

**MD.17****Title****Thermogazocyclic nitration process****Authors**

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**Description**

In order to increase the service life of the parts of the machine parts, of the most loaded ones, in the industry, the thermal and chemical-thermal hardening procedures are often used. Chemical-thermal treatment, increases hardness, wear resistance and corrosion. Forming in the superficial layer favorable compression stresses, which increase the reliability and service life of the machines. But this process has a number of shortcomings, the main disadvantage of the process is the high cost and the long duration of the process.

**EN**

At a temperature of 500 ° C, for example, every 10 hours the nitrogen diffuses into the iron at a depth of about 0.1 mm, so the total duration of the process is 30 ... 60 hours. A new efficient method of thermo-gas-cyclic nitriding is proposed. The new technology allows to reduce the consumption of saturated and emission gases in the atmosphere by about 10 times, the same time about 5 times the reduction of the process duration, as well as the increase of the diffusion layer thickness by 2-6 times, without reducing the physical and mechanical characteristics of the product.

Class no.