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## **A bubble floatation process for purification of aluminum foundry alloys**

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### **ABSTRACT**

A low cost process for the removal of oxide inclusion from aluminum melt has been proposed in the present paper. Purification of foundry aluminum alloys has been investigated by blowing inertial nitrogen gas into the melt through the porous plug which can generate a volume of dispersed micro bubbles in the aluminum melt. A liquid salt covers the surface of the melt to collect the oxide inclusion which was taken to melt surface by ascending bubbles. The hydrogen contents before and after purging were measured by Hydrogen Diffusion Test (HDT). Metallographic, SEM, and density index were adopted for the assessment of metallurgical quality of the melt. The experimental results show that removal of hydrogen and oxide inclusion in aluminum melt was comparable in contrast with the rotary process. Industrial use of this process has been implemented for several automobile aluminum castings.

**KEYWORDS:** bubble floatation, purification, aluminum alloy