

Milling

● Indexable Milling Tools **B1-B170**

Indexable milling tools B2-B137

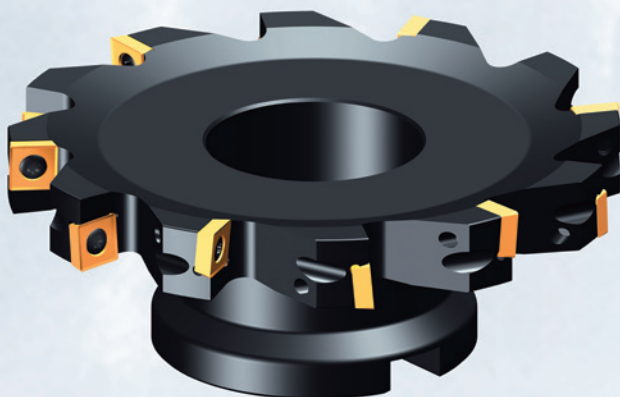
Indexable milling inserts B138-B163

Technical information B164-B170









● Solid Carbide End Mills **B171-B290**





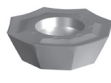



Solid carbide end mills B171-B284









Technical information B285-B290



















Inserts for face milling

							
SEET-CF	SEET-CM	SEET-CR	SEET-DF	SEET-DM	SEET-DR	SEET-EF	SEET-EM
Page B150	B150	B150	B150	B150	B150	B150	B150




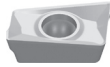
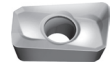
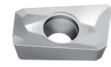
							
SEET-LH	SEET-W	SEK(E)N	SEKR	OFKT-DF	OFKT-DM	OFKT-LH	OFKR-DF
Page B150	B150	B152	B152	B146	B146	B146	B147

							
OFKR-DM	SNKN	HNEX-DF	HNEX-DM	HNEX-DR	LNKT-ZR	LNE32.534	SPKW
Page B147	B158	B144	B144	B144	B145	B145	B154

							
SPKT	SP□N	SPKR-GM	SPEX	SPMR	SP□N	TPKN	TPGN
Page B154	B153	B155	B155	B156	B157	B158	B159

							
TPUN	TPMR	SEET□PER-PF	SEET□PER-PM	SEET□PER-PR	RCKT-DM	RCKT-DR	RDKW
Page B160	B160	B151	B151	B151	B147	B147	B148

Inserts for square shoulder milling








					
APKT-PF	APKT-PM	APKT-PR	APKT-LH	APMT□PDR	APMT□PDER
Page B142	B142	B142	B142	B143	B143

B



Indexable
milling tools

Milling inserts

Inserts for profile milling

						
ZDET	ZPNT	SPMT/SDMT	ROHX	XPHT-GM	ZOHX-GF	ZOHX-GM
Page B162	B163	B154/B149	B148	B161	B163	B163


Inserts for side and face milling

	
XSEQ	MPHT
Page B162	B146



Inserts for high feed milling

	
SDMT-DM	WPGT
Page B149	B161


Inserts for T-slot milling


MPHT
Page B146

Inserts for helical endmills

	
APKT-PM/KM	SPMT-PM/KM
Page B144	B154

Inserts for chamfer milling


SPMT
Page B154

Indexable milling inserts code key

Insert Shape / Code			Metric							
			Code	With/Without hole	With/Without chipbreaker	Section plane of Insert	Code	With/Without hole	With/Without chipbreaker	Section plane of Insert
			B	With	Without		N	Without	Without	
			H	With	Single-side		R	Without	Single-side	
			C	With	Without		F	Without	Double-side	
			J	With	Double-side		A	With	Without	
			W	With	Without		M	With	Single-side	
			T	With	Single-side		G	With	Double-side	
	Others	Z	Q	With	Without		X	---	---	Special
Insert shape			Chipbreaker and clamping system							

B

Indexable
milling tools

Milling inserts

S P K N

Clearance angle of main cutting edge			
Code	Clearance angle	Code	Clearance angle
A		B	
C		D	
E		F	
G		N	
P		O	Other clearance angle

Tolerance										
				(Reference) details of M-class tolerance (identified by shape and size)						
				● Nose height tolerance(mm)						
Code	Nose height M Tolerance(mm)	Inscribed circle ØD ₁ Tolerance(mm)	Thickness S Tolerance(mm)	Inscribed circle	Regular triangle	Square	Diamond with 80°	Diamond with 55°	Diamond with 35°	Round
A	±0.005	±0.025	±0.025	6.35	±0.08	±0.08	±0.08	±0.11	±0.16	---
F	±0.005	±0.013	±0.025	9.525	±0.08	±0.08	±0.08	±0.11	±0.16	---
C	±0.013	±0.025	±0.025	12.7	±0.13	±0.13	±0.13	±0.15	---	---
H	±0.013	±0.013	±0.025	15.875	±0.15	±0.15	±0.15	±0.18	---	---
E	±0.025	±0.025	±0.025	19.05	±0.15	±0.15	±0.15	±0.18	---	---
G	±0.025	±0.025	±0.13	25.4	---	±0.18	---	---	---	---
J	±0.005	±0.05±0.13	±0.025	● Tolerance of Inscribed Circle ØD ₁ (mm)						
K	±0.013	±0.05±0.13	±0.025	Inscribed circle	Regular triangle	Square	Diamond with 80°	Diamond with 55°	Diamond with 35°	Round
L	±0.025	±0.05±0.13	±0.025	6.35	±0.05	±0.05	±0.05	±0.05	±0.05	---
M	±0.08±0.18	±0.05±0.13	±0.13	9.525	±0.05	±0.05	±0.05	±0.05	±0.05	±0.05
N	±0.08±0.18	±0.05±0.13	±0.025	12.7	±0.08	±0.08	±0.08	±0.08	---	±0.08
U	±0.13±0.38	±0.08±0.25	±0.13	15.875	±0.10	±0.10	±0.10	±0.10	---	±0.10
				19.05	±0.10	±0.10	±0.10	±0.10	---	±0.10
				25.4	---	±0.13	---	---	---	±0.13

Diameter of IC	Insert shape						
	C	D	R	S	T	V	W
3.97					06		
5.0			05				
5.56					09		
6.0			06				
6.35	06	07			11	11	
8.0			08				
9.525	09	11	09	09	16	16	06
10.0			10				
12.0			12				
12.7	12	15	12	12	22	22	08
15.875	16		15	15	27		
16.0		19	16				
19.05	19		19	19	33		
20.0			20				
25.0	25	25	25				
25.4			25	25			
31.75			31				
32			32				

Length of cutting edge



Thickness is defined as height from bottom of insert to the highest part of cutting edge.

