

## Recommended Cutting Data (Negative Inserts)

ISO	Workpiece Materials	Hardness	Application Range	Cutting Mode	Chip Breaker	Grade	Min-Optimum-Max			
							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)	
P	Mild Steel	≤HB180	Finishing Machining	Continuous	QF	GPT6110	240-300-400	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1105	220-280-380	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1115	200-260-360	0.40-0.80-2.00	0.08-0.15-0.35	
				General		GPT6120	200-280-380	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1120	200-260-360	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1225	180-240-320	0.40-0.80-2.00	0.08-0.15-0.35	
				Intermittent		GPT6130	180-240-320	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1130	180-240-320	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1135	170-220-300	0.40-0.80-2.00	0.08-0.15-0.35	
				Continuous		TF	GP31TM	220-300-380	0.30-0.70-1.80	0.07-0.14-0.35
							GP91TM	200-280-350	0.30-0.70-1.80	0.07-0.14-0.35
				Continuous		GF	GP1115	200-260-360	0.80-1.20-2.50	0.10-0.20-0.35
			GP1225		180-240-320		0.80-1.20-2.50	0.10-0.20-0.35		
			Intermittent	GF	GP1115	200-260-360	0.80-1.20-2.50	0.10-0.20-0.35		
					GP1225	180-240-320	0.80-1.20-2.50	0.10-0.20-0.35		
			Continuous	SPL	GP92TM	180-240-300	0.40-1.00-2.30	0.12-0.20-0.30		
					GP92TM	180-240-300	0.40-1.00-2.30	0.12-0.20-0.30		
			Semi-finished	Continuous	QM	GPT6110	220-280-380	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1105	200-260-360	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1115	180-230-320	0.80-2.00-4.00	0.15-0.20-0.40	
						GP31TM	210-280-330	0.50-1.20-2.50	0.10-0.18-0.30	
						GP91TM	200-260-330	0.50-1.50-3.00	0.15-0.22-0.35	
						GPT6120	180-250-340	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1120	180-230-320	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1225	160-210-300	0.80-2.00-4.00	0.15-0.20-0.40	
						GPT6130	160-230-300	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1130	160-210-300	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1135	150-190-280	0.80-2.00-4.00	0.15-0.20-0.40	
						General	GM	GP1115	180-230-320	1.00-2.00-4.00
				GP1225	160-210-300			1.00-2.00-4.00	0.18-0.22-0.40	
				Intermittent	SV	GP1225	160-200-300	1.00-2.50-4.50	0.18-0.25-0.45	
						GP1225	160-200-300	1.00-2.50-4.50	0.18-0.25-0.45	
				Continuous	TP	GP31TM	220-300-380	0.30-1.00-3.00	0.05-0.12-0.28	
						GP91TM	200-280-350	0.30-1.20-3.00	0.05-0.15-0.28	
				Continuous	TS	GP31TM	200-280-350	0.50-1.00-3.00	0.10-0.15-0.35	
						GP91TM	200-260-330	0.50-1.20-3.00	0.10-0.20-0.35	
				Rough Finishing	Continuous	QR	GPT6110	150-220-280	1.50-3.50-6.00	0.20-0.30-0.60
