

BALIQ CARBOS – The perfect solution for your requirements

The ideal application areas of BALIQ CARBOS

- Tribologically highly loaded parts
e.g. motorsports engine piston pins
and valve train parts
- Sharp and durable food processing
components
- Fibre resistant textile components
- High end decorative parts
- Medical instruments

BALIQ CARBOS in comparison with other carbon coatings

	BALINIT® C	BALINIT® DLC	BALINIT® DLC STAR	BALINIT® CAVIDUR	BALIQ® CARBOS
Coating material	WC/C	a-C:H	CrN/a-C:H	a-C:H	a-C
Process technology	Sputter	PACVD	PACVD	PACVD	S3p®
Coating hardness H _{IT} [GPa]	8 – 12/12 – 15	~ 15 – 25	~ 15 – 25	~ 25 – 35	30 – 40
Typical coating thickness [µm]	1 – 4	1 – 3	2 – 5	2 – 4	1 – 4
Friction against steel, dry running	0.1 – 0.2	0.1 – 0.2	0.1 – 0.2	0.1 – 0.2	0.1 – 0.2
Coating temperature [°C]	< 250	< 250	< 250	250 – 350	< 200

Open a new world of possibilities with BALIQ CARBOS
Get in touch with us today!

Headquarters
Oerlikon Balzers Coating AG
Balzers Technology and
Service Centre
Iramali 18
LI-9496 Balzers
Liechtenstein
T +423 388 7500
www.oerlikon.com/balzers

Germany
Oerlikon Balzers Coating
Germany GmbH
Am Ockenheimer Graben 41
55411 Bingen
T +49 6721 7930
www.oerlikon.com/balzers/de

Liechtenstein
Oerlikon Balzers Coating AG
Iramali 18
9496 Balzers
T +423 388 5701
www.oerlikon.com/balzers/ch

USA
Oerlikon Balzers Coating USA Inc.
1700 E Golf Rd
Suite 200
60173 Schaumburg, IL
T +1 847 619 5541
www.oerlikon.com/balzers/us

Our worldwide coating centre
network addresses are listed at:
www.oerlikon.com/balzers

oerlikon
balzers

HQ248EN (1809)

oerlikon
balzers

BALIQ CARBOS

The amorphous carbon coating beyond DLC

BALIQ CARBOS – the coating beyond DLC coatings

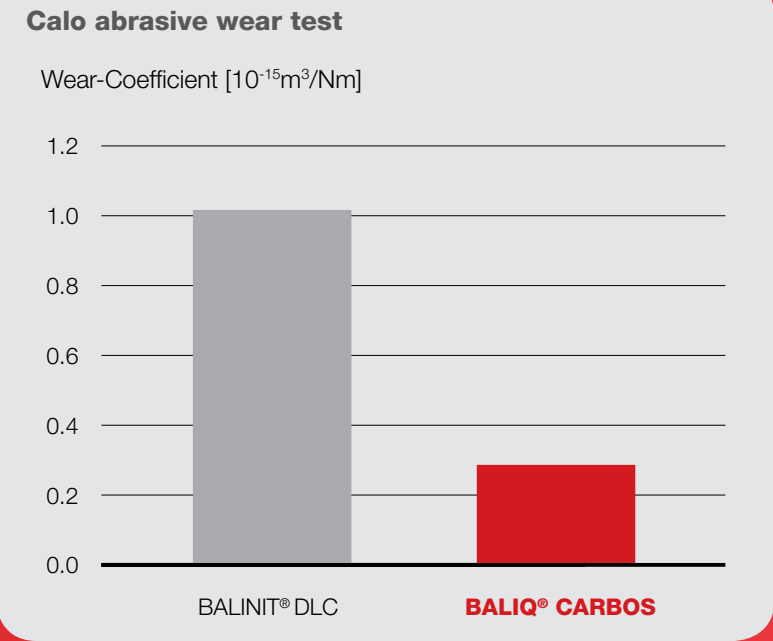
Oerlikon Balzers proudly presents the brand new BALIQ® CARBOS amorphous carbon coating. BALIQ® CARBOS is a hydrogen free carbon coating which is based on our S3p® technology (Scalable Pulsed Power Plasma) that intelligently combines the advantages of Arc Evaporation and Sputtering.

