

BKK SEMINAR 2022

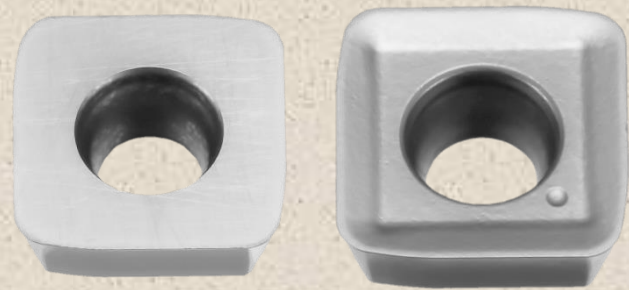


SIC-EVO
Indexable End Mill SSV type



Today's agenda

Milling grade(DS1)



SIC-EVO



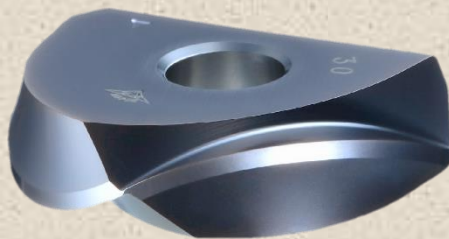
EXSAP(11&17)



Shoulder 6



Expanded inserts for existing products



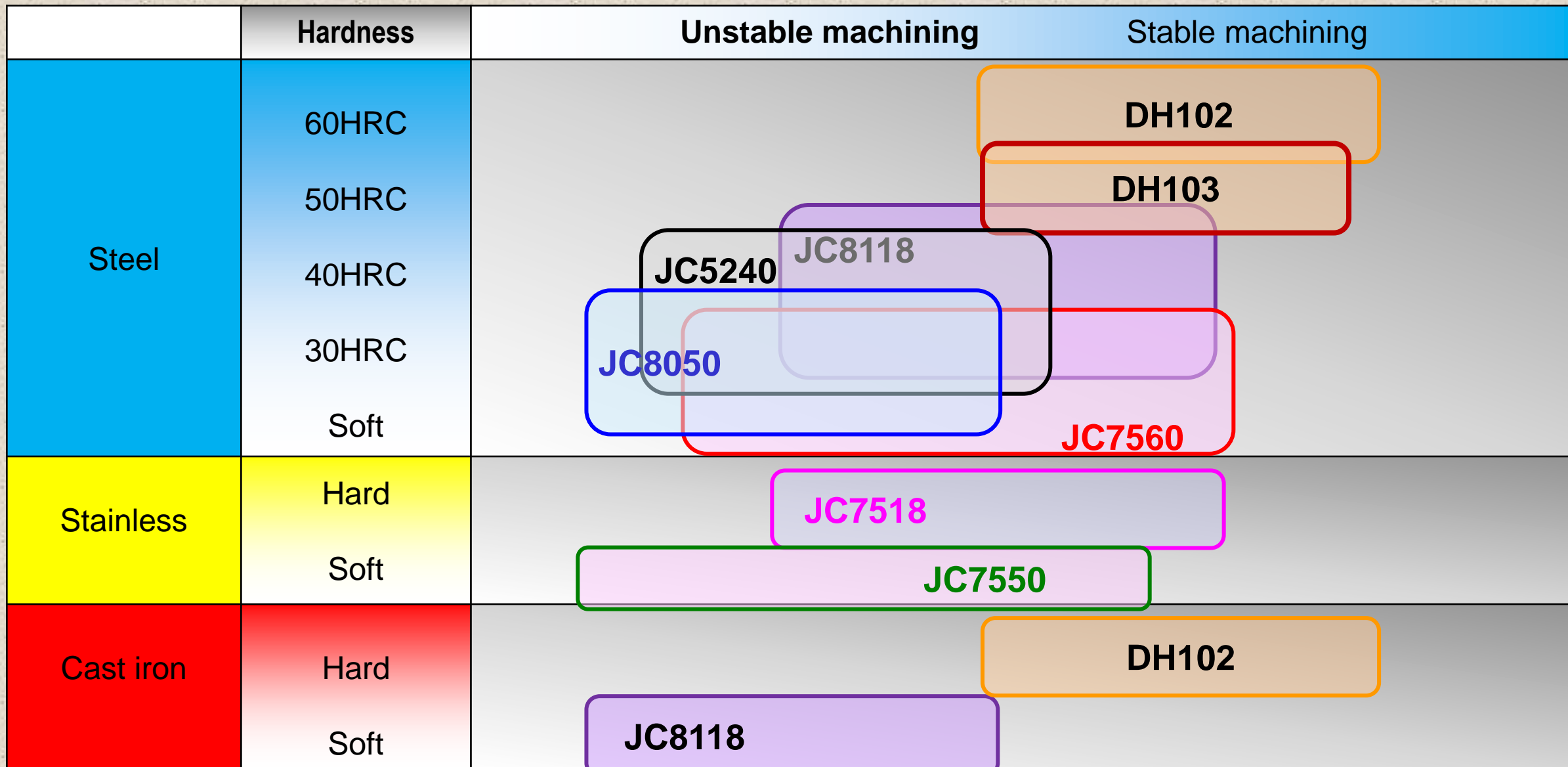
DIJET MILLING GRADE

Comparison of Dijet coating

NEW

Coating Grade	JC5000	JC7500	JC5200	JC8000	DS1	DH1
Materials	TiAlN	AlCrN TiAlN+	AlTiN	TiAlCrN	TiB2	Multi-AlCr Type
Hardness (Gpa)	27~28	27~28	30~32	32~34	33~35	34~36
Oxidation temperature(°C)	700~800	1000~1100	800~900	1000~1100	900~1000	1100~1,200
Coefficient of friction	0.65	0.5	0.65	0.65	0.4	0.5
Wear resistance	☆☆☆	☆☆☆	☆☆☆ ☆	☆☆☆ ☆	☆☆☆ ☆	☆☆☆ ☆☆
Thermal resistance	☆☆☆	☆☆☆ ☆	☆☆☆	☆☆☆ ☆	☆☆☆ ☆	☆☆☆ ☆☆

