



Turning Negative - Inch

Date compiled

Nov. 10 2016

CNMA 432											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.031	0.019	425	1280	855	0.020	0.197	0.120

CNMA 433											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.032	0.020	425	1280	855	0.028	0.236	0.160

CNMA 543											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.006	0.028	0.016	425	1280	855	0.079	0.315	0.120

CNMG 431-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060

CNMG 432-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.197	0.120
	Low Alloy	200	0.008	0.018	0.012	395	920	655	0.020	0.197	0.120
	High Alloy	220	0.007	0.016	0.010	230	625	425	0.020	0.157	0.100
M	Austenitic	190	0.008	0.016	0.012	560	885	720	0.020	0.197	0.120
K	Grey Cast Iron	140	0.006	0.024	0.014	560	820	690	0.020	0.197	0.120
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	165	125	0.020	0.118	0.080
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	245	0.020	0.098	0.080

CNMG 433-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.010	0.027	0.019	590	1085	820	0.028	0.236	0.160
	Low Alloy	200	0.010	0.024	0.017	395	920	655	0.028	0.236	0.160
	High Alloy	220	0.009	0.021	0.015	230	625	425	0.028	0.189	0.130
M	Austenitic	190	0.010	0.021	0.016	560	885	720	0.028	0.236	0.160
K	Grey Cast Iron	140	0.008	0.032	0.020	560	820	690	0.028	0.236	0.160
S	Heat resistant and super alloys	240	0.010	0.019	0.014	80	150	115	0.028	0.142	0.110
H	Hardened material	45HRc	0.006	0.016	0.011	165	330	245	0.028	0.118	0.110

DNMG 431-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	950	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	785	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.007	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	130	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.004	165	330	245	0.008	0.079	0.060



DNMG 432-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.197	0.120
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.197	0.120
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.157	0.100
M	Austenitic	190	0.008	0.016	0.012	560	885	720	0.020	0.197	0.120
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	690	0.020	0.197	0.120
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	115	0.020	0.118	0.080
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	245	0.020	0.098	0.080

DNMG 441-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	950	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	785	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.007	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	130	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.004	165	330	245	0.008	0.079	0.060

DNMG 442-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.197	0.120
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.197	0.120
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.157	0.100
M	Austenitic	190	0.008	0.016	0.012	560	885	720	0.020	0.197	0.120
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	690	0.020	0.197	0.120
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	115	0.020	0.118	0.080
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	245	0.020	0.098	0.080

DNMG 443-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.010	0.027	0.019	590	1085	820	0.028	0.236	0.160
	Low Alloy	200	0.010	0.024	0.017	395	920	655	0.028	0.236	0.160
	High Alloy	220	0.009	0.021	0.015	230	625	425	0.028	0.189	0.130
M	Austenitic	190	0.010	0.021	0.016	560	885	720	0.028	0.236	0.160
K	Grey Cast Iron	140	0.008	0.032	0.020	560	820	690	0.028	0.236	0.160
S	Heat resistant and super alloys	240	0.010	0.019	0.014	80	150	115	0.028	0.142	0.110
H	Hardened material	45HRc	0.006	0.016	0.011	165	330	245	0.028	0.118	0.110

SNMA 432											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.006	0.028	0.014	426	1279	852	0.039	0.236	0.098

SNMA 433											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.032	0.016	426	1279	852	0.059	0.236	0.118

SNMG 431-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.012	0.028	0.022	590	1085	820	0.008	0.157	0.080
	Low Alloy	200	0.012	0.025	0.018	395	920	655	0.008	0.157	0.080
	High Alloy	220	0.010	0.022	0.016	230	625	425	0.008	0.118	0.060
M	Austenitic	190	0.011	0.022	0.017	560	885	720	0.008	0.157	0.080
K	Grey Cast Iron	140	0.008	0.033	0.021	560	820	690	0.008	0.157	0.080
S	Heat resistant and super alloys	240	0.011	0.019	0.015	80	150	115	0.008	0.079	0.040
H	Hardened material	45HRc	0.006	0.017	0.011	165	330	245	0.008	0.079	0.040