							GP1105	130-190-270	1.50-3.50-6.00	0.20-0.30-0.60
							GP1115	120-180-250	1.50-3.50-6.00	0.20-0.30-0.60
							GPT6120	140-210-270	1.50-3.50-6.00	0.20-0.30-0.60
							GP1225	120-170-250	1.50-3.50-6.00	0.20-0.30-0.60
			GPT6130				120-190-250	1.50-3.50-6.00	0.20-0.30-0.60	
			Intermittent		QR	GP1130	120-170-250	1.50-3.50-6.00	0.20-0.30-0.60	
						GP1135	110-150-230	1.50-3.50-6.00	0.20-0.30-0.60	
						GPT6110	100-170-230	3.00-6.00-12.0	0.35-0.60-1.10	
						GP1105	100-150-240	3.00-6.00-12.0	0.35-0.60-1.10	
						GP1115	90-150-210	3.00-6.00-12.0	0.35-0.60-1.10	
						GPT6120	100-160-220	3.00-6.00-12.0	0.35-0.60-1.10	
Heavy Machining	Continuous	QH	GP1225	90-140-210	3.00-6.00-12.0	0.35-0.60-1.10				
			GPT6130	90-150-210	3.00-6.00-12.0	0.35-0.60-1.10				
			GP1135	80-130-190	3.00-6.00-12.0	0.35-0.60-1.10				
	Intermittent		QH	GPT6110	100-170-230	3.00-6.00-12.0	0.35-0.60-1.10			
				GP1105	100-150-240	3.00-6.00-12.0	0.35-0.60-1.10			
				GP1115	90-150-210	3.00-6.00-12.0	0.35-0.60-1.10			

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ISO	Workpiece Materials	Hardness	Application Range	Cutting Mode	Chip Breaker	Grade	Min-Optimum-Max		
							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)
P	Carbon Steel, Alloy Steel	HB180-280	Finishing Machining	Continuous	QF	GPT6110	220-270-360	0.40-0.80-2.00	0.08-0.15-0.35
						GP1105	200-250-340	0.40-0.80-2.00	0.08-0.15-0.35
						GP1115	180-230-320	0.40-0.80-2.00	0.08-0.15-0.35
				General		GPT6120	180-250-340	0.40-0.80-2.00	0.08-0.15-0.35
						GP1120	180-230-320	0.40-0.80-2.00	0.08-0.15-0.35
						GP1225	160-200-300	0.40-0.80-2.00	0.08-0.15-0.35
				Intermittent		GPT6130	160-220-300	0.40-0.80-2.00	0.08-0.15-0.35
						GP1130	180-240-320	0.40-0.80-2.00	0.08-0.15-0.35
						GP1135	150-200-280	0.40-0.80-2.00	0.08-0.15-0.35
				Continuous	GF	GP1115	180-230-320	0.80-1.20-2.50	0.10-0.20-0.35
						GP1225	160-200-300	0.80-1.20-2.50	0.10-0.20-0.35
						GP92TM	160-210-290	0.40-1.00-2.30	0.12-0.20-0.30
			Semi-finished	Continuous	QM	GPT6110	180-250-340	0.80-2.00-4.00	0.15-0.22-0.40
						GP1105	160-230-320	0.80-2.00-4.00	0.15-0.22-0.40
						GP1115	140-210-300	0.80-2.00-4.00	0.15-0.20-0.40
						GP31TM	200-250-330	0.50-1.20-2.50	0.10-0.18-0.30
						GP91TM	180-230-310	0.50-1.50-3.00	0.15-0.20-0.35
						GPT6120	140-230-320	0.80-2.00-4.00	0.15-0.20-0.40
				General		GP1120	140-210-300	0.80-2.00-4.00	0.15-0.20-0.40
						GP1225	120-190-280	0.80-2.00-4.00	0.15-0.20-0.40
						GPT6130	120-210-280	0.80-2.00-4.00	0.15-0.20-0.40
				Intermittent	GM	GP1130	120-190-280	0.80-2.00-4.00	0.15-0.20-0.40
						GP1135	100-170-260	0.80-2.00-4.00	0.15-0.20-0.40