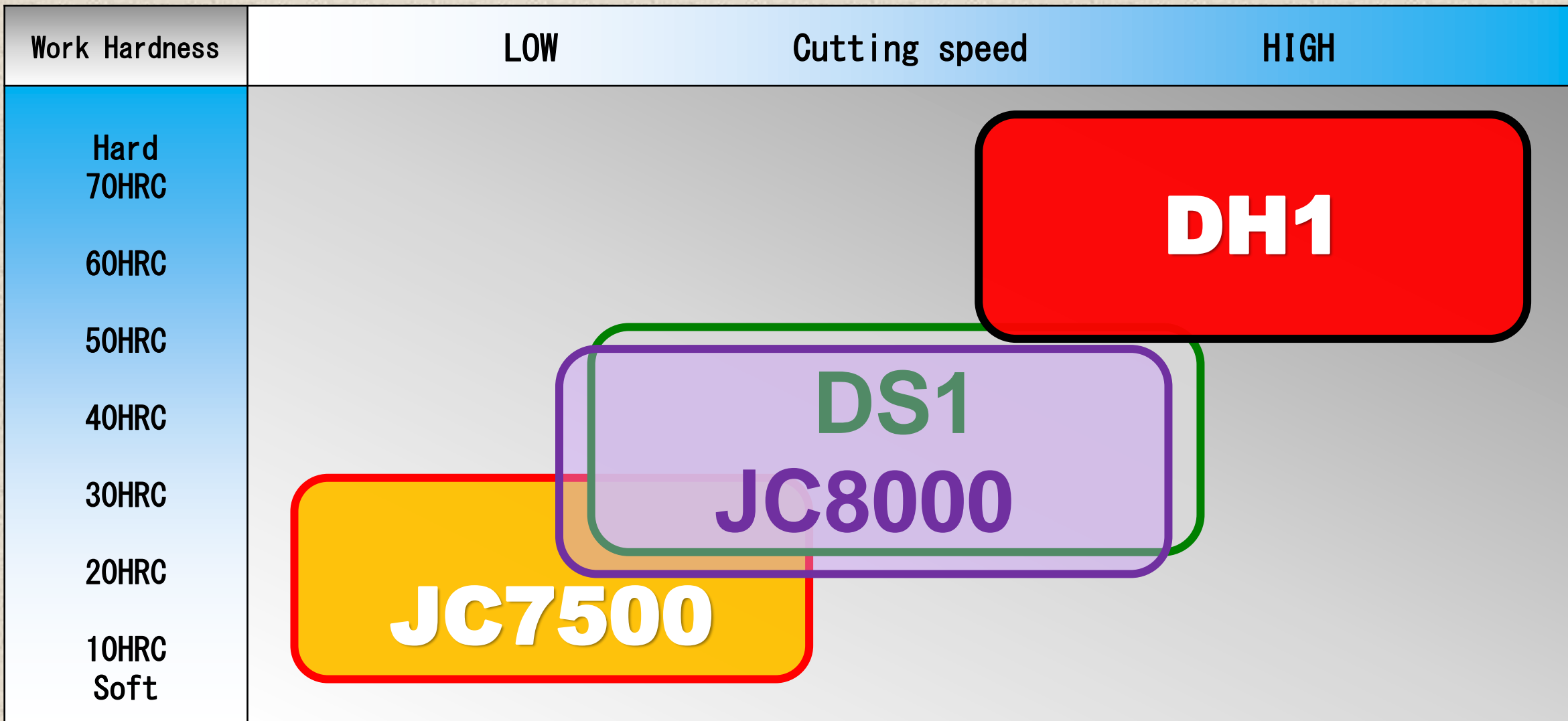
Dijet Milling Grades Map



Dijet Milling Grades Map

	Hardness	Unstable machining	Stable machining
H Hardened materials	70HRC		DH202 DH102
	60HRC	JC8015(DH115)	DH103 DH108
	50HRC	JC8118(5218)	
S Inconel Ti alloy	Hard	DS118	DH102 DH103 DH108(DS108)
	Soft	DS150 JC7550	JC7518

