

Insert Selection Guide

Material Group	Light Machining		General Purpose		Heavy Machining	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1-P2	XNGU-ML	WP40PM	XNPU-MM	WP40PM	XNPU-MM	WP40PM
P3-P4	XNGU-ML	WP40PM	XNPU-MM	WP40PM	XNPU-MM	WP40PM
P5-P6	XNGU-MM	WP25PM	XNPU-MM	WP35CM	XNPU-MM	WP40PM
M1-M2	XNGU-ML	WS40PM	XNGU-ML	WS40PM	XNPU-MM	WS40PM
M3	XNGU-ML	WS40PM	XNGU-ML	WS40PM	XNPU-MM	WS40PM
K1-K2	XNPU-MM	WK15PM	XNGU-MH	WK15CM	XNGU-MH	WK15CM
K3	XNPU-MM	WK15PM	XNGU-MH	WP35CM	XNGU-MH	WP35CM
N1-N2	XNGU-ALP	WN25PM	XNGU-ALP	WN25PM	XNGU-ALP	WN25PM
N3	XNGU-ALP	WN25PM	XNGU-ALP	WN25PM	XNGU-ALP	WN25PM
S1-S2	XNGU-ML	WP25PM	XNGU-ML	WS40PM	XNPU-MM	WS40PM
S3	XNGU-ML	WS40PM	XNGU-ML	WS40PM	XNPU-MM	WS40PM
S4	XNGU-ML	WS40PM	XNGU-ML	WS40PM	XNPU-MM	WS40PM
H1	-	-	-	-	-	-

Recommended Starting Speeds [m/min]*

Material Group		★ WK15CM			★ WK15PM			★ WN25PM			★ WP25PM			★ WP35CM			★ WP40PM			WS40PM			★ WU35PM		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
P	1	-	-	-	-	-	-	-	-	-	330	285	270	455	395	370	295	260	245	-	-	-	260	230	215
	2	-	-	-	-	-	-	-	-	-	275	240	200	280	255	230	250	215	180	-	-	-	220	190	160
	3	-	-	-	-	-	-	-	-	-	255	215	175	255	230	205	230	195	160	-	-	-	200	170	140
	4	-	-	-	-	-	-	-	-	-	225	185	150	190	175	160	205	170	135	-	-	-	180	150	120
	5	-	-	-	-	-	-	-	-	-	185	170	150	260	230	210	170	155	135	170	145	120	150	135	120
	6	-	-	-	-	-	-	-	-	-	165	125	100	160	135	110	150	115	90	150	110	80	130	100	80
M	1	-	-	-	-	-	-	-	-	-	205	180	165	205	185	155	195	170	155	210	170	140	170	150	135
	2	-	-	-	-	-	-	-	-	-	185	160	130	185	160	140	175	150	125	180	145	120	155	130	110
	3	-	-	-	-	-	-	-	-	-	140	120	95	145	130	115	130	115	90	145	110	85	115	100	80
K	1	420	385	340	270	245	215	-	-	-	230	205	185	295	265	240	-	-	-	-	-	-	-	-	-
	2	335	295	275	210	190	175	-	-	-	180	160	150	235	210	190	-	-	-	-	-	-	-	-	-
	3	280	250	230	175	160	145	-	-	-	150	135	120	195	175	160	-	-	-	-	-	-	-	-	-
N	1	-	-	-	-	-	-	1075	945	875	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	-	-	-	945	875	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	945	875	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	1	-	-	-	-	-	-	-	-	-	40	35	25	-	-	-	-	-	-	40	35	25	35	30	25
	2	-	-	-	-	-	-	-	-	-	40	35	25	-	-	-	-	-	-	40	35	25	35	30	25
	3	-	-	-	-	-	-	-	-	-	50	40	25	-	-	-	-	-	-	50	40	25	45	35	25
	4	-	-	-	-	-	-	-	-	-	70	50	35	-	-	-	-	-	-	60	50	30	60	45	30
H	1	-	-	-	-	-	-	-	-	-	120	90	70	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type. As the average chip thickness increases, the speed should be decreased.
 *Material groups P, M, K, and H show recommended starting speeds for dry machining. For wet machining, reduce speed by 20%.
 *Material groups N and S show recommended starting speeds for wet machining. Not recommended for dry machining.

Recommended Starting Feeds [mm]

Insert Geometry	Programmed Feed per Tooth (fz) as a % of Radial Depth of Cut (ae)															Insert Geometry
	Light Machining					General Purpose					Heavy Machining					
	5%	10%	20%	30%	40-100%	5%	10%	20%	30%	40-100%	5%	10%	20%	30%	40-100%	
.E..ALP	0,11	0,23	0,35	0,08	0,17	0,25	0,06	0,13	0,19	0,05	0,11	0,16	0,05	0,10	0,15	.E..ALP
.E..ML	0,17	0,31	0,46	0,13	0,23	0,33	0,09	0,17	0,25	0,08	0,15	0,22	0,08	0,14	0,20	.E..ML
.S..MM	0,22	0,40	0,64	0,16	0,29	0,46	0,12	0,22	0,34	0,10	0,19	0,30	0,10	0,18	0,28	.S..MM
.S..MH	0,23	0,45	0,74	0,17	0,33	0,54	0,13	0,24	0,40	0,11	0,21	0,35	0,10	0,20	0,32	.S..MH

NOTE: Use "Light Machining" values as starting feed rate.

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