

# INSERT CHIP BREAKER COMPARISON TABLE

## NEGATIVE INSERT TYPE

ISO Classification	Cutting Mode	Mitsubishi Materials	Sandvik	Kennametal	Seco Tools	Sumitomo Electric	Tungaloy	Kyocera	Dijet	Hitachi Tool	Walter	TaeguTec
<b>P</b>	<b>Finish</b>	PK* FH FY	QF LC	FF	FF1, FF2	FA FL	01* TF ZF	DP* GP, PP XP, XP-T, XF		FE	FP5	FA
	<b>Light</b>	LP C SA, SH	XF PF	LF*, FN	MF2	SU LU SX, SE	NS, 27 TSF, AS	PQ HQ, CQ	PF UR, UA, UT	BE B, CE	MP3 NF3, NF4	FG
	<b>Light (Mild Steel)</b>	SY					17	XQ, XS				FC
	<b>Light (With Wiper)</b>	SW	WL, WF	FW	W-MF2	LUW, SEW	AFW, ASW	WP, WQ			NF	WS
	<b>Medium</b>	MP MA MH	PM QM, XM	P MN	MF3 MF5, M3 M5	GU UG GE, UX	NM, ZM TM DM, 33, 37, 38	PG, CJ, GS PS, HS PT	PG UB	CT, AB AH AY, AE	MP5	PC, MP MT SM
	<b>Medium (With Wiper)</b>	MW	WMX, WM	MW, RW	M6, W-M3 W-MF5	GUW					NM	WT
	<b>Rough</b>	RP GH Std.	PR, HM XMR	RN, RP	MR6, MR7	MU, MX, ME UZ	TH Std.	PH GT Std.	UD GG	RE	RP5 NM6, NM9	RT
	<b>Heavy</b>	HZ, HL HM, HX HV	QR, PR HR, MR	MR RM RH	R4, R5, R6 57, RR6, R7 R8, RR9	MP HG, HP HU, HW, HF	THS TU TUS	PX	UC	HX HE, H	NR6, NRF NRR	RX, RH HD, HY, HT HZ
<b>M</b>	<b>Finish Light</b>	SH, LM	MF	FP LF*	MF1	SU	SS	MQ, GU		MP, AB, BH	NF4	SF
	<b>Medium</b>	MS, GM MM, MA ES	MM QM K	MP	MF4	EX, UP GU HM	SA, SF SM S	MS, MU SU, HU, TK ST	SF, SZ SG	PV, DE, SE AH	NM4	ML EM VF
	<b>Heavy</b>	GH, RM HZ	MR MR	UP, RP	M5, MR7 RR6	MU MP	TH, SH			AE	NR4, NR5	
<b>K</b>	<b>Finish Light</b>	LK, MA	KF	FN	MF2, MF5, M3, M4		CF	Std.		VA, AH	MK5	
	<b>Medium</b>	MK, GK, Std.	KM	RP, UN	M5	UZ, GZ, UX	CM, Std.	C	PG	V, AE	RK5, NM5	
	<b>Rough</b>	RK	KR					PH, GC	GG	RE	RK7	
	<b>Heavy</b>	Flat top		Flat top	MR3, MR4 MR7, Flat top	Flat top	CH, Flat top	ZS, Flat top	Flat top	Flat top	Flat top	
<b>S</b>	<b>Finish</b>	FJ*	SF	FS, LF*	MF1	EF		MQ				
	<b>Light</b>	LS	SGF*	MS	MF4, MF5	SU*					NF4, NFT	EA
	<b>Medium</b>	MS	NGP*, SM	UP, P, NGP*	M1	EG, EX, UP	SA, HMM	MS, MU, TK			NMS, NMT	
	<b>Heavy</b>	RS, GJ	SR, SMR	RP	M5, MR3, MR4	MU					NRS, NRT	ET

\*Peripheral ground type insert.

(Note) Above charts are based on published data and not authorized by each manufacturer.

## 7° POSITIVE INSERT TYPE

ISO Classification	Cutting Mode	Mitsubishi Materials	Sandvik	Kennametal	Seco Tools	Sumitomo Electric	Tungaloy	Kyocera	Dijet	Hitachi Tool	Walter	TaeguTec
<b>P</b>	<b>Finish</b>	SMG*	UM*	LF*		FC*, SC*	JS*, 01*	CF*, CK* GQ*, GF*				
	<b>Finish Light</b>	FP, FV LP, SV	PF, UF	UF, 11 LF, FP	FF1 F1	FP, LU SU	PF, PSF PS, PSS	GP XP		JQ	PF4	FA FG
	<b>Light (With Wiper)</b>	SW	WF	FW	W-F1	LUW						WS
	<b>Medium</b>	MV MP, Std.	PM, UM	MF, MP	F2, MF2, M5	MU	23 PM, 24	HQ XQ, GK	FT	JE	PS5 PM5	PC MT
	<b>Medium (With Wiper)</b>	MW	WM	MW	W-F2						PM	WT
<b>M</b>	<b>Finish Light</b>	FM LM	MF	LF, UF FP	F1, F2	FC* LU SU	PF, PSF PS, PSS	CF*, CK* GQ*, GF* MQ		MP		
	<b>Medium</b>	MM, Std.	MM	MP		MU	PM	HQ, GK				
<b>K</b>	<b>Medium</b>	MK, Std., Flat top	KF, KM, KR	Flat top	F1, M3, M5	MU, Flat top	Flat top, CM	Flat top*				
<b>N</b>	<b>Medium</b>	AZ*	AL*	HP*	AL*	AG*	AL*	AH*			PM2*	SA* FL*
<b>S</b>	<b>Finish Light</b>	FJ*		LF* HP*				MQ				

\*Peripheral ground type insert.

(Note) Above charts are based on published data and not authorized by each manufacturer.

## 11° POSITIVE INSERT TYPE

ISO Classification	Cutting Mode	Mitsubishi Materials	Sandvik	Kennametal	Seco Tools	Sumitomo Electric	Tungaloy	Kyocera	Dijet	Hitachi Tool	Walter	TaeguTec
<b>P</b>	<b>Finish Light</b>	FV, SMG* SV	PF	UF LF		SI LU SU	01* PF, PSF PS, PSS	GP, CF* XP		JQ		
	<b>Medium</b>	MV	PM, UM	MF		MU	PM 23 24	HQ XQ		JE		
<b>M</b>	<b>Finish Light</b>	SV	MF			SU	PF, PS	GP, CF*		MP		
	<b>Medium</b>	MV	MM			MU	PM	HQ				

\*Peripheral ground type insert.

(Note) Above charts are based on published data and not authorized by each manufacturer.