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POWDERED-METAL ALLOY FOR THE PACKING OF GAS TURBINES,(U)
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FOREIGN TECHNOLOGY DIVISION

POWDERED-METAL ALLOY FOR THE PACKING OF GAS TURBINES

by

Yu. N. Semenov, G. L. Dubrov
and N. A. Kazantseva

EDITED TRANSLATION

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POWDERED-METAL ALLOY FOR THE PACKING OF GAS TURBINES

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Powdered-metal alloys [cermet alloys] consisting of nickel and boron nitride are well-known. However, at a high temperature they impair the properties of the running-in ability of the packing material.

The proposed alloy is different in that for increasing the heat-resistance, introduced into its composition is silicon within 2-3%, and the remaining components are taken in the following percentage ratio: nickel, 90-93, and boron nitride, 4.5-7, additionally heat-treated at a temperature of 2100-2200°C.

The heat-treated boron nitride powder is mixed with powders of electrolytic nickel and silicon; then they are subjected to pressing, sintering, repressing, and repeated sintering at a temperature of 1100°C for two hours.

The experiments conducted showed that with the additional heat treatment of the boron nitride, there was a significant increase in the heat resistance of the new powdered-metal packing material used in gas turbines.

Object of the Invention

A powdered-metal alloy for the packing of gas turbines, and it contains nickel and boron nitride; it is distinguished by the fact that for the purpose of increasing the heat resistance,

introduced into its composition is silicon withing 2-3%, and the remaining components are taken in the following percentage ratio: nickel, 90-93, and boron nitride, 4.5-7, additionally heat-treated at a temperature of 2100-2200°C.

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