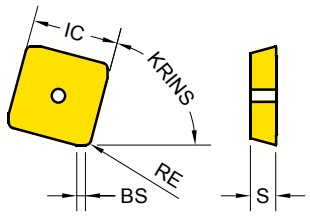
Milling - Face Milling - Inserts

SPKN / R / CN - Face Milling Positive (4 Corners ISO)



Series	KRINS	AS	IC	S
SP** 1203	75°	11°	12.70	3.18
SP** 1504	75°	11°	15.88	4.76

EDP 1200..

●: Stock item ○: Order made item

SPKR SPKN SPCN		Designation	RE (mm)	Fz (mm/tooth)	BS (mm)	YG602	YG622	YG712	YG713	YG613	YG501	YG5020
						P25 M30 K30 S20	P30 K30	P20	P30	P40 M40	K15 H15	K15
SPKR General		SPKR 1203 EDTR	0.8	0.15 ~ 0.35	1.40	● 0050						
		SPKR 1203 EDTR -PW	0.8	0.15 ~ 0.35	1.54	● 0298						
SPKN Hard Materials		SPKN 1203 EDTR	0.8	0.16 ~ 0.34	1.40	● 0048						
		SPKN 1203 EDTR -GW	0.6	0.15~0.28	1.50	● 0280						
		SPKN 1203 EDTR -PW	0.8	0.20~0.35	1.50	● 0279						
		SPKN 1504 EDTR	0.8	0.15 ~ 0.34	1.30	● 0049						
		SPKN 1504 EDTR -GW	0.8	0.25~0.40	2.20	● 0305						
		SPKN 1504 EDTR -PW	0.8	0.25~0.40	2.13	● 0299						
SPCN Ground insert		SPCN 1203 EDSR - M	0.8	0.1 ~ 0.2	1.82			● 0081				
		SPCN 1203 EDSR - MR	0.8	0.1 ~ 0.2	1.77			● 0198				
		SPCN 1504 EDSR - M	0.8	0.1 ~ 0.2	1.92			● 0098				
		SPCN 1504 EDSR - MR	0.8	0.1 ~ 0.2	1.86			● 0199				

- PW : for Improved Surface Roughness
- GW : Ground Wiper
- M : for Mold & Die
- MR : for Mold & Die Roughing

Cutting Speed			Vc (m/min.)													
ISO	VDI	Sub Group	YG602		YG622		YG712		YG713		YG613		YG501		YG5020	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	180	380	140	400	170	300	200	300	100	210	-	-	-	-
	6~9	Low-Alloyed Steel	120	300	120	320	180	250	170	270	70	180	-	-	-	-
	10~11	High-Alloyed Steel	70	150	70	170	100	140	85	145	40	90	-	-	-	-
M	12~13	Ferritic & Martensitic	120	200	-	-	-	-	-	-	70	180	-	-	-	-
	14	Austenitic Stainless Steel	130	250	-	-	-	-	-	-	70	200	-	-	-	-
K	15~16	Grey Cast Iron	120	250	120	270	-	-	-	-	-	-	160	300	200	350
	17~18	Nodular Cast Iron	130	220	130	240	-	-	-	-	-	-	130	210	150	300
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31~37	Superalloys & Titanium	25	45	-	-	-	-	-	-	-	-	-	-	-	-
H	38~41	Hard Materials	40	80	40	100	-	-	-	-	-	-			-	-

Insert ISO Code System

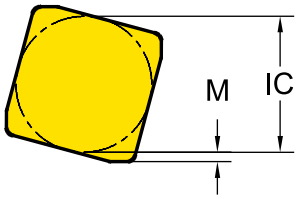
1	2	3	4	5	6	7
A	**P**	**K**	**T**	**16**	**04**	**08**
Shape	Relief Angle (AN)	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness (S)	CornerRadius

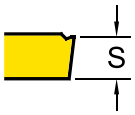
1 - Shape

Symbol	Shape	
H	Hexagonal	
O	Octagonal	
P	Pentagonal	
S	Square	
T	Triangular	
V	Rhombic 35°	
W	Trigon	
L	Rectangular	
A	Parallelogram 80°	
R	.Round	

2 - Relief Angle (AN)

Symbol	Relief Angle (AN)	
N	No Relief Angle	
B	Relief 5°	AN
C	Relief 7°	
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	





3 - Tolerance Class

Symbol	InnerCirdeIC (mm)	Nose Height M (mm)	Thickness S (mm)
C	± 0.025	± 0.013	± 0.025
E	± 0.025	± 0.025	± 0.025
G	± 0.025	± 0.025	± 0.13
H	± 0.013	± 0.013	± 0.025
K*	± 0.05~0.15*	± 0.013	± 0.025
M*	± 0.05~0.15*	± 0.08~0.2*	± 0.13
U*	± 0.08~0.25*	± 0.13~0.38*	±0.13

* Tolerance is different by insert IC size. Please see ISO 1832

4 - Clamping & Chipbreaker

Symbol	Clamping	Chipbreaker	Figure
N	No clamping hole	X	
R		One Face	
W	Screw Hole	X	
T		One Face	
U		Both Faces	
X	Special		