Code	Insert thickness(mm)
00	0.79
T0	0.99
01	1.59
T1	1.98
02	2.38
T2	2.58
03	3.18
T3	3.97
04	4.76
T4	4.96
05	5.96
T5	5.95
06	6.35
T6	6.75
07	7.94
09	9.52
T9	9.72
11	11.11
12	12.70

Insert thickness

12 04 ED T21 R-DM

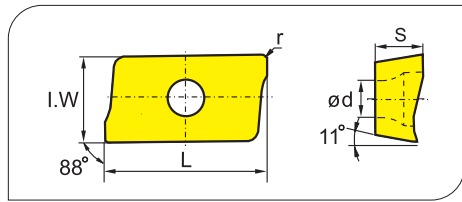
Wiper			
A	45°	A	3°
D	60°	B	5°
E	75°	C	7°
F	85°	D	15°
P	90°	E	20°
Z	Others	F	25°
		G	30°
		N	0°
		P	11°
		Z	Others

Chamfer (mm)			
F			
	0-5°	0-0.10	
	1-10°	1-0.15	
E		2-15°	
	2-15°	2-0.20	
	3-20°	3-0.25	
T		4-25°	
	4-25°	4-0.30	
	5-30°	5-0.35	
	6-40	6-0.40	
S		7-0.45	
			No mark

Chipbreaker code

Cutting direction	
R	Right hand
L	Left hand
N	Neutral

AP□□



☺ Good working condition ☹ Normal working condition ☹ Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
P Steel	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
M Stainless steel	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
K Cast iron	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
N Non-ferrous metal	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
S Heat resistant alloy, Ti alloy	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺

B

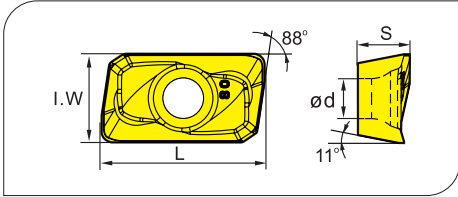
Indexable milling tools

Milling inserts

Insert shape	Type	Basic dimensions(mm)					CVD Coating			PVD Coating			Cermet		Cemented carbide									
		L	I.W	S	d	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201		
	APKT11T304-PF	12.24	6.5	3.6	2.8	0.4	●	○	○			☆	☆	☆										
	APKT11T308-PF	12.24	6.5	3.6	2.8	0.8		○				☆	☆											
	APKT11T312-PF	12.24	6.5	3.6	2.8	1.2							☆											
	APKT11T316-PF	12.24	6.5	3.6	2.8	1.6								☆										
	APKT160408-PF	17.877	9.33	5.76	4.4	0.8	●	○	○					☆	☆									
	APKT11T304-PM	12.24	6.5	3.6	2.8	0.4	●	●	●		★	★	★											
	APKT11T308-PM	12.24	6.5	3.6	2.8	0.8	●	●	○	★	★	★	★											
	APKT11T312-PM	12.24	6.5	3.6	2.8	1.2		○				☆	★	☆										
	APKT11T316-PM	12.24	6.5	3.6	2.8	1.6		○				☆	★	☆										
	APKT160408-PM	17.877	9.33	5.76	4.4	0.8	●	●	●	☆	★	★	★											
	APKT11T304-PR	12.24	6.5	3.6	2.8	0.4	●	●	●		☆	☆	☆											
	APKT11T308-PR	12.24	6.5	3.6	2.8	0.8							☆											
	APKT11T312-PR	12.24	6.5	3.6	2.8	1.2							☆											
	APKT11T316-PR	12.24	6.5	3.6	2.8	1.6							☆											
	APKT160408-PR	17.877	9.33	5.76	4.4	0.8							☆											
	APKT11T304-LH	12.24	6.5	3.6	2.8	0.4															★	★		
	APKT11T308-LH	12.24	6.5	3.6	2.8	0.8															★	☆		
	APKT160408-LH	17.877	9.33	5.76	4.4	0.8															★	★		

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

AP□□



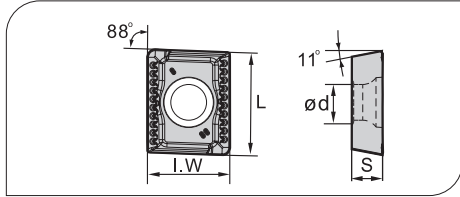
😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	Working Condition											
	1	2	3	4	5	6	7	8	9	10	11	12
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)					CVD Coating				PVD Coating			Cermet	Cemented carbide							
		L	I.W	S	d	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	APMT1135PDR	11.25	6.2	3.5	2.8	0.8	○					☆	★	☆								
	APMT160408PDER	17.25	9.25	4.76	4.4	0.8							★	☆								

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

AP



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

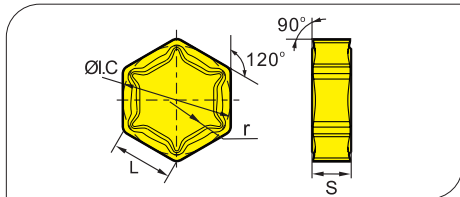
Insert shape	Type	Basic dimensions(mm)					CVD Coating		PVD Coating		Cermet	Cemented carbide												
		L	I.W	S	d	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC30S	YD051	YD101	YD201	
	APKT150412-PM	16.33	12.7	4.76	5.4	1.2							★	☆										
	APKT150412-KM	16.33	12.7	4.76	5.4	1.2							★	☆										

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
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B Indexable milling tools