Dijet Coating Grades Map



New coating grade
for Titanium & Inconel

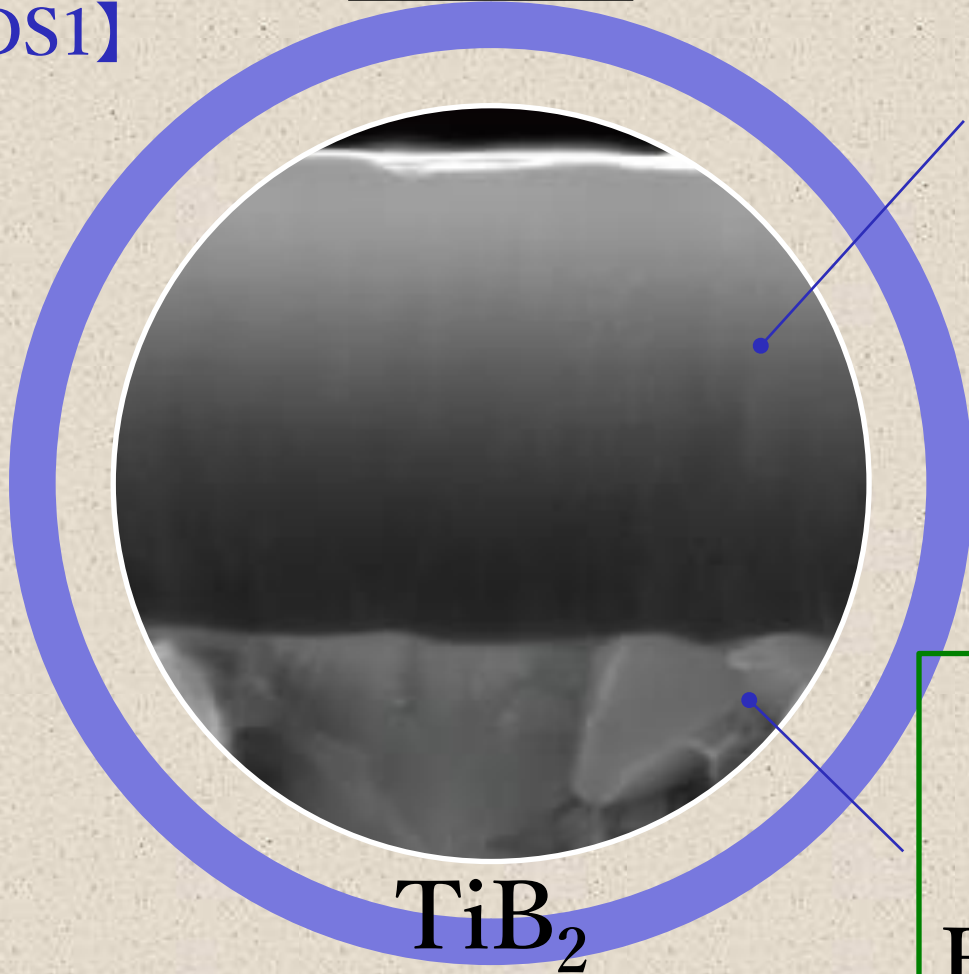
DS150, DS118

DS150, DS118

Features

New coating
【DS1】

HiPIMS



TiB_2

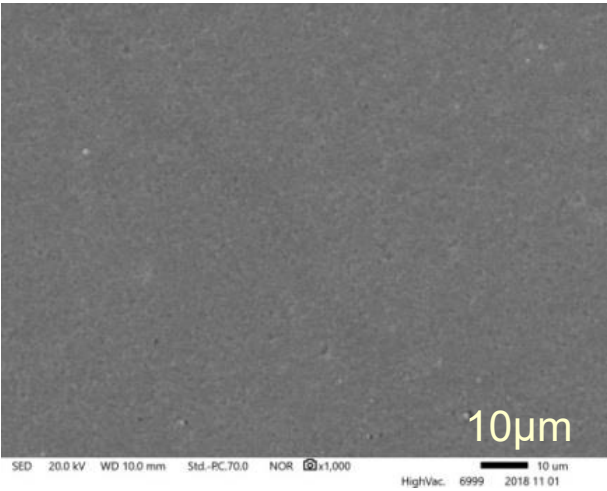
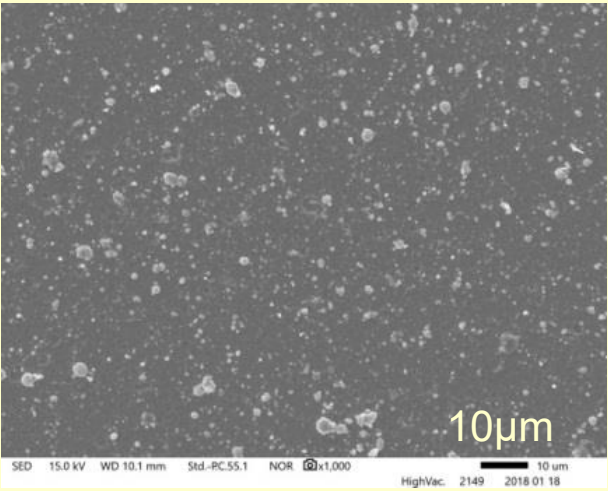
Low chemical reactivity
High adhesion
High chipping resistance
+
High surface smoothness

