



Advanced Hard Coatings

Nitron MC



Nitron MC is a dark grey-black hard carbon coating applied in an advanced Physical Vapour Deposition (PVD) process.

The coating has exceptional tribological properties due to its high hardness (>850Hv) and a very low coefficient of friction (0.1).

The graded structure gives outstanding adhesion and toughness making it suitable for wear reduction in many sliding applications.

Nitron MC is carried out in purpose built processing machines which allow the deposition to take place at low temperatures (<200°C). The coating has a very smooth finish requiring no post-process operations.

Decorative

The visually appealing anthracite colour has made Nitron MC popular for hard wearing decorative thin film coatings which are demanded by the luxury goods market.

Nitron MC has been used on watches, phone covers and jewellery. Augmented by the deposition of Nitron MC to provide a scratch free, smooth and fashionable surface finish.

When compared to nitrided, nickel and hard chrome surfaces, Nitron MC exhibits improved wear resistance.

In particular, Nitron MC coating offers the perfect combination of low coefficient of friction, high hardness and high abrasive resistance.

The chart shows the coefficient of friction when tested against steel.

Nitron MC Guideline Characteristics

Hardness	850 VPN Minimum
Colour	Dark grey / black
Oxidation temperature	300°C
Coefficient of friction	0.1 μ
Deposition temperature	Below 200°C
Thickness*	1 – 4 μ m

* Thicker coatings available on request.



Mistral Racing - Boosting Performance

The gears benefited from Wallwork Cambridge's in-house developed Nitron MC coating. Racing motorbike gears are subjected to tremendous forces as the racer constantly powers through the gears to achieve maximum acceleration. The coating excels in this kind of application where there is high adhesive wear, surface fatigue and the potential for seizure.



Red Victor Racing Team Celebrate Transmission Reliability Gains

In winter series drag racing championships in Bahrain the Red Victor1 Racing Team celebrated an exceptional 21 trials and their best speeds ever. A key element in this success can be attributed to advanced micro thin Nitron MC and Nitron Ti hard coatings.



Process Specification Development

Wallwork Nitron MC can be completed to pre-defined standard processing using Wallwork Process Specification PS326 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 MC is compliant to REACH regulations and is a very good replacement for components currently being hard chrome plated.

Increased Tool Life

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

Nitron MC has been developed and optimised by Wallwork Cambridge Ltd.