

RECOMMENDED CUTTING CONDITIONS

NEGATIVE INSERT TYPE

Breaker : Std : Standard Flat : Flat Top

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P Mild Steel (AISI ASTM A283, AISI 1010)	<180HB	● F 1	FY	VP25N	935-1460	.004-.010	.008-.032	
		● F 2	FS	NX2525	885-1260	.004-.010	.008-.028	
		● L 1	SY	VP25N	850-1330	.007-.013	.020-.048	
		● F 1	FY	MP3025	900-1380	.004-.010	.008-.032	
		● F 2	FY	NX3035	850-1215	.004-.010	.008-.032	
		● F 3	FS	NX2525	885-1260	.004-.010	.008-.028	
		● L 1	SY	MP3025	820-1260	.007-.013	.020-.048	
		● L 2	SY	NX3035	770-1100	.007-.013	.020-.048	
		⚙ F 1	FY	UE6020	935-1510	.004-.010	.008-.032	
		⚙ F 2	FS	UE6020	935-1510	.004-.010	.008-.028	
		⚙ L 1	SY	UE6020	850-1380	.007-.013	.020-.048	
		Carbon Steel • Alloy Steel (AISI 1045, AISI 4140)	180 280HB	● F 1	FH	AP25N	705-1115	.004-.008
● F 2	FH			NX2525	670-970	.004-.008	.008-.040	
● F 3	R/L-F			MP3025	690-1065	.002-.006	.004-.020	
● F 4	PK			NX2525	640-920	.004-.012	.008-.040	
● L 1	LP			UE6105	720-1330	.004-.016	.012-.079	
● L 2	SH			UE6105	720-1330	.004-.016	.012-.079	
● L 3	LP			MP3025	640-970	.004-.016	.012-.079	
● L 4	SH			AP25N	655-1030	.004-.016	.012-.079	
● L 5	SH			NX2525	620-885	.004-.016	.012-.079	
● L 6	SA			UE6105	720-1330	.004-.016	.012-.079	
● L 7	SW			UE6105	720-1330	.004-.020	.012-.099	
● L 8	SW			MP3025	640-970	.004-.020	.012-.099	
● L 9	SW			NX2525	620-885	.004-.020	.012-.099	
● L 10	R/L-K			MP3025	640-970	.004-.008	.012-.048	
● M 1	MP			UE6105	655-1215	.007-.020	.012-.158	
● M 2	MP			MP3025	575-885	.007-.020	.012-.158	
● M 3	MA			UE6105	655-1215	.008-.020	.012-.158	
● M 4	MH			UE6105	655-1215	.008-.022	.040-.158	
● M 5	Std			UE6105	655-1215	.010-.024	.060-.197	
● M 6	Std			MP3025	575-885	.010-.024	.060-.197	
● M 7	Std			NX2525	560-805	.010-.024	.060-.197	
● M 8	Std			UT120T	280-410	.010-.024	.060-.197	
● M 9	MW			UE6105	655-1215	.008-.024	.036-.158	
● M 10	R/L			MP3025	575-885	.006-.013	.016-.079	
● R 1	RP			UE6105	620-1150	.010-.024	.060-.237	
● R 2	GH			UE6105	620-1150	.010-.024	.060-.237	
● H 1	HX			UE6110	525-900	.020-.050	.119-.434	
● H 2	HV			UE6110	440-740	.028-.052	.158-.473	
● F 1	FH			MP3025	690-1065	.004-.008	.008-.040	
● F 2	FH			NX3035	655-935	.004-.008	.008-.040	
● F 3	FH			UE6110	755-1280	.004-.008	.008-.040	
● L 1	LP			UE6110	690-1165	.004-.016	.012-.079	
● L 2	SH			UE6110	690-1165	.004-.016	.012-.079	
● L 3	SA			UE6110	690-1165	.004-.016	.012-.079	
● L 4	LP			MP3025	640-970	.004-.016	.012-.079	
● L 5	SH			NX3035	605-850	.004-.016	.012-.079	
● L 6	SA			NX3035	605-850	.004-.016	.012-.079	
● L 7	SW			UE6110	690-1165	.004-.020	.012-.099	
● L 8	SW			NX3035	605-850	.004-.020	.012-.099	
● M 1	MP			UE6110	620-1065	.007-.020	.012-.158	
● M 2	MA			UE6110	620-1065	.008-.020	.012-.158	
● M 3	MA			NX3035	540-770	.008-.020	.012-.158	

