



Advanced Hard Coatings

Nitron Ti



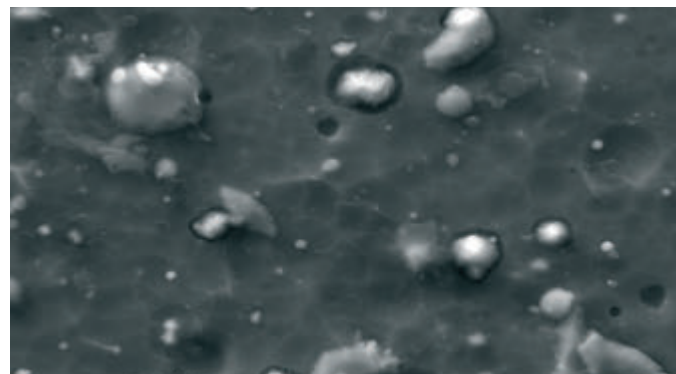
Nitron Ti is deposited using Wallwork's unique Electron Beam Technology. The process delivers a smooth droplet free coating that is hard wearing with practical and decorative applications.

Nitron Ti is widely used to improve the life and performance of cutting and press tools. Nitron Ti has a yellow / gold colour and is used extensively as a hard wearing and / or decorative option.

Due to its biocompatibility, Nitron Ti is widely used in the medical industry in varying applications such as joint replacements, medical tooling and medical equipment identification.

Surface Finish

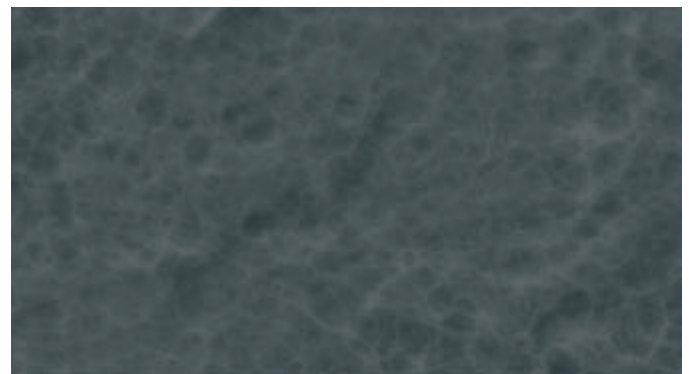
The below images show the difference in the surface finish achieved with Electron Beam technology



Cathodic Arc: x100 magnification

Nitron Ti Guideline Characteristics

Hardness	2000 – 2300 VPN
Colour	Yellow / Gold
Coefficient of friction	0.25 – 0.35 μ
Deposition temperature	Below 450°C
Oxidation temperature	480°C
Thickness	1 – 4 μ m



Wallwork Electron Beam: x100 magnification



Anti Galling

Nitron Ti offers exceptional anti galling properties on broach tools and threads that are prone to binding. It is particularly effective in the oil and gas industry. The thin layer nature of the coating means it can be applied to finished threads or other moving parts without affecting fitment.



FDA Compliance

Wallwork Nitron Ti coating is non-reactive, non-absorbent, and non-additive. It has a high resistance to abrasion; there is little or no likelihood that components of these materials would migrate in significant amounts. This coating therefore satisfies the FDA regulatory guidelines.



Applications

Widely used coating across many industries, such as medical implants, medical instruments and aerospace components. Cutting tools - taps, drills, mills, reamers, cutters and inserts. Press tools - stamping, punching and cold forming, also has many decorative applications.

Process Specification Development

Wallwork Nitron Ti can be completed to pre-defined standard processing using Wallwork Process Specification PS300 with process acceptance criteria of coating thickness and adhesion per run.

Part specific Process Specifications to capture all unique cleaning, processing or testing requirements can be created and validated as required; contact Wallwork Cambridge for further details.

REACH

Nitron Ti is compliant to UK REACH regulations.

Increased Tool Life

Nitron Ti will also reduce abrasive or fretting wear on the tool, reducing downtime and frequency of tool replacement. When used as a duplex coating, the distinctive colour of Nitron Ti can serve as a visual indicator when the working surface coating has worn away and needs refurbishment. It is then possible to strip and re-coat working surfaces before any base material wear, preserving tooling rather than needing to replace.