

**A rheological assessment of the effect of trace level Ni additions
on the solidification of Sn-0.7Cu**

C.M. Gourlay ⁽¹⁾, K. Nogita ⁽¹⁾, S.D. McDonald ⁽¹⁾, T. Nishimura ⁽²⁾, K. Sweatman ⁽²⁾, A.K. Dahle ⁽¹⁾

⁽¹⁾*Division of Materials Engineering, The University of Queensland, St. Lucia, Brisbane 4072, Australia*

⁽²⁾*Nihon Superior Co., Ltd., NS Building, 1-16-15 Esaka-Cho, Suita City, Osaka, 564-0063, Japan*

Abstract

The influence of trace level Ni additions on the eutectic solidification mode of Sn-0.7Cu has been studied using continuous torque experiments during solidification. The solid fraction at which resistance to paddle rotation at the thermal center of the sample occurs is related to the spatial distribution of solid during solidification. The results indicate that a transition in solidification mode occurs in the range 0-300 ppm Ni. Growth occurs antiparallel to heat flow from near the mould walls in the Ni-free alloy, while equiaxed growth from distributed centers dominates in alloys containing at least 300 ppm Ni.

The paper is available below.

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