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)		
P Carbon Steel • Alloy Steel (AISI 1045, AISI 4140)	180 280HB	● M 4	MH	UE6110	620-1065	.008-.022	.040-.158			
		● M 5	Std	UE6110	620-1065	.010-.024	.060-.197			
		● M 6	Std	NX3035	540-770	.010-.024	.060-.197			
		● M 7	MW	UE6110	620-1065	.008-.024	.036-.158			
		● R 1	RP	UE6110	590-1015	.010-.024	.060-.237			
		● R 2	GH	UE6110	590-1015	.010-.024	.060-.237			
		● H 1	HX	UE6020	510-820	.020-.050	.119-.434			
		● H 2	HV	UE6020	410-670	.028-.052	.158-.473			
		● H 3	HZ	UE6110	525-900	.016-.048	.079-.394			
		● H 4	HAS	UE6020	510-820	.016-.044	.079-.355			
		⚙ F 1	FH	UE6110	755-1280	.004-.008	.008-.040			
		⚙ F 2	FH	UE6020	705-1165	.004-.008	.008-.040			
		⚙ L 1	LP	MC6025	690-1115	.004-.016	.012-.079			
		⚙ L 2	SH	UE6020	655-1065	.004-.016	.012-.079			
		⚙ L 3	SA	UE6020	655-1065	.004-.016	.012-.079			
		⚙ M 1	MP	MC6025	620-1015	.007-.020	.012-.158			
		⚙ M 2	MA	MC6025	620-1015	.008-.020	.012-.158			
		⚙ M 3	Std	MC6025	620-1015	.010-.024	.060-.197			
		⚙ M 4	MP	UE6020	590-970	.007-.020	.012-.158			
		⚙ M 5	MA	UE6020	590-970	.008-.020	.012-.158			
		⚙ M 6	MA	UE6035	560-770	.008-.020	.012-.158			
		⚙ M 7	MH	UE6020	590-970	.008-.022	.040-.158			
		⚙ M 8	MH	UE6035	560-770	.008-.022	.040-.158			
		⚙ M 9	Std	UE6020	590-970	.010-.024	.060-.197			
		⚙ M 10	Std	UE6035	560-770	.010-.024	.060-.197			
		⚙ M 11	MW	MC6025	620-1015	.008-.024	.036-.158			
		⚙ R 1	RP	MC6025	590-970	.010-.024	.060-.237			
		⚙ R 2	GH	UE6020	560-920	.010-.024	.060-.237			
		⚙ H 1	HX	UH6400	440-640	.020-.050	.119-.434			
		⚙ H 2	HV	UH6400	360-525	.028-.052	.158-.473			
		⚙ H 3	HZ	UH6400	440-640	.016-.048	.079-.394			
		⚙ H 4	HZ	UE6020	510-820	.016-.048	.079-.394			
		⚙ H 5	HAS	UH6400	440-640	.016-.044	.079-.355			
		M Austenitic Stainless Steel (AISI 304, AISI 306)	<200HB	● L 1	LM	MC7015	590-935	.004-.012	.012-.079	
				● L 2	SH	US735	310-605	.004-.016	.012-.079	
				● L 3	SH	NX2525	210-440	.004-.016	.012-.079	
				● L 4	SW	US7020	345-885	.004-.020	.012-.099	
				● M 1	MM	MC7015	525-835	.006-.018	.028-.197	
				● M 2	GM	MC7015	525-835	.007-.020	.020-.158	
				● M 3	MS	US7020	310-805	.007-.020	.020-.158	
				● M 4	MA	US7020	310-805	.008-.020	.012-.158	
				● M 5	MH	US7020	310-805	.008-.022	.040-.158	
				● M 6	MW	US7020	310-805	.008-.024	.036-.158	
				● R 1	RM	MC7015	510-805	.010-.022	.060-.237	
				● R 2	GH	US7020	295-770	.010-.024	.060-.237	
				● L 1	LM	MC7025	525-705	.004-.012	.012-.079	
				● L 2	SH	US735	310-605	.004-.016	.012-.079	
				● M 1	MM	MC7025	475-640	.006-.018	.028-.197	
● M 2	GM			MC7025	475-640	.007-.020	.020-.158			
● M 3	MA			MC7025	475-640	.008-.020	.012-.158			
● M 4	MS			US735	280-540	.007-.020	.020-.158			
● M 5	MA			US735	280-540	.008-.020	.012-.158			

