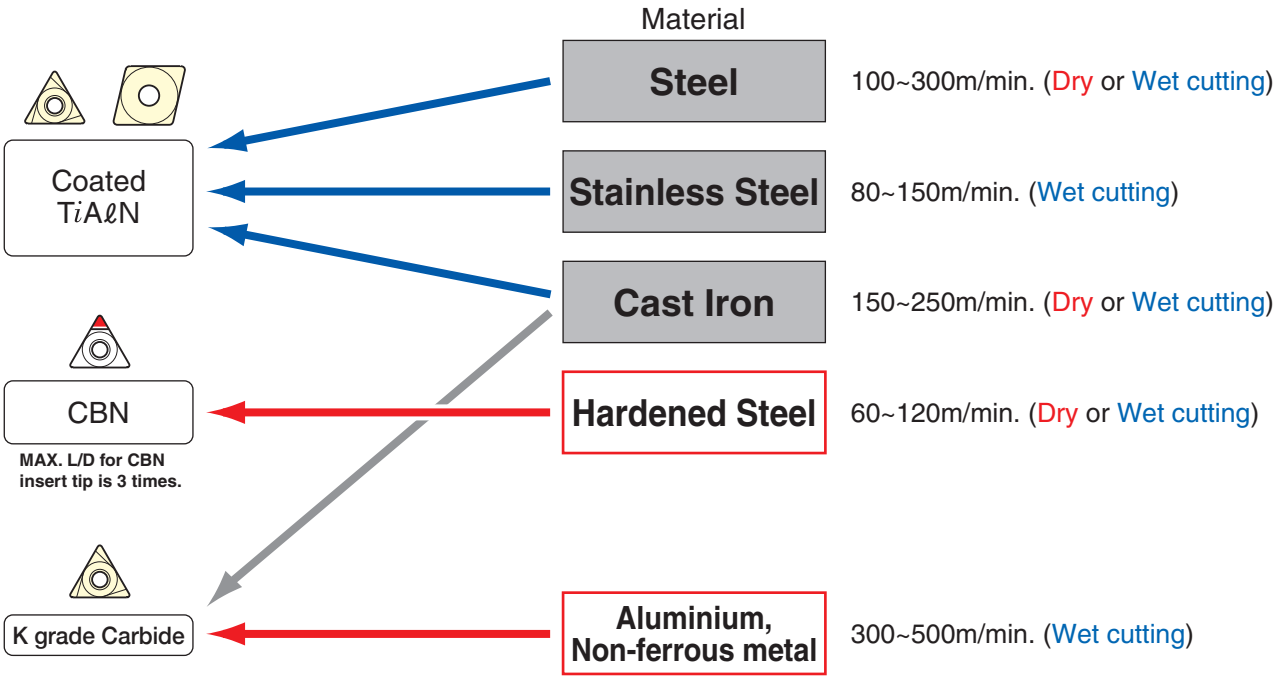
DJ BORING ARBOR CUTTING DATA

NIKKEN

BT

Selection of Insert Tip for each material.



Recommended Cutting Speed ◎···Best ○···Good —···Unsuitable

Insert			SS41	S55C	SCM	SKD	SC	FC,FCD	SUS	AL,ALC	Hardened Steel			Inter-rupted Cutting
	Code No.	Grade									SCM	SKD	SUJ	
	C	Coated	◎ 100~300	◎ 100~300	◎ 100~300	◎ 80~150	◎ 80~150	○ 150~250	◎ 80~150	–	–	–	–	◎
	E	P10	○ 60~100	○ 60~100	○ 80~120	○ 40~100	◎ 60~100	–	○ 40~ 80	–	–	–	–	◎
	F	K10	–	–	–	–	–	◎ 60~130	–	○ 300~500	–	–	–	◎
	T	Cermet	◎ 100~300	◎ 100~300	◎ 100~300	◎ 80~150	◎ 80~150	–	◎ 80~150	–	–	–	–	○
	B	CBN	–	–	–	–	–	◎ 200~500	–	–	◎ 60~120	◎ 60~100	◎ 60~120	○
	C	Coated	◎ 100~300	◎ 100~300	◎ 100~300	◎ 80~150	◎ 80~150	◎ 150~250	◎ 80~150	–	–	–	–	◎

★Existing Inserts (Cermet,P grade Carbide & K grade Carbide) are available.
★The cutting speed is recommended to be reduced to 50% for the interrupted cutting.

Recommended Cutting Condition (removal,feed)

Boring Range	Type		Best Condition		MAX. Condition	
	DJ3	DJ8	mm/ϕ	mm/rev.	mm/ϕ	mm/rev.
ϕ 3~ 8	J10- 3		~0.1	0.03~0.07		
ϕ 5~ 15	J10- 5		0.1~0.2	0.05~0.07		
ϕ 8~ 18	J10- 8	J16- 8	0.1~0.2	0.05~0.08		
ϕ18~ 28	J10-18	J16-18	0.2~0.4	0.05~0.08	1.0	0.1
ϕ28~ 39		J16-28	0.2~0.4	0.05~0.08	1.5	0.15
ϕ38~ 50		J16-38	0.2~0.5	0.05~0.08	2.0	0.15

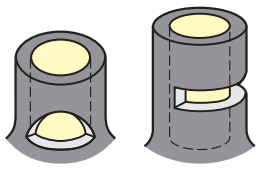
In case of CBN insert, reduce L/D as small as possible : MAX. 3 times.
Stock removal on diameter.
D<32mm : less than 0.25mm
D>32mm : less than 0.3mm

Feed per rev. depends on NoseR and accuracy required.

Logical Surface Finish : $\frac{(\text{Feed per rev.})^2}{8\times\text{NoseR}}$

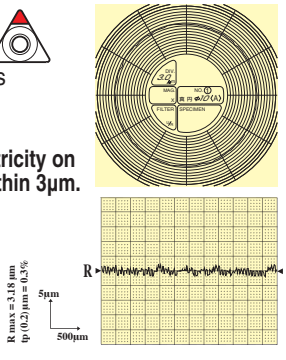
Example of hardened steel boring with CBN Insert

Reduce L/D as small as possible:MAX. 3times
For bits of L/D shorter than standard one are also available. Please contact with us.



Example of intermittent boring of hardened steel (HRC60) ϕ10mm

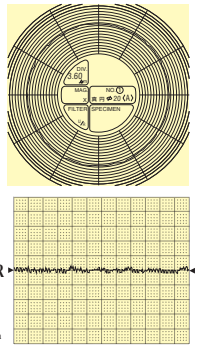
Results of concentricity on 24 pcs. were all within 3μm.



Results of surface finish on 24 pcs. were all within 3.3 microns. (R MAX.)

Results of concentricity on 24 pcs. were all within 3.6μm.

Example of intermittent boring of hardened steel (HRC60)ϕ20mm



Results of surface finish on 24 pcs. were all within 2.8 microns. (R MAX.)