SNMG 432-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.024	0.020	590	1085	820	0.040	0.197	0.120
	Low Alloy	200	0.008	0.022	0.018	395	920	655	0.040	0.197	0.120
	High Alloy	220	0.008	0.022	0.016	230	625	425	0.040	0.157	0.100
M	Austenitic	190	0.008	0.022	0.017	560	885	720	0.040	0.197	0.120
K	Grey Cast Iron	140	0.008	0.033	0.021	560	820	690	0.020	0.197	0.120
S	Heat resistant and super alloys	240	0.011	0.019	0.015	80	150	115	0.020	0.118	0.080
H	Hardened material	45HRc	0.006	0.017	0.011	165	330	245	0.020	0.098	0.080

SNMG 433-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.015	0.037	0.026	590	1085	820	0.028	0.236	0.160
	Low Alloy	200	0.015	0.034	0.024	395	920	655	0.028	0.236	0.160
	High Alloy	220	0.013	0.030	0.021	230	625	425	0.028	0.189	0.130
M	Austenitic	190	0.014	0.030	0.022	560	885	720	0.028	0.236	0.160
K	Grey Cast Iron	140	0.012	0.045	0.028	560	820	690	0.028	0.236	0.160
S	Heat resistant and super alloys	240	0.014	0.026	0.020	80	150	115	0.028	0.142	0.110
H	Hardened material	45HRc	0.007	0.022	0.015	165	330	245	0.028	0.118	0.110

TNMA 332											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.006	0.016	0.014	425	1280	855	0.039	0.157	0.100

TNMA 333											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.020	0.016	425	1280	855	0.059	0.177	0.120

TNMG 331-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060

TNMG 332-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.197	0.120
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.197	0.120
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.157	0.100
M	Austenitic	190	0.008	0.016	0.012	560	885	720	0.020	0.197	0.120
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	690	0.020	0.197	0.120
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	115	0.020	0.118	0.080
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	245	0.020	0.098	0.080

TNMG 333-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.010	0.027	0.019	590	1085	820	0.028	0.197	0.160
	Low Alloy	200	0.010	0.024	0.017	395	920	655	0.028	0.197	0.160
	High Alloy	220	0.009	0.021	0.015	230	625	425	0.028	0.157	0.130
M	Austenitic	190	0.010	0.021	0.016	560	885	720	0.028	0.197	0.160
K	Grey Cast Iron	140	0.008	0.032	0.020	560	820	690	0.028	0.197	0.160
S	Heat resistant and super alloys	240	0.010	0.019	0.014	80	150	115	0.028	0.118	0.110
H	Hardened material	45HRc	0.006	0.016	0.011	165	330	245	0.028	0.098	0.090



TNMG 431-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060

TNMG 432-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.276	0.120
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.276	0.120
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.220	0.100
M	Austenitic	190	0.008	0.016	0.012	560	885	655	0.020	0.276	0.120
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	625	0.020	0.276	0.120
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	115	0.020	0.165	0.080
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	245	0.020	0.138	0.080

TNMG 433-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.010	0.027	0.018	590	1085	820	0.028	0.276	0.160
	Low Alloy	200	0.010	0.024	0.016	395	920	655	0.028	0.276	0.160
	High Alloy	220	0.009	0.021	0.015	230	625	425	0.028	0.220	0.130
M	Austenitic	190	0.010	0.021	0.016	560	885	590	0.028	0.276	0.160
K	Grey Cast Iron	140	0.008	0.032	0.020	560	820	625	0.028	0.276	0.160
S	Heat resistant and super alloys	240	0.010	0.019	0.014	80	150	115	0.028	0.165	0.110
H	Hardened material	45HRc	0.006	0.016	0.011	165	330	245	0.028	0.138	0.090

TNUX 331 R/L											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060

TNUX 332 R/L											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	835	0.020	0.197	0.120
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.197	0.120
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.157	0.100
M	Austenitic	190	0.008	0.016	0.012	560	885	720	0.020	0.197	0.120
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	690	0.020	0.197	0.120
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	115	0.020	0.118	0.080
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	245	0.020	0.098	0.080