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Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)		
Austenitic Stainless Steel (AISI 304, AISI 306)	<200HB	●	R	1	RM MC7025	460-605	.010-.022	.060-.237		
		●	R	2	GH US735	280-525	.010-.024	.060-.237		
		✚	L	1	LM MP7035	310-510	.004-.012	.012-.079		
		✚	L	2	SH US735	310-605	.004-.016	.012-.079		
		✚	M	1	MM MP7035	280-460	.006-.018	.028-.197		
		✚	M	2	GM MP7035	280-460	.007-.020	.020-.158		
		✚	M	3	MA MP7035	280-460	.008-.020	.012-.158		
		✚	M	4	MS US735	280-540	.007-.020	.020-.158		
		✚	M	5	MS VP15TF	245-425	.007-.020	.020-.158		
		✚	M	6	MS UP20M	310-475	.007-.020	.020-.158		
		✚	M	7	MS UTI20T	245-360	.007-.020	.020-.158		
		✚	M	8	MA VP15TF	245-425	.008-.020	.012-.158		
		✚	M	9	Std VP15TF	245-425	.010-.024	.060-.197		
		✚	R	1	RM MP7035	280-440	.010-.022	.060-.237		
		✚	R	2	GH US735	280-525	.010-.024	.060-.237		
		Austenitic Stainless Steel (AISI 304LN, AISI 316LN)	>200HB	●	L	1	LM MC7015	490-785	.004-.012	.012-.079
				●	L	2	SH US735	260-510	.004-.016	.012-.079
●	L			3	SH NX2525	180-375	.004-.016	.012-.079		
●	L			4	SW US7020	295-755	.004-.020	.012-.099		
●	M			1	MM MC7015	440-705	.006-.018	.028-.197		
●	M			2	GM MC7015	440-705	.007-.020	.020-.158		
●	M			3	MS US7020	260-670	.007-.020	.020-.158		
●	M			4	MA US7020	260-670	.008-.020	.012-.158		
●	M			5	MH US7020	260-670	.008-.022	.040-.158		
●	M			6	MW US7020	260-670	.008-.024	.036-.158		
●	R			1	RM MC7015	425-670	.010-.022	.060-.237		
●	R		2	GH US7020	245-640	.010-.024	.060-.237			
●	L		1	LM MC7025	440-590	.004-.012	.012-.079			
●	L		2	SH US735	260-510	.004-.016	.012-.079			
●	M		1	MM MC7025	410-540	.006-.018	.028-.197			
●	M		2	GM MC7025	410-540	.007-.020	.020-.158			
●	M		3	MA MC7025	410-540	.008-.020	.012-.158			
>200HB	●		M	4	MS US735	245-460	.007-.020	.020-.158		
	●		M	5	MA US735	245-460	.008-.020	.012-.158		
	●		R	1	RM MC7025	375-510	.010-.022	.060-.237		
	●		R	2	GH US735	230-440	.010-.024	.060-.237		
	✚	L	1	LM MP7035	260-425	.004-.012	.012-.079			
	✚	L	2	SH US735	260-510	.004-.016	.012-.079			
	✚	M	1	MM MP7035	245-395	.006-.018	.028-.197			
	✚	M	2	GM MP7035	245-395	.007-.020	.020-.158			
	✚	M	3	MA MP7035	245-395	.008-.020	.012-.158			
	✚	M	4	MS US735	245-460	.007-.020	.020-.158			
	✚	M	5	MS VP15TF	210-360	.007-.020	.020-.158			
	✚	M	6	MS UP20M	260-410	.007-.020	.020-.158			
	✚	M	7	MS UTI20T	210-310	.007-.020	.020-.158			
	✚	M	8	MA VP15TF	210-360	.008-.020	.012-.158			
	✚	M	9	Std VP15TF	210-360	.010-.024	.060-.197			
	✚	R	1	RM MP7035	230-375	.010-.022	.060-.237			
	✚	R	2	GH US735	230-440	.010-.024	.060-.237			
	Two-phase Stainless Steel (DUPLEX)	<280HB	●	L	1	LM MC7015	395-640	.004-.012	.012-.079	
			●	L	2	SH US735	210-410	.004-.016	.012-.079	
●			L	3	SH NX2525	150-295	.004-.016	.012-.079		
●			L	4	SW US7020	245-605	.004-.020	.012-.099		

