

TETRABOND™ PLUS ta-C COATING



Tetrabond™ Plus

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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 applications
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)		2.0 – 4.0µm	AlSi >12%, graphite, CFRP, MMC Machining

Technical Data

Material	ta-C
Typical Thickness	From 0.5 to 3.0 µm
Hardness HV 0.02	> 5000
Oxidation Temperature	500 °C
Process Temperature	below 180 °C
Adhesion	very good - typically class 1
Deposition Process	proprietary PVD Arc
Coefficient of Friction	< 0.1
Color	Rainbow - Dark grey - Black