Application

For wear resistance : DS118
For chipping resistance : DS150

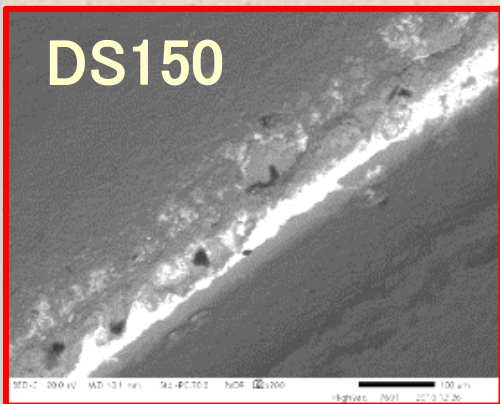
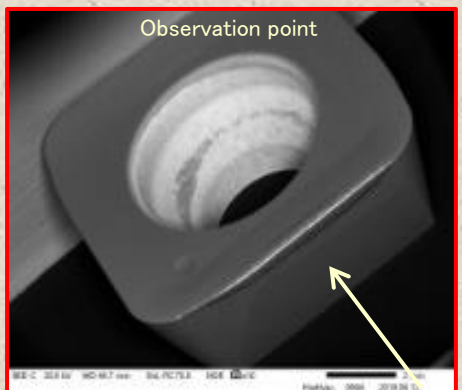
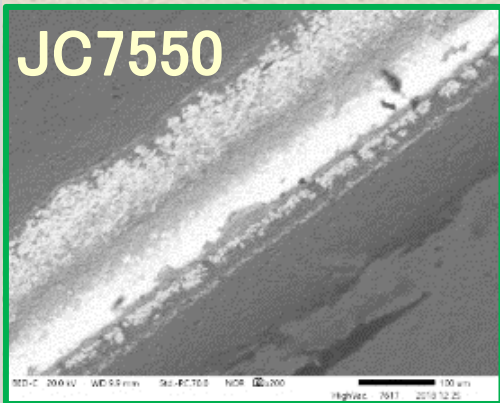
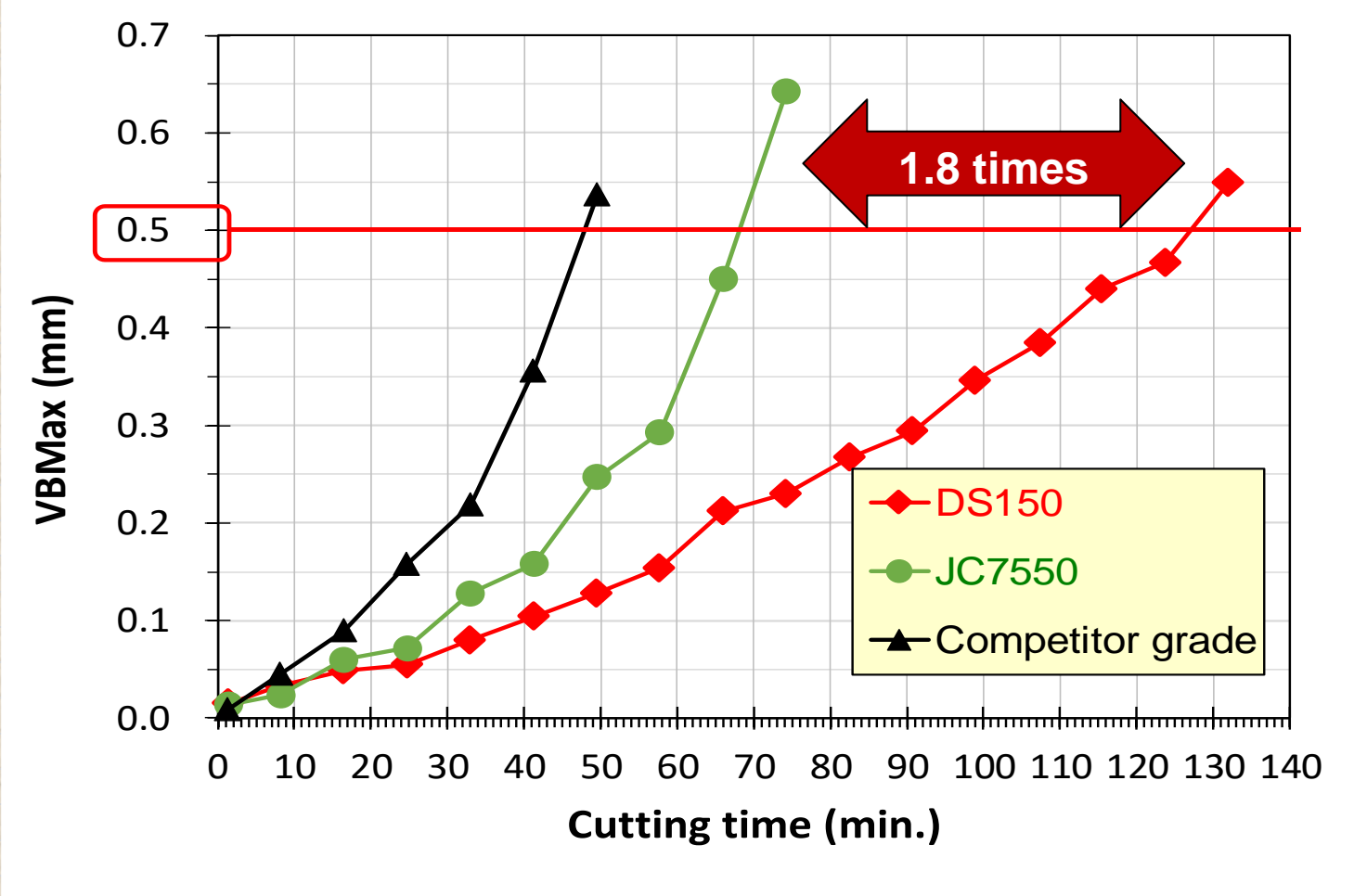
Corresponds to difficulty to cutting Titanium and Inconel.

Features

	DS1 coating	Conventional coating
Coating surface (SEM、x1000)	 <p style="color: red; text-align: center;">Droplet free due to new PVD technology!!</p>	 <p style="text-align: center;">Lots of Droplet</p>
Composition	TiB ₂	AlTiCrN
Surface finish(sdr)	0.04	0.20
Thickness(μ m)	2.0	3.4
Hardness (GPa)	32	26