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
Two-phase Stainless Steel (DUPLEX)	<280HB	●	M	1	MM MC7015	360-575	.006-.018	.028-.197
		●	M	2	GM MC7015	360-575	.007-.020	.020-.158
		●	M	3	MS US7020	210-560	.007-.020	.020-.158
		●	M	4	MA US7020	210-560	.008-.020	.012-.158
		●	M	5	MH US7020	210-560	.008-.022	.040-.158
		●	M	6	MW US7020	210-560	.008-.024	.036-.158
		●	R	1	RM MC7015	345-540	.010-.022	.060-.237
		●	R	2	GH US7020	195-525	.010-.024	.060-.237
		●	L	1	LM MC7025	360-490	.004-.012	.012-.079
		●	L	2	SH US735	210-410	.004-.016	.012-.079
		●	M	1	MM MC7025	330-440	.006-.018	.028-.197
		●	M	2	GM MC7025	330-440	.007-.020	.020-.158
		●	M	3	MA MC7025	330-440	.008-.020	.012-.158
		●	M	4	MS US735	195-375	.007-.020	.020-.158
		●	M	5	MA US735	195-375	.008-.020	.012-.158
		●	R	1	RM MC7025	310-410	.010-.022	.060-.237
		●	R	2	GH US735	180-360	.010-.024	.060-.237
		✚	L	1	LM MP7035	210-345	.004-.012	.012-.079
		✚	L	2	SH US735	210-410	.004-.016	.012-.079
		✚	M	1	MM MP7035	195-310	.006-.018	.028-.197
		✚	M	2	GM MP7035	195-310	.007-.020	.020-.158
		✚	M	3	MA MP7035	195-310	.008-.020	.012-.158
		✚	M	4	MS US735	195-375	.007-.020	.020-.158
✚	M	5	MS VP15TF	165-295	.007-.020	.020-.158		
✚	M	6	MS UP20M	210-330	.007-.020	.020-.158		
✚	M	7	MS UTI20T	165-245	.007-.020	.020-.158		
✚	M	8	MA VP15TF	165-295	.008-.020	.012-.158		
✚	M	9	Std VP15TF	165-295	.010-.024	.060-.197		
✚	R	1	RM MP7035	180-295	.010-.022	.060-.237		
✚	R	2	GH US735	180-360	.010-.024	.060-.237		
Ferritic and Martensitic Stainless Steel (AISI 410, AISI 430)	<200HB	●	L	1	LM MC7015	590-935	.004-.012	.012-.079
		●	L	2	SH US735	310-605	.004-.016	.012-.079
		●	L	3	SH NX2525	210-440	.004-.016	.012-.079
		●	L	4	SW US7020	345-885	.004-.020	.012-.099
		●	M	1	MM MC7015	525-835	.006-.018	.028-.197
		●	M	2	GM MC7015	525-835	.007-.020	.020-.158
		●	M	3	MS US7020	310-805	.007-.020	.020-.158
		●	M	4	MA US7020	310-805	.008-.020	.012-.158
		●	M	5	MH US7020	310-805	.008-.022	.040-.158
		●	M	6	MW US7020	310-805	.008-.024	.036-.158
		●	R	1	RM MC7015	510-805	.010-.022	.060-.237
		●	R	2	GH US7020	295-770	.010-.024	.060-.237
		●	L	1	LM MC7025	525-705	.004-.012	.012-.079
		●	L	2	SH US735	310-605	.004-.016	.012-.079
		●	M	1	MM MC7025	475-640	.006-.018	.028-.197
		●	M	2	GM MC7025	475-640	.007-.020	.020-.158
		●	M	3	MA MC7025	475-640	.008-.020	.012-.158
		●	M	4	MS US735	280-540	.007-.020	.020-.158
●	M	4	MA US735	280-540	.008-.020	.012-.158		
●	R	1	RM MC7025	460-605	.010-.022	.060-.237		
●	R	2	GH US735	280-525	.010-.024	.060-.237		
✚	L	1	LM MP7035	310-510	.004-.012	.012-.079		
✚	L	2	SH US735	310-605	.004-.016	.012-.079		

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Breaker : Std : Standard Flat : Flat Top

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
Ductile Cast Iron	<450MPa	● L 1 MA UC5105			UC5105	525-970	.008-.020	.012-.158
		● M 1 Std UC5105			UC5105	525-970	.010-.024	.060-.197
		● M 2 Std NX2525			NX2525	475-655	.010-.024	.060-.197
		● R 1 GH UC5105			UC5105	510-920	.010-.024	.060-.237
		● R 2 Flat UC5105			UC5105	510-920	.008-.024	.099-.237
		● R 3 Flat HTI10			HTI10	310-440	.008-.024	.099-.237
		● R 4 Flat HTI05T			HTI05T	345-575	.008-.024	.099-.237
		● H 1 Flat UC5105			UC5105	510-920	.008-.024	.099-.237
		● L 1 MA UC5115			UC5115	510-935	.008-.020	.012-.158
		● L 2 MP UC5115			UC5115	510-935	.007-.020	.012-.158
		● L 3 SW UC5115			UC5115	575-1030	.004-.020	.012-.099
		● M 1 Std UC5115			UC5115	510-935	.010-.024	.060-.197
		● M 2 Std HTI10			HTI10	330-460	.010-.024	.060-.197
		● R 1 GH UC5115			UC5115	490-900	.010-.024	.060-.237
		● R 2 Flat UC5115			UC5115	490-900	.008-.024	.099-.237
		● H 1 Flat UC5115			UC5115	490-900	.008-.024	.099-.237
		✦ L 1 MA UC5115			UC5115	510-935	.008-.020	.012-.158
		✦ M 1 Std UC5115			UC5115	510-935	.010-.024	.060-.197
		✦ M 2 Std UTI20T			UTI20T	260-375	.010-.024	.060-.197
		✦ R 1 GH UC5115			UC5115	490-900	.010-.024	.060-.237
		✦ R 2 Flat UC5115			UC5115	490-900	.008-.024	.099-.237
		✦ R 3 Flat UTI20T			UTI20T	245-360	.008-.024	.099-.237
	✦ H 1 Flat UC5115			UC5115	490-900	.008-.024	.099-.237	
	<800MPa	● L 1 MA UC5105			UC5105	475-870	.008-.020	.012-.158
		● M 1 Std UC5105			UC5105	475-870	.010-.024	.060-.197
		● M 2 Std NX2525			NX2525	425-575	.010-.024	.060-.197
		● R 1 GH UC5105			UC5105	440-820	.010-.024	.060-.237
		● R 2 Flat UC5105			UC5105	440-820	.008-.024	.099-.237
		● R 3 Flat HTI10			HTI10	280-395	.008-.024	.099-.237
		● R 4 Flat HTI05T			HTI05T	295-510	.008-.024	.099-.237
		● H 1 Flat UC5105			UC5105	440-820	.008-.024	.099-.237
		● L 1 MA UC5115			UC5115	460-835	.008-.020	.012-.158
		● L 2 MP UC5115			UC5115	460-835	.007-.020	.012-.158
		● L 3 SW UC5115			UC5115	510-920	.004-.020	.012-.099
		● M 1 Std UC5115			UC5115	460-835	.010-.024	.060-.197
		● M 2 Std HTI10			HTI10	280-410	.010-.024	.060-.197
		● R 1 GH UC5115			UC5115	425-785	.010-.024	.060-.237
		● R 2 Flat UC5115			UC5115	425-785	.008-.024	.099-.237
		● H 1 Flat UC5115			UC5115	425-785	.008-.024	.099-.237
		✦ L 1 MA UC5115			UC5115	460-835	.008-.020	.012-.158
		✦ M 1 Std UC5115			UC5115	460-835	.010-.024	.060-.197
		✦ M 2 Std UTI20T			UTI20T	230-330	.010-.024	.060-.197
		✦ R 1 GH UC5115			UC5115	425-785	.010-.024	.060-.237
		✦ R 2 Flat UC5115			UC5115	425-785	.008-.024	.099-.237
✦ R 3 Flat UTI20T				UTI20T	210-310	.008-.024	.099-.237	
✦ H 1 Flat UC5115			UC5115	425-785	.008-.024	.099-.237		