Milling inserts

HN



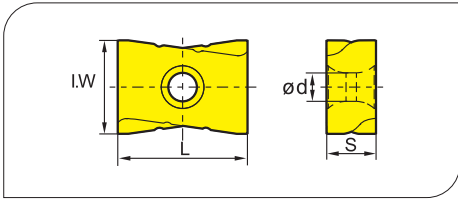
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating		PVD Coating		Cermet	Cemented carbide												
		L	I.C	S	R	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC30S	YD051	YD101	YD201	
	HNEX090512-DF	9.26	15.875	5.56	1.2				★														
	HNEX090512-DM	9.26	15.875	5.56	1.2				★														
	HNEX090512-DR	9.26	15.875	5.56	1.2				☆	★													

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

LN□□



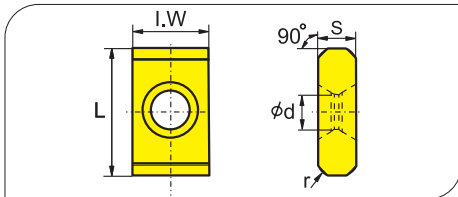
😊 Good working condition 😐 Normal working condition ☹️ Bad working condition

Workpiece material	Steel			Stainless steel			Cast iron			Non-ferrous metal			Heat resistant alloy, Ti alloy		
	P	M	K	N	S		P	M	K	N	S		P	M	K
P	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide						
		L	I.W	S	d	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	LNKT2510-ZR	25	18	9.525	5.5			○					★								

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

LN□□



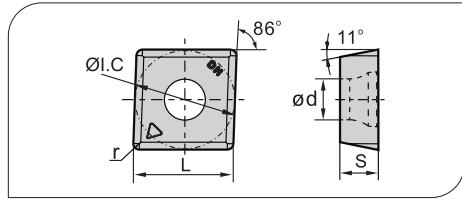
😊 Good working condition 😐 Normal working condition ☹️ Bad working condition

Workpiece material	Steel			Stainless steel			Cast iron			Non-ferrous metal			Heat resistant alloy, Ti alloy		
	P	M	K	N	S		P	M	K	N	S		P	M	K
P	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)					CVD Coating				PVD Coating				Cermet	Cemented carbide						
		L	I.W	S	d	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	LNE32.534	15.875	9.525	4.76	4.4	1.6				★												

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

MP□□



☺ Good working condition ☹ Normal working condition ☹ Bad working condition

Workpiece material	Working Condition											
	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C
P Steel	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
M Stainless steel	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
K Cast iron				☹	☹	☹	☹	☹	☹	☹	☹	☹
N Non-ferrous metal											☹	☹
S Heat resistant alloy, Ti alloy						☹	☹					

Insert shape	Type	Basic dimensions(mm)					CVD Coating		PVD Coating			Cermet	Cemented carbide			
		I.C	L	S	d	r	YBC301	YBM251	YBG102	YBG202	YBG152	YBG252	YNG151	YNG151C	YD201	YD101
	MPHT060304-DM	6.35	6.35	3.18	2.8	0.4				★						
	MPHT080305-DM	8.3	8.3	3.18	3.4	0.5				★						
	MPHT120408-DM	12.7	12.7	4.76	5.56	0.8				★						

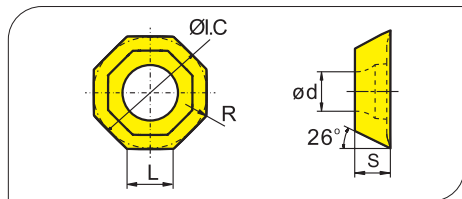
★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

B

Indexable milling tools

Milling inserts

OF□□



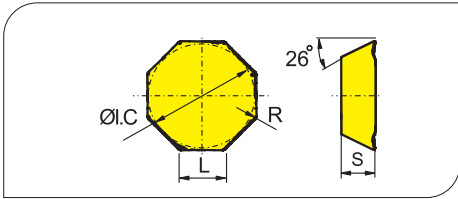
☺ Good working condition ☹ Normal working condition ☹ Bad working condition

Workpiece material	Working Condition											
	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C
P Steel	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺
M Stainless steel	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹	☹
K Cast iron				☹	☹	☹	☹	☹	☹	☹	☹	☹
N Non-ferrous metal											☹	☹
S Heat resistant alloy, Ti alloy						☹	☹					

Insert shape	Type	Basic dimensions(mm)					CVD Coating		PVD Coating			Cermet	Cemented carbide			
		L	I.C	S	d	R	YBC301	YBM251	YBG102	YBG202	YBG152	YBG252	YNG151	YNG151C	YD201	YD101
	OFKT05T3-DF	5.26	12.7	3.97	4.4	0.5			☆	★						
	OFKT05T3-DM	5.26	12.7	3.97	4.4	0.5		○	★	★	★					
	OFKT05T3-LH	5.26	12.7	3.97	4.4	0.5									☆	

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

OF



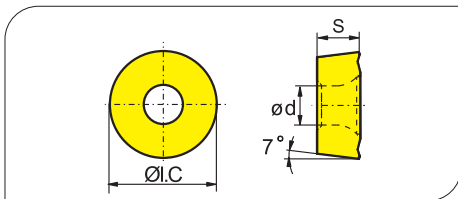
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	Working condition												
	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide						
		L	I.C	S	R	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	OFKR0704-DF	7.45	17.94	4.76	0.8	●						☆									
	OFKR0704-DM	7.45	17.94	4.76	0.8	●	●	●		☆	☆	★	★								

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
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RC



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

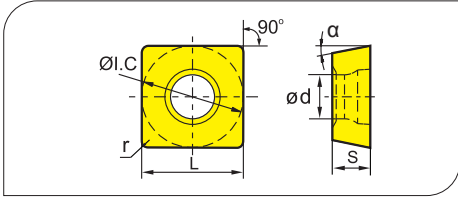
Workpiece material	Working condition												
	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide							
		R	I.C	S	d	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	RCKT10T3MO-DM	5	10.0	3.97	4.4	●						★										
	RCKT1204MO-DM	6	12.0	4.76	4.0	●	●	●	☆			★	★									
	RCKT1204MO-DR	6	12.0	4.76	4.0	○	○	○				★										
	RCKT1606MO-DM	8	16	6.35	5.56	●							★									
	RCKT1606MO-DR	8	16	6.35	5.56	●		●		☆		★										
	RCKT2006MO-DR	10	20	6.35	6.55	●		●		☆		☆	☆									

