



High Performance PVD Coatings for

**PRECISION CUTTING TOOLS | COMPONENTS | STAMPING**

# ENGINEERING

a better surface

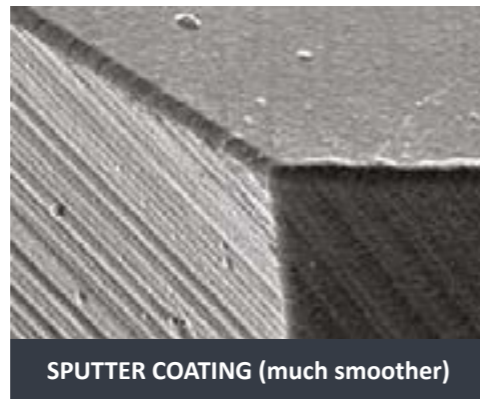
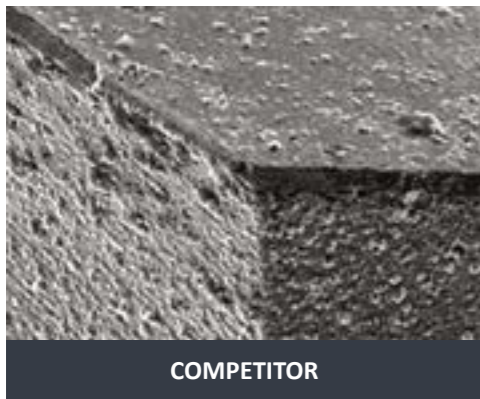


Engineering a better surface

## KYOCERA Hardcoating Technologies provide premium coating solutions for machining applications, wear parts and some decorative components, where high performance and quality are priority.

Equipped with a HiPIMS (High Power Impulse Magnetron Sputter) coating chamber, the only one of this standard in the UK. Kycera Hardcoating Technologies provides advanced coating technology to a broad spectrum of industries in the UK and across Europe, including solid carbide cutting tools and components used in stamping and punching. Our coating capabilities result in extremely smooth coatings with superb adhesion. Offering 4 types of PVD coatings, our specialist team can coat components which need to be super hard, super smooth and super sharp.

Competitive pricing comes as standard, along with highly professional service and ISO 9001 accredited quality.



## Characteristics of the Hardcoating Technologies coating materials

### HPP

**COLOUR**  
Anthracite

**MICROHARDNESS**  
3500 HV

**COEFFICIENT OF FRICTION**  
0.30

**OXIDATION TEMPERATURE**  
1100°C / 2010°F

**THICKNESS**  
1-5 Microns  
(based on tool diameter)

**MACHINING APPLICATIONS**  
Materials Harder Than 65 HRC  
Hardened Steels  
Stainless Steels  
Inconels  
Super Alloys  
Titanium  
Nickel based alloys  
Cast iron

**WEARING APPLICATIONS**  
High temp resistance  
Low coefficient of friction  
Wear indicator benefits  
Visual advantages: Anthracite/  
Purple in colour

### HTB

**COLOUR**  
Silver

**MICROHARDNESS**  
4000 HV

**COEFFICIENT OF FRICTION**  
0.10-0.20

**OXIDATION TEMPERATURE**  
850°C / 1562°F

**THICKNESS**  
1-5 Microns  
(based on tool diameter)

**MACHINING APPLICATIONS**  
Aluminium Alloys  
Titanium Alloys  
Magnesium Alloys  
Copper Alloys  
Graphite Machining

**WEARING APPLICATIONS**  
Hard Surface  
Ultra-Low coefficient of friction  
Wear indication benefits  
Visual advantages: Silver in  
colour

### HPH

**COLOUR**  
Bronze

**MICROHARDNESS**  
3800 HV

**COEFFICIENT OF FRICTION**  
0.30

**OXIDATION TEMPERATURE**  
1100°C / 2010°F

**THICKNESS**  
1-5 Microns  
(based on tool diameter)

**MACHINING APPLICATIONS**  
Hardened Steels  
High temp applications

**WEARING APPLICATIONS**  
High temp resistance  
Low coefficient of friction

### HTY

**COLOUR**  
Dark Anthracite / Purple

**MICROHARDNESS**  
3700 HV

**COEFFICIENT OF FRICTION**  
0.30

**OXIDATION TEMPERATURE**  
1100°C / 2010°F

**THICKNESS**  
1-5 Microns  
(based on tool diameter)

**MACHINING APPLICATIONS**  
Steel  
Stainless steel  
Cast iron

**WEARING APPLICATIONS**  
High temp resistance  
Low coefficient of friction  
Wear indicator benefits  
Visual advantages: Dark  
Anthracite/Purple in colour

## Coating definitions

● Excellent ● Suitable

Characteristics of the Hardcoating Technologies coating materials.

