

PLASNIT® & PLASOX®

Process description:

PLASNIT®

Plasma nitriding is a thermo-chemical type of surface treatment during which molecular nitrogen (N₂) is cracked up in plasma to obtain active nitrogen. The nitrogen penetrates the component surface and thus increases its hardness and wear resistance.

PLASOX®

Is a combined process of PLASNIT® and subsequent oxidisation to achieve increase in corrosion resistance and minimisation of the friction coefficient.

Industries using this process:

→ Mechanical engineering, automotive, tool and die manufacturing, aerospace

Materials:

- Structural steels (e.g. S355), low-alloy heat-treated steels (e.g. 1.7225) and nitriding steels (e.g. 1.8519, 1.8550), tool steels (e.g. 1.2343, 1.2379) and plastics mould steels (e.g. 1.2311)
- Corrosion-resistant steels upon request

Main features:

- Mechanical covering possible
- Vacuum plasma process between 400°C and 600°C
- Micro-pulse plasma nitriding technology has been developed by RÜBIG

Plant dimensions:

- Max. Ø 1.500 mm / 6.000 mm in height
- ~ 10.000 kg

Major use and purpose of the process:

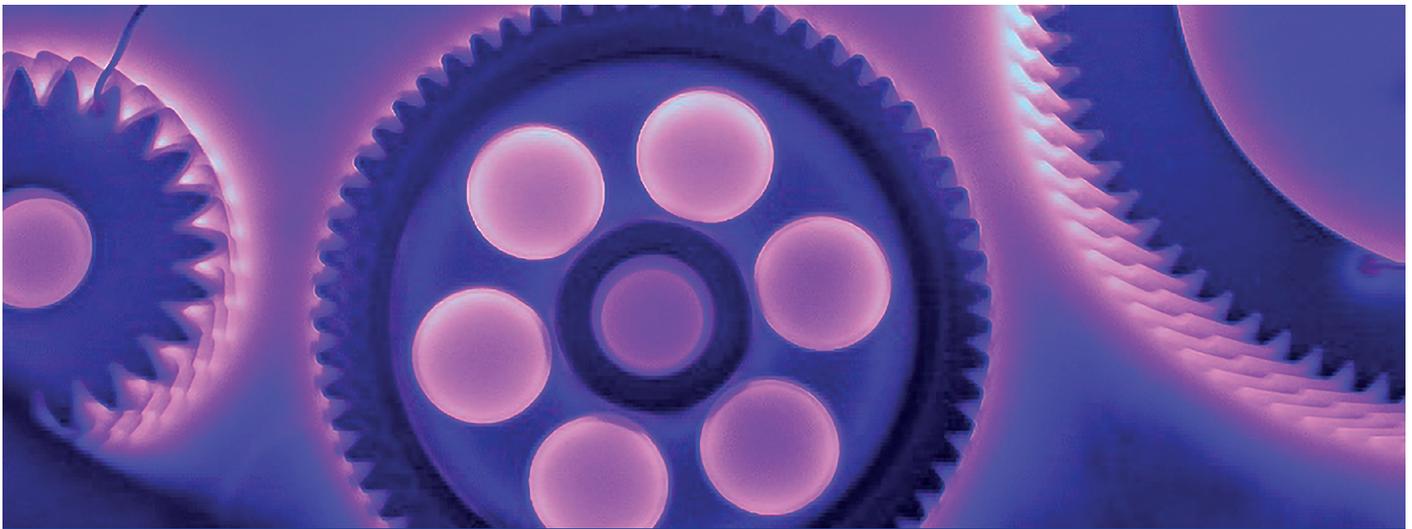
- Protection against surface wear
- For increase of surface hardness
- For improvement of corrosion resistance and run-in properties
- Increase of fatigue strength

Throughput duration:

- See list of deadlines

Process duration:

- Depending on the nitriding depth (NHT / NHD) and the material



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Possible preparation treatment of the surface for optimum surface condition:

- Metal blank surface
- No corrosion
- Micro-blasting
- Free from grease, oil, processing agents or drawing and casting skins
- Polishing
- Annealing
- Clean cooling channels
- No strain hardening through e.g. mechanical processing

Required information:

- Surface hardness
- Nitriding depth
- Interconnection coat thickness / oxide coat thickness
- Definition of the area to be nitrided (included as a not in the construction drawing)

Important:

- Installation surfaces are not treated

Contact:

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