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SD□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition



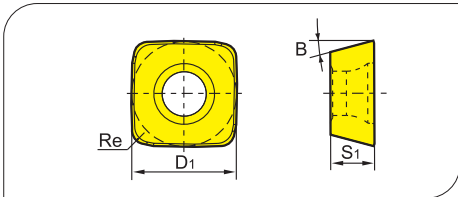
Workpiece material	Steel (P)			Stainless steel (M)			Cast iron (K)			Non-ferrous metal (N)			Heat resistant alloy, Ti alloy (S)	
	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)						CVD Coating				PVD Coating			Cermet	Cemented carbide								
		r	L	I.C	S	d	α	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YCG30S	YD051	YD101	YD201	
	SDMT090308	0.8	9.525	9.525	3.18	4.4	15°	○						☆										

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SD□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

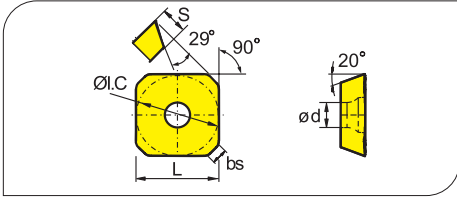


Workpiece material	Steel (P)			Stainless steel (M)			Cast iron (K)			Non-ferrous metal (N)			Heat resistant alloy, Ti alloy (S)	
	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating			Cermet	Cemented carbide						
		B	Re	S1	D1	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YCG30S	YD051	YD101
	SDMT09T312-DM	15°	1.2	3.97	9.525			★					☆							
	SDMT120408-DM	15°	2.0	4.76	12.7			★					☆							

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
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SE□□

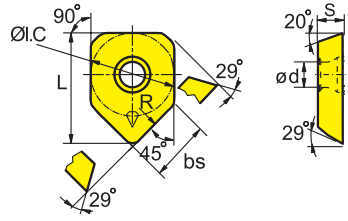


😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

B
 Indexable
 milling tools
 Milling inserts

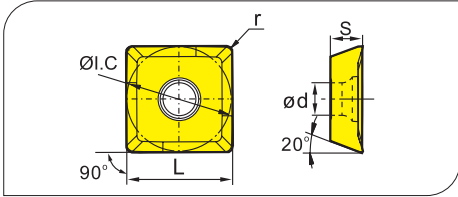
Insert shape	Type	Basic dimensions(mm)						CVD Coating				PVD Coating			Cermet	Cemented carbide								
		L	I.C	S	d	bs	R	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	SEET12T3-DF	13.40	13.40	3.97	4.1	2.55		●	●				★	☆										
	SEET12T3-CF	13.40	13.40	3.97	4.1	2.55				☆		★	☆	☆										
	SEET12T3-EF	13.40	13.40	3.97	4.1	2.55							☆	☆										
	SEET12T3-DM	13.40	13.40	3.97	4.1	2.55		●	●	○			★	★										
	SEET12T3-CM	13.40	13.40	3.97	4.1	2.55				★		★	☆											
	SEET12T3-EM	13.40	13.40	3.97	4.1	2.55			●	●			☆	★										
	SEET12T3-DR	13.40	13.40	3.97	4.1	2.55		●		●			★	★										
	SEET12T3-CR	13.40	13.40	3.97	4.1	2.55		●			★			★										
	SEET12T3-LH	13.40	13.40	3.97	4.1	2.55																☆	★	
	SEET12T3-W	17.82	13.40	3.97	4.1	9.46	500		●		★		★											



★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SE□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

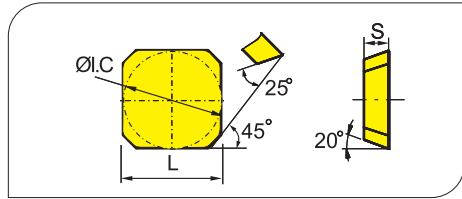


Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

Insert shape	Type	Basic dimensions(mm)					CVD Coating					PVD Coating			Cermet	Cemented carbide							
		L	I.C	S	d	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	SEET09T308PER-PF	9.525	9.525	4.01	3.3	0.8						★											
	SEET09T308PER-PM	9.525	9.525	4.01	3.3	0.8			☆			★											
	SEET09T308PER-PR	9.525	9.525	4.01	3.3	0.8			★			☆											
	SEET120308PER-PF	13.308	13.308	4.04	4.1	0.8						☆											
	SEET120308PER-PM	13.308	13.308	4.04	4.1	0.8	●				★	★	★	★									
	SEET120308PER-PR	13.308	13.308	4.04	4.1	0.8			○			★	★	★									

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
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SE□□



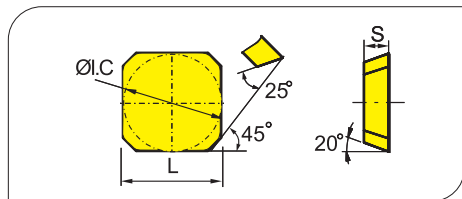
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😊	😊	😊	😊	😊						😊	😊	😊	😊	😊	😊	😊				
M Stainless steel	😊	😊	😊	😊	😊						😊	😊	😊	😊	😊	😊	😊				
K Cast iron	😊	😊	😊	😊	😊				😊	😊	😊	😊	😊	😊	😊	😊	😊			😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊															😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊						😊	😊									

Insert shape	Type	Basic dimensions(mm)			CVD Coating					PVD Coating					Cermet		Cemented carbide				
		L	I.C	S	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	SEEN1203AFTN	12.7	12.7	3.18							☆				●						
	SEKN1203AFFN	12.7	12.7	3.18						★											
	SEKN1203AFN	12.7	12.7	3.18	●						☆							●			○
	SEKN1203AFTN	12.7	12.7	3.18	●	●	●				★	☆						●			●
	SEKN1504AFN	15.875	15.875	4.76	●	●															●
	SEKN1504AFTN	15.875	15.875	4.76	○	●	●						☆					●			●

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 ● Available grade and always stock available ○ Available grade and produce according to order

