



Advanced Hard Coatings

Nitron CX

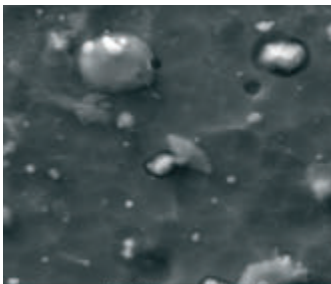


Wallwork Nitron CX is a multi-layer wear resistant hard PVD coating which can be applied to a metal surface.

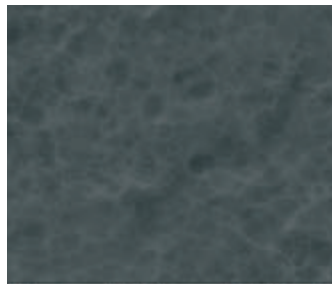
It is ultra-hard with excellent corrosion resistance and a low coefficient of friction.

Nitron CX can be used either as a direct replacement for hard chrome plating, ion nitriding, chemical vapour deposition (CVD) and thermal diffusion processes such as HVOF.

Wallwork Nitron CX is deposited using Wallwork's unique Electron Beam Evaporation processes giving a smooth, droplet free surface that gives exceptional release properties on many materials, metals, plastics and powders when forming, punching or moulding.



Cathodic Arc: x100 magnification



Wallwork Electron Beam: x100 magnification

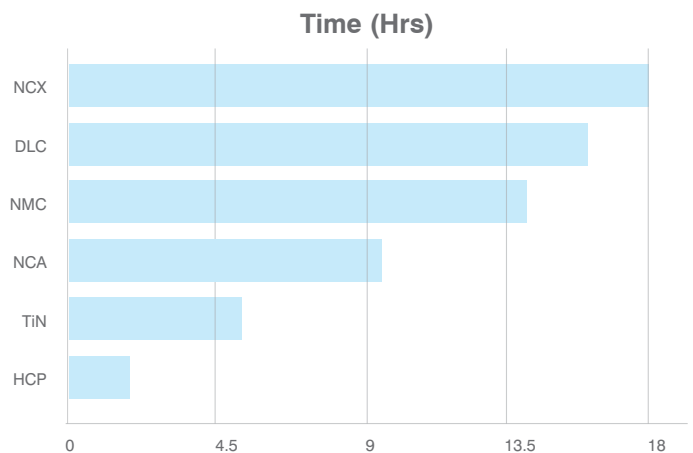
Corrosion Resistance

The multi-layer structure of Nitron CX gives greater corrosion resistance than normal Chrome Nitride coating. It improves the life span of any coated tooling that may be in corrosive or hostile environments.

Nitron CX Guideline Characteristics

Hardness	1800 – 2200 VPN
Colour	Silver / Grey
Coefficient of friction	0.4 – 0.5 μ
Deposition temperature	Below 450°C
Oxidation temperature	480°C
Thickness*	2 – 6 μ m

*multi-layer / thicker coatings available upon request



Hardness

Wallwork Nitron CX is twice as hard as conventional hard chrome, with high hardness, low friction and low residual stress levels.



FDA Compliance

Wallwork Nitron CX coating is non-reactive, non-absorbent, 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. Therefore, these coatings satisfy the FDA regulatory guidelines.



Surface Finish

Adhesion

This is the test carried out on every coating cycle to determine the quality of the adhesion using the industry standard Mercedes test. Scratch testing and nano-hardness testing can be completed on request.

Process Specification Development

Wallwork Nitron CX can be completed to pre-defined standard processing using Wallwork Process Specification PS 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 CX is compliant to the REACH regulations and is a very good replacement for components currently being hard chrome plated.

Increased Tool Life

Nitron CX will also reduce abrasive or fretting wear on the tool, reducing downtime and frequency of tool replacement.