Data Sheet

CeramicSpeed Coating

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Surface Technologies

Bearing rollers, races and other wear pars can be coated to increase resistance against wear and prolong the service life.

The industry's demand for extremely varied technical surface technologies has over the last couple of years been increasing. The overall performance and reliability of machines, units and equipment is becomming more and more important which has lead to development of a variety of processes and new materials within surface treatment.

Many advantages can be achieved by coating the material surface of e.g. rolling bearings and linear components, however many coating processes are not suitable for situations in which rolling or compressive stress occurs - but our coating system is created for this.

Our coating system protects the surface from outside environmental conditions and increases the durability of bearing rollers, races or other wear parts' durability. This type of coating also results in extremely good rolling capacity especially if it's used on rolling bearings which results in a supreme protection against wear and corrosion.

CeramicSpeed Coating protect the surface but the technical improvement involved in this process also leads to energy savings and an efficient use of material. Any steel suitable for rolling bearings may be used as the basic material to be coated e.g. 100Cr6 (1.3505) steel. But the coating is also very beneficial if you use AISI 440C (1.4125) corrosion resistant steel or AISIM50 (1.3551).

	Bearing Steel (Reference)	CorroCoat	HardCoat	Black Oxide	SlipCoat
Process		Dipping	Physical Vapor Deposition (PVD)	Dripping	Chemical bonding
Process temperature °C		<80	170	140	20
Color		Grey	Black	Black	Transparent
Hardness, HV (vickers)	700	1200-1300 *	1200-1800 *	700	700
Max. running temperature °C	150/200	800	500	200	260
Thickness µm	Solid	3-6 µm	< 3µm	< 1µm	<1
Coefficient of friction (against steel)	0,8	0,25	0,05-0,1	0,7	0,05-0,1

* Depending on specimen material properties

HardCoat

This coating is within the family of DLC coatings, ideal solution for demanding applications where bearing components are under high loads or subject to extreme friction and wear. The high hardness and low coefficient of friction can prevent rolling elements from pitting, seizing and ultimately failing during operation.

Corrocoat

Our CorroCoat system consist of 98% pure chrome. A chromium coating has many advantages and it can be desposited by a high-energy processs for any steel that is suitable for coating. The hardness of this coating system is between 75 and 78 HRC (1300-1560 HV).

Black Oxide

Black Oxide treatment is an old technology often associated with initial wear protection or run-in protection. Recent studies have showed that black oxidizing also has a positive effect on bearing steels in regards of hydrogen embrittlement and white etching crack building in bearing steel. As oxidizing is a simple and inexpensive process, this offers a straight forward solution improving safety margins for many bearing applications .

SlipCoat

CeramicSpeed SlipCoat is an oil-based lubrication for ball bearings designed for clean running and in applications where ANY tiny drop of oil could ruin products, processes, or sensitive environments. CeramicSpeed SlipCoat provides just the right mount of lubrication to obtain sufficient oil separation between the steel races and the ultra-smooth ceramic balls.

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