



HOW SATISFIED ARE YOU WITH ...

- ... your maintenance intervals and service life
- ... your product purity and cleanability

Bodycote



Kolsterised stainless steel is often the reliable alternative for:

- Hard chrome plating
- Ceramic coatings
- PVD coatings
- Bronze
- Plastic



In the food industry, kolsterised stainless steel is used in:

- Pumps
- Filling plants
- Dosing systems
- Cutting machines
- Packaging machines



INCREASED SATISFACTION THROUGH KOLSTERISING®

We know the multitude of requirements on materials in the food industry.

They must be food-safe, hygienic, functionally reliable, wear-resistant, and meet all current standards.

Stainless steel is the common choice for many machine manufacturers and yet this material does not always meet all requirements. The mechanical properties, especially in continuous use and in interaction with the media surrounding it, are often inadequate. Are you familiar with this problem?

The properties of stainless steel can be decisively improved by Kolsterising® without affecting its corrosion resistance!

YOUR ADVANTAGES OF KOLSTERISING®

- **Product purity**
- **Improved cleanability**
- **Extended service life**
- **Extended maintenance intervals**
- **Compliance with legal requirements**

WHAT CAN KOLSTERISING® ACCOMPLISH?

Kolsterising® offers many advantages and valuable properties for your material.

- **Stainless remains stainless**
The corrosion resistance is maintained
- **Surface hardness increased up to 8 times**
Surface hardness from 900 - 1300 HV_{0.05} depending on material and surface
- **Improvement of wear resistance**
Reduction of wear depth by up to 25 times compared to untreated material
- **Prevention of galling / fretting**
Increasing the resistance to galling/fretting by a factor of 20 to values beyond the material strength (in typical applications)
- **Improvement of hygiene**
Scratches and wear are reduced, thus cleanability maintained

WHAT IS KOLSTERISING®?

Kolsterising® is a low-temperature diffusion process that greatly improves the mechanical properties of corrosion resistant materials.

- **No coating**
Kolsterising® is a „surface hardening process“ and not a coating, therefore, dimensions or shape of the part are not affected and there is no risk of delamination
- **Toxicity is eliminated**
The material remains non-toxic even after treatment
- **Compliance with legal requirements**
Kolsterising® meets the requirements of the EU directive 1935/2004, the US NSF51 and has an FDA masterfile (www.bodycote.com/food-safety)
- **Environmentally friendly process**
All S³P plants are certified according to ISO 50001 (energy management) and ISO 14001 (environmental management)

KOLSTERISING® IN USE:



IGUS GMBH

Lars Braun (Head of Industry Management Packaging Industry): „Through extensive laboratory tests with plain bearings made of our specially developed Iglidur materials in combination with kolsterised stainless steel shafts, we were able to reduce wear by over 40%. An innovation that has significantly influenced the industrial performance of filling and packaging applications.“

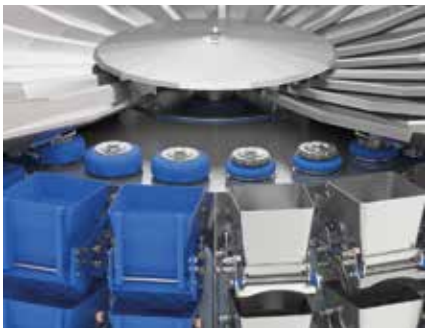
■ www.igus.de



CSF INOX S.P.A.

Antonio Toso (Technical & Quality Manager): „Bodycote helped us to develop a solution for the wear problems that occurred in our Twin Screw and Progressing Cavity pumps treated with the classic heat treatment processes and conventional coatings. Furthermore, Kolsterising® really made the difference in improving the cavitation-erosion resistance on our Centrifugal pumps. As a result, Kolsterising® can provide significantly longer service intervals to our customers.“

■ www.csf.it



MULTIPOND WÄGETECHNIK GMBH

Andreas Peters (Head of R&D): „Multipond Wägetechnik GmbH stands worldwide for innovative and tailor-made weighing technology in the food and non-food sector. Together with our suppliers, we continuously optimise our systems in order to further increase their reliability. With Kolsterising® from Bodycote S³P, the service life of running sleeves for shaft seals could be significantly extended, there is no longer any run-in of the sealing ring on the sleeve. The corrosion resistance remains unchanged compared to the untreated condition.“

■ www.multipond.com

**Bodycote is the worldwide leading service provider
of thermal processing.
S³P is part of our Specialist Technology division.**

Kolsterising® is a low-temperature process for surface hardening of stainless steel based on the diffusion of carbon into the steel. Carbon is already an element of stainless steel and therefore does not change the material composition – a significant advantage, especially in the food industry.

Through extensive laboratory testing and numerous customer applications we have developed trend setting solutions that are proving reliable in daily use worldwide.

Please contact us to benefit from the advantages of Kolsterising® for your application.

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www.bodycote.com/kolsterising

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