Coating Class	Coating Name	Coating material	Oxidation Temperature	Hardness (HV 0.05) up to	Coating thickness in µm	MATERIAL											APPLICATION																		
						Steel	Stainless Steel	Cast Iron	Aluminium	Non-ferrous metals	Graphite/Green compact	Ceramics	CFRP/GRP fibre-reinforced materials	Titanium	Nickel-based alloys	Other difficult-to-machine materials	Hardened materials (>50 HRC)	Drill	Drill insert	Milling cutter	Milling insert	Turning tool	Turning insert	Reamer	Reamer insert	Tap drill, miller, former Threading	Threading insert	Hob outer/cutting wheel	Gear cutting plate	Dry, MQL					
Powernitride/ HiPIMS	HPP	AlTiCrN	1100°C / 2010°F	3,500	1 - 5	●	●	●						●	●	●	●		●																
	HPH	TiAlN/TiSiN	1100°C / 2010°F	3,800	1 - 5	●	●								●	●	●	●		●	●	●	●										●		
Ceramic	HTB	TiB2	850°C / 1562°F	4,000	1 - 5				●	●	●	●	●	●	●	●	●		●	●	●	●												●	
Supernitrides	HTY	AlTiN	1100°C / 2010°F	3,700	1 - 5	●	●	●							●	●	●	●		●	●	●	●										●		

TECHNICAL DATA APPLICATION





# HARDCOATING TECHNOLOGIES™

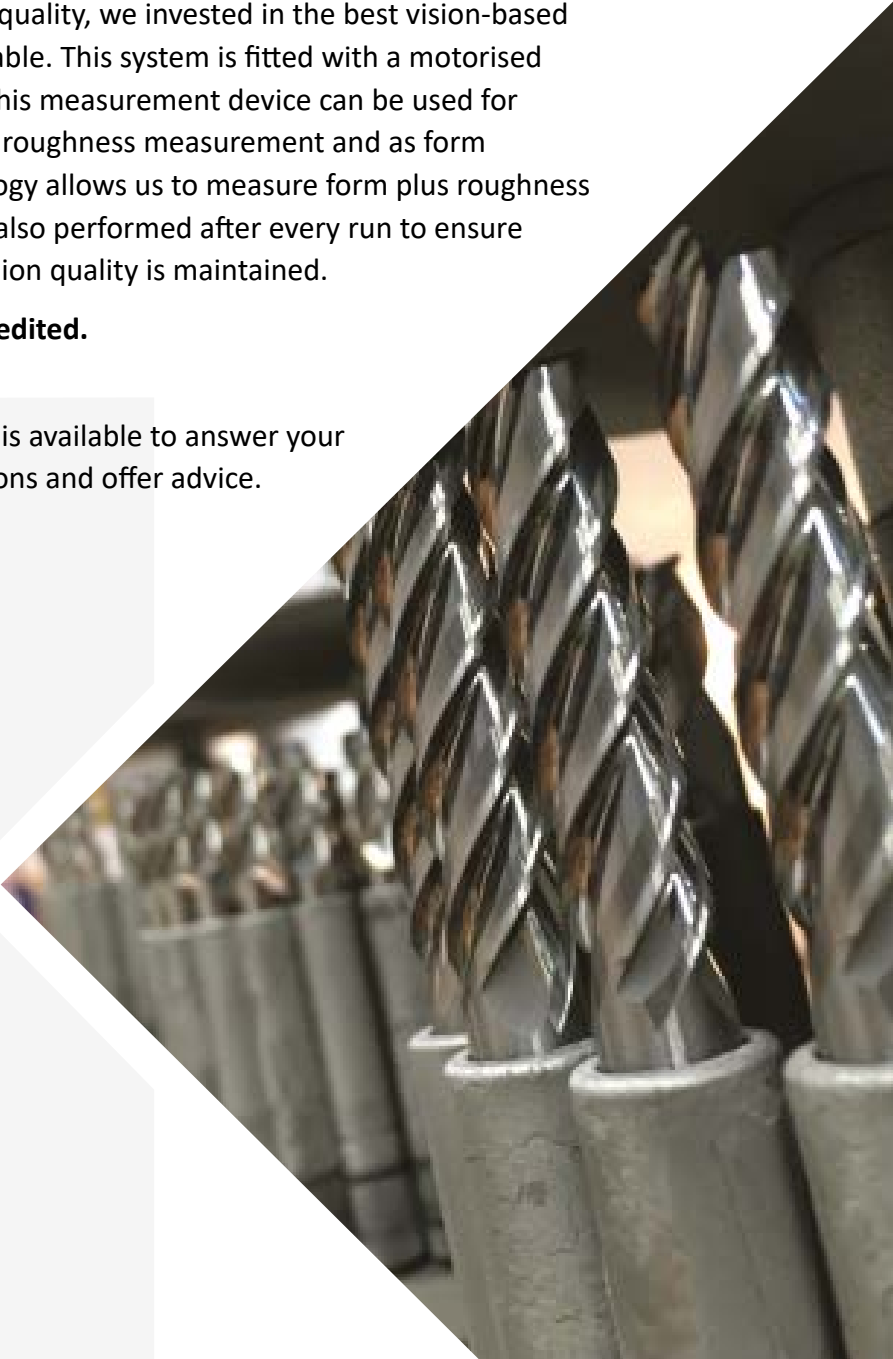
## Quality & Inspection

Great results come from good preparation and coating application. To ensure we achieve great quality, we invested in the best vision-based inspection technology available. This system is fitted with a motorised stage for large area scans. This measurement device can be used for cutting edge measurement, roughness measurement and as form measurement. This technology allows us to measure form plus roughness in a single set up. Testing is also performed after every run to ensure coating thickness and adhesion quality is maintained.

**We are ISO 9001:2015 Accredited.**

## Technical Expertise

Our technical support team is available to answer your technical application questions and offer advice.



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