						GP1115	140-210-300	1.00-2.00-4.00	0.18-0.22-0.40
			Continuous	SV	GP1225	120-190-280	1.00-2.00-4.00	0.18-0.22-0.40	
					GP1225	120-180-280	1.00-2.50-4.50	0.18-0.25-0.45	
					GP31TM	200-270-350	0.30-1.00-2.50	0.05-0.12-0.28	
			Intermittent	TP	GP91TM	180-250-330	0.30-1.20-2.50	0.05-0.15-0.28	
					GP31TM	180-250-330	0.50-1.00-3.00	0.10-0.15-0.35	
					GP91TM	180-230-310	0.50-1.20-3.00	0.10-0.20-0.35	
			Rough Finishing	Continuous	QR	GPT6110	140-210-270	1.50-3.50-6.00	0.20-0.30-0.60
						GP1105	120-180-260	1.50-3.50-6.00	0.20-0.30-0.60
						GP1115	110-170-240	1.50-3.50-6.00	0.20-0.30-0.60
						GPT6120	130-200-260	1.50-3.50-6.00	0.20-0.30-0.60
						GP1225	110-160-240	1.50-3.50-6.00	0.20-0.30-0.60
						GPT6130	110-180-240	1.50-3.50-6.00	0.20-0.30-0.60
				General		GP1130	110-160-240	1.50-3.50-6.00	0.20-0.30-0.60
						GP1135	100-140-220	1.50-3.50-6.00	0.20-0.30-0.60
						Intermittent	GPT6110	90-160-220	3.00-6.00-12.0
				GP1105	90-140-230		3.00-6.00-12.0	0.35-0.60-1.10	
				GP1115	80-140-200		3.00-6.00-12.0	0.35-0.60-1.10	
				GPT6120	90-150-210		3.00-6.00-12.0	0.35-0.60-1.10	
GP1225	80-130-200	3.00-6.00-12.0	0.35-0.60-1.10						
GPT6130	80-140-200	3.00-6.00-12.0	0.35-0.60-1.10						
Heavy Machining	Continuous	QH	GP1135	70-120-180	3.00-6.00-12.0	0.35-0.60-1.10			
			General	Intermittent					

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							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)	
P	Carbon Steel, Alloy Steel	HB280-350	Finishing Machining	Continuous	QF	GPT6110	180-220-290	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1105	160-200-270	0.40-0.80-2.00	0.08-0.15-0.35	
						GP1115	150-180-250	0.40-0.80-2.00	0.08-0.15-0.35	
				General		QF	GPT6120	150-200-270	0.40-0.80-2.00	0.08-0.15-0.35
							GP1120	150-180-250	0.40-0.80-2.00	0.08-0.15-0.35
							GP1225	100-150-220	0.80-2.00-4.00	0.15-0.20-0.40
				Intermittent		QF	GPT6130	130-170-230	0.40-0.80-2.00	0.08-0.15-0.35
							GP1130	130-150-230	0.40-0.80-2.00	0.08-0.15-0.35
							GP1135	110-130-210	0.40-0.80-2.00	0.08-0.15-0.35
			Continuous	GF	GP1115	150-180-250	0.80-1.20-2.50	0.10-0.20-0.35		
					GP1225	130-150-230	0.80-1.20-2.50	0.10-0.20-0.35		
					GP92TM	150-190-280	0.40-1.00-2.30	0.12-0.20-0.30		
			Semi-finished	Continuous	QM	GPT6110	140-200-270	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1105	120-180-250	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1115	110-170-240	0.80-2.00-4.00	0.15-0.20-0.40	
						GP31TM	180-230-320	0.50-1.20-2.50	0.10-0.18-0.30	
						GP91TM	160-210-300	0.50-1.50-3.00	0.15-0.22-0.35	
						GP1225	100-150-220	0.80-2.00-4.00	0.15-0.20-0.40	