The S3p® process generates a superior coating with a high level of diamond bonds which enables hardness levels of up to 40 GPa. The superior hardness is combined with the low friction of carbon coatings and the excellent low roughness typical for coatings applied in sputter processes. The coating is used for applications where DLC coatings reach their tribological performance limit, typically when contact pressures or sliding speeds exceed the limits.

Your main advantages with BALIQ CARBOS



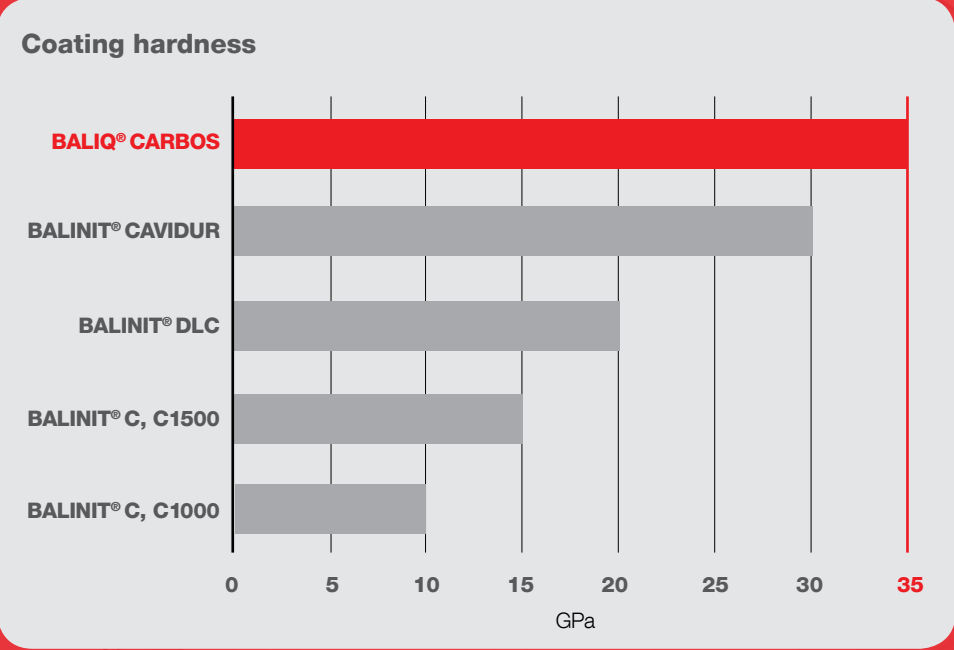
High wear resistance



BALIQ® CARBOS exhibits 3 times lower abrasive wear than a 20 GPa hard DLC coating.



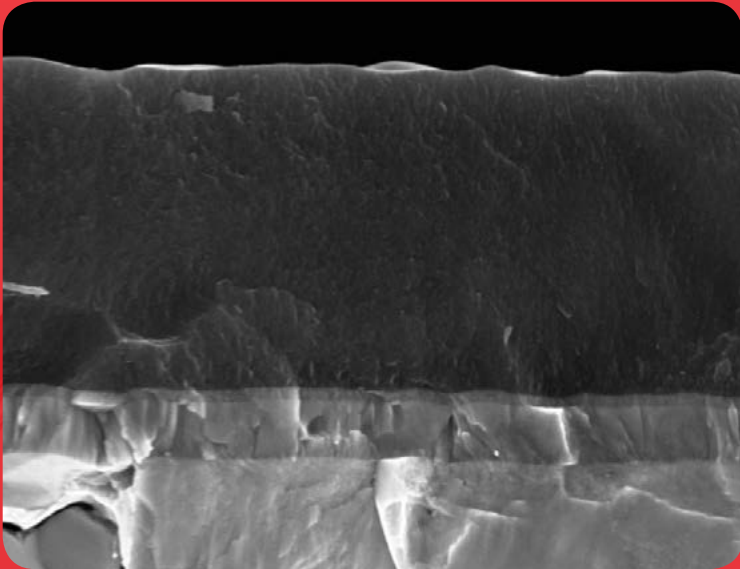
Excellent hardness



BALIQ® CARBOS has higher hardness and therefore improved abrasive wear resistance compared to standard DLC coatings.



Smooth surface and dense structure



Dense structure of BALIQ® CARBOS in a SEM cross section.

S3p

Sputtering

Arc Evaporation

Scalability

Density

Smoothness

Coating

Hardness

Adhesion

Precision