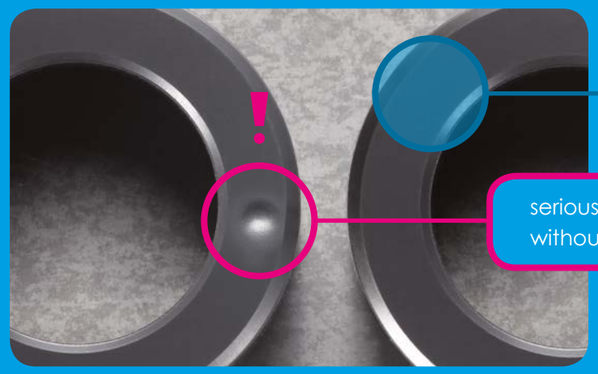
Diamant für extreme Beanspruchungen

Mechanical seals & sliding bearings

diamond-coated

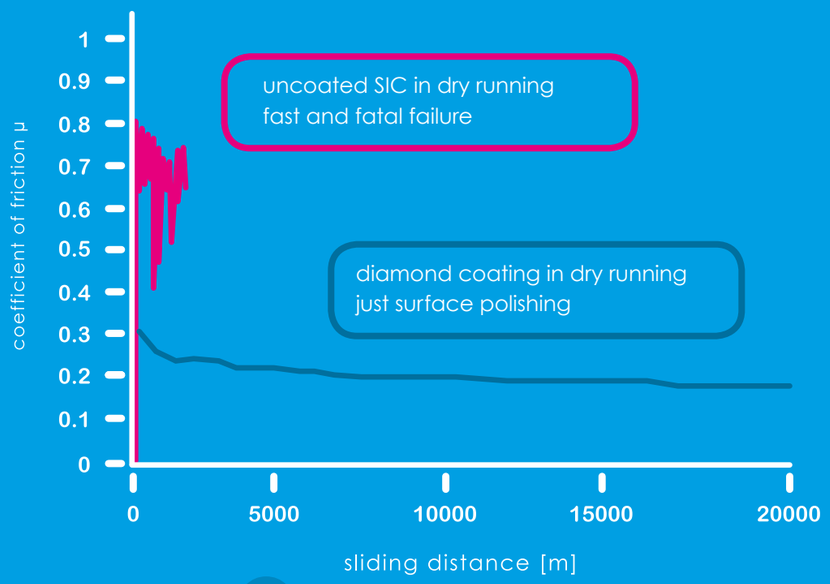
We make crystalline diamond

unique hardness for demanding applications



Sandblasting test on uncoated (left) and diamond-coated (right) silicon carbide sliding faces.

A layer of diamond which is just a few micrometres thick offers unbeatable protection for your sliding face! With the highest known hardness of 10000 HV, there is no chance of any wear. This provides ideal preconditions for slurry applications, in mixers (no particle formation) and for mixed friction.



Dry running test with uncoated and diamond-coated silicon carbide sliding faces

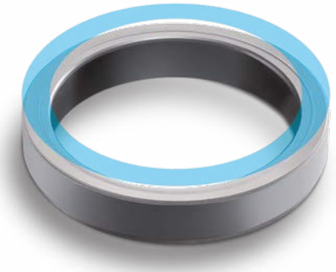
As well as the high level of wear resistance, the diamond coating also offers an extremely low coefficient of friction. This makes diamond-coated sliding faces an excellent partner in the event of inadequate lubrication or even temporary dry running. By contrast, unprotected sliding partners display very high friction values here and faces are destroyed after a short time.

Our special coating technology allows us to coat all standard sizes of mechanical seals or bearings. Both axial and radial faces can be coated, on the outside and inside. It is possible to mask partial faces which do not need to be coated.
All standard silicon carbide materials can be provided with our four different types of coating or combinations of them:

- standard (straightforward coating)
- improved flatness (especially for seal faces)
- hot water (CP-water & corrosive)
- electrically conductive (triboelectrically wear)

Mechanical seals & axial bearings

Ring diameter
up to 350 mm



Radial bearings
with coating on the inside

Diameter
up to 350 mm

Radial bearings
with coating on the outside

Diameter
up to 170 mm
Length
up to 500 mm

Diamonds

sliding faces at a new level

DiaCCon protects your sliding faces with the world's highest hardness!

DiaCCon uses the hot filament Chemical Vapour Deposition process to generate real diamond from a carbon-containing gas phase.

To ensure excellent coating adhesion, we employ a pre-treatment which we have specially developed. We take account of the different component geometries by employing a coating set-up that is customised in each case.

The coated surface contains numerous small diamond crystals. Every single one of them has the unbeatable properties of natural diamond:

- the world's highest hardness
- a low coefficient of friction
- the highest thermal conduction

No change needs to be made to the existing seal or bearing design. All that is required is for the uncoated components to be replaced with diamond-coated ones.

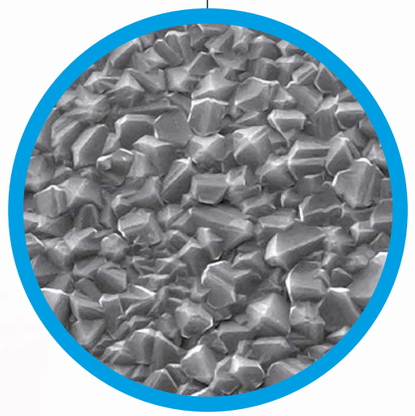
Protect your surfaces with your own army of diamond crystals because **they are small, they are hard, they are tough and they are many!**

they are small

they are hard

they are tough

they are many



SEM photo of a diamond-coated sliding face

Diamonds

small.
hard.
tough.
many.

DiaCCon is a globally leading company in the field of **CVD** diamond coating. We specialise in the high-quality diamond coating of mechanical seals/bearings and the production of diamond electrodes with long-term stability.

“we lift your sliding faces to a new level.“

CEO DiaCCon GmbH - Germany

Diamonds

DiaCCon

"our tool is the hot filament"

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crystalline
diamond

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