

عنوان مقاله:

The Arrangement of Alumina Nanopores Formed in Various Stripping Durations

محل انتشار:

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خلاصه مقاله:

High degree of ordering is an important factor for porous anodic alumina (PAA) which affects its various functions in different fields. Stripping the oxide film after the first anodizing step results in a periodic concave texture of the aluminum surface which can induce ordered formation of the pores during the second anodizing step. This study focuses on the dependence of the final pores arrangement on the oxide film stripping conditions. Different stripping durations between 3 to 24 hrs were applied to the samples that were initially anodized in oxalic acid. Scanning electron microscopy (SEM) was used to examine the ultimate surface of the specimens and Linear-Angular Fast Fourier Transformation (LA-FFT) technique based on Matlab software was employed to evaluate the ordering degree of the anodized samples. The stripping duration of 24hrs was found as the optimum stripping duration to achieve the best ordering degree of the nanopores.

کلمات کلیدی:

porous anodic alumina (PAA); stripping time; two-step anodizing; Linear-Angular Fast Fourier Transformation (LA-FFT)

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