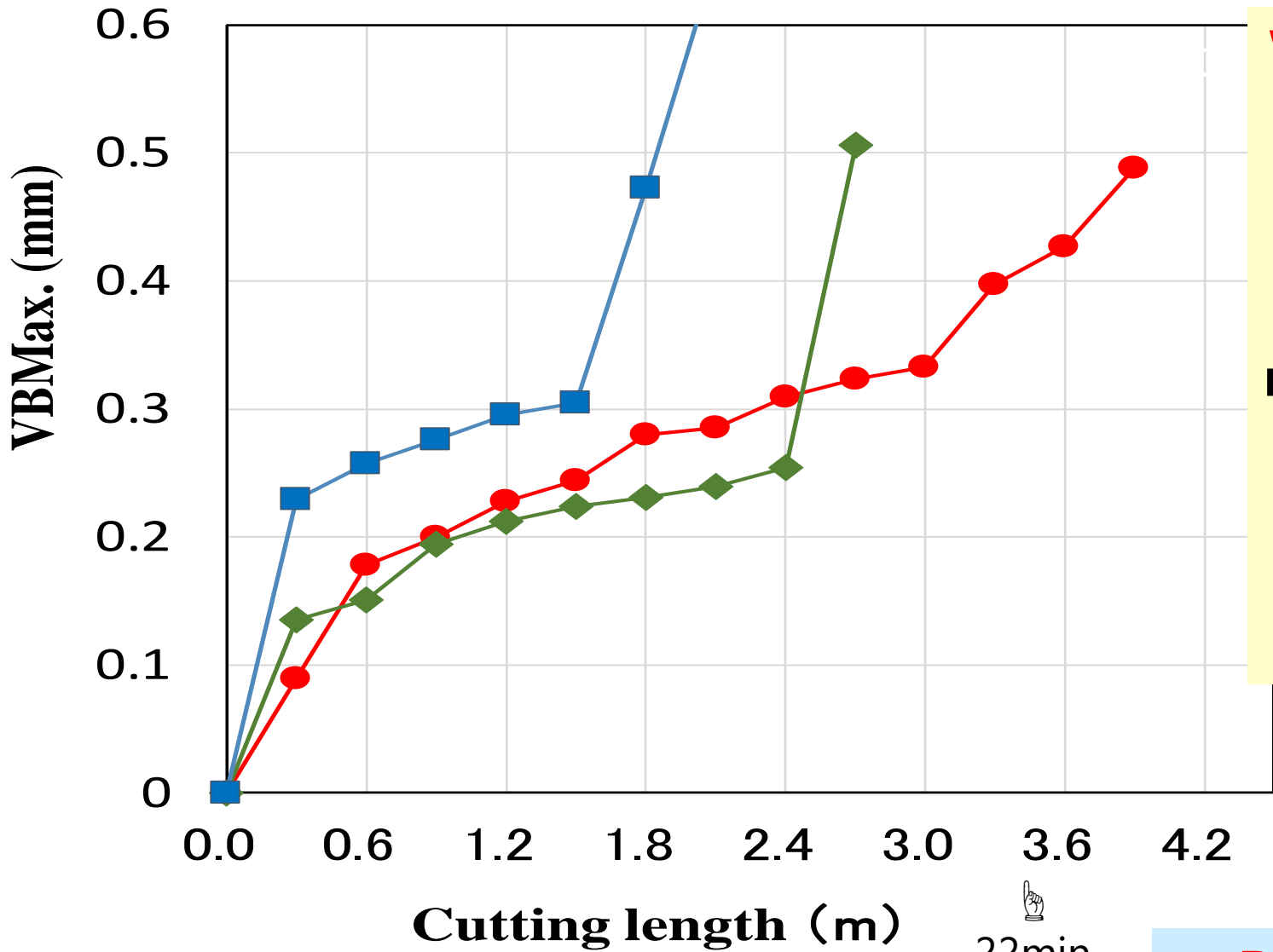
Tool life comparison (Ti-6Al-4V)

Mat' I: Ti-6Al-4V-Ti, Wet SKG2-6063R-10-22, Inserts: SPET100415ZPER-SM (SKS-G II)
 $V_c=60\text{m/min}$, $f=0.6\text{mm/rev}$, $A_p=1\text{mm}$, $A_e=33\text{mm}$, Down Cut



Low chemical reactivity

Tool life comparison (INCO718)



Work Mat'l : INCO718(46HRC)

Tool dia. : φ50.8mm(Φ2")

