

# Signature Coating ta-C

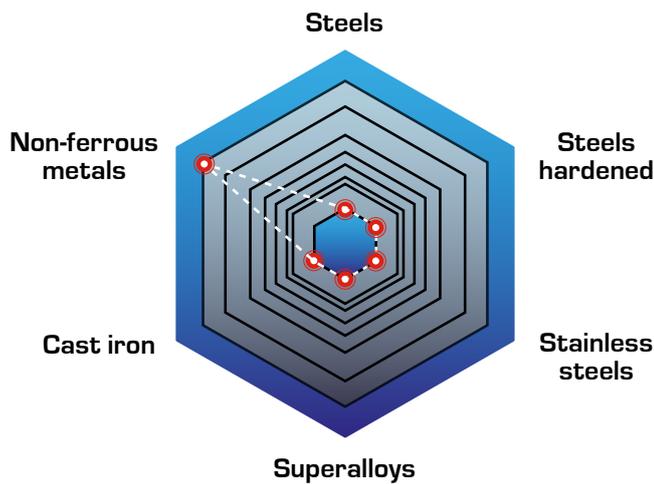
## Solution for graphite machining and for non-ferrous metals

ta-C belongs to the PLATIT DLC3 hydrogen-free coating generation with over 50% sp<sup>3</sup> content. The high sp<sup>3</sup> bond fraction results in a higher density, hardness (at ambient and elevated temperature), thermal stability, oxidation resistance, residual stress and lower thermal conductivity.

### Highlights:

- Over 50% sp<sup>3</sup> content
- High density and hardness
- Thermal stability
- Oxidation resistance
- Low chemical affinity
- Low thermal conductivity
- Low roughness
- Stable process and low maintenance intervals

### Characteristics in cutting:



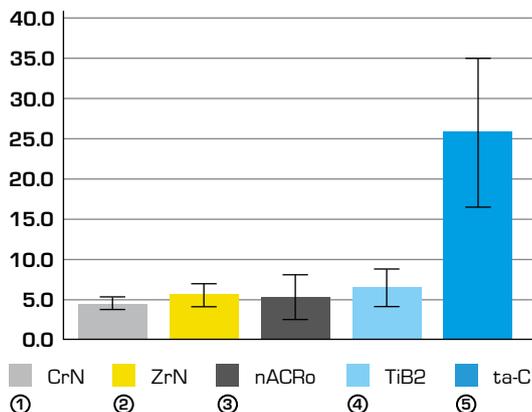
### Specifications

Color	From rainbow colors to anthracite
Nano-hardness [GPa]	35–55
Coefficient of friction [μ] PoD (at RT, 50% humidity)	0.1
Coating thickness [μm]	0.3–1
Max. service temperature [°C]	450
Coating temperature [°C]	< 100
411 PLUS LACS®	(-, -, Cr, C SCIL)

### Machining Al alloys with Si content to 10–14%:

ta-C with Pi411 PLUS LACS® features higher performance and the least torque value measured

### Complex Performance CP



Tool: aluminum step drill; GIW/PCG  
Workpiece material: GD-AISI9Cu3(Fe); 9.3 % Si  
Source: PLATIT AG and PannonPLATIT, Budapest, HU

### DLC3 coated end mill under scanning electron microscope:

