DLC Xtended® + Duplex

Process description:
DLC Xtended®:
DLC stands for diamond like carbon and it is a carbon-based hard material layer. The deposition is carried out through a PACVD process.

Duplex:
Is a combined process of PLASNIT® and DLC Xtended® for improvement of wear resistance and adjustment of the workpiece to the coat hardness.

Industries using this process:
→ Plastics processing industries, mechanical engineering, chemical industry, etc.

Materials:
→ DLC Xtended®:
  Steels with tempering temperature > 480°C
→ Duplex:
  Steels with tempering temperature > 500°C (e.g. 1.7225, 1.8519, 1.2343)

Main features:
→ Water-repellent / oil-repellent
→ High degree of chemical resistance
→ Electrically insulating
→ Very low friction coefficient

Major use and purpose of the process:
→ Wear and corrosion protection
→ Minimisation of friction
→ Decorative layer

Coat thickness:
→ ~5 - 10 µm DLC coat thickness
→ Greater coat thicknesses upon request

Coat thickness tolerance:
→ 5 - 10 µm for single order
→ 1 - 4 µm for series treatment

Coat hardness:
→ 1,000 - 1,500 HV

Process temperature:
→ DLC Xtended®: 450°C
→ Duplex DLC Xtended®: max. 490°C

Plant dimensions:
→ Max. Ø 1,000mm / 1,800mm in height

Throughput duration:
→ Upon request
Possible preparation treatment of the surfaces for optimum surface condition:

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

Required information:

- Material
- Definition of the area to be nitrided (included as a not in the construction drawing)
- Previous heat treatment processes

If you wish for a consultation and recommendations, we would need the following information:

- Application area of the component
- Purpose of the coating
- Previous and further process steps
- Are we allowed to perform micro blasting?

Important:

- Installation surfaces are not treated