				General	QM	GPT6120	110-190-260	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1120	110-170-240	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1225	100-150-220	0.80-2.00-4.00	0.15-0.20-0.40	
				Intermittent	QM	GPT6130	100-170-220	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1130	100-150-220	0.80-2.00-4.00	0.15-0.20-0.40	
						GP1135	900-130-200	0.80-2.00-4.00	0.15-0.20-0.40	
				Continuous	GM	GP1115	110-170-240	1.00-2.00-4.00	0.18-0.22-0.40	
						GP1225	100-150-220	1.00-2.00-4.00	0.18-0.22-0.40	
						GP1225	100-140-220	1.00-2.50-4.50	0.18-0.25-0.45	
				Intermittent	SV	GP1225	100-140-220	1.00-2.50-4.50	0.18-0.25-0.45	
						GP31TM	180-250-320	0.30-1.00-2.50	0.05-0.12-0.28	
				Continuous	TP	GP31TM	180-250-320	0.30-1.00-2.50	0.05-0.12-0.28	
			GP91TM			170-230-300	0.30-1.20-2.50	0.05-0.15-0.28		
			GP31TM			170-230-300	0.50-1.00-3.00	0.10-0.15-0.35		
			Continuous	TS	GP31TM	170-230-300	0.50-1.00-3.00	0.10-0.15-0.35		
					GP91TM	150-210-280	0.50-1.20-3.00	0.10-0.20-0.35		
			Rough Finishing	Continuous	QR	GPT6110	120-190-230	2.00-3.50-6.50	0.20-0.30-0.60	
						GP1105	100-150-210	2.00-3.50-6.50	0.20-0.30-0.60	
						GP1115	90-150-200	2.00-3.50-6.50	0.20-0.30-0.60	
				General		QR	GPT6120	110-180-220	2.00-3.50-6.50	0.20-0.30-0.60
							GP1225	90-140-200	2.00-3.50-6.50	0.20-0.30-0.60
							GPT6130	90-160-200	2.00-3.50-6.50	0.20-0.30-0.60
				Intermittent		QR	GP1130	90-140-200	2.00-3.50-6.50	0.20-0.30-0.60
							GP1135	80-120-180	2.00-3.50-6.50	0.20-0.30-0.60
GP1135	80-120-180	2.00-3.50-6.50					0.20-0.30-0.60			
Heavy Machining	Continuous	QH	GPT6110	80-130-190	3.00-6.00-12.0	0.35-0.60-1.10				
			GP1105	80-110-190	3.00-6.00-12.0	0.35-0.60-1.10				
			GP1115	70-110-170	3.00-6.00-12.0	0.35-0.60-1.10				
	General		QH	GPT6120	80-120-180	3.00-6.00-12.0	0.35-0.60-1.10			
				GP1225	70-100-170	3.00-6.00-12.0	0.35-0.60-1.10			
				GPT6130	70-110-170	3.00-6.00-12.0	0.35-0.60-1.10			
Intermittent	QH	GPT6130	70-110-170	3.00-6.00-12.0	0.35-0.60-1.10					
		GP1135	60-90-150	3.00-6.00-12.0	0.35-0.60-1.10					

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ISO	Workpiece Materials	Hardness	Application Range	Cutting Mode	Chip Breaker	Grade	Min-Optimum-Max		
							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)
<b>M</b>	Martensitic Ferrite SUS410 SUS430etc.	≤HB230	Finishing Machining	General	SF	GS3115	120-190-250	0.10-0.80-1.50	0.08-0.10-0.30
				General	YF	GM3220	100-150-200	0.10-0.80-1.50	0.08-0.12-0.25
			Semi-finished	Continuous	SM	GM1115	200-250-300	0.50-1.20-2.00	0.10-0.20-0.40
						GM3215	120-160-200	1.00-2.00-3.00	0.15-0.20-0.30
				General	SM	GM3220	60-130-180	1.00-2.00-3.00	0.15-0.20-0.35
