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(54) Title: ELECTROPLATED ALUMINUM PARTS AND PROCESS OF PRODUCTION

(57) Abstract: The invention provides a pretreatment process for electroplating aluminum parts or strip, in which the zincating solution is modified to improve the adhesion of the subsequent electroplate to the substrate. The aluminum part or strip, such as an aluminum coin blank or strip for coin blanks, is pretreated with an improved zincate solution which provides hydroxide ions in an amount in the range of 75 - 175 gpl, zinc ions in an amount in the range of 15 - 40 gpl, nickel ions in an amount in the range of 2 - 10 gpl and copper ions in an amount in the range of 1.5 - 5 gpl. The pretreatment process preferably includes a copper strike applied from a copper cyanide strike bath at a pH in the range of 8.5 - 11.0, using a current density in the range of 0.1 10 A/dm². The pretreatment and electroplating steps are preferably conducted by barrel plating, in accordance with another aspect of the invention. The invention also provides electroplated aluminum parts or strip, such as electroplates coin blanks, including a substrate formed from aluminum or an aluminum alloy and having multiple surfaces, a layer of zincate on at least one of the surfaces of the substrate and preferably completely encasing the substrate, a strike layer of a strike metal covering the layer of zincate, and one or more electroplated layers of one or more metals covering the strike layer, said one or more electroplated layers adhering to the substrate to withstand a deformation process without delamination from the substrate.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C25D A44C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	S. WERNICK ET AL.: "Surface treatment and finishing of aluminium and its alloys, Vol. 2, Ed. 5" 1987, FINISHING PUBLICATIONS, TEDDINGTON, GB XP002194803 155780 chapter 14 page 1026 -page 1050 ---	1,2, 8-12, 16-27, 33-42, 47,49, 50,54,55
A	GB 1 007 252 A (CANNING AND COMPANY LTD W) 13 October 1965 (1965-10-13) cited in the application the whole document page 2, line 23-27 ----- -/--	1,2,5



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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G document member of the same patent family

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