Claims

1. A precious metal article comprising a precious metal base (1), and a first layer (2) and a second layer (3) sequentially attached on the precious metal base (1); wherein the first layer (2) is any one of a physical vapor deposition layer, a galvanic plating layer and an electrophoretic layer, the second layer (3) is a transparent film layer, and the precious metal is gold or silver; wherein the transparent film layer is made of fluoride.

2. The precious metal article of claim 1, wherein the gold has a gold content within a range of 33-99.99 wt%, preferably 75-99.99 wt%; and the silver has a silver content within a range of 92.5-99 wt%;
preferably, the precious metal base (1) has a surface roughness of 0.001-50μm, more preferably 0.005-0.1μm.

3. The precious metal article of claim 1, wherein the physical vapor deposition layer has a thickness within a range of 10nm-50μm;
preferably, the material of the physical vapor deposition layer is one or more selected from the group consisting of Ni, Ti, Zn, Cr, Mg, Nb, Sn, Al, In, Fe, Zr, Si, Cu, Ta, Ge, Ag, Co, Au, Gd, La, Y, Ce, W, Hf, Mo, CrN, TiN, TiAlCN, TiCN, TiAlN, AlTiN, TiB_2, ZrN, FeCo, AlSi, TiSi, CrSi, ZnAl, TiZn, TiAl, TiZr, TiSi, TiNi, NiAl, NiV, NiFe, gold-copper alloy and

diamond-like carbon (DLC); preferably gold-copper alloy;

preferably, the physical vapor deposition layer has a single pure color or a mottled color;

preferably, the surface of the physical vapor deposition layer is a plane, or a concave surface or a convex surface.

4. The precious metal article of claim 1, wherein the galvanic plating layer has a thickness of 0.05-50μm, preferably 0.1-1.5μm, and the material of the galvanic plating layer is a gold-copper alloy.

5. The precious metal article of claim 1, wherein the transparent film layer has a thickness of 0.0001-10μm, preferably 0.0005-0.1μm;

~~preferably, the transparent film layer is made of fluoride;~~

preferably, the fluoride is an AF pill.

6. The precious metal article of claim 1, wherein the electrophoretic layer has a thickness within a range of 0.1-20μm.

7. A method for preparing the precious metal article of any one of claims 1-6 comprising the following steps:

(1) forming a first layer (2) on the surface of the precious metal base (1);

(2) depositing a second layer (3) on the first layer (2) by using physical

vapor deposition;

wherein the physical vapor deposition layer is deposited on the surface of the precious metal base (1) by means of physical vapor deposition; or the galvanic plating layer is formed on the surface of the precious metal base (1) by means of a galvanic plating process; or the electrophoretic layer is formed on the surface of the precious metal base (1) by means of an electrophoretic process.

8. The method of claim 7, wherein in step (1), a physical vapor deposition layer is deposited on the surface of the precious metal base (1) by means of physical vapor deposition, wherein the physical vapor deposition mode is vacuum evaporation plating, vacuum sputtering coating or vacuum ion plating;

preferably, the physical vapor deposition mode is vacuum ion plating; more preferably, the vacuum ion plating comprises the following steps: heating the precious metal base (1) under the vacuum conditions, activating a metal target, and injecting a gas, applying a bias voltage, and plating film on the surface of the precious metal base (1);

wherein, the vacuum conditions comprises a vacuum degree of 1×10^{-2}Pa-9.5×10^{-1}Pa, the heating temperature is within a range of 50-260°C, and the time of plating film is within a range of 2-2,000min; wherein the metal target uses a metal which is at least one selected from the group consisting

of nickel, zinc, magnesium, tin, iron, chromium, silicon, copper, titanium, zirconium, molybdenum, tungsten, aluminum, niobium, indium, tantalum, germanium, silver, gold, cobalt, gadolinium, lanthanum, yttrium, cerium, hafnium, tungsten, stainless steel, and alloys or oxides, nitrides, carbides, fluorides, sulfides, gold-copper alloys and borides thereof; preferably gold-copper alloy;

