

iwis

wir bewegen die welt

Coating of bulk material

Large production volumes

> 1 – 300 million parts / year

A wide-angle photograph of a modern industrial factory. The floor is polished and reflects the overhead lights. In the center, there are several large, complex machines with blue and white components. A worker in a black shirt is standing near one of the machines, looking at a control panel. To the right, another worker in a blue shirt is sitting at a desk with a computer monitor, operating a machine. The background features large windows with red frames, and the ceiling is high with various pipes and ducts.

iwis expands its range of services for PVD / PA-CVD coatings

Optimize your high-volume bulk materials surface properties with our state-of-the-art coating technology, to match your specific application needs.

Surface finishing of bulk materials, especially small components in very large quantities, is not limited to surface hardening / tempering and CVD coating processes. With the – TRITAN – surface finishing technology from iwis, PVD / PA-CVD coatings with improved coating quality and homogeneity can be produced at a competitive cost level.

Chromium (Cr)	Chromium Nitride (CrN)	Chromium Aluminum Nitride (CrAlN)	Titanium Nitride (TiN)	Titanium Aluminum Nitride (TiAlN)	Molybdenum Copper Nitride (MoCuN)	Amorphous Carbon (a-C:H / DLC)
						

The technology is particularly suitable for rotationally symmetrical components such as those used in roller bearing, hinge and joint technology. The geometries that can be coated with our technology are listed in Table 1. Beside the listed substrates further material as plastic materials are possible. You can clarify the feasibility with us.

- The technology represents a sustainable alternative to galvanic chrome plating.
- Hard coatings reduce wear and are applied for surface protection.
- In addition, a-C:H coatings offer the combination of wear protection and dry lubrication.

Coating added value of a-C:H coatings:

- Extend the lifespan of your components by reducing friction and wear with solid lubrication.
- Achieve durability under various operating conditions with extended running time through contact and mixed friction.
- Reduce maintenance costs by protecting components from harsh environments with corrosion protection.



a-C:H coatings from iwis with adaptable properties for your application!

Specifications of a-C:H coatings @ iwis:

- Improved Wear Resistance
- Solid Lubricant Coatings
- Corrosion protection [optional]
- Seamless Coating
- Layer hardness from 800 to 2000 HV 0,001
- Thin Layer Thickness (1 µm)
- Coating Temperature < 180 °C
- Very good layer adhesion
- Layer Uniformity ≤ 6 %.
- Operating temperature of a-C:H Layer < 400 °C
- 100% optical inspection [optional]

Table 1: Technical specifications of the coating materials:

Substrate Material	Rolling elements	DIN	Diameter [mm]:		Minimum Ratio: Length/Diameter	Length [mm]:	
			MIN	MAX		MIN	MAX
1.4301	Balls	5401	2	35		5	275
1.4404							
1.2842	Cylindrical rolls	5402	2	35	> 0,5	5	275
1.2080	Needle rolls	5405	2	35	> 0,5	5	275
1.3505							



A service for our customers, suppliers, and other enterprises – worldwide

Pioneering precision in complex motion systems

iwis mobility systems GmbH & Co. KG, integral to the iwis group from Munich, is a hallmark of innovation in precision chain systems, mechanical drive, and connection technologies. With a family heritage, being present in more than 30 global locations, and with a workforce of more than 3,000 dedicated individuals, iwis is at the forefront of innovation in e-mobility solutions.

A decade of advanced coating expertise

Our proprietary „TRITAN“ surface technology, born from diesel engine advancements, meets today's heightened wear resistance demands. Our fully automated, Industry 4.0-compliant process ensures traceability and caters to high-volume production, guaranteeing top-tier quality for up to 1,500,000 chain pins daily.

Cutting-edge dry lubrication

Our technology now extends to seamless dry lubrication coatings for spherical components, revolutionizing rolling bearing technology. Renowned for reducing wear and enhancing corrosion protection, our carbon-based coatings extend component lifespan and offer a safety net during sudden oil loss, providing a superior alternative to traditional materials.



For additional information, please visit our website at:

<https://www.iwis.com/en-en/products-services/services/tritan> or scan the nearby QR code.

Contact

For the perfect coating solution, contact iwis mobility systems GmbH & Co. KG at: coating@iwis.com