

ABSTRACT

The present invention relates to a vacuum chamber and chamber parts made of aluminum or its alloys which exhibit
5 excellent corrosion resistance to a corrosive gas or plasma introduced into the vacuum chamber, the surface treatment, and material for the vacuum chamber. The vacuum chamber has a porous layer with a structure in which a pore diameter at the top thereof is small, while a pore diameter at the bottom thereof is large.
10 In order to give such a structure to the porous layer, a final anodizing voltage is set to be higher than an initial anodizing voltage when the surface of the base material is anodized. After the porous-type anodizing is completed, non-porous type anodizing may be conducted so as to grow a barrier layer. Furthermore, the
15 base material made of aluminum alloy preferably has particles such as precipitates and/or deposits with a diameter of $10\ \mu\text{m}$ or less in average, and the precipitates and/or deposits are arranged in parallel with a largest surface of the base material.