VNMG 331-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060



VNMG 332-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.007	0.016	0.012	590	1085	820	0.020	0.157	0.110
	Low Alloy	200	0.007	0.014	0.011	395	920	655	0.020	0.157	0.110
	High Alloy	220	0.006	0.013	0.009	230	625	425	0.020	0.126	0.090
M	Austenitic	190	0.007	0.013	0.010	560	885	655	0.020	0.157	0.110
K	Grey Cast Iron	140	0.006	0.019	0.012	560	820	690	0.020	0.157	0.110
S	Heat resistant and super alloys	240	0.007	0.011	0.009	80	150	115	0.020	0.094	0.080
H	Hardened material	45HRc	0.004	0.009	0.007	165	330	245	0.020	0.079	0.070

VNMG 333-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.007	0.016	0.012	590	1085	820	0.059	0.157	0.110
	Low Alloy	200	0.007	0.014	0.011	395	920	655	0.059	0.157	0.110
	High Alloy	220	0.006	0.013	0.009	230	625	425	0.059	0.126	0.090
M	Austenitic	190	0.007	0.013	0.010	560	885	655	0.059	0.157	0.110
K	Grey Cast Iron	140	0.006	0.019	0.012	560	820	690	0.059	0.157	0.110
S	Heat resistant and super alloys	240	0.007	0.011	0.009	80	150	115	0.059	0.094	0.080
H	Hardened material	45HRc	0.004	0.009	0.007	165	330	245	0.059	0.079	0.070

WNMA 431											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.031	0.012	425	1280	855	0.028	0.236	0.080

WNMA 432											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.031	0.019	425	1280	855	0.028	0.236	0.130

WNMA 433											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
K	Grey Cast Iron	140	0.008	0.031	0.019	425	1280	855	0.059	0.236	0.150

WNMG 331-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060

WNMG 332-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.098	0.090
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.098	0.090
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.079	0.070
M	Austenitic	190	0.008	0.016	0.012	560	885	655	0.020	0.098	0.090
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	690	0.020	0.098	0.090
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	100	0.020	0.059	0.060
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	230	0.020	0.063	0.060



WNMG 431-UF											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.004	0.009	0.007	590	1085	985	0.008	0.118	0.080
	Low Alloy	200	0.004	0.008	0.006	395	920	820	0.008	0.098	0.080
	High Alloy	220	0.004	0.007	0.005	230	625	560	0.008	0.098	0.080
M	Austenitic	190	0.004	0.007	0.006	560	885	820	0.008	0.098	0.080
K	Grey Cast Iron	140	0.003	0.008	0.006	560	820	785	0.008	0.118	0.080
S	Heat resistant and super alloys	240	0.004	0.006	0.005	80	165	115	0.008	0.079	0.080
H	Hardened material	45HRc	0.002	0.005	0.003	165	330	245	0.008	0.071	0.060

WNMG 432-UG											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.008	0.020	0.014	590	1085	820	0.020	0.138	0.090
	Low Alloy	200	0.008	0.018	0.013	395	920	655	0.020	0.138	0.090
	High Alloy	220	0.007	0.016	0.011	230	625	425	0.020	0.110	0.080
M	Austenitic	190	0.008	0.016	0.012	560	885	655	0.020	0.138	0.090
K	Grey Cast Iron	140	0.006	0.024	0.015	560	820	690	0.020	0.138	0.090
S	Heat resistant and super alloys	240	0.008	0.014	0.011	80	150	100	0.020	0.083	0.060
H	Hardened material	45HRc	0.004	0.012	0.008	165	330	230	0.020	0.071	0.060

WNMG 433-UR											
Material			Cutting conditions								
Group	Sub Group	Hardness (HB)	Feed (Inch/rev)			Speed Vc (SFM)			Depth Of Cut (Inch)		
			Min	Max	Recommend	Min	Max	Recommend	Min	Max	Recommend
P	Non Alloy	120	0.010	0.026	0.018	590	1085	820	0.028	0.138	0.120
	Low Alloy	200	0.010	0.023	0.016	395	920	655	0.028	0.138	0.120
	High Alloy	220	0.009	0.020	0.014	230	625	425	0.028	0.110	0.100
M	Austenitic	190	0.009	0.020	0.014	560	885	655	0.028	0.138	0.120
K	Grey Cast Iron	140	0.007	0.031	0.018	560	820	690	0.028	0.138	0.120
S	Heat resistant and super alloys	240	0.009	0.018	0.014	80	150	100	0.028	0.083	0.080
H	Hardened material	45HRc	0.005	0.015	0.010	165	330	230	0.028	0.071	0.080