5 - Insert Size

* No Standard for milling insert size

6 - Insert Thickness

* No Standard for milling insert thickness

Milling - Code System

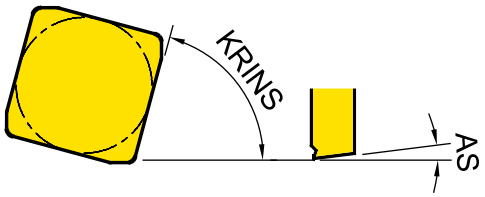
Insert ISO Code System

	page 109		page 108	
(	8	9	10	)
	PDTR	-TR	YG602	
	Corner Geometry	Chipbreaker	Grade	

7 - Corner Radius (RE)

Symbol	Thickness - S (mm)	Symbol	Thickness - S (mm)
04	0.4	16	1.6
08	0.8	20	2.0
12	1.2	24	2.4

8 - Corner Geometry



8-1	8-2	8-3	8-4
P	D	T	R
Cutting Edge Angle (KRINS)	Wiper Edge Clearance (AS)	Edge Condition	Feed Direction

*Refer to page. 109 for -AL, -ST, -TR… types

8-1 - Cutting Edge Angle (KRINS)

Symbol	Cutting Edge Angle (KRINS)
P	90°
A	45°
D	60°
E	75°
F	85°
Z	Special

8-3 - Edge Condition

Symbol	Edge Condition
F	Sharp
E	Rounded
T	Chamfered
S	Chamfered and Rounded

8-2 - Wiper Edge Clearance (AS)

Symbol	Wiper Edge Clearance (AS)
N	0°
P	11°
D	15°
E	20°
F	25°
Z	Special

8-4 - Feed Direction

Symbol	Feed Direction
R	Right-hand Insert
N	Neutral Insert
L	Left-hand Insert

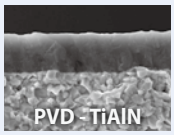
Milling Grades and Chipbreakers

Milling Grades

Milling Grades		P Steel					M Stainless steel				K Cast iron				N Non-ferrous				S Superalloys			
		P05	P15	P25	P35	P45	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35	S05	S15	S25	S35
PVD	YG602			602					602				602								602	
	YG622			622									622									
	YG712		712																			
	YG713		713																			
	YG613				613					613												
	YG501											501										
CVD	YG5020										5020											
Uncoated	YG50															50						

YG602

P20 - P35 | M20 - M40 | K20 - K40 | S15 - S25

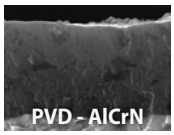


Universal grade for General Milling Application

- Ultra Dense PVD Coating with optimal thermal resistance & strength
- Sub-Micron substrate designed for demanding application

YG622

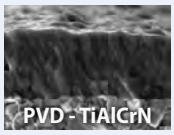
P20 - P40 | K20 - K40



Optimized Grade for High Alloyed or Prehardened Steel
Excellent hot hardness and oxidation resistance at high speed

YG712

P10 - P30

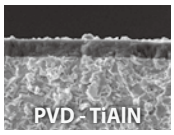


Milling Grade for Medium of Steel Application

- Superior wear resistance and excellent toughness in high speed machining
- Coating layer with high hardness and oxidation resistance

YG713

P15 - P25

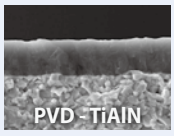


Milling Grade for General Steel Application

- Multi-layer TiAlN structure realizes stronger crater and flank wear resistance
- Fine-grained carbide and balanced substrate

YG613

P30 - P50 | M30 - M40

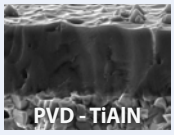
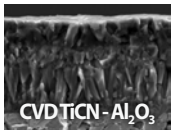
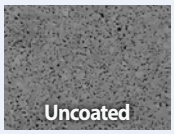


Milling Grade for Stainless Steel Application

- New coating layer with high toughness and lubrication on ultra fine grain substrate with high toughness.
- The toughest substrates provides excellent cutting performance in stainless steel

Milling Grades and Chipbreakers

Milling Grades

YG501 K05- K25 H05 - H25		**Hard Milling grade for Cast Iron** • Substrate especially designed for high wear resistance • Excellent wear resistance in cast iron milling application
YG5020 K01-K30		**CVD Milling grade for Cast Iron** • CVD coating for Excellent wear resistance • Improved Toughness for chipping resistance
YG50 N05 – N20		**Uncoated Milling Grade for Aluminium** • Submicron carbide substrate for high wear resistance • Preventing built up edge with shining surface

Milling Chipbreakers

–AL		• For Aluminum • Very Sharp Geometry
–ST		• For Stainless Steel, Super Alloy • Sharp Geometry
General Inserts (No Description)		• First Choice for General Application
–TR		• For Hardened Steels • Reinforced Geometry
...W / ...N		• For Hardened Material and Cast Irons