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REPARATORY HARD FACING OF WORKING PARTS MADE OF MARTENSITIC STAINLESS STEEL IN CONFECTIONARY INDUSTRY

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ABSTRACT

In order to improve the reparatory hard facing technology in this paper is especially analysed reparatory hard facing of tools for manufacturing compressed products in confectionary industry. Those products are being made of a mixture consisting of several powdery components, which is compressed under high pressure. In that way the connection between particles is realised, thus achieving certain hardness and strength of the confectionary product. The considered tool is made of high-alloyed martensitic stainless steel. The tool contains 35 identical working places. Besides the production process wear, on those tools, from time to time, appear mechanical damage on some of the products shape punches, as cracks at the edges, where the products final shapes are formed. Those damages are small, size wise, but they cause strong effect on the products final shape. The aggravating circumstance is that the shape punch is extremely loaded in pressure, thus after the reparatory hard facing, the additional heat treatment is necessary. Mechanical properties in the heat affected zone (HAZ) are being leveled by annealing and what also partially reduce the residual internal stresses.

Keywords: hard facing, filler material, confectionery industry, wear, hardness, microstructure, shape punch.

AIMS AND BACKGROUND

Here has been analysed the damage of the shape punches, described predominant types of wear, and it was also explored the possibility of their hard facing. Specially attention has been devoted to choice of repair procedures in hard facing. After the filler materials and the repair procedures had been chosen and techno-

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