SE□□



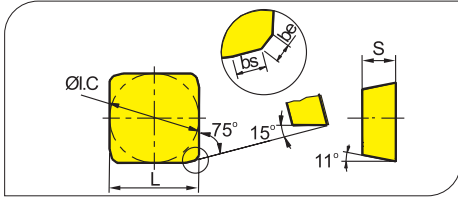
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😊	😊	😊	😊	😊						😊	😊	😊	😊	😊	😊	😊				
M Stainless steel	😊	😊	😊	😊	😊						😊	😊	😊	😊	😊	😊	😊				
K Cast iron	😊	😊	😊	😊	😊				😊	😊	😊	😊	😊	😊	😊	😊	😊			😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊															😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊						😊	😊									

Insert shape	Type	Basic dimensions(mm)			CVD Coating					PVD Coating					Cermet		Cemented carbide				
		L	I.C	S	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	SEKR1203AFN	12.7	12.7	3.18	●						☆	☆									
	SEKR1504AFN	15.875	15.875	4.76					★			★						●			

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SP□N



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

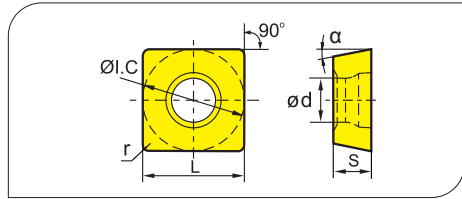
Insert shape	Type	Basic dimensions(mm)					CVD Coating					PVD Coating				Cermat		Cemented carbide						
		L	I.C	S	be	bs	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201		
	SPKN1203EDER	12.7	12.7	3.18	1	1.4							☆											
	SPKN1203EDEL	12.7	12.7	3.18	1	1.4							☆											
	SPKN1203EDFR	12.7	12.7	3.18	1	1.4							★	☆									●	
	SPKN1203EDFL	12.7	12.7	3.18	1	1.4							☆	☆										○
	SPKN1203EDSKR	12.7	12.7	3.18	1	1.4									☆					○				
	SPKN1203EDSKL	12.7	12.7	3.18	1	1.4									☆					○				
	SPKN1203EDTKR	12.7	12.7	3.18	1	1.4	●	●					☆	★						●			○	
	SPKN1203EDTKL	12.7	12.7	3.18	1	1.4							☆	☆						○				○
	SPKN1203EDS31R	12.7	12.7	3.18	1	1.4								☆						○				
	SPKN1203EDS31L	12.7	12.7	3.18	1	1.4								☆						○				
	SPKN1203EDT31R	12.7	12.7	3.18	1	1.4	●	●					☆	★						●				○
	SPKN1203EDT31L	12.7	12.7	3.18	1	1.4							☆	☆						○				○
	SPKN1504EDER	15.875	15.875	4.76	1	1.4							☆											
	SPKN1504EDEL	15.875	15.875	4.76	1	1.4							☆											
	SPKN1504EDFR	15.875	15.875	4.76	1	1.4							☆	☆									○	
	SPKN1504EDFL	15.875	15.875	4.76	1	1.4							☆	☆										○
	SPKN1504EDSKR	15.875	15.875	4.76	1	1.4									☆					○				
	SPKN1504EDSKL	15.875	15.875	4.76	1	1.4									☆					○				
	SPKN1504EDTKR	15.875	15.875	4.76	1	1.4	●						★	☆						●			●	
	SPKN1504EDTKL	15.875	15.875	4.76	1	1.4							☆	☆						○				●
	SPKN1504EDS32R	15.875	15.875	4.76	1	1.4								☆						○				
	SPKN1504EDS32L	15.875	15.875	4.76	1	1.4								☆						○				
	SPKN1504EDT32R	15.875	15.875	4.76	1	1.4	●						★	☆						●				●
	SPKN1504EDT32L	15.875	15.875	4.76	1	1.4							☆	☆						○				●

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order

● Available grade and always stock available ○ Available grade and produce according to order

Order guide: **SPKN1203EDT3 1R** chamfering angle 20°, chamfering width 0.15mm. if order other edge shape, see the inserts code key standard

SP□□



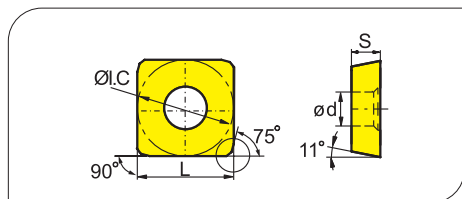
😊 Good working condition 😊 Normal working condition 😞 Bad working condition

Workpiece material	Steel		Stainless steel		Cast iron		Non-ferrous metal		Heat resistant alloy, Ti alloy	
	P	M	K	N	S					
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)						CVD Coating		PVD Coating		Cermet	Cemented carbide												
		r	L	I.C	S	d	α	YBGC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YCG30S	YD051	YD101	YD201	
	SPMT060304	0.4	6.35	6.35	3.18	2.8	11°	○	○					☆											
	SPMT120408	0.8	12.7	12.70	4.76	5.5	11°	●	●	●				★							○				
	SPMT120408-PM	0.8	12.7	12.70	4.76	5.5	11°							★	☆										
	SPMT120408-KM	0.8	12.7	12.70	4.76	5.5	11°							★	☆										
	SPKT1204EDR	-	12.7	12.7	4.76	5.56	11°							★											

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SP□W



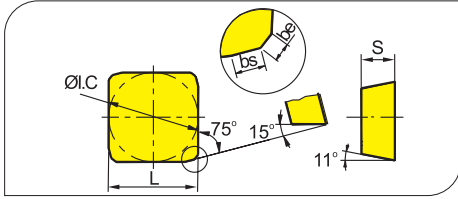
😊 Good working condition 😊 Normal working condition 😞 Bad working condition

Workpiece material	Steel		Stainless steel		Cast iron		Non-ferrous metal		Heat resistant alloy, Ti alloy	
	P	M	K	N	S					
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)						CVD Coating		PVD Coating		Cermet	Cemented carbide												
		r	L	I.C	S	d	α	YBGC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YCG30S	YD051	YD101	YD201		
	SPKW1204EDFR	--	12.7	12.7	4.76	5.56	11°							☆											
	SPKW1204EDSR	--	12.7	12.7	4.76	5.56	11°							☆											

