

TT®-DLC

Tribological layers of DLC

The amorphous (DLC – Diamond-Like Carbon) coatings are produced by the plasma breakdown of gaseous hydrocarbons (e.g. acetylene or methane) during the plasma activated CVD process (PACVD – Plasma Assisted Chemical Vapour Deposition).

Additionally, due to its high hardness, the DLC coatings also have very good tribological attributes e. g. low friction and low wear.

Due to the adjustable elastic attributes and good plastic attributes of the DLC coatings, they are superior compared to conventional nitridic hard coatings stressed by abrasive wear. The elastic properties makes it possible to withstand hard abrasive wear particles without damaging the layer.



Attributes of the TT®-DLC coatings

PVD coating	a-C:H
Coating composition	Multiple layers
Micro hardness	2.000 – 3.500 HV
Thickness of coating*	3 µm
Max. operational temperature	350°C
Friction against steel	< 0,15
Deposition temperature	< 180°C
Abrasive wear strength	+++
Corrosion resistance	+++
Colour of coating	Black-grey

* thickness of coating depends on the application
(with respective tolerance of coating thickness +/- 1 µm)

**value of friction against steel (100Cr6), measured in a test
of sliding wear Ball/plate tribometer, unlubricated

Applications

DLC coating is especially well suitable for sliding pair of the highly stressed tribological systems.

TT-DLC is not suited as coating on cavities and shaping contours.
We recommend to cover these areas.



LET'S OPTIMIZE EXCELLENCE

HEAT TREATMENT

Vacuum hardening
Inert gas hardening
Sub-zero cooling
Plasma nitriding
Gas nitriding
Salt bath nitrocarburizing
Annealing
Oxidizing

TRIBOLOGY

PVD coatings
PACVD coatings

COATING TECHNOLOGY

PVD coatings
PACVD coatings
UniTwin® combination systems
hi-Fusion coatings

PLANT ENGINEERING

TT 300
TT 1000
TT 1500
Concept plants

SERVICE

Laboratory
Polishing
Consultation
Service life test
Pick-up service

H-O-T

Härte- und Oberflächentechnik GmbH & Co. KG

Kleinreuther Weg 118
D-90425 Nuremberg

T +49(0)911 36014 1042
F +49(0)911 36014 1025

vertrieb@hot-online.de

