

CA55 Series

CVD Coated Carbide Grades for Steel

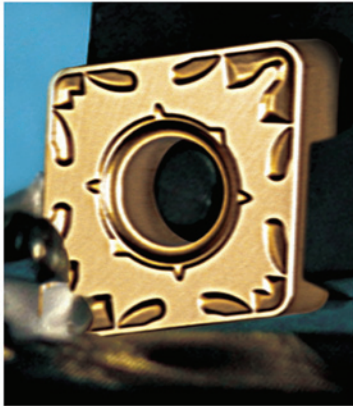
CA5505

High Speed



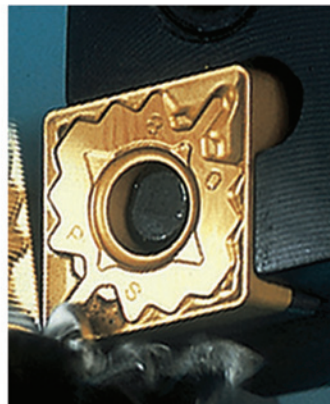
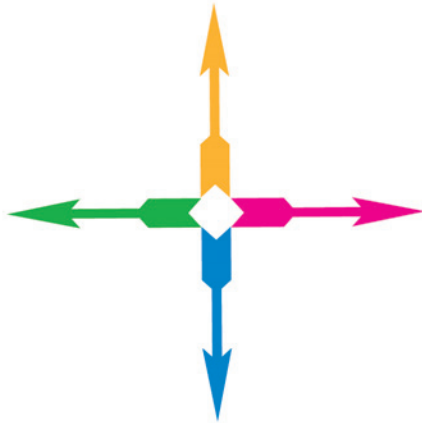
CA5535

Heavy Interruptions



CA5515

Light Interruptions

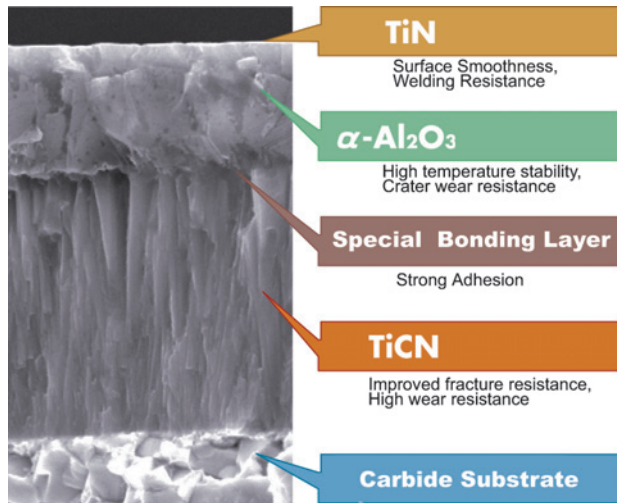


CA5525

General Purpose

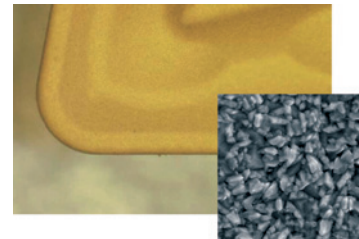
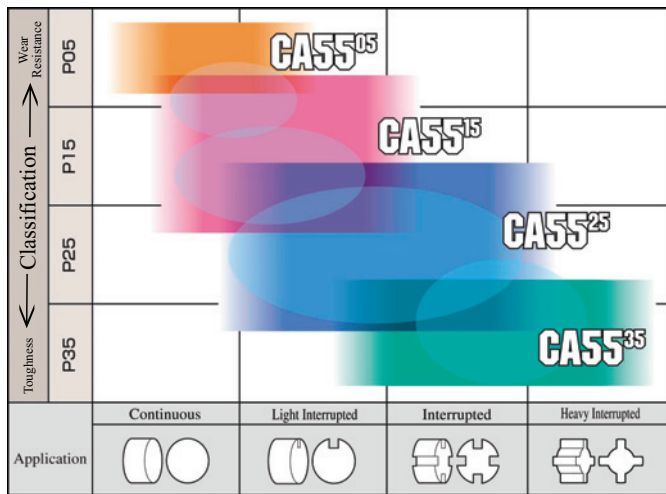
Coating Layer Composition

The tough ultra-fine TiCN and Al_2O_3 coating layers allow for higher speeds and increased efficiency when machining steels

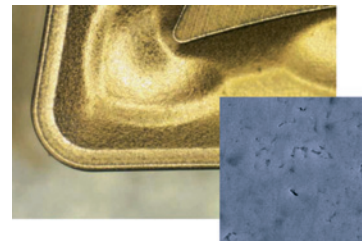


- Bright gold coating prevents chip adhesion and sudden fractures
- Prevents adhesion and sudden fracture when machining steel
- Promotes excellent surface finishes