						GM1125	180-230-280	0.50-1.80-3.00	0.10-0.20-0.40
				Intermittent	SM	GM1230	180-230-280	0.50-1.80-3.00	0.10-0.20-0.40
						GM3225	60-130-180	1.00-2.00-3.00	0.15-0.20-0.35
				Continuous	LM	GM1115	200-250-300	0.80-1.80-3.50	0.08-0.18-0.40
						GM3215	120-160-200	0.80-1.80-3.50	0.08-0.18-0.30
				General	LM	GM3220	60-130-180	0.80-1.80-3.50	0.08-0.20-0.40
						GM1125	180-230-280	0.80-1.80-3.50	0.08-0.18-0.40
			Intermittent	LM	GM1230	180-230-280	0.80-1.80-3.50	0.08-0.18-0.40	
					GM3225	60-130-180	0.80-1.80-3.50	0.08-0.20-0.40	
			Rough Finishing	LR	Continuous	GM1115	200-250-300	1.50-3.00-5.00	0.15-0.30-0.50
					General	GM3220	60-130-180	1.50-3.00-5.00	0.15-0.30-0.50
					Intermittent	GM3225	60-130-180	1.50-3.00-5.00	0.15-0.30-0.50
			Austenite SUS201 SUS304 SUS316etc.	≤HB250	Finishing Machining	General	SF	GS3115	120-190-250
	General	YF				GM3220	80-130-180	0.10-0.80-1.50	0.08-0.12-0.25
	Semi-finished	Continuous			SM	GM1115	180-230-280	0.50-1.20-2.00	0.10-0.20-0.40
						GM3215	100-130-160	1.00-2.00-3.00	0.15-0.20-0.30
		General			SM	GM3220	60-110-150	1.00-2.00-3.00	0.15-0.20-0.35
						GM1125	180-230-280	0.50-1.80-3.00	0.10-0.20-0.40
		Intermittent			SM	GM1230	180-230-280	0.50-1.80-3.00	0.10-0.20-0.40
GM3225						60-110-150	1.00-2.00-3.00	0.15-0.20-0.35	
Continuous		LM			GM1115	200-250-300	0.80-1.80-3.50	0.08-0.18-0.40	
					GM3215	100-130-160	0.80-1.80-3.50	0.08-0.18-0.30	
General		LM			GM3220	60-110-150	0.80-1.80-3.50	0.08-0.20-0.40	
					GM1125	160-200-240	0.80-1.80-3.50	0.08-0.18-0.40	
Intermittent	LM	GM1230			160-200-240	0.80-1.80-3.50	0.08-0.18-0.40		
		GM3225			60-110-150	0.80-1.80-3.50	0.08-0.20-0.40		
Rough Finishing	LR	Continuous			GM1115	180-230-280	1.50-3.00-5.00	0.15-0.30-0.50	
		General			GM3220	60-110-150	1.50-3.00-5.00	0.15-0.30-0.50	
		Intermittent	GM3225	60-110-150	1.50-3.00-5.00	0.15-0.30-0.50			

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							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)
<b>K</b>	Ferrosteel FC200 FC250 FC300etc.	≤HB220	Semi-finished	Continuous	WMV	GK1115	230-350-500	1.00-2.00-6.00	0.20-0.40-0.80
				Intermittent		GK1125	220-320-480	1.00-2.00-6.00	0.20-0.40-0.80
				Continuous	MK	GK1115	230-350-500	0.50-1.50-3.00	0.10-0.20-0.40
				General		GK1120	230-320-500	0.50-1.50-3.00	0.10-0.20-0.40
				Intermittent		GK1125	220-320-480	0.50-1.50-3.00	0.10-0.20-0.40
				Continuous	UK	GK1115	230-350-500	0.50-1.50-3.00	0.10-0.20-0.40
				General		GK1120	230-320-500	0.50-1.50-3.00	0.10-0.20-0.40
				Intermittent		GK1125	220-320-480	0.50-1.50-3.00	0.10-0.20-0.40
				Rough Finishing	Continuous	HK	GK1115	220-320-480	0.50-2.00-4.00