Insert : SDEW090312ZER

Overhung length:150mm

By 1 insert、 WET cutting

n=190/min-1、 Vc=30m/min、

Vf=190mm/min

fz=1.0mm

Ap=0.5mm

Ae=35mm

● DS150

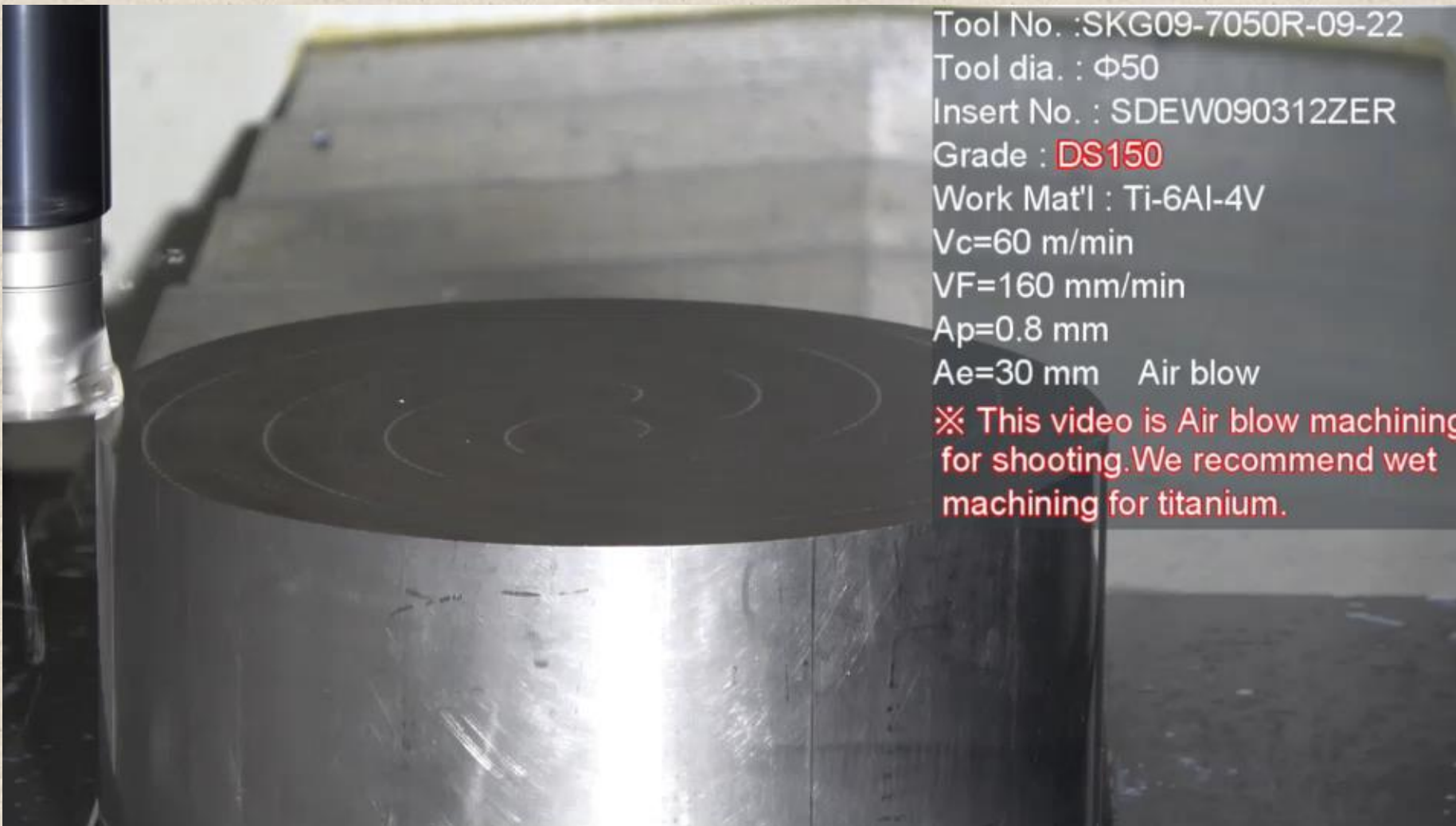
◆ JC7550

■ JC8118

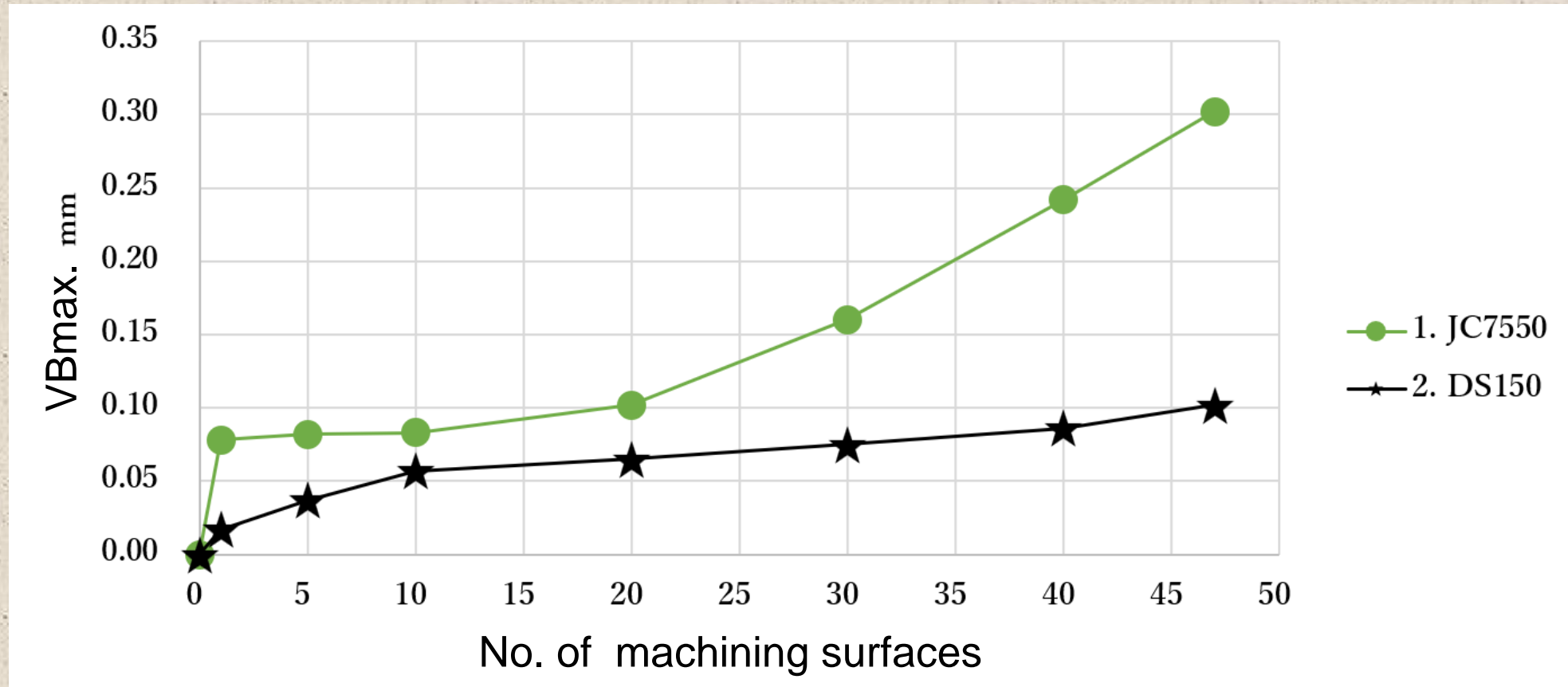
22min

∴ DS150 > JC7550 > JC8118

Video (Ti-6Al-4V:DS150)



Insert No. SDEW090312ZER	Work: Ti-6Al-4V	Coolant: Wet(External)	Down cut
Vc : 60m/min (382min ⁻¹)	Vf : 160mm/min (0.6mm/th)	Ap: 0.8mm	Ae: 30mm



1 surface= 50cm^2 x No. of machining surfaces : 47
= Total machining area= 2350cm^2

While JC7550 exceed the maximum wear of 0.3 mm on 47 surfaces, DS150 can continue machining with a wear of 0.1 mm.

