

DURALLOY®

optimization of friction processes
through specially structured metal surfaces



surface
treatment

aalberts

DURALLOY®

DURALLOY® is a special thin dense chrome (TDC) coating with a maximum of 20 µm layer thickness. The specific structured surface of the DURALLOY® layer provides outstanding chemical resistance and material hardness for applications where conventional coating systems with comparable layer thicknesses are ineffective.

Due to its specific properties, in high friction applications the structured surface of the DURALLOY® layer significantly increases the wear and corrosion resistance of the coated material.

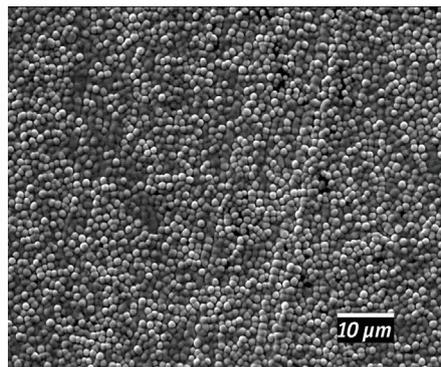
Performance characteristics

DURALLOY® is an extremely hard, crack-free, precise, very thin and ultrapure metallic chrome layer. By means of a high-energy process a nodular structured surface can be deposited on all types of metals, except for magnesium and titanium. Applications for aluminum components are limited (please contact us for details). Due to the low process temperature of under 60 °C no changes to the structure of the base material occur during plating.

This essential advantage of the process ensures shape and hardness stability for any manufactured components. DURALLOY® provides effective protection against friction and vibration corrosion and thus considerably increases the wear resistance of the material when used, for example, in gears or with shaft-hub-joints.



Linear guide with DURALLOY® layer.



Micrograph of the DURALLOY® surface.



DURALLOY® facility in Villingen-Schwenningen, Germany.

| DURALLOY® | TDC | TDC-LC | TDC-Ag |
|---------------------------------------|---|---|---|
| Layer material | Chrome | Chrome + LC | Chrome + Silver |
| Applications | in cases of load by friction and vibration corrosion and by wear | in cases of pressure load (linear guides, ball bearings) or exposure to aggressive gases (roller mills, metallurgy, defense technology) | in cases of load by starved lubrication, dry lubrication (e.g. vacuum technology) |
| Suitable materials | The range of the materials that can be coated with DURALLOY® includes most of the widely used engineering metals: steels up to 62 HRC and with a chrome content of 15 %, stainless steels, grey cast iron, sintered metals and bronze. For surface treatment of each of the particular base materials specific DURALLOY® processes are available. | | |
| Layer properties depending on process | wear protection, corrosion protection, hardness, effective lubricant reservoir, dry-running properties, damping features, protection against vibration corrosion, non-magnetic, not magnetizable, outstanding adhesion | | |