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)		
Titanium Alloy (Ti-6Al-4V)		● F 1 FJ RT9010			RT9010	150-310	.003-.008	.004-.040		
		● L 1 MJ(M) RT9010			RT9010	130-260	.003-.010	.016-.060		
		● M 1 MS RT9010			RT9010	130-260	.004-.010	.020-.158		
		● R 1 GJ RT9010			RT9010	115-245	.007-.014	.040-.119		
		● F 1 FJ RT9010			RT9010	150-310	.003-.008	.004-.040		
		● L 1 MJ(M) RT9010			RT9010	130-260	.003-.010	.016-.060		
		● L 2 MJ(G) RT9010			RT9010	130-260	.003-.010	.016-.060		
		● M 1 MS RT9010			RT9010	130-260	.004-.010	.020-.158		
		● R 1 GJ RT9010			RT9010	115-245	.007-.014	.040-.119		
		✦ F 1 FJ RT9010			RT9010	150-310	.003-.008	.004-.040		
		✦ L 1 MJ(M) RT9010			RT9010	130-260	.003-.010	.016-.060		
		✦ L 2 MJ(G) RT9010			RT9010	130-260	.003-.010	.016-.060		
		✦ M 1 MS RT9010			RT9010	130-260	.004-.010	.020-.158		
		✦ R 1 GJ RT9010			RT9010	115-245	.007-.014	.040-.119		
		Heat Resistant Alloy (Inconel718)		● F 1 FJ VP10RT			VP10RT	100-195	.003-.008	.004-.040
				● L 1 MJ(M) VP05RT			VP05RT	100-195	.003-.010	.016-.060
				● L 2 MJ(M) US905			US905	165-330	.003-.010	.016-.060
				● L 3 MJ(G) VP10RT			VP10RT	80-165	.003-.010	.016-.060
● M 1 MS VP05RT					VP05RT	100-195	.004-.010	.020-.158		
● M 2 MS US905					US905	165-330	.004-.010	.020-.158		
● R 1 GJ VP10RT					VP10RT	65-150	.007-.014	.040-.119		
● R 2 GJ US905					US905	150-310	.007-.014	.040-.119		
● F 1 FJ VP10RT					VP10RT	100-195	.003-.008	.004-.040		
● L 1 MJ(M) VP10RT					VP10RT	80-165	.003-.010	.016-.060		
● M 1 MS VP10RT					VP10RT	80-165	.004-.010	.020-.158		
● R 1 GJ VP10RT					VP10RT	65-150	.007-.014	.040-.119		
✦ F 1 FJ VP15TF					VP15TF	65-130	.003-.008	.004-.040		
✦ L 1 MJ(M) VP15TF					VP15TF	65-115	.003-.010	.016-.060		
✦ L 2 MJ(G) VP15TF					VP15TF	65-115	.003-.010	.016-.060		
✦ M 1 MS VP15TF			VP15TF	65-115	.004-.010	.020-.158				
✦ R 1 GJ VP15TF			VP15TF	50-100	.007-.014	.040-.119				