High efficiency roughing tool

SKS-GII

Scan here for product details!



SKG-10, MSG-10 type



Fig.1 SPNW100415ZTR

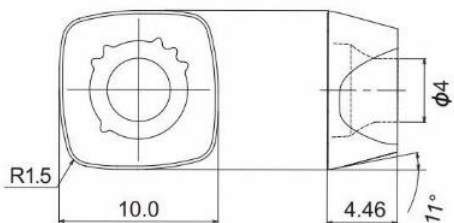


Fig.2 SPET100415ZPER-SM

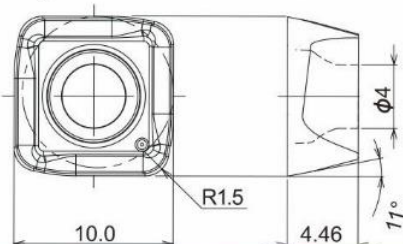


Fig.3 SPMT100415ZPER-SM

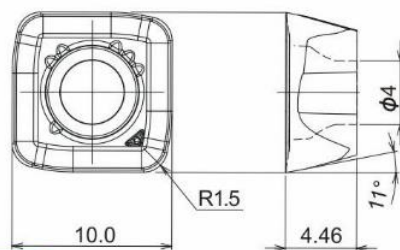
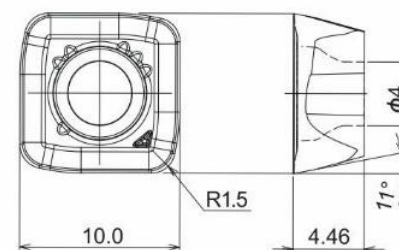


Fig.4 SPMT100415ZPTR-PM



Cat. No.	Class	PVD				Fig.
		JC7550	JC8050	JC8118	NEW DS150	
SPNW100415ZTR	N		●	●		1
SPET100415ZPER-SM	E	●			●	2
SPMT100415ZPER-SM	M	●			●	3
SPMT100415ZPTR-PM	M		●	●		4

●: Standard stock items 10 inserts per case

High efficiency roughing tool

SKS-GII

Scan here for product details!

SKG-14 type



Fig.1 SPNW140515ZTR

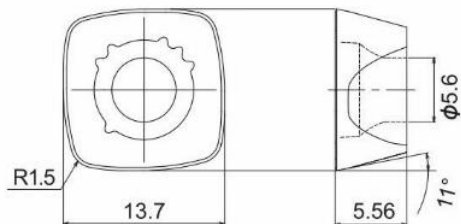


Fig.2 SPMT140520ZPER-SM

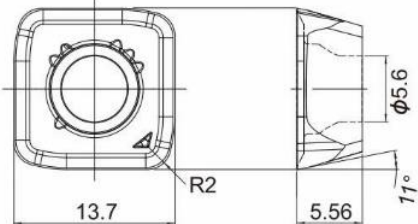
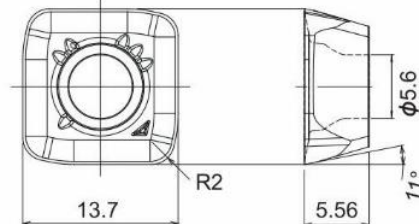


Fig.3 SPMT140520ZPTR-PM



Cat. No.	Class	PVD				Fig.
		JC7550	JC8050	JC8118	NEW DS150	
SPNW140515ZTR	N		●	●		1
SPMT140520ZPER-SM	M	●			●	2
SPMT140520ZPTR-PM	M		●	●		3

●: Standard stock items 10 inserts per case

High feed cutter for difficult-to-cut materials

SKS-GIT 09 type

Scan here for product details!



Fig.1



Fig.2



Fig.1

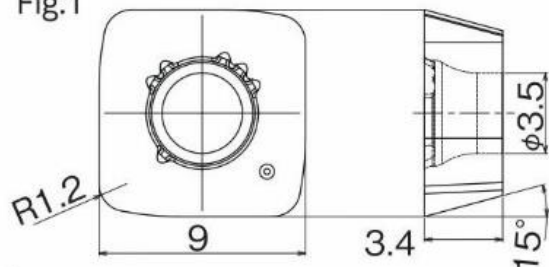
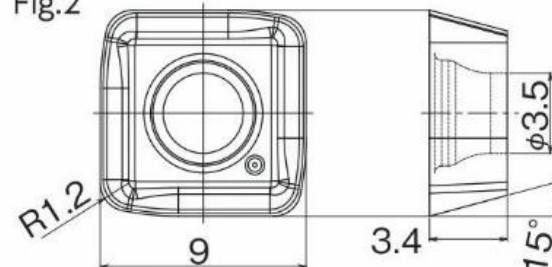


