

# Nitron DX



**Nitron DX is a duplex coating system, available when you need additional wear resistance or load bearing properties.**

A hardened layer is diffused into the base material to varying depths dependent on material. This creates a hardened layer onto which Nitron C, CA, CX or Ti can be applied, to give a hard wearing, low friction, duplex coating.

Nitron DX uses relatively low process temperatures, resulting in minimal distortion or growth.

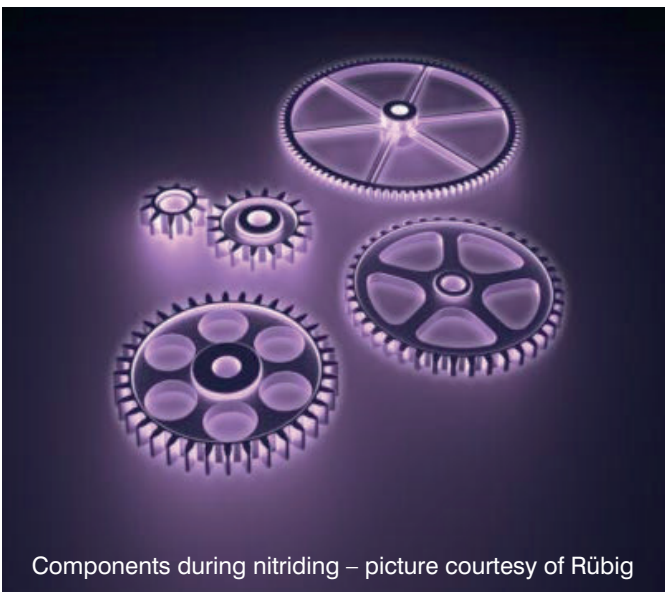
A post diffusion polish is required before coating to remove the “white layer” that is formed during diffusion.

This can be removed in-house at Wallwork Cambridge.

## Nitron DX Guideline Characteristics

Typical diffusion depth*	10 – 50 $\mu\text{m}$
Diffusion hardness	Upto 1200 VPN
Diffusion temperature	400°C - 580°C
Coefficient of friction	0.1 $\mu$
Nitron coating hardness	2800 Hv

\* Diffusion depth may vary based on material chemistry.



Components during nitriding – picture courtesy of Rübigen

## Polishing

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If a specific surface roughness (Ra) is required, it is recommended to polish the working area prior to the diffusion layer. After the diffusion layer, a light blast and polish is all that is required to allow deposition of Nitron coating.



## FDA Compliance

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Wallwork Nitron DX process 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

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Nitron DX is particularly effective on the following applications.

Forming tools, mould/casting tools, dies & slitting and cutting tools.

Particularly effective in harsh hot forming environments.

## Process Specification Development

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Wallwork Nitron DX can be completed to pre-defined standard processing using Wallwork Process Specifications, or can be tailored to customer's individual requirements.

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

## REACH

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Nitron DX is compliant to UK REACH regulations.

## Increased Tool Life

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