

عنوان مقاله:

Base metal Microstructural considerations for anodizing alumium

محل انتشار:

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خلاصه مقاله:

Producing the anodic aluminum oxide is a multidisciplinary process that combines basic chemistry and electrochemistry with the physical metallurgy of the substrate. Therefore, the process of anodizing comprises engineering issues and procedures, not only in the anodizing plant, but also prior to anodizing, during substrate manufacturing. Defects that compromise the clarity, color, wear and corrosion resistance of the anodic oxide are often not visible in the as-manufactured condition, but are developed by the anodizing process. Consequently, the root cause for such defects can often be found in the substrate microstructure, which can point to critical variations in the manufacturing process. This paper presents data from unrelated studies that target components representative of different manufacturing processes and different alloys and tempers. These data illustrate how differences in manufacturing process parameters produce differences in microstructure, which are in turn developed by anodizing. By understanding the impact of these critical factors, alloy selection, manufacturing, and surface finishing can be optimized to yield design performance and appearance

کلمات کلیدی:

Anodizing Aluminum, Microstructure, Manufacturing Process, Surface Defects

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