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SP□R



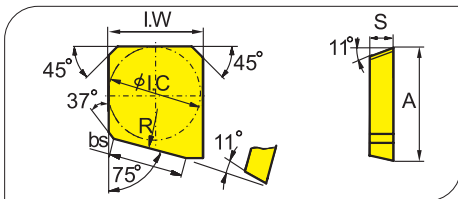
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

Insert shape	Type	Basic dimensions(mm)					CVD Coating				PVD Coating			Cermet	Cemented carbide								
		L	I.C	S	be	bs	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC30S	YD051	YD101	YD201
	SPKR1203EDR-GM	12.7	12.7	3.18	1	1.4	●					★	★						●				●
	SPKR1203EDL-GM	12.7	12.7	3.18	1	1.4	●					★	★						●				●
	SPKR1504EDR-GM	15.875	15.875	4.76	1	1.4	●					★	★						●				●
	SPKR1504EDL-GM	15.875	15.875	4.76	1	1.4	●					★	★						●				●

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SP□X



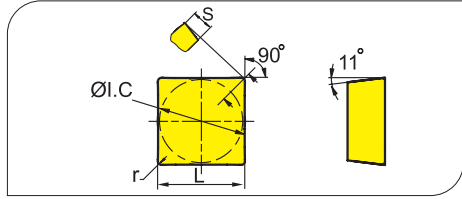
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

Insert shape	Type	Basic dimensions(mm)						CVD Coating				PVD Coating			Cermet	Cemented carbide										
		A	I.C	I.W	S	bs	R	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC30S	YD051	YD101	YD201		
	SPEX1203EDL-1	15	12.7	12.7	3.18	10	500																		●	
	SPEX1203EDR-1	15	12.7	12.7	3.18	10	500																			●
	SPEX1504EDL-1	18.2	15.875	15.875	4.76	10	500																	○		●
	SPEX1504EDR-1	18.2	15.875	15.875	4.76	10	500																	○		●

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SP



😊 Good working condition 😐 Normal working condition 😞 Bad working condition

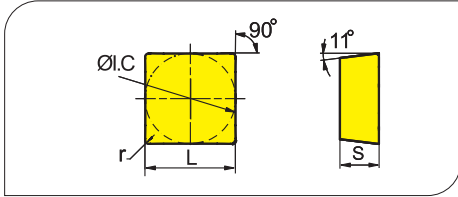
Workpiece material	Working Condition												
	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating			PVD Coating			Cermet		Cemented carbide								
		L	I.C	s	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	SPMR090304	9.525	9.525	3.18	0.4	○									○							
	SPMR09T304	9.525	9.525	3.97	0.4						☆											
	SPMR090308	9.525	9.525	3.18	0.8	○																
	SPMR120304	12.7	12.7	3.18	0.4	○										○						
	SPMR120308	12.7	12.7	3.18	0.8	○																
	SPMR120312	12.7	12.7	3.18	1.2	○	○					☆										

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SP□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

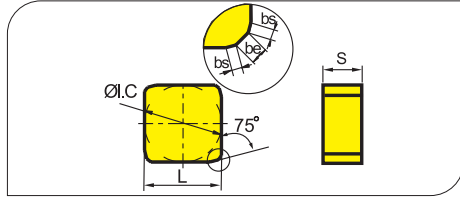


Workpiece material	Working condition												
	P	M	K	N	S	YB	YB	YB	YB	YB	YB	YB	YB
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide							
		L	I.C	s	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YC305	YD051	YD101	YD201
	SPUN090304	9.525	9.525	3.18	0.4														○			
	SPUN090308	9.525	9.525	3.18	0.8														○		○	
	SPUN120304	12.7	12.7	3.18	0.4											○			○			○
	SPUN120308	12.7	12.7	3.18	0.8		○	○											●		○	○
	SPUN120312	12.7	12.7	3.18	1.2														○			
	SPUN150408	15.875	15.875	4.76	0.8														○			○
	SPUN150412	15.875	15.875	4.76	1.2														○		○	○
	SPUN190408	19.05	19.05	4.76	0.8														○		○	
	SPUN190412	19.05	19.05	4.76	1.2														○			
	SPUN190416	19.05	19.05	4.76	1.6														○			
	SPGN090304	9.525	9.525	3.18	0.4											●				●		
	SPGN090308	9.525	9.525	3.18	0.8														○	○	○	
	SPGN120308	12.7	12.7	3.18	0.8														●		●	
	SPGN120404	12.7	12.7	4.76	0.4														○			○
	SPGN120408	12.7	12.7	4.76	0.8														○			
	SPGN120412	12.7	12.7	4.76	1.2														○			○
	SPGN150404	15.875	15.875	4.76	0.4															●	○	
	SPGN150408	15.875	15.875	4.76	0.8														●			
	SPGN190408	19.05	19.05	4.76	0.8																○	
	SPGN190416	19.05	19.05	4.76	1.6																	

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

SN



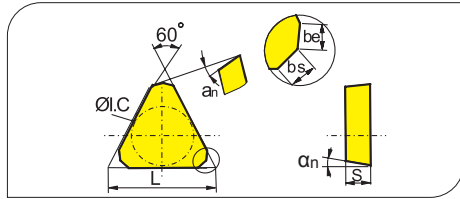
😊 Good working condition 😊 Normal working condition 😞 Bad working condition

Workpiece material	Steel		Stainless steel		Cast iron		Non-ferrous metal		Heat resistant alloy, Ti alloy	
	P	M	K	N	S	N	S	N	S	
Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)					CVD Coating			PVD Coating			Cermet		Cemented carbide							
		L	I.C	S	be	bs	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YNG151C	YD051	YD101	YD201
	SNKN1204ENN	12.7	12.7	4.76	0.9	1.5	●	○	☆											●		●
	SNKN1504ENN	15.875	15.875	4.76	0.9	1.5	●	○	○	☆										○		○
	SNKN1904ENN	19.05	19.05	4.76	1.0	1.5				☆												

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

TP



😊 Good working condition 😊 Normal working condition 😞 Bad working condition

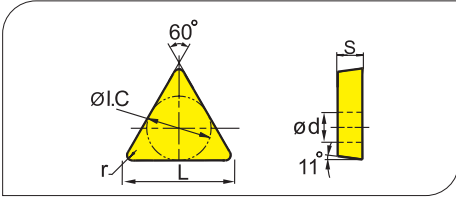
Workpiece material	Steel		Stainless steel		Cast iron		Non-ferrous metal		Heat resistant alloy, Ti alloy	
	P	M	K	N	S	N	S	N	S	
Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

