

WHAT IS DIFFOX?

When good sliding wear resistance, in conjunction with excellent corrosion resistance is required, Diffox is the answer. Diffox forms a complex case of diffusion iron nitrides and iron oxides on low and medium alloy steels that offer a superior mix of properties.



BENEFITS

- Diffox treatments can be applied to parts directly after machining
- Layers can be applied to all ferrous alloys
- High resistance to seizing and scuffing
- High resistance to corrosion
- High resistance to wear
- Insignificant distortion or size change
- Good retention of lubrication



PROPERTIES OF DIFFOX

Due to Diffox being a modification of the steel surface, properties such as wear resistance and corrosion resistance of Diffox change with different base materials.

The iron nitride layer is generally between 10 to 20 microns in thickness with hardness's of between 800 and 1500Hv. Furthermore, due to special pre-, intermediate and post finishing procedures the smoothness of the layer shows added sliding wear resistance. Depending on material and processing conditions, corrosion resistance in excess of 400 hours salt spray have been recorded.

WHAT CAN IT BE APPLIED TO?

Diffox is suitable for a wide variety of carbon steels, low alloy steels, stainless steels and even cast irons. Because it is a relatively low-temperature process, part distortion is reduced.

TYPICAL APPLICATIONS

- Valve parts
- Shafts subject to wear and fatigue
- Actuator rods and hydraulic shafts
- Gears
- Valves, crankshafts, tappets, stops
- Machine Components
- Automotive Components
- Sliding Mechanisms

WHY USE DIFFOX?

The Diffox process significantly enhances the corrosion protection of steel components and thus provides a more effective and environmentally acceptable alternative to deposition coatings, e.g. chrome and nickel plating. Furthermore, this process used in conjunction with carbon steels has proven itself as a viable replacement for stainless steels with an appreciable reduction in material and manufacturing costs.

INDUSTRY APPLICATION

- Automotive Industry
- Aircraft Industry
- Energy Technology
- Food Industry
- Textile Industry
- Hydraulic Industry
- And many more....