			General		GK1120		220-300-480	0.50-2.00-4.00	0.10-0.25-0.50
			Intermittent		GK1125		210-300-450	0.50-2.00-4.00	0.10-0.25-0.50
			Heavy Machining	Continuous	Flat	GK1115	210-300-450	1.00-2.50-6.00	0.20-0.30-0.60
				General		GK1120	210-280-450	1.00-2.50-6.00	0.20-0.30-0.60
				Intermittent		GK1125	200-280-430	1.00-2.50-6.00	0.20-0.30-0.60
			Nodular Cast Iron FCD450 FCD500 FCD600etc.	≤HB300	Semi-finished	Continuous	WMV	GK1115	180-260-380
	Intermittent	GK1125				160-230-350		1.00-2.00-6.00	0.20-0.40-0.80
	Continuous	MK				GK1115	180-260-380	0.50-1.50-3.00	0.10-0.20-0.40
	General					GK1120	180-260-380	0.50-1.50-3.00	0.10-0.20-0.40
	Intermittent					GK1125	160-230-350	0.50-1.50-3.00	0.10-0.20-0.40
	Continuous	UK				GK1115	180-260-380	0.50-1.50-3.00	0.10-0.20-0.40
	General					GK1120	180-260-380	0.50-1.50-3.00	0.10-0.20-0.40
	Intermittent					GK1125	160-230-350	0.50-1.50-3.00	0.10-0.20-0.40
	Rough Finishing	Continuous				HK	GK1115	180-240-360	0.50-2.00-4.00
		General			GK1120		180-240-360	0.50-2.00-4.00	0.10-0.25-0.50
Intermittent		GK1125			160-230-350		0.50-2.00-4.00	0.10-0.25-0.50	
Heavy Machining	Continuous	无			GK1115	180-220-350	1.00-2.50-6.00	0.20-0.30-0.60	
	General				GK1120	180-220-350	1.00-2.50-6.00	0.20-0.30-0.60	
	Intermittent				GK1125	160-230-350	1.00-2.50-6.00	0.20-0.30-0.60	
<b>S</b>	super alloy Titanium Alloy	≤HRC45			Finishing to Semi-Finishing	EL	GST7115	20-40-70	0.50-1.50-3.00
			General	GST7120			20-40-70	0.50-1.50-3.00	0.10-0.15-0.22
			Intermittent	GST7125			20-30-40	0.50-1.50-3.00	0.10-0.15-0.22
			SML	Continuous		GST7115	20-40-70	0.50-1.50-3.00	0.10-0.20-0.30
				General		GST7120	20-40-70	0.50-1.50-3.00	0.10-0.20-0.30
				Intermittent		GST7125	20-30-40	0.50-1.50-3.00	0.10-0.20-0.30
			Semi-finished	EM	Continuous	GST7115	20-40-70	1.00-2.50-4.00	0.10-0.20-0.35
					General	GST7120	20-40-70	1.00-2.50-4.00	0.10-0.20-0.35
					Intermittent	GST7125	20-30-40	1.00-2.50-4.00	0.10-0.20-0.35
				SMM	Continuous	GST7115	20-40-70	1.00-2.50-4.00	0.10-0.25-0.40
					General	GST7120	20-40-70	1.00-2.50-4.00	0.10-0.25-0.40
					Intermittent	GST7125	20-30-40	1.00-2.50-4.00	0.10-0.25-0.40

## Recommended Cutting Data (Positive Inserts)

ISO	Workpiece Materials	Hardness	Application Range	Cutting Mode	Chip Breaker	Grade	Min-Optimum-Max		
							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)
<b>P</b>	Mild Steel	≤HB180	Finishing Machining	Continuous	MM	GP31TM	220-280-340	0.10-0.50-1.00	0.03-0.10-0.20
						GP91TM	200-250-310	0.10-0.60-1.50	0.03-0.12-0.20
				GPT6110		210-260-340	0.10-0.60-1.50	0.05-0.10-0.20	
				GPT6120		180-240-320	0.10-0.60-1.50	0.05-0.10-0.20	
