

Title (en)
AL- ZN-CU-MG ALLOYS AND THEIR MANUFACTURING PROCESS

Title (de)
AL-ZN-CU-MG-LEGIERUNGEN UND DEREN HERSTELLUNGSVERFAHREN

Title (fr)
ALLIAGES AL-ZN-CU-MG ET LEUR PROCÉDÉ DE FABRICATION

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Application
EP 19828721 A 20191218

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Abstract (en)
[origin: EP3670690A1] The invention relates to a rolled aluminum-based alloy product having a thickness of at least 80 mm comprising, (in weight %) : Zn 6.85 - 7.25, Mg 1.55 - 1.95, Cu 1.90 - 2.30, Zr 0.04 - 0.10, Ti 0 - 0.15, Fe 0 - 0.15, Si 0 - 0.15, other elements ≤ 0.05 each and ≤ 0.15 total, remainder Al, wherein at mid-thickness more than 75 % of grains are recrystallized or at mid-thickness 30 to 75 % of grains are recrystallized and non-recrystallized grains have an aspect ratio in a L/ST cross section less than 3. A process for the manufacture of a rolled aluminum-based alloy product comprises the steps of: (a) casting an ingot made in an alloy according to the invention, (b) conducting an homogenization of the ingot (c) conducting hot rolling of said homogenized ingot in one or more stages by rolling, (d) conducting a solution heat treatment a quench, (e) conducting stress relieving, and, (f) conducting an artificial aging treatment. The products of the invention are suitable for aircraft construction and have advantageous fatigue crack growth properties.

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