Insert shape	Type	Basic dimensions(mm)						CVD Coating			PVD Coating			Cermet		Cemented carbide							
		L	I.C	S	be	bs	an	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YD051	YD101	YD201	
	TPKN2204PDFR	22	12.7	4.76	1.4	0.7	11°					☆										○	
	TPKN2204PDFL	22	12.7	4.76	1.4	0.7	11°					☆										○	
	TPKN2204PDR	22	12.7	4.76	1.4	0.7	11°	●	●			★	★	★						●	○	○	●
	TPKN2204PDL	22	12.7	4.76	1.4	0.7	11°													●			
	TPKN2204PDTR	22	12.7	4.76	1.4	0.7	11°	●												●			
	TPKN2204PDTL	22	12.7	4.76	1.4	0.7	11°	○												○			

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

TP□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition

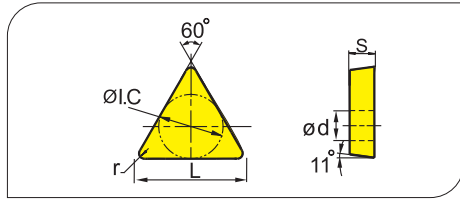


Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide							
		L	I.C	s	r	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	TPGN090204	9.6	5.56	2.38	0.4																○	
	TPGN090208	9.6	5.56	2.38	0.8														○			
	TPGN110204	11	6.35	2.38	0.4																○	
	TPGN110304	11	6.35	3.18	0.4														○	●		○
	TPGN110308	11	6.35	3.18	0.8														○			○
	TPGN160304	16.5	9.525	3.18	0.4													●	○	○		
	TPGN160308	16.5	9.525	3.18	0.8													○			●	
	TPGN160312	16.5	9.525	3.18	1.2																	○
	TPGN160316	16.5	9.525	3.18	1.6																	○
	TPGN220308	22	12.7	4.76	0.8																○	
	TPGN220404	22	12.7	4.76	0.4																○	
	TPGN220408	22	12.7	4.76	0.8														○			○
	TPGN220412	22	12.7	4.76	1.2																	○
	TPGN270408	27.5	15.875	4.76	0.8																	○

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

TP



😊 Good working condition 😊 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBGC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
M Stainless steel	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
K Cast iron	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
N Non-ferrous metal	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊
S Heat resistant alloy, Ti alloy	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊	😊

B

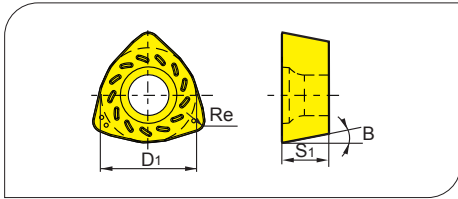
Indexable milling tools

Milling inserts

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide						
		L	I.C	s	r	YBGC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	TPUN110208	11	6.35	2.38	0.8	○												○			
	TPUN110304	11	6.35	3.18	0.4													○			
	TPUN110308	11	6.35	3.18	0.8	○													●	○	○
	TPUN160304	16.5	9.525	3.18	0.4		○												○	○	○
	TPUN160308	16.5	9.525	3.18	0.8		○	○											●	●	○
	TPUN160312	16.5	9.525	3.18	1.2		○												●		
	TPUN160408	16.5	9.525	4.76	0.8														○		○
	TPUN160412	16.5	9.525	4.76	1.2														○		○
	TPUN220404	22	12.7	4.76	0.4																○
	TPUN220408	22	12.7	4.76	0.8	●	○												●	○	
	TPUN220412	22	12.7	4.76	1.2			○											●		○
	TPUN220416	22	12.7	4.76	1.6																○
	TPMR090204	9.6	5.56	2.38	0.4		○														
	TPMR110304	11	6.35	3.18	0.4		●										○				
	TPMR110308	11	6.35	3.18	0.8		○										○				
	TPMR160304	16.5	9.525	3.18	0.4		●	○									○	○			
	TPMR160308	16.5	9.525	3.18	0.8		●	●										○			○
	TPMR160312	16.5	9.525	3.18	1.2			○													
	TPMR220412	22	12.7	4.76	1.2			○													
TPMR330916	33	19.05	9.52	1.6									★								

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

WP



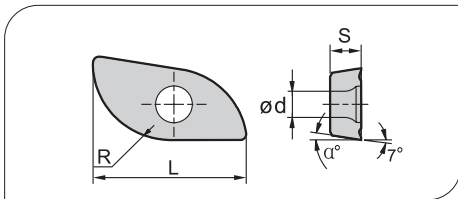
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
P Steel	😊	😊	😊	😊	😊							😊	😊	😊	😊	😊	😊					
M Stainless steel	😊	😊	😊	😊	😊							😊	😊	😊	😊	😊	😊					
K Cast iron			😊	😊	😊				😊	😊	😊				😊	😊						
N Non-ferrous metal				😊	😊																😊	😊
S Heat resistant alloy, Ti alloy										😊	😊											

Insert shape	Type	Basic dimensions(mm)				CVD Coating			PVD Coating			Cermet	Cemented carbide									
		B	Re	S1	D1	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	WPGT050315ZSR	11°	1.5	3.5	7.94			●														
	WPGT060415ZSR	11°	1.5	4.2	9.525			●														
	WPGT080615ZSR	11°	1.5	6.35	12.85			●														
	WPGT090725ZSR	11°	2.5	7	15			●														

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

XP



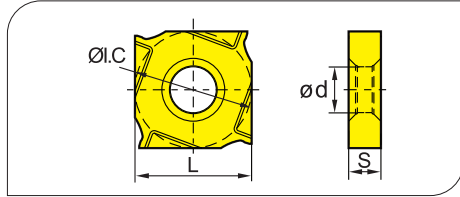
😊 Good working condition 😐 Normal working condition 😞 Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
P Steel	😊	😊	😊	😊	😊								😊	😊	😊	😊	😊					
M Stainless steel	😊	😊	😊	😊	😊								😊	😊	😊	😊	😊					
K Cast iron			😊	😊	😊				😊	😊	😊				😊	😊						
N Non-ferrous metal				😊	😊																😊	😊
S Heat resistant alloy, Ti alloy										😊	😊											

