

Title (en)
ALUMINUM ALLOY PLATE EXCELLENT IN PRESS FORMABILITY AND CONTINUOUS RESISTANCE SPOT WELDABILITY AND METHOD FOR PRODUCTION THEREOF

Title (de)
ALUMINIUMLEGIERUNGSPLATTE MIT HERVORRAGENDER PRESSFORMBARKEIT UND PUNKTSCHWEISSBARKEIT MIT KONTINUIERLICHEM WIDERSTAND UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
PLAQUE D'ALLIAGE D'ALUMINIUM PRESENTANT UNE EXCELLENTE FORMABILITE DE PRESSAGE ET UNE EXCELLENTE SOUDABILITE PAR POINTS PRESENTANT UNE RESISTANCE CONTINUE, AINSI QUE METHODE POUR SA PRODUCTION

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Application
EP 04727133 A 20040413

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• JP 2004048360 A 20040224

Abstract (en)
The invention offers an aluminum alloy plate with excellent press-formability and continuous resistance spot weldability, and a method of manufacturing such a plate. The aluminum alloy plate comprises, in % by mass, 0.3-1.0% of Mg, 0.3-1.2% of Si, 0.10-1.0% of Fe and 0.05-0.5% of Mn; where Fe + Mn \neq 0.2%; the remainder consisting of Al and unavoidable impurities; wherein an average value of recrystallized grain size is 25 μ m or less; and at least 5000 particles/mm² of intermetallic compounds with a circle-equivalent diameter of 1-6 μ m exist. It can further contain 0.5-1.0% of Cu, 0.1-0.4% of Zr, 0.05% or less of Ti or 0.05% or less of Ti together with 0.01% or less of B. The invention also offers a method of manufacturing an aluminum alloy plate comprising steps of pouring a melt consisting of the above composition into an opposing rotating belt caster that is forcibly cooled; casting the melt at a cooling rate of 40-90 °C/sec to form a 5-10 mm thick slab; drawing said slab from the side opposite the side where the melt was poured; rolling directly or after winding into a coil; and subjecting to a solution heat treatment.

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