

Title (en)

ALUMINUM ALLOY SHEET EXCELLENT IN HIGH-SPEED SUPERPLASTIC FORMABILITY AND PROCESS OF FORMING THE SAME

Title (de)

ALUMINIUMLEGIERUNGSBLECH MIT HERVORRAGENDER HOCHGESCHWINDIGKEITSSUPERPLASTIZITÄT UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)

TOLE EN ALLIAGE D'ALUMINIUM PRESENTANT UNE EXCELLENTE APTITUDE AU FORMAGE SUPERPLASTIQUE A HAUTE VITESSE ET PROCEDE DE PRODUCTION DE CETTE TOLE

Publication

**EP 0846781 A1 19980610 (EN)**

Application

**EP 95940435 A 19951212**

Priority

- JP 9502564 W 19951212
- JP 23770795 A 19950823

Abstract (en)

An alloy containing 3.0 to 8.0 wt.% of Mg, 0.001 to 0.1 wt.% of Ti, and amounts of Fe and Si (as impurities) as small as 0.06 wt.% or less, the balance being Al and unavoidable impurities, wherein the number per square millimeter of grains of an Al-Fe-Si compound having a diameter of 1  $\mu$  m or more is 2000 or less, the mean crystal grain diameter is 25 to 200  $\mu$  m and the elongation is more than 380% as worked at 350 to 550 DEG C and a strain rate of 10<-2> to 10<0>/s. This alloy may further contain a small amount of Cu, Mn and/or Cr and is formed at 350 to 550 DEG C and a strain rate of 10<-2> to 10<0>/s. An aluminum alloy sheet with excellent high strain rate superplastic formability and therefore capable of being formed at high temperature and high speed is obtained and the use of this sheet shortens the forming time to improve productivity.

IPC 1-7

**C22C 21/06**

IPC 8 full level

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CPC (source: EP US)

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**WO 9708354 A1 19970306**; DE 69519444 D1 20001221; DE 69519444 T2 20010613; EP 0846781 A1 19980610; EP 0846781 A4 19981118; EP 0846781 B1 20001115; JP 3145904 B2 20010312; JP H0959736 A 19970304; US 2001001969 A1 20010531

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