

Title (en)

Production of ultra-fine grain structure in as-cast aluminium alloys

Title (de)

Herstellung von einer ultrafeinen Korngefüge in Aluminium-Legierungen im Gusszustand

Title (fr)

Production de structure de grains ultrafins dans les alliages d'aluminium bruts de coulée

Publication

EP 1205567 A2 20020515 (EN)

Application

EP 01126694 A 20011108

Priority

US 71017500 A 20001110

Abstract (en)

A method of controlling grain size in as-cast aluminum alloy having the steps of a) providing a molten aluminum alloy including an alloying element selected from the group consisting of Ti, Sc, Zr, V, Hf, Nb and Y; b) adding a grain refiner to the molten aluminum alloy to form a melt; and c) solidifying the melt to form an ingot. The grain refiner includes Ti and B or C, and is added to the melt in an amount to yield the concentration in the melt of B or C from the grain refiner of about 0.003-0.010 wt. %. Grains in the as-cast aluminum alloy are about 200 microns or less in size.

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IPC 8 full level

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CPC (source: EP)

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Cited by

CN102212710A; CN105624481A; CN102220525A; CN101871052A; CN110983213A; CN102268620A; CN101994045A; CN102329993A; CN102268621A; CN102703738A; FR2875815A1; US2017022593A1; CN109385542A; CN100402681C; CN102225464A; CN103060584A; EP2224026A1; EP1590495A4; EP2357263A4; CN103614581A; US7615125B2; CN102212725A; CN102409270A; CN102433454A; GB2494353A; GB2494353B; WO2007051162A3; WO2006035133A1; WO2012110788A3; WO2012110788A2; US10329651B2; WO2012065454A1; WO2012065455A1; WO2012065453A1; US8157932B2; US8349462B2; US8950465B2

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