Fig.2



Cat. No.	Class	PVD				Fig.
		JC7550	JC7518	NEW DS118	NEW DS150	
SDEW090312ZER	E	●	●	●	●	1
SDET090312ZDER-SM	E	●			●	2

●: Standard stock items 10 inserts per case

Line up

High Efficiency Roughing Tool

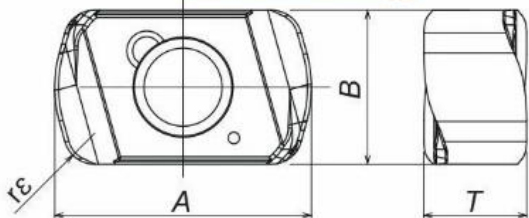
Extreme Series

QMmax-G II

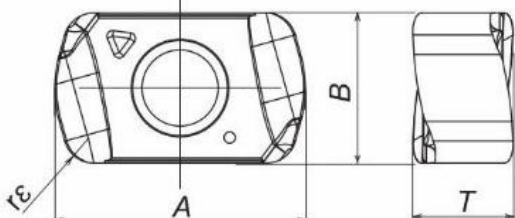
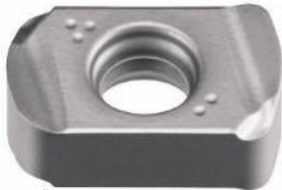
Scan here for product details!



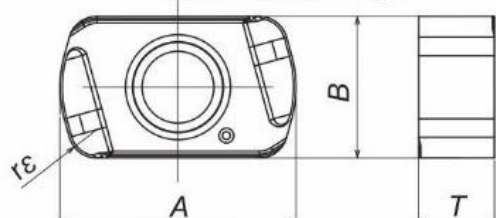
ENMU100412ZER-PH



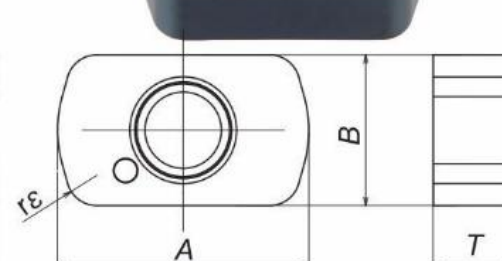
ENMU100412ZER-SL



ENMU100312ZER-HL



ENMQ100312ZER



Cat. No.	Class	PVD								Dimension(mm)			
		DH102	JC8118	JC7518	JC8050	JC7550	JC7560	NEW DS118	NEW DS150	A	B	T	rε
ENMU100412ZER-PH	M		●		●		●			10	6	4	1.2
ENMU100412ZER-SL	M			●		●		●	●	10	6	4	1.2
ENMU100312ZER-HL	M	●								10	6	3.2	1.2
ENMQ100312ZER	M	●								10	6	3.2	1.2

●: Standard stock items 10 inserts per case

Line up

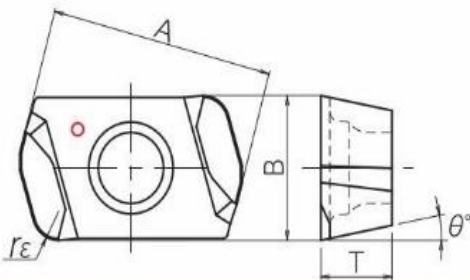
Multipurpose High Efficiency Machining Tool

QMM Quick & Mini *max*

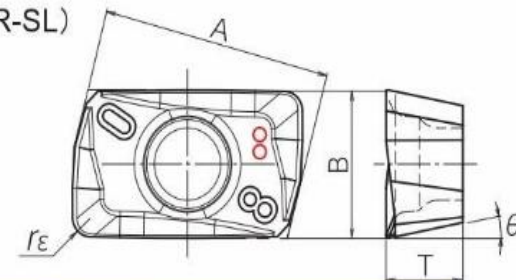
Scan here for product details!



(EPMT1003**ZER)



(ZPMT1003**ZER-SL)



Type	Cat. No.	Class	PVD						Dimension(mm)				
			JC8118	JC7518	JC8050	JC7560	NEW DS118	NEW DS150	A	B	T	rε	θ°
Hi Feed	EPMT100312ZER	M	●		●	●	●	●	10	6	3.2	1.2	11°
	EPMT100320ZER	M	●						10	6	3.2	2.0	11°
Shoulder Milling	ZPMT100304ZER-SL	M		●				●	10.08	6	3.4	0.4	11°
	ZPMT100308ZER-SL	M		●				●	10.08	6	3.4	0.8	11°
	ZPMT100320ZER-SL	M		●				●	10.08	6	3.4	2.0	11°

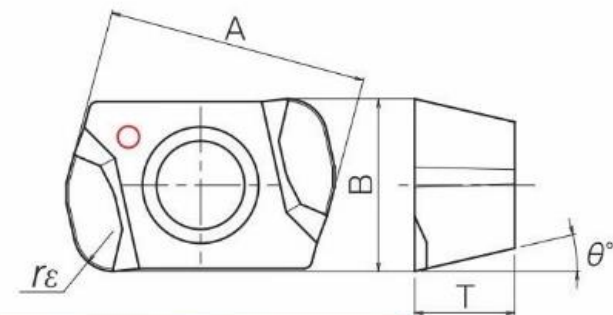
●: Standard stock items 10 inserts per case

Line up

Multipurpose High Efficiency Machining Tool

QMM Quick & Mini mill

Scan here for product details!



Type	Cat. No.	Class	PVD					Dimension(mm)				
			JC8118	JC8050	JC7560	NEW DS118	NEW DS150	A	B	T	rε	θ°
Hi Feed	EOMT060210ZER	M	●	●	●	●	●	6.5	4.3	2.5	1.0	13°
	EOMT060220ZER	M	●	●		●	●	6.5	4.3	2.5	2.0	13°

●: Standard stock items 10 inserts per case