				GPT6130		170-220-280	0.10-0.60-1.50	0.05-0.10-0.20	
			Continuous	SPL	GP92TM	180-240-300	0.30-0.80-2.00	0.07-0.12-0.26	
			Semi-Finishing to Rough-Finish	Continuous	GP	GP31TM	200-250-300	0.30-0.80-1.50	0.05-0.12-0.22
						GP91TM	180-230-300	0.30-1.00-1.80	0.05-0.15-0.22
				GP1115		170-200-280	0.40-1.00-2.50	0.07-0.12-0.30	
				GP1120		170-200-280	0.40-1.00-2.50	0.07-0.12-0.30	
				GP1225		150-180-260	0.40-1.00-2.50	0.07-0.12-0.30	
			Intermittent	GP1130	150-180-260	0.40-1.00-2.50	0.07-0.12-0.30		
			Semi-finished	Continuous	TP	GP31TM	200-250-300	0.30-1.00-3.00	0.05-0.12-0.25
						GP91TM	180-230-300	0.30-1.20-3.00	0.05-0.15-0.25
	Carbon Steel, Alloy Steel	HB180-280	Finishing Machining	Continuous	MM	GP31TM	200-250-330	0.10-0.50-1.00	0.03-0.10-0.20
						GP91TM	180-230-300	0.10-0.60-1.50	0.03-0.12-0.20
				GPT6110		180-220-290	0.10-0.60-1.50	0.05-0.10-0.20	
				GPT6120		150-200-280	0.10-0.60-1.50	0.05-0.10-0.20	
				GPT6130		140-180-240	0.10-0.60-1.50	0.05-0.10-0.20	
			Continuous	SPL	GP92TM	160-210-290	0.30-0.80-2.00	0.07-0.12-0.26	
			Semi-Finishing to Rough-Finish	Continuous	GP	GP31TM	180-210-280	0.30-0.80-1.50	0.05-0.12-0.22
						GP91TM	160-190-270	0.30-1.00-1.80	0.05-0.15-0.22
				GP1115		140-160-240	0.40-1.00-2.50	0.07-0.12-0.30	
				GP1120		140-160-240	0.40-1.00-2.50	0.07-0.12-0.30	
				GP1225		120-140-220	0.40-1.00-2.50	0.07-0.12-0.30	
			Intermittent	GP1130	120-140-220	0.40-1.00-2.50	0.07-0.12-0.30		
			Semi-finished	Continuous	TP	GP31TM	180-210-280	0.30-1.00-3.00	0.05-0.12-0.25
						GP91TM	160-190-270	0.30-1.20-3.00	0.05-0.15-0.25
HB280-350		Finishing Machining	Continuous	MM	GP31TM	160-220-300	0.10-0.50-1.00	0.03-0.10-0.20	
					GP91TM	140-200-280	0.10-0.60-1.50	0.03-0.12-0.20	
			GPT6110		160-200-260	0.10-0.60-1.50	0.05-0.10-0.20		
			GPT6120		130-180-250	0.10-0.60-1.50	0.05-0.10-0.20		
			GPT6130		120-160-210	0.10-0.60-1.50	0.05-0.10-0.20		
		Continuous	SPL	GP92TM	150-190-280	0.30-0.80-2.00	0.07-0.12-0.26		
		Semi-Finishing to Rough-Finish	Continuous	GP	GP31TM	160-200-270	0.30-0.80-1.50	0.05-0.12-0.22	
					GP91TM	130-160-250	0.30-1.00-1.80	0.05-0.15-0.22	
			GP1115		120-160-210	0.40-1.00-2.50	0.07-0.12-0.30		
			GP1120		120-160-210	0.40-1.00-2.50	0.07-0.12-0.30		
			GP1225		100-140-220	0.40-1.00-2.50	0.07-0.12-0.30		
		Intermittent	GP1130	100-140-220	0.40-1.00-2.50	0.07-0.12-0.30			
		Semi-finished	Continuous	TP	GP31TM	160-200-270	0.30-1.00-3.00	0.05-0.12-0.25	
					GP91TM	130-160-250	0.30-1.20-3.00	0.05-0.15-0.25	

## Recommended Cutting Data (Positive Inserts)

ISO	Workpiece Materials	Hardness	Application Range	Cutting Mode	Chip Breaker	Grade	Min-Optimum-Max		
