

Title (en)  
METHOD FOR PRODUCING HALF-FINISHED PRODUCTS MADE OF ALUMINIUM ALLOYS

Title (de)  
HERSTELLUNGSVERFAHREN FÜR HALBFERTIGE PRODUKTE AUS ALUMINIUMLEGIERUNGEN

Title (fr)  
PROCEDE DE FABRICATION D'UN DEMI-PRODUIT A PARTIR D'UN ALLIAGE D'ALUMINIUM

Publication  
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Application  
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Abstract (en)  
The present invention relates to the method of fabrication of wrought semiproducts from high strength aluminium-based alloys, and fabrication of articles from such semiproducts e.g frames, fittings, beams, etc. used in aerospace engineering and transportation facilities. The suggested method comprises: casting an ingot, homogenization, forging the ingot, extrusion of the wrought billet, solution heat treatment, cold working in two steps: 1. stretching with 1-5% permanent set, 2. multi-axial shaping of the billet by bending while simultaneously performing the local plastic deformation of the billet by compressing ( 1-20 %) the joint places of the blank parts being disposed at an angle of 45-135 DEG to each other; two stage ageing: 1<st> stage = heating to 90-120 DEG C for 5-24 hours; 2<nd> stage = heating to 160-190 DEG C for 5-20 hours. The suggested method allows to fabricate long, irregular-shaped semiproducts from wrought aluminium-based alloys having high strength and fracture toughness and low level of residual stresses, thereby providing the fabrication of products without any distortion or buckling upon machining.

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IPC 8 full level  
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IPC 8 main group level  
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