

# TOOL ROOM SPEEDS & FEEDS

## HSS DRILLS

\*INCREASE SPEED BY 20% FOR COATED TOOL  
FEED = MINIMUM

ISO MATERIAL	Ø	3	4	6	8	10	12	16	20	25
LOW CARBON STEEL	RPM	1270	950	640	480	380	320	240	190	150
	mm/min	88	86	80	76	72	74	70	64	62
MEDIUM CARBON STEEL	RPM	1060	800	530	400	320	270	200	160	130
	mm/min	58	60	54	52	52	48	46	44	42
HIGH CARBON STEEL	RPM	850	640	420	320	250	210	160	130	100
	mm/min	38	38	34	34	32	32	30	30	28
NON-FERROUS	RPM	2330	1750	1170	880	700	580	440	350	280
	mm/min	164	158	146	140	134	134	128	120	114
CAST IRON	RPM	1270	950	640	480	380	320	240	190	150
	mm/min	114	110	102	96	92	90	86	80	76
STAINLESS STEEL	RPM	-	-	-	-	-	-	-	-	-
	mm/min	-	-	-	-	-	-	-	-	-

## HSS Co. DRILLS

\*INCREASE SPEED BY 20% FOR COATED TOOL  
FEED = MINIMUM

ISO MATERIAL	Ø	3	4	6	8	10	12	16	20	25
LOW CARBON STEEL	RPM	-	-	-	-	-	-	-	-	-
	mm/min	-	-	-	-	-	-	-	-	-
MEDIUM CARBON STEEL	RPM	1590	1190	800	600	480	400	300	240	190
	mm/min	88	90	80	78	76	72	70	68	62
HIGH CARBON STEEL	RPM	1270	950	640	480	380	320	240	190	150
	mm/min	58	58	52	50	48	48	46	44	40
NON-FERROUS	RPM	-	-	-	-	-	-	-	-	-
	mm/min	-	-	-	-	-	-	-	-	-
CAST IRON	RPM	2120	1590	1060	800	640	530	400	320	250
	mm/min	190	182	170	160	154	148	144	134	126
STAINLESS STEEL	RPM	850	640	420	320	250	210	160	130	100
	mm/min	46	48	42	42	40	38	36	36	34

## GUN TAPS

\*INCREASE SPEED BY 20% FOR COATED TOOL  
FEED = PITCH OF THE TAP (MM/REV)

ISO MATERIAL	Ø	3	4	6	8	10	12	16	20	25
LOW CARBON STEEL	RPM	1270	950	640	480	380	320	240	190	160
MEDIUM CARBON STEEL	RPM	1060	800	530	400	320	270	200	160	130
HIGH CARBON STEEL	RPM	850	640	420	320	250	210	160	130	110
NON-FERROUS	RPM	1270	950	640	480	380	320	240	190	160
CAST IRON	RPM	1270	950	640	480	380	320	240	190	160
STAINLESS STEEL	RPM	640	480	320	240	190	160	120	100	80

## SPIRAL TAPS

\*INCREASE SPEED BY 20% FOR COATED TOOL  
FEED = PITCH OF THE TAP (MM/REV)

ISO MATERIAL	Ø	3	4	6	8	10	12	16	20	24
LOW CARBON STEEL	RPM	1060	800	530	400	320	270	200	160	130
MEDIUM CARBON STEEL	RPM	850	640	420	320	250	210	160	130	110
HIGH CARBON STEEL	RPM	640	480	320	240	190	160	120	100	80
NON-FERROUS	RPM	1060	800	530	400	320	270	200	160	130
CAST IRON	RPM	1060	800	530	400	320	270	200	160	130
STAINLESS STEEL	RPM	530	400	270	200	160	130	100	80	70

## HSS Co. 2-FLUTE ENDMILLS (SLOTING)

ISO MATERIAL	Ø	3	4	6	8	10	12	16	20	25
LOW CARBON STEEL	RPM	3180	2390	1590	1190	950	800	600	480	380
	mm/min	52	48	52	52	52	56	52	48	44
MEDIUM CARBON STEEL	RPM	2650	1990	1330	990	800	660	500	400	320
	mm/min	32	36	36	36	40	40	40	36	36
HIGH CARBON STEEL	RPM	1910	1430	950	720	570	480	360	290	230
	mm/min	24	24	24	28	28	28	28	24	24
NON-FERROUS	RPM	6370	4770	3180	2390	1910	1590	1190	950	760
	mm/min	100	96	100	104	108	108	104	96	92
CAST IRON	RPM	2650	1990	1330	990	800	660	500	400	320
	mm/min	28	28	28	32	32	36	36	32	28
STAINLESS STEEL	RPM	1060	800	530	400	320	270	200	160	130
	mm/min	12	12	12	12	12	16	12	12	12

