

RECOMMENDED TAPPING SPEEDS AND LUBRICANTS

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This chart shows the recommended tapping speeds and cutting fluids. Tap material, type of tap, chamfer length, dimension of drill hole, work materials and cutting fluids are important factors for determining suitable tapping speed. Lubrication, cooling, capability and adhesion resistance are the three important factors effecting cutting fluid.

RECOMMENDED STANDARD TAPPING SPEEDS AND APPLICATION OF CUTTING FLUIDS

WORK MATERIAL		TAPPING SPEED(m/min)							CUTTING FLUIDS			
		*STRAIGHT FLUTED TAP	SPIRAL FLUTED TAP	*SPIRAL POINTED TAP	*TUNGSTEN CARBIDE TAP	*FLUTELESS TAP	HIGH SPEED SYNCHRO TAP	PIPE THREAD TAP	NON WATER-SOLUBLE	WATER-SOLUBLE	SEMI-DRY	DRY
LOW TENSILE STRENGTH STEELS	≤C0.25%	8~13	8~13	15~25	—	8~13	27~32	3~6	◎	○	—	—
MEDIUM TENSILE STRENGTH STEELS	C0.25~0.40%	7~12	7~12	10~15	—	7~10	27~32	3~6	◎	○	—	—
HIGH TENSILE STRENGTH STEELS	≥C0.45%	6~9	6~9	8~13	—	5~8	22~27	2~5	◎	○	—	—
ALLOY STEELS	SCM	7~12	7~12	10~15	—	5~8	22~27	2~5	◎	△	—	—
HARDENED STEELS	25~45HRC	3~5 (4~8)	3~5 (4~8)	4~6 (6~10)	—	—	—	2~5	◎	△	—	—
STAINLESS STEELS	SUS	4~7	5~8	8~13	—	5~10	—	3~6	◎	○	—	—
PRECIPITATION HARDENED STAINLESS STEELS	SUS630 SUS631	3~5	3~5	4~6	—	—	—	2~5	◎	—	—	—
TOOL STEELS	SKD	6~9	6~9	7~10	—	—	—	2~5	◎	—	—	—
CAST STEELS	SC	6~11	6~11	10~15	—	—	17~22	2~5	◎	○	—	—
CAST IRON	FC	10~15	—	—	10~20	—	—	2~5	◎	○	○	○
DUCTILE CAST IRON	FCD	7~12	7~12	10~20	10~20	—	—	4~8	◎	○	○	—
COPPER	Cu	6~9	6~11	7~12	10~20	7~12	27~32	2~5	○	○	—	—
BRASS BRASS CASTING	Bs·BsC	10~15	10~20	15~25	15~25	7~12	27~32	5~10	○	○	○	○
BRONZE BRONZE CASTING	PB·PBC	6~11	6~11	10~20	10~20	7~12	—	6~11	○	○	—	—
ALUMINUM ROLLED STEELS	AL	10~20	10~20	15~25	—	10~20	100~300	5~10	◎	○	—	—
ALUMINUM ALLOY CASTING	AC·ADC	10~15	10~15	15~20	10~20	10~15	80~300	10~15	◎	○	—	—
MAGNESIUM ALLOY CASTING	MC	7~12	7~12	10~15	10~20	—	—	10~15	◎	○	—	—
ZINC ALLOY CASTING	ZDC	7~12	7~12	10~15	10~20	7~12	27~100	10~15	◎	○	—	—
THERMO SETTING PLASTIC	BAKELITE PHENOL· EPOXY	10~20	—	—	15~25	—	—	5~10	—	○	○	○
THERMO PLASTIC	VINYL CHLORIDE NYLON	10~20	10~15	10~20	10~20	—	27~32	5~10	—	○	—	—

1. These are general recommendations which depending upon conditions, may be altered. ◎ IDEAL ○ GOOD △ APPLICABLE — NOT APPLICABLE
 2. To select the best taps, please see TAP selection chart.
 3. () = recommendation for CPM taps.
 ※ Please apply +30~+50% higher speed for coated tap (Exclude Steam Oxide and Nitride Treatment)