RECOMMENDED CUTTING CONDITIONS

7° POSITIVE INSERT TYPE

Breaker : Std : Standard Flat : Flat Top

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
M								
Ferritic and Martensitic Stainless Steel (AISI 410, AISI 430)	<200HB	● F 1	1	FM	VP15TF	245-410	.002-.008	.008-.036
		● F 2	2	Std	US735	230-440	.004-.012	.012-.079
		● S 1	1	LM	MC7025	460-620	.003-.010	.008-.040
		● S 2	2	Std	US735	230-440	.004-.012	.012-.079
		● M 1	1	MM	MC7025	375-510	.004-.012	.012-.079
		● F 1	1	FM	VP15TF	245-410	.002-.008	.008-.036
		● F 2	2	Std	US735	230-440	.004-.012	.012-.079
		● S 1	1	LM	MC7025	460-620	.003-.010	.008-.040
		● S 2	2	Std	US735	230-440	.004-.012	.012-.079
		● M 1	1	MM	MC7025	375-510	.004-.012	.012-.079
		⊕ F 1	1	FM	VP15TF	245-410	.002-.008	.008-.036
		⊕ F 2	2	Std	US735	230-440	.004-.012	.012-.079
		⊕ S 1	1	LM	MP7035	280-440	.003-.010	.008-.040
		⊕ S 2	2	LM	VP15TF	245-410	.003-.010	.008-.040
		⊕ S 3	3	Std	US735	230-440	.004-.012	.012-.079
		⊕ M 1	1	MM	MP7035	230-375	.004-.012	.012-.079
		⊕ M 2	2	MM	VP15TF	195-345	.004-.012	.012-.079
		Ferritic and Martensitic Stainless Steel (AISI 431)	>200HB	● F 1	1	FM	VP15TF	195-345
● F 2	2			Std	US735	195-360	.004-.012	.012-.079
● S 1	1			LM	MC7025	395-525	.003-.010	.008-.040
● S 2	2			Std	US735	195-360	.004-.012	.012-.079
● M 1	1			MM	MC7025	330-425	.004-.012	.012-.079
● F 1	1			FM	VP15TF	195-345	.002-.008	.008-.036
● F 2	2			Std	US735	195-360	.004-.012	.012-.079
● S 1	1			LM	MC7025	395-525	.003-.010	.008-.040
● S 2	2			Std	US735	195-360	.004-.012	.012-.079
● M 1	1			MM	MC7025	330-425	.004-.012	.012-.079
⊕ F 1	1			FM	VP15TF	195-345	.002-.008	.008-.036
⊕ F 2	2			Std	US735	195-360	.004-.012	.012-.079
⊕ S 1	1			LM	MP7035	230-375	.003-.010	.008-.040
⊕ S 2	2			LM	VP15TF	195-345	.003-.010	.008-.040
⊕ S 3	3			Std	US735	195-360	.004-.012	.012-.079
⊕ M 1	1			MM	MP7035	195-310	.004-.012	.012-.079
⊕ M 2	2			MM	VP15TF	165-295	.004-.012	.012-.079
Hardened Stainless Steel	<450HB			● F 1	1	FM	VP15TF	130-230
		● F 2	2	Std	US735	130-245	.004-.012	.012-.079
		● S 1	1	LM	MC7025	260-345	.003-.010	.008-.040
		● S 2	2	Std	US735	130-245	.004-.012	.012-.079
		● M 1	1	MM	MC7025	210-295	.004-.012	.012-.079
		● F 1	1	FM	VP15TF	130-230	.002-.008	.008-.036
		● F 2	2	Std	US735	130-245	.004-.012	.012-.079
		● S 1	1	LM	MC7025	260-345	.003-.010	.008-.040
		● S 2	2	Std	US735	130-245	.004-.012	.012-.079
		● M 1	1	MM	MC7025	210-295	.004-.012	.012-.079
		⊕ F 1	1	FM	VP15TF	130-230	.002-.008	.008-.036
		⊕ F 2	2	Std	US735	130-245	.004-.012	.012-.079
		⊕ S 1	1	LM	MP7035	150-245	.003-.010	.008-.040
		⊕ S 2	2	LM	VP15TF	130-230	.003-.010	.008-.040
		⊕ S 3	3	Std	US735	130-245	.004-.012	.012-.079
		⊕ M 1	1	MM	MP7035	130-210	.004-.012	.012-.079
		⊕ M 2	2	MM	VP15TF	115-195	.004-.012	.012-.079

