one or more items selected from group consisting of carboxylic acids, oxycarboxylic acids, and the salts thereof, and a nitrogen-containing five-membered heterocyclic compound. Consequently, pinholes are not generated in a gold film even if the gold film has a thickness of less than 0.1 μ m.