Title (en)

CU-CO-SI-ZR ALLOY MATERIAL AND METHOD FOR PRODUCING SAME

Title (de)

CU-CO-SI-ZR-LEGIERUNGSMATERIAL UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)

MATIÈRE D'ALLIAGE DE CU-CO-SI-ZR ET SON PROCÉDÉ DE FABRICATION

Publication

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Application

EP 12734565 A 20120112

Priority

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Abstract (en)

The present invention relates to a Cu-Co-Si-Zr alloy material which contains 1.0-2.5 wt% of Co, 0.2-0.7 wt% of Si and 0.001-0.5 wt% of Zr with the elemental ratio Co/Si being 3.5-5.0. The Cu-Co-Si-Zr alloy material contains second phase particles having a diameter of 0.20 μm or more but less than 1.00 μm at a density of 3,000-500,000 particles/mm 2 , and has a crystal grain size of 10 μm or less, an electrical conductivity of 60% IACS or more and good bending workability. The alloy material can be produced by setting the temperature of heating that is carried out after casting and before a solution heat treatment to a temperature that is higher than the later-described solution heat treatment temperature by 45 °C or more, by setting the cooling rate from the start temperature of hot rolling to 600 °C to 100 °C/min or less, and by selecting the solution heat treatment temperature from (50 X Co wt% + 775) °C to (50 X Co wt% + 825) °C (inclusive). The aging treatment after the solution heat treatment is preferably carried out at 450-650 ° C for 1-20 hours.

IPC 8 full level

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