Insert shape	Type	Basic dimensions(mm)					CVD Coating			PVD Coating			Cermet	Cemented carbide										
		R	d	S	α°	L	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201		
	XPHT16R0803-GM	8	3.1	3.18	9	16																		
	XPHT20R10T3-GM	10	4.0	3.97	9	20																		
	XPHT25R1204-GM	12.5	4.7	4.76	9	25																		
	XPHT30R1506-GM	15	5.8	6.35	11	30																		
	XPHT32R1606-GM	16	5.8	6.35	9	32																		
	XPHT40R2007-GM	20	6.8	7.94	9	40																		
	XPHT50R2507-GM	25	9.2	7.94	9	50																		

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

XS



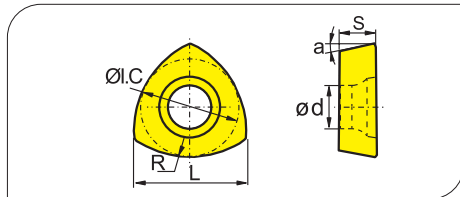
☺ Good working condition ☹ Normal working condition ☹☹ Bad working condition

Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	☺	☺	☺	☺	☺						☺	☺	☺	☺	☺	☺	☺				
M Stainless steel	☹	☹	☹	☺	☺						☺	☺	☺	☺	☺	☺	☺				
K Cast iron			☹☹						☹☹	☹☹	☹☹		☹☹	☹☹	☹☹				☹☹	☹☹	☹☹
N Non-ferrous metal				☺	☺															☺	☺
S Heat resistant alloy, Ti alloy										☹☹	☹☹										

Insert shape	Type	Basic dimensions(mm)				CVD Coating				PVD Coating				Cermet	Cemented carbide							
		I.C	L	S	d	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	XSEQ1202	12.7	12.7	2.6	5.0								★									
	XSEQ1203	12.7	12.7	3.0	5.0								★									
	XSEQ12T3	12.7	12.7	3.8	5.0								★									
	XSEQ1204	12.7	12.7	4.0	5.0								★									
	XSEQ12T4	12.7	12.7	4.8	5.0								★									

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

ZD



☺ Good working condition ☹ Normal working condition ☹☹ Bad working condition

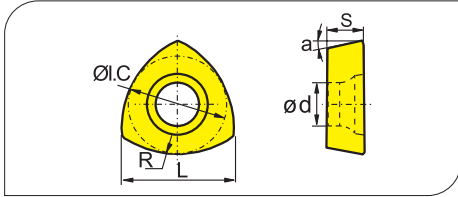
Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	☺	☺	☺	☺	☺						☺	☺	☺	☺	☺	☺	☺				
M Stainless steel	☹	☹	☹	☺	☺						☺	☺	☺	☺	☺	☺	☺				
K Cast iron			☹☹						☹☹	☹☹	☹☹		☹☹	☹☹	☹☹				☹☹	☹☹	☹☹
N Non-ferrous metal				☺	☺															☺	☺
S Heat resistant alloy, Ti alloy										☹☹	☹☹										

Insert shape	Type	Basic dimensions(mm)						CVD Coating				PVD Coating				Cermet	Cemented carbide							
		I.C	L	S	R	d	α	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	ZDET08T2CYR10	6.75	8.4	2.78	10	2.8	14°	○					☆											
	ZDET1103CYR12.5	8.5	10.6	3.18	12.5	2.8	14°	○					☆											
	ZDET13T3CYR16	10.5	13.2	3.97	16	4.4	14°	○					☆											

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

ZP□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition



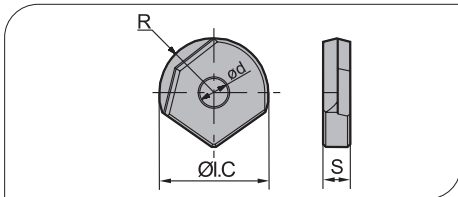
Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

Insert shape	Type	Basic dimensions(mm)						CVD Coating			PVD Coating			Cermet	Cemented carbide									
		I.C	L	S	R	d	α	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201	
	ZPNT2204CY(R20)	12.7	16.1	4.76	20	5.56	11°	○						☆										
	ZPNT2204CY(R25)	12.7	16.9	4.76	25	5.56	11°	○						☆										
	ZPNT2204CY(R31)	12.7	17.6	4.76	31.5	5.56	11°	○						☆										

★ Recommended grade and always stock available ☆ Recommended grade and produce according to order
 ● Available grade and always stock available ○ Available grade and produce according to order

ZO□□

😊 Good working condition 😐 Normal working condition 😞 Bad working condition



Workpiece material	P Steel	M Stainless steel	K Cast iron	N Non-ferrous metal	S Heat resistant alloy, Ti alloy
P Steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
M Stainless steel	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
K Cast iron	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
N Non-ferrous metal	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊
S Heat resistant alloy, Ti alloy	😊😊😊	😊😊😊	😊😊😊	😊😊😊	😊😊😊

Insert shape	Type	Basic dimensions(mm)				CVD Coating			PVD Coating			Cermet	Cemented carbide										
		R	I.C	S	d	YBC301	YBM251	YBM351	YBD152	YBD252	YBG102	YBG202	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201		
	ZOHX1203-GF	6	12	3	4									★									
	ZOHX1604-GF	8	16	4	5									★									
	ZOHX2005-GF	10	20	5	5									★									
	ZOHX2506-GF	12.5	25	6	6									☆									
	ZOHX3007-GF	15	30	7	8									☆									
	ZOHX3207-GF	16	32	7	8									☆									
	ZOHX1203-GM	6	12	3	4									★									
	ZOHX1604-GM	8	16	4	5									★									
	ZOHX2005-GM	10	20	5	5									★									
	ZOHX2506-GM	12.5	25	6	6									★									
	ZOHX3007-GM	15	30	7	8									★									
	ZOHX3207-GM	16	32	7	8									★									

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 ● Available grade and always stock available ○ Available grade and produce according to order