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(54) **HIGH STRENGTH ALUMINUM ALLOYS AND PROCESS FOR MAKING THE SAME**

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See application file for complete search history.

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(57) **ABSTRACT**
High strength aluminum alloys based on the Al—Zn—Mg—Cu alloy system preferably include high levels of zinc and copper, but modest levels of magnesium, to provide increased tensile strength without sacrificing toughness. Preferred ranges of the elements include by weight, 8.5-10.5% Zn, 1.4-1.85% Mg, 2.25-3.0% Cu and at least one element from the group Zr, V, or Hf not exceeding about 0.5%, the balance substantially aluminum and incidental impurities. In addition, small amounts of scandium (0.05-0.30%) are also preferably employed to prevent recrystallization. During formation of the alloys, homogenization, solution heat treating and artificial aging processes are preferably employed.

20 Claims, 5 Drawing Sheets