FEED = MM/MIN

WIDTH OF CUT = 0.25 X Ø

DEPTH PER CUT = CUTTER DIAMETER

INCREASE SPEED BY 20% FOR COATED TOOL

DECREASE FEED BY 30% FOR LONG SERIES CUTTERS

## HSS Co. 4-FLUTE ENDMILLS (FINISHING)

ISO MATERIAL	Ø	3	4	6	8	10	12	16	20	25
LOW CARBON STEEL	RPM	4240	3180	2120	1590	1270	1060	800	640	510
	mm/min	88	88	96	112	104	112	112	96	88
MEDIUM CARBON STEEL	RPM	3180	2390	1590	1190	950	800	600	480	380
	mm/min	64	64	72	80	80	80	80	72	72
HIGH CARBON STEEL	RPM	2650	1990	1330	990	800	660	500	400	320
	mm/min	40	48	48	56	56	56	56	48	48
NON-FERROUS	RPM	6900	5170	3450	2590	2070	1720	1290	1030	830
	mm/min	168	184	176	200	200	208	200	184	184
CAST IRON	RPM	2330	1750	1170	880	700	580	440	350	280
	mm/min	40	40	40	48	48	48	48	48	40
STAINLESS STEEL	RPM	1590	1190	800	600	480	400	300	240	190
	mm/min	32	32	32	40	40	40	40	40	32

FEED = MM/MIN

WIDTH OF CUT = 0.1X Ø

DEPTH PER CUT = CUTTER DIAMETER

INCREASE SPEED BY 20% FOR COATED TOOL

DECREASE FEED BY 30% FOR LONG SERIES CUTTERS

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**HSS Co. ROUGHING ENDMILLS**

**COARSE PITCH RMR ENDMILLS**

**FINE PITCH RMR**

ISO MATERIAL	Ø	8	10	12	16	20	25
LOW CARBON STEEL	RPM	1270	1020	850	640	510	410
	mm/min	96	96	104	96	88	88
MEDIUM CARBON STEEL	RPM	920	730	610	460	370	290
	mm/min	64	64	64	64	56	56
HIGH CARBON STEEL	RPM	-	-	-	-	-	-
	mm/min	-	-	-	-	-	-
NON-FERROUS	RPM	1990	1590	1330	990	800	640
	mm/min	200	200	200	200	192	176
CAST IRON	RPM	880	700	580	440	350	280
	mm/min	80	80	80	80	72	64
STAINLESS STEEL	RPM	-	-	-	-	-	-
	mm/min	-	-	-	-	-	-

	6	10	12	16	20	25
	-	-	-	-	-	-
	-	-	-	-	-	-
	1590	950	800	600	480	380
	72	80	80	80	72	72
	1060	640	530	400	320	250
	40	48	48	48	40	40
	-	-	-	-	-	-
	-	-	-	-	-	-
	1590	950	800	600	480	380
	104	104	112	104	96	88
	800	480	400	300	240	190
	32	40	40	40	40	32

FEED = MM/MIN

WIDTH OF CUT = 1X Ø

DEPTH PER CUT = 0.5 X Ø

INCREASE SPEED BY 20% FOR COATED TOOL

DECREASE FEED BY 30% FOR LONG SERIES CUTTERS

**HSS Co. COUNTERSINKS & COUNTERBORES**

**COUNTERSINKS**

**COUNTERBORES**

ISO MATERIAL	Ø	6.3	8.4	10.4	12.4	15	20.5	25
LOW CARBON STEEL	RPM	1770	1330	1070	900	740	540	450
	mm/min	142	140	134	136	140	124	122
MEDIUM CARBON STEEL	RPM	1520	1140	920	770	640	470	380
	mm/min	122	120	116	116	122	108	102
HIGH CARBON STEEL	RPM	1010	760	610	510	420	310	250
	mm/min	56	54	52	48	52	46	46
NON-FERROUS	RPM	2020	1520	1220	1030	850	620	510
	mm/min	252	244	232	236	246	210	210
CAST IRON	RPM	610	450	370	310	250	190	150
	mm/min	98	90	88	86	90	80	76
STAINLESS STEEL	RPM	400	300	240	210	170	120	100
	mm/min	40	40	38	38	40	34	34

	4	5	6	8	10	12
	1520	1140	920	770	640	470
	92	80	74	80	80	70
	1260	950	770	640	530	390
	76	66	62	68	66	58
	760	570	460	390	320	230
	34	32	30	34	34	28
	2020	1520	1220	1030	850	620
	152	136	122	134	136	112
	1010	760	610	510	420	310
	46	42	40	44	44	38
	510	380	310	260	210	160
	22	20	20	22	22	20

FEED = PITCH OF THE TAP (MM/REV)

INCREASE SPEED BY 20% FOR COATED TOOL

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