WHAT IS CLAIMED IS:

1. A high-strength copper alloy plate excellent in oxide film adhesiveness, the copper alloy plate comprising Fe: 0.02–0.5% and P: 0.01–0.25% in mass % with the balance consisting of copper and unavoidable impurities and having the ratio Fe/P of Fe to P in mass % being 2.0 to 5.0, wherein: a ratio of the area of fine crystal grains less than 0.5 μm in equivalent circle diameter to an observation area when a surface is observed by electron backscatter diffraction analysis is 0.90 or less; and the ratio C1s/Cu2p of a peak area of C1s to a peak area of Cu2p on the surface by XPS analysis is 0.35 or less.

2. The high-strength copper alloy plate excellent in oxide film adhesiveness according to Claim 1, the copper alloy plate further comprising Sn: 0.005-3% in mass %.

3. The high-strength copper alloy plate excellent in oxide film adhesiveness according to Claim 1 or 2, the copper alloy plate further comprising Zn: 0.005-3% in mass %.

4. The high-strength copper alloy plate excellent in oxide film adhesiveness according to any one of Claims 1 to 3, wherein: a tensile strength in the longitudinal direction of the copper alloy plate is 500 MPa or more; and a percentage elongation after fracture in the longitudinal direction is 5% or more.

5. The high-strength copper alloy plate excellent in oxide film adhesiveness according to Claim 1, wherein the XPS analysis is carried out after alkali cathode electrolytic cleaning is applied.

6. The high-strength copper alloy plate excellent in oxide film adhesiveness according to Claim 5, the copper alloy plate further comprising Sn: 0.005-3% in mass %.

7. The high-strength copper alloy plate excellent in oxide film adhesiveness according to Claim 5 or 6, the copper alloy plate further comprising Zn: 0.005-3% in mass %.

8. The high-strength copper alloy plate excellent in oxide film adhesiveness according to any one of Claims 5 to 7, wherein: a tensile strength in the longitudinal direction of the copper alloy plate is 500 MPa or more; and a percentage elongation after fracture in the longitudinal direction is 5% or more.

WHAT IS CLAIMED IS:

1. A high-strength copper alloy plate excellent in oxide film adhesiveness, the copper alloy plate comprising Fe: 0.02–0.5%, P: 0.01–0.25% and Sn: 0.01–2.4% in mass % with the balance consisting of copper and unavoidable impurities and having the ratio Fe/P of Fe to P in mass % being 2.0 to 5.0, wherein: a ratio of the area of fine crystal grains less than 0.5 μm in equivalent circle diameter to an observation area when a surface is observed by EBSD analysis is 0.90 or less, wherein the fine crystal grains means crystal grains less than 0.5 μm in equivalent circle diameter when an orientation difference between adjacent measurement points being 5° or more by the EBSD analysis is regarded as a grain boundary and a region completely surrounded by grain boundaries is defined as crystal grains; and the ratio C1s/Cu2p of a peak area of C1s to a peak area of Cu2p on the surface by XPS analysis is 0.35 or less.

2. The copper alloy plate according to Claim 1, the copper alloy plate further comprising Zn: 0.005-3% in mass %.

3. The copper alloy plate according to Claim 1 or 2, wherein: a tensile strength in the longitudinal direction of the copper alloy plate is 500 MPa or more; and a percentage elongation after fracture in the longitudinal direction is 5% or more.

4. A high-strength copper alloy plate after alkali cathode electrolytic cleaning, the copper alloy plate comprising Fe: 0.02–0.5%, P: 0.01–0.25% and Sn: 0.01–2.4% in mass % with the balance consisting of copper and unavoidable impurities and having the ratio Fe/P of Fe to P in mass % being 2.0 to 5.0, wherein: a ratio of the area of fine crystal grains less than 0.5 μm in equivalent circle diameter to an observation area when a surface is observed by EBSD analysis is 0.90 or less, wherein the fine crystal grains means crystal grains less than 0.5 μm in equivalent circle diameter when an orientation difference between adjacent measurement points being 5° or more by the EBSD analysis is regarded as a grain boundary and a region completely surrounded by grain boundaries is defined as crystal grains; and the ratio C1s/Cu2p of a peak area of C1s to a peak area of Cu2p on the surface by XPS analysis carried out after alkali cathode electrolytic

cleaning is 0.35 or less.

5. The copper alloy plate according to Claim 4, the copper alloy plate further comprising Zn: 0.005-3% in mass %.

6. The copper alloy plate according to Claim 4 or 5, wherein: a tensile strength in the longitudinal direction of the copper alloy plate is 500 MPa or more; and a percentage elongation after fracture in the longitudinal direction is 5% or more.