

Hardstone
Efficient
Cutting tools
硬石, 高效切削刀具



铣削刀片系列 MILLING INSERTS



株洲华锐精密工具股份有限公司
Zhuzhou Huarui Precision Cutting Tools Co., Ltd.

Add: No.68 Chuangye 2nd RD, Lusong District, Zhuzhou, 412007, Hunan P.R.China

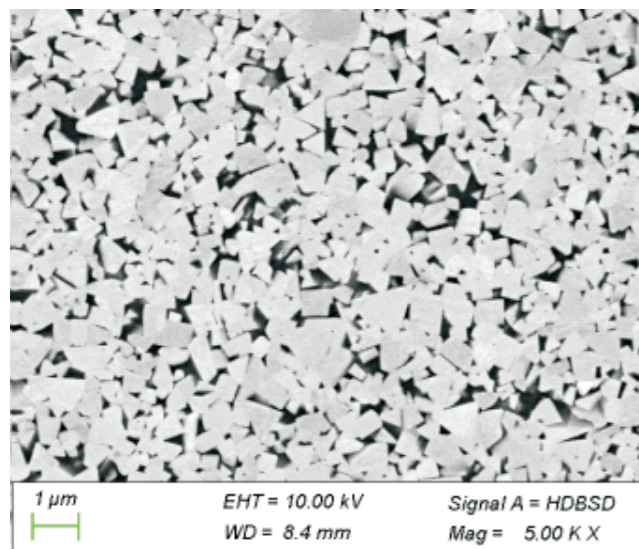
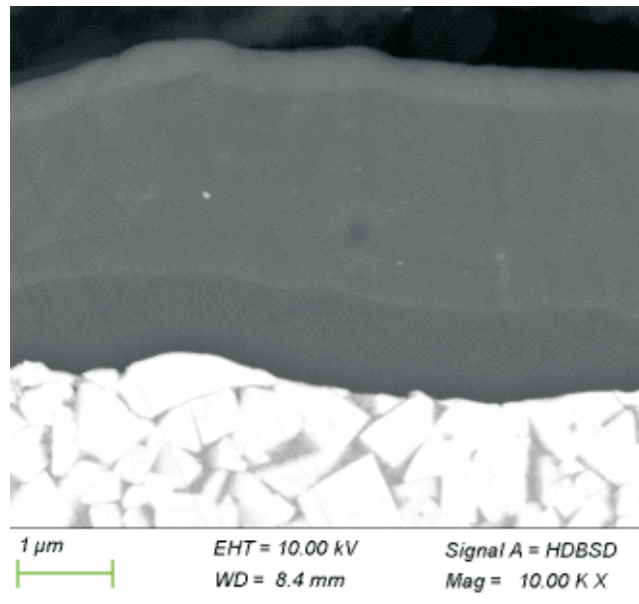
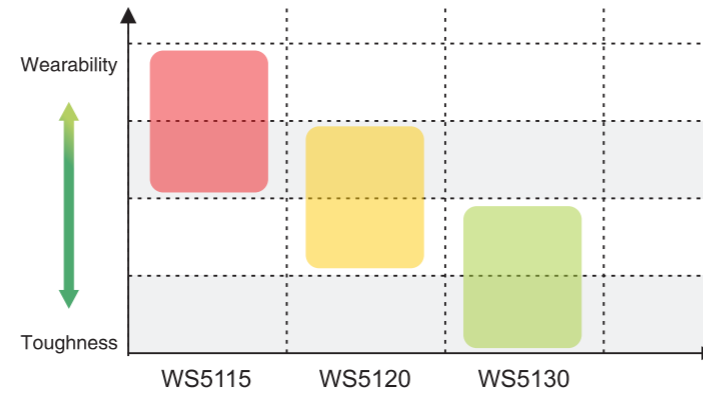
Tel: +86-0731-22286602 Fax: +86-0731-22286653

Web: www.chinacuttingtools.cn

E-mail: sales@hardstone.com.cn

株洲华锐精密工具股份有限公司
Zhuzhou Huarui Precision Cutting Tools Co., Ltd.

WS5115



1

The multilayer composite coating has three layers. The TiAlN bottom layer increases the bonding strength with substrate; The AlCrN functional layer has good temperature resistance; The TiSiN surface layer reduces the friction coefficient with workpiece.