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
K								
Gray Cast Iron	<350MPa	● F 1	1	Std	UC5115	425-805	.004-.012	.012-.079
		● S 1	1	Std	UC5115	425-805	.004-.012	.012-.079
		● M 1	1	Flat	UC5115	425-805	.004-.012	.012-.079
		● F 1	1	Std	UC5115	425-805	.004-.012	.012-.079
		● S 1	1	Std	UC5115	425-805	.004-.012	.012-.079
		● M 1	1	Flat	UC5115	425-805	.004-.012	.012-.079
		● F 1	1	Std	UC5115	425-805	.004-.012	.012-.079
		⊕ S 1	1	Std	UC5115	425-805	.004-.012	.012-.079
		⊕ M 1	1	Flat	UC5115	425-805	.004-.012	.012-.079
		Ductile Cast Iron	<450MPa	● F 1	1	Std	UC5115	410-755
● S 1	1			Std	UC5115	410-755	.004-.012	.012-.079
● M 1	1			Flat	UC5115	410-755	.004-.012	.012-.079
● F 1	1			Std	UC5115	410-755	.004-.012	.012-.079
● S 1	1			Std	UC5115	410-755	.004-.012	.012-.079
<800MPa	● M 1		1	Flat	UC5115	410-755	.004-.012	.012-.079
	● F 1		1	Std	UC5115	410-755	.004-.012	.012-.079
	● S 1		1	Std	UC5115	410-755	.004-.012	.012-.079
	⊕ S 1		1	Std	UC5115	410-755	.004-.012	.012-.079
	⊕ M 1		1	Flat	UC5115	410-755	.004-.012	.012-.079
Aluminium Alloy (A6061, A7075)	Si<5%	● F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
		● F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
		⊕ F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
	5%<Si<10%	● F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
		● F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
		⊕ F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
	Si>10%	● F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
		● F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
		⊕ F 1	1	AZ	HTI10	985-2295	.004-.016	.008-.119
S								
Titanium Alloy (Ti-6Al-4V)	Si>10%	● F 1	1	FJ	RT9010	115-245	.002-.005	.008-.056
		● F 1	1	FJ	RT9010	115-245	.002-.005	.008-.056
		⊕ F 1	1	FJ	RT9010	115-245	.002-.005	.008-.056
S								
Heat Resistant Alloy (Inconel718)	Si>10%	● F 1	1	FJ	VP10RT	65-150	.002-.005	.008-.056
		● F 1	1	FJ	VP10RT	65-150	.002-.005	.008-.056
		⊕ F 1	1	FJ	VP10RT	65-150	.002-.005	.008-.056

11° POSITIVE INSERT TYPE

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
P								
Mild Steel (AISI ASTM A283, AISI 1010)	<180HB	● F	1	R-R/L	NX2525	740—1050	.002—.005	.008—.024
		● L	1	R-Std	NX2525	605—870	.004—.012	.012—.079
		● M	1	R-Std	NX2525	605—870	.004—.012	.012—.079
		● F	1	R-R/L	NX2525	740—1050	.002—.005	.008—.024
		● L	1	R-Std	UE6110	670—1150	.004—.012	.012—.079
		● L	2	R-Std	MP3025	620—970	.004—.012	.012—.079
		● L	3	R-Std	NX3035	590—835	.004—.012	.012—.079
		● M	1	R-Std	UE6110	670—1150	.004—.012	.012—.079
		● M	2	R-Std	MP3025	620—970	.004—.012	.012—.079
		● M	3	R-Std	NX3035	590—835	.004—.012	.012—.079
		✦ F	1	R-R/L	UTi20T	375—540	.002—.005	.008—.024
		✦ L	1	R-Std	UE6020	640—1050	.004—.012	.012—.079
		✦ L	2	N-Flat	UE6020	640—1050	.004—.012	.012—.079
		✦ L	3	N-Flat	UP20M	345—525	.004—.012	.012—.079
		✦ M	1	R-Std	UE6020	640—1050	.004—.012	.012—.079
		✦ M	2	N-Flat	UE6020	640—1050	.004—.012	.012—.079
		✦ M	3	N-Flat	UP20M	345—525	.004—.012	.012—.079
		Carbon Steel • Alloy Steel (AISI 1045, AISI 4140)	180 280HB	● F	1	R-R/L	NX2525	540—770
● L	1			R-Std	NX2525	440—640	.004—.012	.012—.079
● M	1			R-Std	NX2525	440—640	.004—.012	.012—.079
● F	1			R-R/L	NX2525	540—770	.002—.005	.008—.024
● L	1			R-Std	UE6110	490—850	.004—.012	.012—.079
● L	2			R-Std	MP3025	460—705	.004—.012	.012—.079
● L	3			R-Std	NX3035	425—620	.004—.012	.012—.079
● M	1			R-Std	UE6110	490—850	.004—.012	.012—.079
● M	2			R-Std	MP3025	460—705	.004—.012	.012—.079
● M	3			R-Std	NX3035	425—620	.004—.012	.012—.079
✦ F	1			R-R/L	UTi20T	280—395	.002—.005	.008—.024
✦ L	1			R-Std	UE6020	475—770	.004—.012	.012—.079
✦ L	2			N-Flat	UE6020	475—770	.004—.012	.012—.079
✦ L	3			N-Flat	UP20M	245—375	.004—.012	.012—.079
✦ M	1			R-Std	UE6020	475—770	.004—.012	.012—.079
✦ M	2			N-Flat	UE6020	475—770	.004—.012	.012—.079
✦ M	3			N-Flat	UP20M	245—375	.004—.012	.012—.079
K								
Gray Cast Iron	<350MPa	● F	1	R-R/L	NX2525	490—670	.002—.005	.008—.024
		● L	1	N-Flat	UC5105	440—820	.004—.012	.012—.079
		● L	2	N-Flat	NX2525	410—560	.004—.012	.012—.079
		● L	3	R-Std	NX2525	410—560	.004—.012	.012—.079
		● M	1	N-Flat	UC5105	440—820	.004—.012	.012—.079
		● M	2	N-Flat	NX2525	410—560	.004—.012	.012—.079
		● M	3	R-Std	NX2525	410—560	.004—.012	.012—.079
		● F	1	R-R/L	NX2525	490—670	.002—.005	.008—.024
		● F	2	R-R/L	HTi10	330—475	.002—.005	.008—.024
		● L	1	N-Flat	UC5115	425—805	.004—.012	.012—.079
		● L	2	N-Flat	UE6110	425—655	.004—.012	.012—.079
		● M	1	N-Flat	UC5115	425—805	.004—.012	.012—.079
		● M	2	N-Flat	UE6110	425—655	.004—.012	.012—.079
		✦ F	1	R-R/L	UTi20T	260—375	.002—.005	.008—.024
		✦ L	1	N-Flat	VP15TF	375—525	.004—.012	.012—.079
		✦ M	1	N-Flat	VP15TF	375—525	.004—.012	.012—.079

