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 / 2.400 mm in height
→ ~ 9.000 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
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

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