2

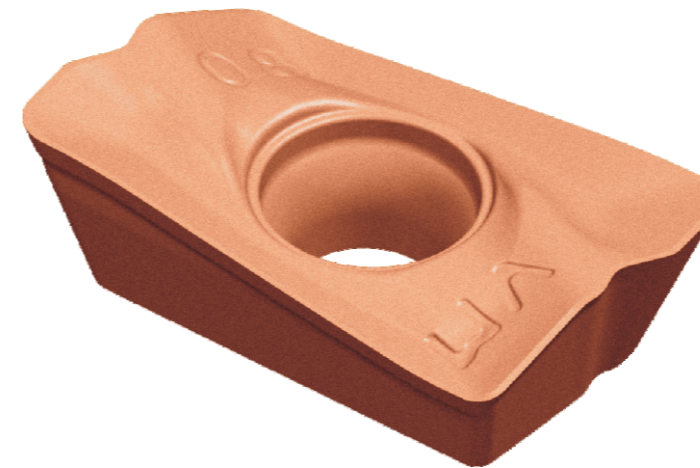
The coating matches the elasticity modulus of substrate which increases the bonding strength of films.

3

The evenly distributed WC grains at submicrocrystal level provide solid solution with high hardness and rational controlled binding phase which ensure the high toughness of substrate.

Products introduction

■ Chipbreaker Introduction



Right elevation

AOKT113508PEER-VM
Stereogram

- 1 General chipbreaker for semi-finishing and finishing.
- 2 Proper axial angle ensures smooth chip removal and good surface quality.
- 3 Specific wedge angle reduces cutting resistance for better durability.
- 4 Wide chipbreaker ensures efficient chip breaking.
- 5 Vertical processing of side wall leads to better surface quality.

Products introduction

Applications



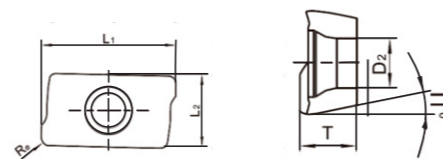
It is used for the processing of high surface finish requirement and appropriate cutting allowance, also suitable for relatively stable working condition.



Production Technology

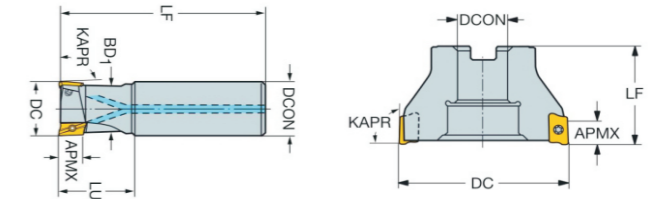
The production strictly bases on standard manufacturing technique and optimized processes. High degree of automation reduces human factors which improves stability and ensures the best quality.

Type Series

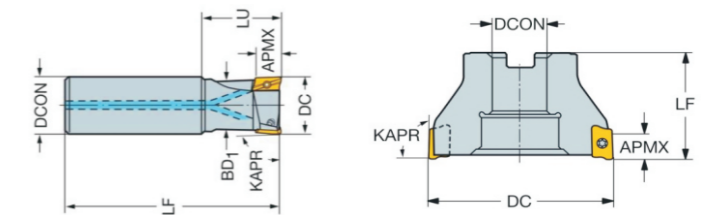


Insert Shape	Designation	Specification (mm)					Grade		
		L1	L2	Re	D2	T	PVD coating		
							WS5115	WS5130	WS5120
	AOKT113508PEER-VM	11.75	6.42	0.8	2.8	3.5	△	●	●
	AOKT160408PEER-VM	17.65	9.64	0.8	4.4	4.76	△	●	●
	APMT1135PDER-HM	11.3	6.25	0.8	2.8	3.5	△	●	●
	APMT1605PDER-HM	17.42	9.33	0.8	4.5	5.22	△	●	●