Work Material	Hardness	Cutting Mode	Priority	Breaker	Grade	Cutting Speed (SFM)	Feed (IPR)	Depth of Cut (inch)
K								
Ductile Cast Iron	<450MPa	● F	1	R-R/L	NX2525	460—620	.002—.005	.008—.024
		● L	1	N-Flat	UC5105	425—770	.004—.012	.012—.079
		● L	2	N-Flat	NX2525	375—525	.004—.012	.012—.079
		● L	3	R-Std	NX2525	375—525	.004—.012	.012—.079
		● M	1	N-Flat	UC5105	425—770	.004—.012	.012—.079
		● M	2	N-Flat	NX2525	375—525	.004—.012	.012—.079
		● M	3	R-Std	NX2525	375—525	.004—.012	.012—.079
		● F	1	R-R/L	NX2525	460—620	.002—.005	.008—.024
		● F	2	R-R/L	HTi10	310—440	.002—.005	.008—.024
		● L	1	N-Flat	UC5115	410—755	.004—.012	.012—.079
		● L	2	N-Flat	UE6110	395—620	.004—.012	.012—.079
		● M	1	N-Flat	UC5115	410—755	.004—.012	.012—.079
	● M	2	N-Flat	UE6110	395—620	.004—.012	.012—.079	
	✦ F	1	R-R/L	UTi20T	245—360	.002—.005	.008—.024	
	✦ L	1	N-Flat	VP15TF	360—490	.004—.012	.012—.079	
	✦ M	1	N-Flat	VP15TF	360—490	.004—.012	.012—.079	
	<800MPa	● F	1	R-R/L	NX2525	410—560	.002—.005	.008—.024
		● L	1	N-Flat	UC5105	375—690	.004—.012	.012—.079
		● L	2	N-Flat	NX2525	345—460	.004—.012	.012—.079
		● L	3	R-Std	NX2525	345—460	.004—.012	.012—.079
		● M	1	N-Flat	UC5105	375—690	.004—.012	.012—.079
		● M	2	N-Flat	NX2525	345—460	.004—.012	.012—.079
		● M	3	R-Std	NX2525	345—460	.004—.012	.012—.079
		● F	1	R-R/L	NX2525	410—560	.002—.005	.008—.024
● F		2	R-R/L	HTi10	280—395	.002—.005	.008—.024	
● L		1	N-Flat	UC5115	360—670	.004—.012	.012—.079	
● L		2	N-Flat	UE6110	345—560	.004—.012	.012—.079	
● M		1	N-Flat	UC5115	360—670	.004—.012	.012—.079	
● M	2	N-Flat	UE6110	345—560	.004—.012	.012—.079		
✦ F	1	R-R/L	UTi20T	210—310	.002—.005	.008—.024		
✦ L	1	N-Flat	VP15TF	310—440	.004—.012	.012—.079		
✦ M	1	N-Flat	VP15TF	310—440	.004—.012	.012—.079		