

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 _T [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!

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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.

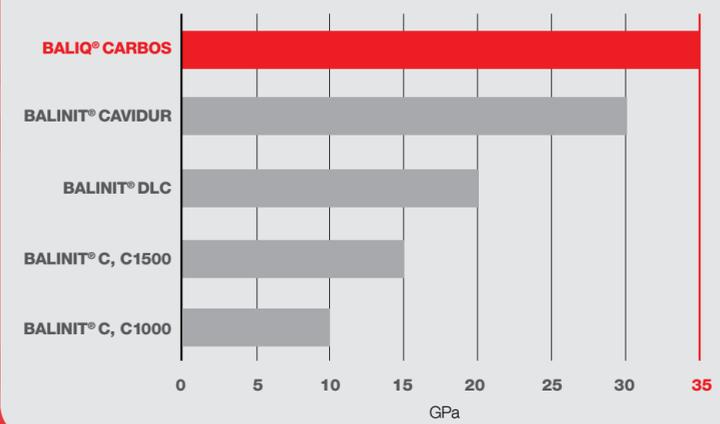
The S3p® process generates a superior coating with a high level of diamond bonds which enables hardness levels of up to 40 GPa. The superior hardness is combined with the low friction of carbon coatings and the excellent low roughness typical for coatings applied in sputter processes. The coating is 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



Excellent hardness

Coating hardness



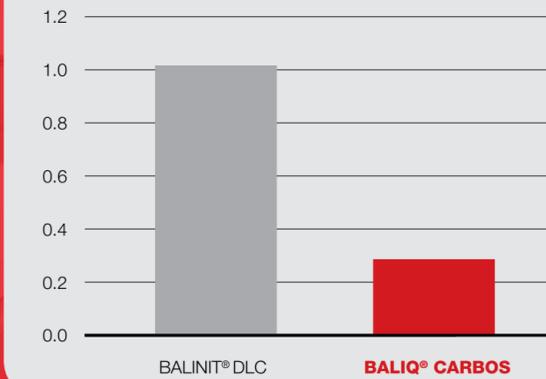
BALIQ® CARBOS has higher hardness and therefore improved abrasive wear resistance compared to standard DLC coatings.



High wear resistance

Calo abrasive wear test

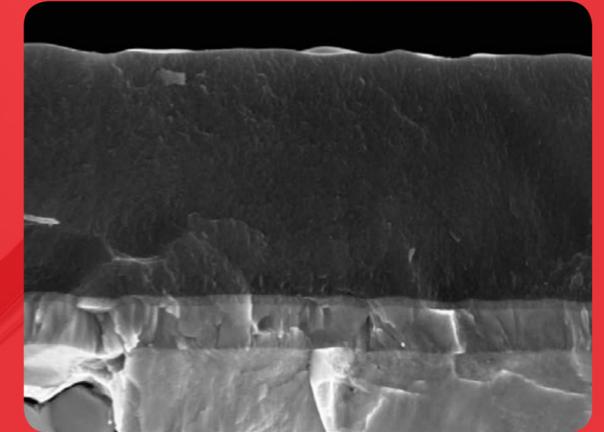
Wear-Coefficient [$10^{-15} \text{m}^3/\text{Nm}$]



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



Smooth surface and dense structure



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