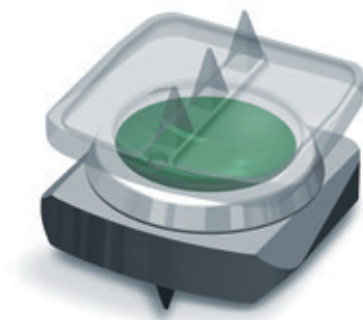


## Medthin™ 43 ADLC



### The high class coating for implants

Medthin™ 43 coating is excellent to improve articulating joints such as those of "Coating on UHMWPE" where polyethylene wear and ion release from substrates (CoCr, SS, TAV, etc) is reduced nearly to zero. The coating is applied with thickness of about 3 μm and it has adhesion strength to metal substrates higher than 0.8 GPa. Amorphous Diamond Like Carbon (ADLC) is deposited with latest generation Plasma Assisted Chemical Vapor Deposition Technologies (PACVD) showing an amorphous phase virtually with no pores and roughness (Ra) values below 0.02μm, ideal for articulating zones. The coating coverage is rather uniform on external surfaces whereas for inner surfaces a Ionbond proprietary technology can be applied in some cases.

Ionbond can currently deliver coating service of "Medthin™ 43 ADLC on Implants" from Switzerland, France and UK and the coating properties/characteristics have been filed in a FDA master file (MAF) number 1647. The MAF can be referred upon request and common agreement with Ionbond.

#### Technical Data

Material	hydrogenated amorphous carbon (a-C:H)
Applicable on following implant material	Titanium, TAV, CoCrMo, 316 LVM, all SS
Technologies	PACVD
Color	Black
Thickness, μm	3 <sup>2</sup>
Hardness, GPa	20 to 40
Phase composition	Amorphous (DLC)
Surface texture, R <sub>a</sub>	<0.02
Coating coverage	Mainly external surfaces
Masking partial zones or over porous coat	Possible
Dissolvability	Not noticed in serum
Adhesion strength, MPa	>800
Wear (abrasion) resistance, coating against UHMWPE	>80%
Porosity density, n/mm <sup>2</sup> & pore size, μm	PACVD (<20, 0.5) <sup>4</sup>
Reduction of allergic potential (CoCrMo, FeCrNi)	>99%
Surface wettability of ADLC	Extremely hydrophobic
Thermal oxidation resistance (in air)	250°C
Chemical oxidation resistance	Very good resistant to PH from 4 to 12 without problems
Resistance to sterilization	All methods allowed
Implant applications	Hip, spine & trauma

<sup>2</sup>higher coating thickness is possible under request

<sup>3</sup>internal surfaces are also possible to coat, please contact us

<sup>4</sup>mainly due to dust particles from grey room