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*Comment on "A study of the
homogenization process of aluminium—
zinc alloys"*

In their recent paper Ciach *et al.* [1] report that the micro-segregation of an alloy of aluminium—40 at % zinc was extremely resistant to homogenization at 360°C. The authors suggest that this resistance to homogenization is due to the very low value of the Darken non-ideality factor $(1 + d \ln \gamma_{Zn} / d \ln N_{Zn})$ [2], where γ_{Zn} and N_{Zn} are respectively the activity coefficient and atomic fraction of zinc in the solid solution. The purpose of this letter is to point out that this is expected to be a general phenomenon in alloys showing unmixing, and potentially spinodal decomposition [3], in the solid state, as was predicted by Martin and Doherty [4]. Other binary alloys where this type of resistance to homogenization of microsegregation would be expected are

for example Au—Ni, Au—Pt, Nb—Zr, Ta—Zr and for non-metallic systems, NaCl—KCl.

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