

Coating Properties

Coatings	Color	Technology	Thickness(μm)	Hardness(HV)	Max operation Temp.(°C)	Coefficient of friction	Applications
TiN	Golden Yellow	PVD	1~5	2000~2300	500	0.5~0.6	✪ Cutting tools, punches, pressing die and biomaterials
CrN	Silver gray	PVD	1~5	1500~2000	700	0.4~0.6	✪ Extrusion, stretching, sheet metal forming tools and machine components, etc. ✪ Cutting tools for Cu and anti-sticking of semiconductor parts
AlTiN	Black purple	PVD	1~4	3000~3500	900	0.4~0.6	✪ High speed turning, milling and drilling process ✪ It is used for hard alloy and cast iron processing , especially in dry condition
R7	Red brown	PVD	1~4	2500~3000	800	0.4~0.6	✪ Mills and drills for steel products and stainless steel(HRC48° ↓) ✪ It is especially suitable for non-continuity cutting in wet condition
TiX-H	Metallic Golden	PVD	1~3	3800~4200	1100	0.5~0.6	✪ It can machine hard materials (HRC55° ↑) efficiently even at high temperature in dry condition
AlTiCrN	Gray black	PVD	1~5	2800~3200	900	0.4~0.5	✪ Recommend to extend the lifetime and corrosion resistance of tools ✪ It is suitable for both wet and dry cutting condition
GS	Bright Golden	PVD	1~4	3200~4200	1100	0.4~0.5	✪ It can improve chips removal and be used for non-ferrous metal materials processing. ex: Ti, Ni based alloy... ✪ It can improve chips removal and be used for stainless steel (304, 316, 4XX) process.
Rainbow Diamond	Bright Rainbow	PECVD	1~2	1000~1500	600	0.1~0.2	✪ It is suitable for non-ferrous metal processing. ✪ Al, Cu, lead-free Cu and optical plastic machining, hard and soft PCB drilling, etc.
TA	Dark Rainbow	PVD+ PECVD	1~5	3200~3500	900	0.1~0.2	✪ It can improve chips removal and be used for stainless steel (304 ~ 316) processing, hard Al alloy rough finishing .
TS	Golden Rainbow	PVD+ PECVD	1~4	3800~4200	1100	0.1~0.2	✪ It can improve chips removal and be used for steel (HRC55 ↑), Ti, Ni, Cu alloy processing.
Me-DLC	Black	PVD	1~4	1800~2000	350	0.15~0.25	✪ Basic wear-resistant parts ✪ Gage , fixture, screwdriver and tools ✪ Blowing bottle mould
DLC	Black	PECVD	1~4	1800~2200	350	0.05~0.1	✪ CD-R disk mold, eye glass mold, mobile phone mold, semiconductor trimming die, plastic injection mold, IC molding mold, PM mold, aluminum extrusion mold, components of automobile and machine ✪ ESD(Electro-static discharge) Coating , surface resistance(Ω):10 ⁵ ~10 ⁹ ✪ Cutting tools for Al (Mg) alloy, Cu alloy, plastic, ceramics, composites.
Me/DLC	Black	PVD+ PECVD	1~5	1800~3000	350	0.1~0.15	✪ Diesel injection, pressurization pump, cam shaft, piston, and other automobile parts.
ta-C	Blue Rainbow	FCVA	0.1~1	4000~6000	500	0.05~0.1	✪ PCB micro-drilling, cutting tools. ✪ Coating for heat dissipation in electronic component, and biomaterials materials.
Ti(C,N)	Dark gray	Thermal CVD	5~15	2000~3000	1000	0.35~0.7	✪ Inserts/ molds with groove, ditch, blind hole.. ✪ Especially used for punch pins, eye mold and trimming tools
Diamond	Dark black	HFCVD	0.5~20	7000~9000	600	0.2~0.3	✪ End mills for non-metallic materials (graphite, ceramic, composites, grass fiber, carbon fiber) and non-ferrous metal(Al, Cu) processing. ✪ Coating for heat dissipation, semiconductor materials, electrochemical electrodes.

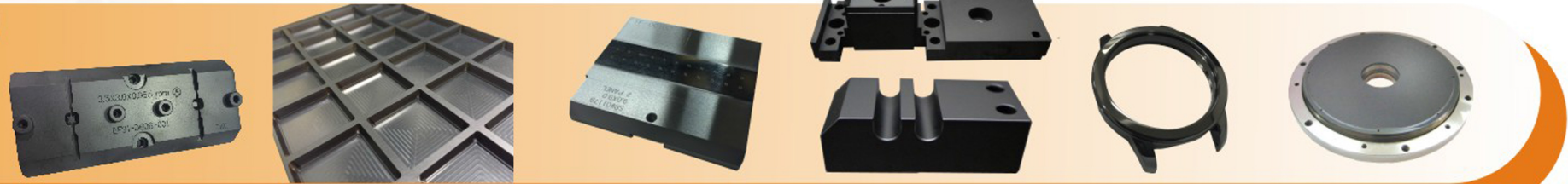
Coating Products

DLC technologies

Me/DLC



DLC



PVD



CrN



ALTiN



TiX-H



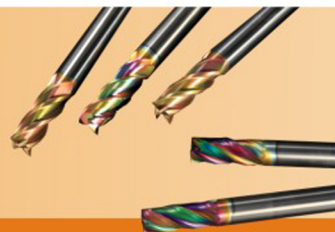
GS

PECVD



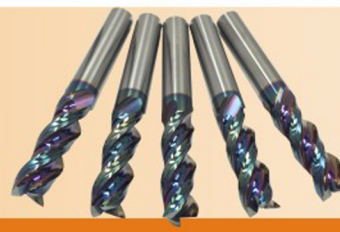
Rainbow Diamond
coating

PVD+PECVD



TS、TA

FCVA



ta-C

CVD



TiN



Diamond