

TURNING MACHINING OPTIMIZATION TECHNIQUE

YOUR MAIN CHALLENGES

MAINTAIN CHIP CONTROL & ACHIEVE BALANCED TOOL WEAR

1. OPTIMIZE CHIP FORMATION

Elemental chips

Loose arc chips

Connected arc chips

Long helical chips

Nested chips

Arrow chips

f (mm/rev)

Chipbreaker

-

-

-

-

-

-

+

+

+

+

+

+

2. OPTIMIZE TOOL WEAR

Plastic deformation

Thermal cracking

Crater wear

Built-up edge

Chipping

Notch wear

v_c (m/min)

Carbide grade

-

+

-

-

-

+

+

-

+

-

+

-

CHIPBREAKER SELECTION

TYPE OF OPERATION	RR				RR93	RR94	RR96	RR97
	R				R2	R3		
	M				M3*	M5		
	MF		UX	MF2				
	F		F1					
	FF	AL	FF1					
EDGE STRENGTH								

Cutting edge strength (feed)
Sharp **+** $\longleftrightarrow$ Strong **-**

CARBIDE GRADE SELECTION

	SteelS					tainless steelC					ast iron					Non-ferrous metals					Superalloys and titanium					Hard materials				
Grades	P					M					K					N					S					H				
	P01	P10	P20	P30	P40	P50	M01	M10	M20	M30	M40	K01	K10	K20	K30	K40	N01	N10	N20	N30	S01	S10	S20	S30	H01	H10	H20	H30		
CVD	TP0501																													
	TP1501																													
	TP2501																													
	TP3501																													
	TP200																													
	TP40																													
	TM2000																													
PVD	TM4000																													
	TK0501																													
	TK1501																													
	TH1500																													
	TS2000																													
	TS2050																													
	TS2500																													
Cermet	TH1000																													
	CP200																													
	CP500																													
	CP600																													
	TP1030																													
Uncoated	TP1020																													
	890																													
	HX																													
	KX																													
	883																													

More wear resistant **+** $\longleftrightarrow$ Tougher **-**
Valid per workpiece material group

This schedule represents the majority of cases. For specific cases (e.g. heavily nested chips/ broken inserts) or specific measurements, please contact your business partner at Seco.