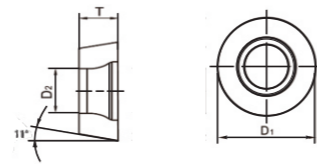
Customised milling tool



Designation	DC	DCON	LF	LU	Z	Applicable inserts
SSM190-016G1602-AO11	16	16	130	40	2	AOKT1135
SSM190-017G1602-AO11	17	16	160	40	2	AOKT1135
SSM190-020G2002-AO11	20	20	130	40	2	AOKT1135
SSM190-021G2002-AO11	21	20	160	50	2	AOKT1135
SSM190-025G2503-AO11	25	25	120	50	3	AOKT1135
SSM190-016G1602-AO11L	16	16	160	40	2	AOKT1135
SSM190-017G1602-AO11L	17	16	200	40	2	AOKT1135
SSM190-020G2002-AO11L	20	20	160	50	2	AOKT1135
SSM190-021G2002-AO11L	21	20	200	50	2	AOKT1135
SSM190-025G2503-AO11L	25	25	160	50	3	AOKT1135
CSM190-040A1605-AO11	40	16	40	/	5	AOKT1135
CSM190-050A2206-AO11	50	22	40	/	6	AOKT1135
CSM190-063A2207-AO11	63	22	40	/	7	AOKT1135



Designation	DC	DCON	LF	LU	Z	Applicable inserts
SSM190-025G2502-AO16	25	25	160	50	2	AOKT1604
SSM190-026G2502-AO16	26	25	160	40	2	AOKT1604
SSM190-032G3202-AO16	32	32	160	50	2	AOKT1604
SSM190-025G2502-AO16L	25	25	200	75	2	AOKT1604
SSM190-026G2502-AO16L	26	25	200	50	2	AOKT1604
SSM190-032G3202-AO16L	32	32	200	80	2	AOKT1604
CSM190-050A2204-AO16	50	22	40	/	4	AOKT1604
CSM190-063A2205-AO16	63	22	40	/	5	AOKT1604
CSM190-080A2706-AO16	80	27	50	/	6	AOKT1604

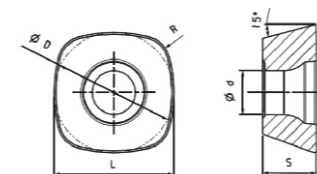


Insert Shape	Designation	Specification (mm)						Grade		
		L1	L2	Re	D2	T	D1	PVD coating		
								WS5115	WS5130	WS5120
	RCKT10T3MO-FM				4.4	3.97	10	△	●	●
	RCKT1204MO-FM				4.4	4.76	12	△	●	●
	RCKT1606MO-FM				5.5	6.35	16	△	●	●
	RCKT2006MO-FM				6.55	6.35	20	△	●	●
	RDMW10T3MO				4.5	3.97	10	△	△	△
	RDMW1204MO				5.5	4.76	12	△	△	△
	RDMW1605MO				5.5	5.56	16	△	△	△

Note : ○ Make to order ● Recommended grade △ Accept reservation

Application case for Milling Inserts

Workpiece	440c Hardened steel(HRC57)	Processing time	28min	
Insert Type	APMT1135PDER-HM	Material	WS5115	Brand A
ap(mm)	0.1	Abrasion loss	0.36mm	0.66mm
fz(mm/t)	0.7	fz(mm/t)		
Vc(m/min)	132			
Holder Diameter (mm)	21			
Milling Way	Interrupted cutting, alternating between pro and con			
Cutting Condition	Dry cutting			



Insert Shape	Designation	Specification (mm)					Grade		
		L1	L2	Re	D2	T	PVD coating		
							WS5115	WS5130	WS5120
	SDMW1205ZTN	12.7	12.70	5.56	4.6	3	△	●	●
	SDMW1505ZTN	12.7	12.70	5.56	4.6	3	△	●	●
	SDMT1205ZTN-FM	15.875	15.88	5.56	5.5	0.8	△	●	●
	SDMT1505ZTN-FM	15.875	15.88	5.56	5.5	0.8	△	●	●

Note : ○ Make to order ● Recommended grade △ Accept reservation

Workpiece	Cr12MoV(HRC55~58)	Processing time	About 6min	
Insert Type	APMT1605PDER-HM	Material	WS5115	Brand A
ap(mm)	0.1	Abrasion loss	0.24mm	0.45mm
fz(mm/t)	0.5	fz(mm/t)		
Vc(m/min)	120			
Holder Diameter (mm)	25			
Milling Way	Interrupted cutting, alternating between pro and con			
Cutting Condition	Dry cutting			