Title (en)

A METHOD OF MANUFACTURING OF ENERGY-ABSORBING ELEMENTS MADE OF AGE-HARDENABLE ALUMINUM ALLOY SHEETS THAT FACILITATE FURTHER JOINING

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ENERGIEABSORBIERENDEN ELEMENTEN AUS ALTERSHÄRTBAREN ALUMINIUMLEGIERUNGSBLECHEN, DIE EINE WEITERE VERBINDUNG ERMÖGLICHEN

Title (fr)

PROCÉDÉ DE FABRICATION D'ÉLÉMENTS D'ABSORPTION D'ÉNERGIE CONSTITUÉS DE FEUILLES EN ALLIAGE D'ALUMINIUM DURCISSABLES PAR VIEILLISSEMENT QUI FACILITENT L'ASSEMBLAGE ULTÉRIEUR

Publication

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Application

EP 20169730 A 20200415

Priority

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Abstract (en)

The purpose of the invention was to develop a new method of manufacturing of energy-absorbing elements made of aluminum alloy sheets that facilitate further joining. A method of manufacturing of energy-absorbing elements made of aluminum alloy sheets that facilitates further joining is disclosed. The method comprises steps of: cutting out the blank from sheet metal, heating an Al-alloy blank to its solution heat treatment temperature (T_{SHT}) and holding it until solution heat treatment (SHT) is complete, immediate transferring of hot blank to a forming station, preforming of hot blank, i.e. simultaneous stamping and cooling the blank, in order to produce a solutionized preform having shape intermediate between the blank and a final product, finishing stamping of the cold preform to obtain the final shape of the drawpiece, trimming, in order to remove the excess of the material and subjecting components to artificial ageing in order to increase the strength of the material.

IPC 8 full level

C22F 1/04 (2006.01); **C22F 1/00** (2006.01); C21D 1/673 (2006.01)

CPC (source: EP)

B21D 22/022 (2013.01); **B21D 24/005** (2013.01); **B21D 35/005** (2013.01); **C22F 1/002** (2013.01); **C22F 1/04** (2013.01); C21D 1/673 (2013.01)

Citation (applicant)

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