

# INSERT CHIP BREAKER COMPARISON TABLE

## NEGATIVE INSERT TYPE

ISO Classification	Cutting Mode	Mitsubishi Carbide	Sumitomo Electric	Tungaloy	Kyocera	Dijet	Mitsubishi Hitachi Tool	Sandvik	Kennametal	Seco Tools	Walter	TaeguTec
<b>P</b>	<b>Finish</b>	PK* FH, FP FY	FA, FB FL	O1* TF, 11 ZF	DP* GP, PP XP, XP-T, XF		FE	QF LC	FF	FF1, FF2	FP5	FA
	<b>Light</b>	LP C SA, SH	SU LU, FE SX, SE	NS, 27 TSF, AS	PQ HQ, CQ	PF UR, UA, UT	BE B, BH, CE	XF PF	LF, FN	MF2	MP3 NF3, NF4	FG
	<b>Light (Mild Steel)</b>	SY		17	XQ, XS							FC
	<b>Light (With Wiper)</b>	SW	LUW, SEW	FW, SW AFW, ASW	WF, WE WP, WQ			WL, WF	FW	W-MF2	NF	WS
	<b>Medium</b>	MP MA MH	GU UG GE, UX	NM, ZM TM, AM DM, 33, 37, 38	PG, CJ, GS PS, HS PT	PG UB	CT, AB AH AY, AE	PM QM, XM	P MN	MF3 MF5, M3 M5	MP5	PC, MP MT SM
	<b>Medium (With Wiper)</b>	MW	GUW					WMX, WM	MW, RW	W-M6, W-M3 W-MF5	NM	WT
	<b>Rough</b>	RP GH Std.	MU, MX, ME UZ	TH Std.	PH GT Std.	UD GG	RE	PR, HM XMR	RN, RP	MR6, MR7	RP5, RP7 NM6, NM9	RT
<b>Heavy</b>	HR, HZ, HL HM, HX HV	MP HG, HP HU, HW, HF	TRS TU TUS	PX	UC	HX HE, H	QR, PR HR, MR	MR RM RH	R4, R5, R6 57, RR6, R7 R8, RR9	NR6, NRF	RX, RH HD, HY, HT HZ, EH	
<b>M</b>	<b>Finish Light</b>	SH, LM	SU, EF	SS	MQ, GU		MP, AB, BH	MF	FP LF*	MF1	NF4	SF
	<b>Medium</b>	MS, GM MM, MA ES	EX, EG, UP GU HM	SA, SF SM S	MS, MU SU, HU, TK ST	SF, SZ SG	PV, DE, SE AH	MM QM, XM K	MP	MF4	RM5 NM4	ML EM VF
	<b>Heavy</b>	GH, RM HL, HZ	MU MP	TH, SH			AE	MR MR	UP, RP	M5, MR7 RR6	NR4, NR5	
<b>K</b>	<b>Finish Light</b>	LK, MA		CF	KQ		VA, AH	KF	FN	MF2, MF5 M3, M4	MK5	
	<b>Medium</b>	MK, GK Std.	UZ, GZ, UX	CM Std.	KG, Std., C	PG	V, AE	KM	RP, UN	M5	RK5, NM5	
	<b>Rough</b>	RK			KH, GC	GG	RE	KR			RK7	
	<b>Heavy</b>	Flat Top	Flat Top	CH, Flat Top	ZS, Flat Top	Flat Top	Flat Top		Flat Top	MR3, MR4, MR7 Flat Top	Flat Top	
<b>S</b>	<b>Finish</b>	FJ*	EF		MQ			SF	FS, LF*	MF1		
	<b>Light</b>	LS, MJ, MJ*	SU*	HRF				SGF*	MS	MF4, MF5	NF4, NFT	EA
	<b>Medium</b>	MS	EG, EX, UP	HRM SA, HMM	MS, MU, TK		VI	NGP*, SM	UP, P, NGP*	M1	NMS, NMT	
	<b>Heavy</b>	RS, GJ	MU					SR, SMR	RP	M5, MR3, MR4	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 Carbide	Sumitomo Electric	Tungaloy	Kyocera	Dijet	Mitsubishi Hitachi Tool	Sandvik	Kennametal	Seco Tools	Walter	TaeguTec
<b>P</b>	<b>Finish</b>	SMG*	FC*, SC*	JS*, 01*	CF*, CK* GQ*, GF* SK*			UM*	LF*			
	<b>Finish Light</b>	FP, FV LP, SV	FP, LU SU	PF, PSF PS, PSS	GP, PP XP		JQ	PF, UF, XF	UF, 11 LF, FP	FF1 F1	PF4	FA, FX FG
	<b>Light (With Wiper)</b>	SW	LUW, SDW		WP			WF	FW	W-F1	PF	WS
	<b>Medium</b>	MV MP, Std.	MU	23 PM, 24	HQ, MF* XQ, GK	FT	JE	XM, PM UM PR, XR	MF, MP	F2, MF2, M5	FP6, PS5 PM5	PC MT
	<b>Medium (With Wiper)</b>	MW						WM	MW	W-F2 W-M3	PM	WT
<b>M</b>	<b>Finish Light</b>	FM LM	FC*, SI* LU SU	PF, PSF PS, PSS	CF*, CK* GQ*, GF* MQ, SK		MP	MF	LF, UF FP	F1, F2		
	<b>Medium</b>	MM, Std.	MU	PM	HQ, GK			MM	MP		MM4, RM4	
<b>K</b>	<b>Medium</b>	MK, Std. Flat Top	MU, Flat Top*	Flat Top, CM	Flat Top*			KF, KM, KR	Flat Top	F1, M3, M5	FK6	
<b>N</b>	<b>Medium</b>	AZ*	AG*	AL*	AH*	ASF*, ALU* ACB*		AL*	HP*	AL*	PM2*	SA* FL*
<b>S</b>	<b>Finish Light</b>	FS*, LS* FS-P*, LS-P* FJ* LS, MS	SI*	Std.	MQ				LF* HP*			

\*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 Carbide	Sumitomo Electric	Tungaloy	Kyocera	Dijet	Mitsubishi Hitachi Tool	Sandvik	Kennametal	Seco Tools	Walter	TaeguTec
<b>P</b>	<b>Finish Light</b>	FV, SMG* SV	SI, FK, FB LU, LUW, LB SU, SF	01* PF, PSF PS, PSS	PP, GP* CF XP		JQ	PF	UF, FP FW, LF			FG PC
	<b>Medium</b>	MV	MU	PM 23 24	HQ XQ		JE	PM, UM	MF MP, MW		MP4	
<b>M</b>	<b>Finish Light</b>	SV	SU	SS* PF, PS	GP, CF*		MP	MF	HP* LF		MM4	
	<b>Medium</b>	MV	MU	PM	HQ			MM				

\*Peripheral ground type insert.

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