							Cutting Speed Vc(m/min)	Cutting Depth ap(mm)	Feeding Rate f(mm/rev)
<b>M</b>	Martensitic Ferrite SUS410 SUS430	≤HB300	Finishing to Semi-Finishing	Continuous	MM	GM1115	200-250-300	0.50-0.70-1.50	0.05-0.10-0.20
				General		GM3220	40-80-140	0.50-0.70-1.50	0.05-0.10-0.20
				Intermittent		GM3225	40-80-140	0.50-0.70-1.50	0.05-0.10-0.20
			Semi-Finishing to Rough-Finish	GP	Continuous	GM1115	150-200-250	0.40-1.00-2.50	0.07-0.12-0.30
					General	GM3215	60-100-160	0.40-1.00-2.50	0.07-0.12-0.25
					Intermittent	GM3220	40-80-140	0.40-1.00-2.50	0.07-0.12-0.30
						GM1125	120-150-180	0.40-1.00-2.50	0.07-0.12-0.30
						GM1230	120-150-180	0.40-1.00-2.50	0.07-0.12-0.30
	GM3225	40-80-140	0.40-1.00-2.50	0.07-0.12-0.30					
	Austenite SUS201 SUS304 SUS316	≤HB250	Finishing to Semi-Finishing	Continuous	MM	GM1115	200-240-300	0.50-0.70-1.50	0.05-0.10-0.20
				General		GM3220	40-70-140	0.50-0.70-1.50	0.05-0.10-0.20
				Intermittent		GM3225	40-70-140	0.50-0.70-1.50	0.05-0.10-0.20
			Semi-Finishing to Rough-Finish	GP	Continuous	GM1115	150-190-250	0.40-1.00-2.50	0.07-0.12-0.30
					General	GM3215	50-90-150	0.40-1.00-2.50	0.07-0.12-0.25
Intermittent					GM3220	40-70-140	0.40-1.00-2.50	0.07-0.12-0.30	
					GM1125	120-140-180	0.40-1.00-2.50	0.07-0.12-0.30	
					GM1230	120-140-180	0.40-1.00-2.50	0.07-0.12-0.30	
GM3225	40-70-140	0.40-1.00-2.50	0.07-0.12-0.30						
<b>K</b>	Ferrosteel FC200 FC250 FC300etc.	≤HB250	Finishing to Semi-Finishing	Continuous	GP	GK1115	180-280-380	0.30-0.80-2.00	0.05-0.12-0.25
				General		GK1120	180-260-380	0.30-0.80-2.00	0.05-0.12-0.25
				Intermittent		GK1125	160-250-350	0.30-0.80-2.00	0.05-0.12-0.25
			Semi-Finishing to Rough-Finish	KM	Continuous	GK1115	180-260-360	1.00-2.00-4.00	0.13-0.20-0.40
					General	GK1120	180-240-360	1.00-2.00-4.00	0.13-0.20-0.40
					Intermittent	GK1125	160-230-340	1.00-2.00-4.00	0.13-0.20-0.40
	Nodular Cast Iron FCD450 FCD500 FCD600etc.	≤HB270	Finishing to Semi-Finishing	Continuous	GP	GK1115	160-250-350	0.30-0.80-2.00	0.05-0.12-0.25
				General		GK1120	160-220-350	0.30-0.80-2.00	0.05-0.12-0.25
				Intermittent		GK1125	140-230-330	0.30-0.80-2.00	0.05-0.12-0.25
			Semi-Finishing to Rough-Finish	KM	Continuous	GK1115	160-230-330	1.00-2.00-4.00	0.13-0.20-0.40
					General	GK1120	160-200-330	1.00-2.00-4.00	0.13-0.20-0.40
					Intermittent	GK1125	140-200-310	1.00-2.00-4.00	0.13-0.20-0.40
<b>N</b>	Aluminum	Harden HB90-100	Finishing to Semi-Finishing	General	AL	GN9110	250-700-970	0.50-1.20-3.00	0.05-0.10-0.30
		Untreated HB60-90				GN9120	250-680-960	0.50-1.20-3.50	0.05-0.10-0.30
						GN9130	250-650-950	0.50-1.20-4.00	0.05-0.10-0.30
						GNT7120	950-1300-2000	0.50-1.20-3.50	0.05-0.10-0.30