
INFLUENCE OF ANNEALING TEMPERATURE ON THE RECRYSTALLIZATION OF THE FERRITIC STAINLESS STEEL

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Ferritic stainless steels are widely used in mechanical conformation by drawing. The objective of this paper is to study the annealing temperature effect on the recrystallization of the ferritic stainless steel AISI 430 containing niobium in order to improve its drawability. Samples of this steel was reduced 85% in thickness by cold rolled after annealed at 700°C to 1000°C for 25 seconds. The technique used for the characterization of hot rolled and annealed samples was the Electron Backscatter Diffraction (EBSD). The analysis was performed in a Scanning Electron Microscope (LaB₆). The step used to hot rolled and annealed samples was 2 µm and 6 µm respectively. The data processing was done in OIM (Orientation Imaging Micrograph) software. The results show the evolution of recrystallization with increasing temperature. The changes in the microstructure was observed by the image quality map and the increased of high angle boundary fraction by the grain boundary map. The complete recrystallization was obtained at 850°C. The grain size increases when the annealing temperature increases.