CARBIDE

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Due to its superior mechanical features carbide is used in a variety of applications. KYOCERA produces a variety of carbides, including KW10 for non-ferrous materials and micro-grain carbides for precision cutting.

FEATURES

- Tough and hard
- Good thermal conductivity
- Suitable for cutting non-ferrous metals and non-metals
- Stable cutting at low cutting speeds, including milling operations

FEATURES OF CARBIDE

Material	*Description*	*Color*	*Main Component (Coating Composition)*	*Advantages*
P Steel	**PW30**	Gray	WC+Co+TiC+TaC	· ISO identification symbol P carbide (K10 relevant) · Application: Milling of steel, stable wear resistance and toughness
N Non-Ferrous Materials	**KW10**	Gray	WC+Co	· ISO identification symbol K carbide (K10 relevant) · Application: Stable cutting of cast iron, non-ferrous materials, non-metals, and titanium alloys
	GW15	Gray	WC+Co	· ISO identification symbol K carbide (equivalent to K10), tough micro-grain carbide · Application: High wear resistance and toughness for non-ferrous materials, and non-metals, and titanium alloys
	GW25	Gray	WC+Co	· ISO identification symbol K carbide (K30 relevant) · Application: Stable wear resistance and anti-chipping performance for milling operations of aluminum
S Heat-Resistant Alloys	**SW05**	Gray	WC+Co	· ISO identification symbol K carbide (K05 relevant) · Application: Continuous cutting and finishing of titanium alloys maintaining superior wear resistance
	SW10 (Made to order)	Gray	WC+Co	· ISO identification symbol K carbide (K10 relevant) · Application: Continuous and light interrupted cutting of titanium alloys maintaining superior wear resistance and stable result
	SW25 (Made to order)	Gray	WC+Co	· ISO identification symbol K carbide (K25 relevant) · Application: Interrupted and light interrupted cutting of titanium alloys maintaining stable result

SW Series Cutting Performance Evaluation

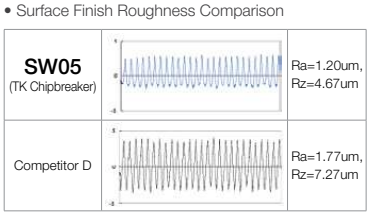
High Wear Resistance

In-house Cutting Test (Ti-6Al-4V)

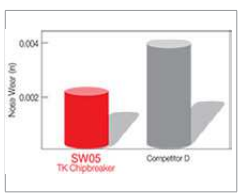
<Cutting Conditions>
Vc=200sfm, D.O.C.=0.020",f=0.006ipr, wet
Ti-6Al-4V
Continuous (External)
CNMG432

Workpiece Surface Roughness and
Insert Wear after cutting for 153 minutes

• Surface Finish Roughness Comparison



• Insert Wear

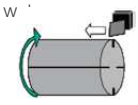


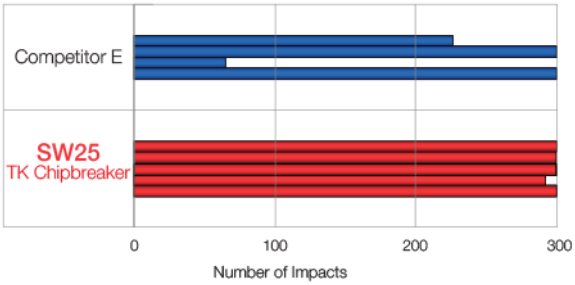
Internal Evaluation

Improved Fracture Resistance

In-house Cutting Test (Ti-6Al-4V)

<Cutting Conditions>
Vc=200sfm, D.O.C.=0.020", f=0.012ipr, w
Ti-6Al-4V(4 grooves)
Interrupted (External),
CNMG432





Internal Evaluation