

Title (en)
SEMIFINISHED PRODUCT BASED ON NICKEL AND HAVING A CUBIC TEXTURE, AND METHOD FOR THE PRODUCTION THEREOF

Title (de)
HALBZEUG AUF NICKELBASIS MIT WJRFELTEXTUR UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)
PRODUIT SEMI-FINI A BASE DE NICKEL PRESENTANT UNE TEXTURE EN CUBE ET PROCEDE POUR LE PRODUIRE

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Application
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Abstract (en)
[origin: WO2006064030A1] The invention relates to a semifinished product based on nickel and having a cubic texture, and to a method for the production thereof. Said semifinished product enables an insulating nickel oxide layer with a high-grade cubic texture on the surface thereof to develop, said nickel oxide layer acting as a buffer layer between the base material and a coating to be subsequently applied, for example a superconductor layer. The aim of the invention is to create a semifinished product based on nickel, without the disadvantages of prior art. The inventive semifinished product has a recrystallisation cubic texture and consists of technically pure nickel or nickel alloys with a metal addition from the third subgroup of the periodical table of the elements. A maximum of 600 atoms ppm and a minimum of 10 atoms ppm of the additive are contained in the material. The metallic additive can be preferably yttrium and/or Cer. According to an advantageous embodiment of the invention, a nickel oxide layer with a cubic texture is arranged on the material surface. In order to create the semifinished product, an alloy is produced according to fusion or powder metallurgy or by mechanical alloying, and said alloy is then processed by means of heat forming followed by high-grade cold forming with a >80 % reduction of the thickness in order to form a strip, film or flat wire. The material is then subjected to a recrystallising annealing process in order to obtain the cubic texture.

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