



Characteristics and Applications of CARBOCER®

CARBOCER® is a well modified Diamond-Like Carbon (DLC) coating which is hard, flexible and friction-free. The technology has been known since the 1970s, and **PLASMA ELECTRONIC GmbH** is at the forefront of the technical and process development, together with industrial applications and installations.

PLASMA ELECTRONIC GmbH provides the Low-Pressure-Plasma equipment like the standard units CVD-Piccolo, CVD-Domino and Porta900 to apply these layers at low temperature, accurately, cleanly and cheaply to a wide variety of substrates - regardless of the substrate geometry.



Specifications: CARBOCER®	
Hardness:	2000 to 6000 kg/mm ²
Friction constant:	0,02 (vacuum) to 0,7 (air)
Specific gravity:	2 to 2,8 g/cm ³
Specific resistance:	1x10 ⁶ to 1x10 ¹⁶ Ω/cm
Refractive index:	1,8 to 2,4
IR-transparency:	2 to 20 µm
Heat - conductivity:	110 W/mK
Surface quality:	(dependant on the application) Ra <0,05
Chemical resistance:	Acids, alkalines, organics
Thermal stability:	< 450 °C
Biocompatibility	Yes
Layer thickness	Adjustable, 0,5 to 6 µm
Colour:	Anthracite to black
Substrate material suitability:	All Metals & semi-conductors which are capable of forming stable carbides; e.g. aluminium, steel, titanium, molybdenum, tungsten, chromium, silicon, germanium. Other suitable materials are glass, ceramics, titanium-nitride, organic polymers (including polyolefins and silicone based polymers).
Applications:	CARBOCER® - layers provide extremely hard, friction-free surfaces, with high tear resistance, which are required for: thread-guides, bearings, piston sleeves, sliding rails, valve-stem guides and seats, surgical instruments, orthopaedic pins, plates and implants, audio and video heads, hard discs, optical lenses and IR optics.

CARBOCER® is a trademark of PLASMA ELECTRONIC GmbH