wherein the gas comprises a protective gas and a toning gas, the protective gas is an inert gas, and the toning gas is one or more selected from the group consisting of nitrogen gas, acetylene, methane and oxygen gas; wherein the protective gas has a gas flow within a range of 20-200sccm; the toning gas has a gas flow within a range of 50-500sccm;

wherein applied bias voltage is 10-150V, and the duty ratio is 10-80%; wherein the target material currents of the metal target are as follows: the current of column target is within a range of 3-120A, the current of arc target is within a range of 50-200A;

preferably in step (1), the physical vapor deposition layer is deposited on the surface of the precious metal base (1) by physical vapor deposition, the process further comprises performing vacuumization prior to depositing the physical vapor deposition layer on the surface of the precious metal base (1), wherein the vacuum degree during the vacuumization process is within a range of 1.0×10^{-2}Pa-7.0×10^{-3}Pa.

9. The method of claim 7, wherein in step (1), the galvanic plating layer is formed on the surface of the precious metal base (1) by using a galvanic plating process, wherein the galvanic plating conditions comprise a galvanic plating current of 0.5-0.9A, a temperature of 50-80°C, and a galvanic plating time of 1-30 min;

preferably in step (1), an electrophoretic layer is formed on the surface of the precious metal base (1) by using an electrophoresis process, wherein the electrophoresis conditions comprise: the electrophoresis includes a cathode electrophoresis and an anode electrophoresis, a direct current (DC) voltage of 100-200V, and an electrophoresis time of 1-10min.

10. The method of claim 7, wherein in step (2), the physical vapor deposition mode is vacuum evaporation plating, vacuum sputtering coating or vacuum ion plating;

preferably, the physical vapor deposition mode is vacuum evaporation plating;

preferably, the vacuum evaporation plating mode comprises the following steps: activating current of the evaporation source, evaporating the fluoride to form a transparent film layer;

preferably, the vacuum evaporation plating mode comprises the following steps: adjusting the vacuum degree to be within a range of 1.8×10^{-2}-2.2×10^{-2}Pa such that the intra-furnace environment is suitable for electroplating;

injecting argon gas with an argon gas flow rate of 55-65sccm, adjusting the vacuum degree to be within a range of 1.3×10^{0}-1.7×10^{0}Pa; performing glow cleaning for 170-190s, injecting oxygen gas with an oxygen gas flow rate of 75-85sccm, adjusting the vacuum degree to be within a range of 3.8×10^{-1}-4.2×10^{-1}Pa; activating an aluminum target and a silicon target and operating for 80-100s and 170-190s, respectively; then shutting off the power sources of the aluminum target and the silicon target; activating a power supply of an evaporation source such that the current of a silicon target is within a range of 2.8-3.2A; evaporating for 170-190s under the condition that the current of an evaporation source is within a range of 700-740A; then evaporating for 170-190s under the condition that the current of an evaporation source is within a range of 750-800A; subsequently evaporating for 410-430s under the condition that the current of an evaporation source is within a range of 800-900A; thereby forming a transparent film having a thickness of 0.0001-10μm.

11. The method of claim 7, wherein a glow cleaning is performed in step (1) and/or step (2) prior to the physical vapor deposition, wherein the conditions of glow cleaning comprises an argon gas flow rate within a range of 100-320sccm, an applied bias voltage of 380-1,000V, a duty ratio of 10-80%, and a time of 160-720s.

12. The method of claim 7, wherein the method further comprises cleaning the surface of the precious metal base (1) prior to step (1), the cleaning mode is ultrasonically cleaning the surface of the precious metal base (1) for 1-15min under the ultrasonic frequency condition of 20-30kHz, and/or, wiping and cleaning the surface of the precious metal base (1) with a dust-free cloth dipped in 95-98 wt% alcohol;

preferably, the method further comprises a step of baking the ultrasonically treated precious metal base (1), the baking temperature is 100-150°C, and the baking time is 5-30min.