HEAT TREATMENT OF NODE ROD-EARRING

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Node rod-earring is designed to transfer the translational motion of the crank mechanism in piston engines and compressors. It is operated in a fairly harsh conditions and hostile environments, so to ensure its functionality and reliable operation requires a high surface hardness and wear resistance with a fairly viscouscore, corrosion resistance, high accuracy and quality of the surfaces of the executive. The efficiency of node rod-earring is determined by the condition of the surface layer.

One of the most effective ways of hardening the surface is anion-plasma nitriding.

Plasma nitriding, also known as ion nitridin gis an industrial surface hardening treatment for metallic materials.

The most important benefits of ion-plasma nitriding are:

- high rate of saturation;
- possibility of regulating processing settings and through this - structure, phase composition, hardness, durability and roughness;
- a high cleanliness level the surface;
- reduction of length of nitriding (in 2- 2,5 times);
- the process is not toxic.

Currency of my work is development technological variants of nitriding processes that provide the formation of a definite structure and phase composition of the nitrided layer for the desired physical and mechanical characteristics of node rod-earring.

The most appropriate grade of steel for node rod-earring is steel H2MYA38.

Heat treatment of this steel includes:

- quenching from the temperature above the point A_3;
- warming to the temperature 620-640 ºC;
- nitriding at the temperature 540-550 ºC. During this process nitrogendiffuses into the surface of a metal to create a case hardened surface.

As a result ofthe workwe investigated the influenceofion nitridingon the structure, microhardness, toughness and impactresistance ofselectedsteel.