Zener Drag in Twin-Roll Cast AA8079 Alloy

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Abstract. The interaction between particles and grain boundaries responsible for a presence of restraining forces affecting grain boundary mobility is known as the Zener drag. The value of the total restraining force depends on the size, distribution, and volume fraction of particles present in the matrix. They could be easily modified in twin-roll cast Al-Fe-Si-based alloys by a high-temperature annealing. In order to create different types of dispersoids distributions a choice of a proper annealing temperature was done on a basis of several in-situ TEM annealing experiments. An estimation of an influence of the Zener drag on a recrystallization behavior in a twin-roll cast AA8079 alloy after different thermomechanical treatments was done.