

Title (en)
METHOD OF MANUFACTURING ALUMINUM ALLOY PLATE FOR FORMING

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES GROBBLECHES AUS ALUMINIUM-LEGIERUNG ZUR UMFORMUNG

Title (fr)
PROCEDE DE PRODUCTION D'UNE PLAQUE D'ALLIAGE D'ALUMINIUM DESTINEE AU FORMAGE

Publication
EP 0786535 B2 20021106 (EN)

Application
EP 95908373 A 19950214

Priority
• JP 9500200 W 19950214
• JP 4185094 A 19940216

Abstract (en)
[origin: WO9522634A1] An aluminum alloy ingot containing not less than 0.4 % by weight and less than 1.7 % by weight of Si, not less than 0.2 % by weight and less than 1.2 % by weight of Mg, and Al and unavoidable impurities for the remainder is homogenized at a temperature of not lower than 500 DEG C; the resultant product being cooled from a temperature of not lower than 500 DEG C to a temperature in the range of 350-450 DEG C and started to be hot rolled; the hot rolling step being finished at a temperature in the range of 200-300 DEG C; the resultant product being subjected to cold rolling at a reduction ratio of not less than 50 % immediately before it has been solution-treated; the cold rolled product being then solution-treated in which it is retained at a temperature in the range of 500-580 DEG C at a temperature increasing rate of not less than 2 DEG C/s for not more than 10 minutes; the resultant product being subjected to hardening in which it is cooled to a temperature of not higher than 100 DEG C at a cooling rate of not less than 5 DEG C/s. Thus, a method of manufacturing an aluminum alloy plate for molding is provided which has high strength and moldability and an excellent external appearance of a post-molding surface thereof, and which is suitably used as a material for transportation equipment parts, such as an outer plate for automobiles.

IPC 1-7
C22F 1/05; **C22C 21/02**

IPC 8 full level
C22C 21/02 (2006.01); **C22C 21/08** (2006.01); **C22F 1/00** (2006.01); **C22F 1/043** (2006.01); **C22F 1/05** (2006.01)

CPC (source: EP)
C22C 21/02 (2013.01); **C22C 21/08** (2013.01); **C22F 1/043** (2013.01); **C22F 1/05** (2013.01)

Citation (opposition)
Opponent :
• US 4808247 A 19890228 - KOMATSUBARA TOSHIO [JP], et al
• Aluminium Taschenbuch, 14. Auflage, page 254-255, 1983

Cited by
WO2019141693A1; CN102994827A; DE10324452B4; CN102876939A; CN102876940A; FR3076837A1; US11674203B2; WO2006037647A1; US9371580B2; US9903018B2; EP3666915A1; WO2020120267A1; WO2018011245A1; US11535919B2; FR3112296A1; FR3112297A1; WO2021245355A1; EP2570509B1; EP3245309B1; EP3540085B1

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