

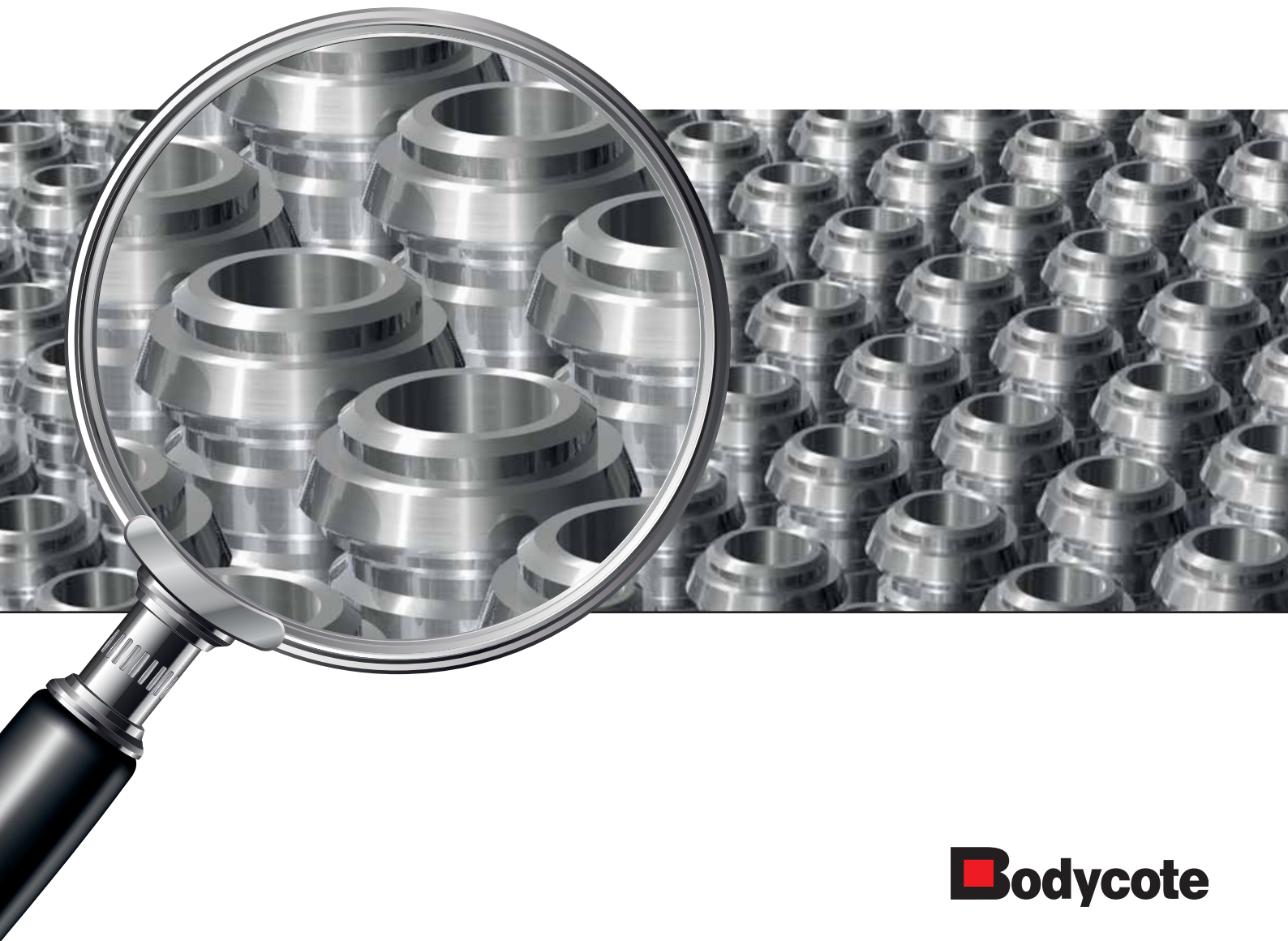
In the
SPOTLIGHT

UNIFORMITY AND REPRODUCIBILITY

QUALITY MANAGEMENT SYSTEM
ISO 9001

MORE THAN 25 YEARS' EXPERIENCE

LOWEST VARIATIONS OF
HARDENING RESULTS



Bodycote

Consistent quality with improved material properties

S³P treatments, based on Kolsterising® technology, are low-temperature diffusion processes that greatly improve the mechanical properties of corrosion-resistant materials. Due to the low process temperatures, no carbides or nitrides are formed, which, in contrast to standard procedures, maintains corrosion resistance. As a reproducible and reliable solution, millions of S³P-treated components are used across a broad range of industries, including automotive, oil & gas and medical technology.

Our certificates and processes guarantee top quality, every time

In all industries, high demands for process safety coupled with reproducible results play an important role. Apart from technical requirements concerning component design, high standards are applied particularly in safety-critical applications related to component certification. In this case, all steps must comply with the relevant standards, and often with customer requirements, too.

With decades of experience in surface hardening of corrosion-resistant materials, Bodycote S³P is a reliable partner when quality matters. Working within a quality management system certified to ISO 9001 and with full control of internal processes, the results of the thermo-chemical hardening process are reproducible with high precision. Furthermore, all of our plants are certified to ISO 14001 for environmental management.

Bodycote S³P quality procedures certify the reproducibility on a batch-to-batch basis, but also the uniformity within the treatable volume. In addition to examining internal quality control samples with defined chemical composition and microstructure, customer components, if required, may also be analysed for quality assurance.

Advantages of S³P

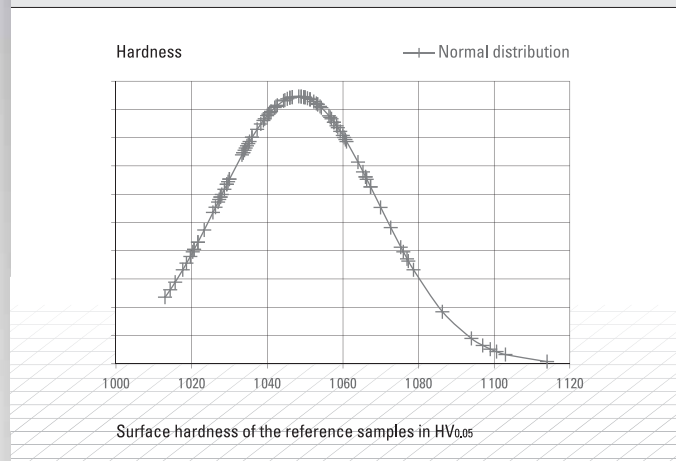
- Homogeneous and reproducible diffusion zone
- High surface hardness >1 000 HV_{0.05}
- Eliminates fretting and galling
- Maintains corrosion resistance
- Increases fatigue resistance
- Diffusion based process, no delamination possible
- Improves wear resistance

Kolsterising® is a registered trademark of Bodycote

The contents presented here are based on experiences and laboratory testings and are not a warranty of the performance of any product of any company.

	Min.	Max.	Ø	σ
Surface hardness HV _{0.05}	1 019	1 051	1 034	9,60
Diffusion depth in µm	31.7	33.8	32.8	0.69

Example of the uniformity of treatment: S³P K22; Material: 1.4404; reference samples; solution-annealed; results for one Kolsterising® unit over one year.



Surface hardness of the reference samples for the S³P K22 process during one calendar year; Results for one Kolsterising® unit; the minimum surface hardness of 1 000 HV_{0.05} was reached safely in all treatments.