

Tetrabond™ Plus ta-C

Smooth ta-C coating

Tetrabond™ Plus is an advanced ta-C coating for machining non-ferrous metals as well as composite and plastic materials. With an sp³ content of 60 – 70%, it reaches a hardness of over 5000 HV. The thin, smooth, and extremely hard coating is designed to maintain maximum cutting edge sharpness in machining abrasive materials, such as graphite, composite materials with glass or carbon fibre, glass reinforced PCB materials, and high Si content aluminum alloys. Tetrabond™ Plus excels in cutting soft noble metals like gold, silver and copper as well as lead-containing and lead-free bronzes and brass alloys. Its variable thickness, very low coefficient of friction, and anti-stick properties makes Tetrabond™ Plus excellent in machining a wide range of plastics and sticky materials where it avoids the build-up of material on the sharp cutting edge.

Alternative to CVD Diamond coatings for a wide range of tools

Tetrabond™ Plus can be applied to HSS, cemented carbide, and brazed tools, regardless of geometry. The tools can be reground, making the best use of expensive cutting tools. Tetrabond™ Plus is an economical solution for machining difficult materials, reducing the need for expensive PCD inserts & diamond coated tools.



Name	Color	Thickness	Recommended application
R-Tetrabond Plus (Rainbow)		0.5µm	Soft non ferrous/metal machining (Al, Mg, plastic, rubber, wood laminates)
G-Tetrabond Plus (General)		0.6 – 1.0µm	Non ferrous/metal machining AlSi & auto parts, injection molds & dies
T-Tetrabond Plus (Thick)		1.5 – 2.0µm	AlSi >12%, graphite, CFRP, MMC Machining

Technical Data

Material	ta-C
Technology	PVD Advanced Arc
Thickness range	0.5 – 2 µm
Microhardness HV 0.05	>5000
Friction vs. steel (dry)	<0.1
Max. service temperature	500°C
Process temperature	Below 300°C
Color	Rainbow-dark grey-black

The values given are approximations and may vary depending on the application, environmental factors and test protocols.