

Processing Fluid for the CITROX Process

Basics

If after nitriding or nitrocarburising the obtained layers are checked, sometimes nonuniformities regarding microstructure and thickness are found. In most cases this was caused by residues from metalworking fluids, rust preventives etc. which were not completely removed before heat treatment. In other cases passivating layers affected nitrogen diffusion. Because of the low nitriding temperatures in the 500 to 600 °C range that effect is much noted more frequently and thus more critical than with carburising. It can be overcome by the CITROX process developed by IVA INDUSTRIEÖFEN GMBH / DORTMUND, which depassivates the steel surface before nitriding by means of small amounts of the NITROSAFE fluid feeded into the nitriding retort thus providing uniform nitriding layers.

Characteristics

NITROSAFE is a special aqueous fluid used to activate steel surfaces prior to nitriding processes. It is based on citric acid and has got the appropriate additives to prevent microbe attack. Compared to citric acid in powder form the exact dosage is much easier which is important for safe processing. It is delivered ready for use in plastic containers of 30 kg each.

Fields of Application

NITROSAFE is used

- ◆ to activate the surface of steel parts before nitriding and nitrocarburising in gas by removing passive layers. It does not replace thorough washing / degreasing, which is always mandatory prior to diffusion processes.
- ◆ to post-oxidize nitrided / nitrocarburised parts

Characteristic Data

approx.

Colour / Appearance	colourless sometimes slightly dim aqueous liquid *
Odour	neutral
Density at bei 20 °C	1,0 g/ml
pH-value	2 - 4

The slightly dim appearance is normal. Flakes in the fluid, which can occur after extended storage at low temperatures, can be removed by filtration.

NITROSAFE being an aqueous fluid must be kept free from frost during transport and storage!

Instructions for Use

For additional advice regarding proper use and dosage of the NITROSAFE fluid see the information given by IVA / DORTMUND.

Exclusion of liability

The content of this leaflet is based on our actual knowledge. It provides a description of the product regarding properties and application without giving any guarantee or other legal binding assurance. It does not relieve the user from the responsibility of carrying out his own tests and experiments to check its suitability for his application. Also it is the user's responsibility to make sure that any proprietary rights and existing legislation are observed. .