Application Range



Conventional Coating

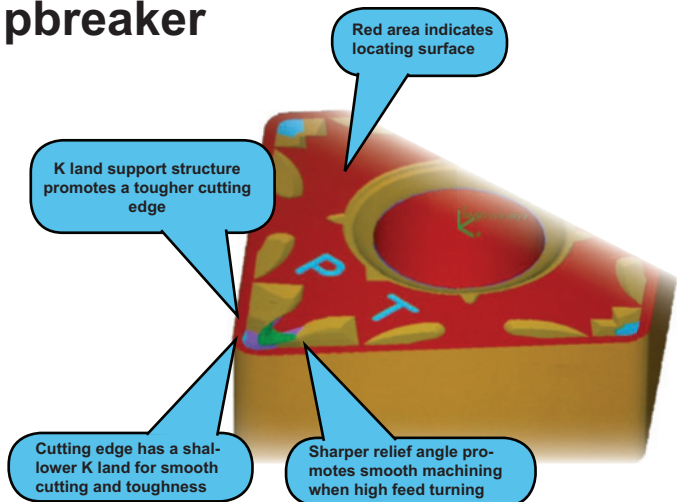
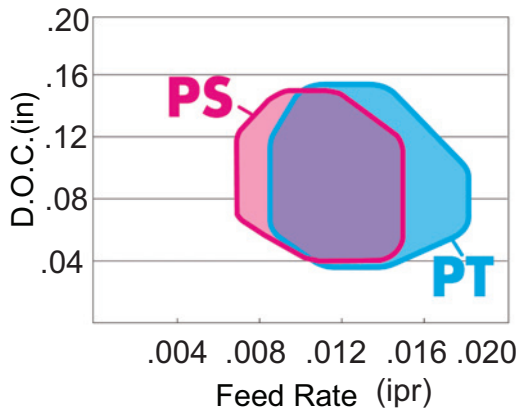


CA5515 / 5525 Smooth Coating



PT Chipbreaker

Application Range



	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	CCMT 32.52	.375	.156	.173	.031		●	●	
	CCMT 21.50.5GK	.250	.094	.110	.008		●	●	●
	CCMT 21.51GK				.016		●	●	●
	CCMT 32.50.5GK	.375	.156	.173	.008		●	●	●
	CCMT 32.51GK				.016		●	●	●
	CCMT 431GK				.016		●	●	●
	CCMT 432GK	.500	.187	.217	.031		●	●	●
	CCMT 433GK				.047		●	●	●
	CCMT 21.50.5HQ	.250	.094	.110	.008		●	●	●
	CCMT 21.51HQ				.016		●	●	●
	CCMT 32.50.5HQ	.375	.156	.173	.008		●	●	●
	CCMT 32.51HQ				.016		●	●	●
	CCMT 32.52HQ				.031		●	●	●
	CNMG 432	.500	.187	.203	.031		●	●	●
	CNMG 433				.047		●	●	●
	CNMG 542	.625	.250	.250	.031		●	●	●
	CNMG 543				.047		●	●	●
	CNMG 643				.047		●	●	●
CNMG 644	.750	.250	.312	.063		●	●	●	
	CNMG 431CQ	.500	.187	.203	.016	●	●	●	●
	CNMG 432CQ				.031	●	●	●	●
	CNMG 433CQ				.047	●	●	●	●
	CNMG 542CQ				.031	●	●	●	●
	CNMG 543CQ	.625	.250	.250	.047		●	●	●
	CNMG 431CS	.500	.187	.203	.016		●	●	●
	CNMG 432CS				.031		●	●	●
	CNMG 433CS				.047		●	●	●
	CNMG 430.5GP	.500	.187	.203	.008		●	●	●
	CNMG 431GP				.016	●	●	●	●
	CNMG 432GP				.031	●	●	●	●
	CNMG 331GS	.375	.187	.150	.016		●	●	●
	CNMG 332GS				.031		●	●	●
	CNMG 431GS	.500	.187	.203	.016		●	●	●
	CNMG 432GS				.031		●	●	●
CNMG 433GS				.047		●	●	●	

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	CNMG 432GT	.500	.187	.203	.031		●	●	●
	CNMG 433GT				.047		●	●	●
	CNMG 643GT				.250	.250	.312	.047	
	CNMG 331HQ	.375	.187	.150	.016		●	●	●
	CNMG 332HQ				.031		●	●	●
	CNMG 431HQ	.500	.187	.203	.016	●	●	●	●
	CNMG 432HQ				.031	●	●	●	●
CNMG 433HQ	.047				●	●	●	●	
	CNMG 431HS	.500	.187	.203	.016		●	●	●
	CNMG 432HS				.031		●	●	●
	CNMG 433HS				.047		●	●	●
	CNMG 434HS				.063		●	●	●
	CNMG 432HT	.500	.187	.203	.031		●	●	●
	CNMG 433HT				.047		●	●	●
	CNMG 432HU	.500	.187	.203	.031			●	
	CNMG 431PS	.500	.187	.203	.016	●	●	●	●
	CNMG 432PS				.031	●	●	●	●
	CNMG 433PS				.047	●	●	●	●
	CNMG 434PS				.063		●	●	●
	CNMG 543PS	.625	.250	.250	.047	●	●	●	●
	CNMG 544PS				.063	●	●	●	●
CNMG 642PS				.031				●	
CNMG 643PS	.750	.250	.312	.047				●	
CNMG 644PS				.063				●	
	CNMG 432PT	.500	.187	.203	.031	●		●	●
	CNMG 433PT				.047	●		●	●
	CNMG 542PT	.625	.250	.250	.031	●		●	●
	CNMG 543PT				.047	●		●	●
CNMG 544PT	.063	●		●	●				
	CNMG 431WP	.500	.187	.203	.016	●	●	●	●
	CNMG 432WP				.031	●	●	●	●
	CNMG 431WQ	.500	.187	.203	.016	●	●	●	●
	CNMG 432WQ				.031	●	●	●	●
	CNMG 433WQ				.047	●	●	●	●
	CNMG 431XP	.500	.187	.203	.016	●	●	●	●
	CNMG 432XP				.031	●	●	●	●
	CNMG 431XQ	.500	.187	.203	.016	●	●	●	●
	CNMG 432XQ				.031	●	●	●	●

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	CNMG 432XS	.500	.187	.203	.031	●	●	●	
	CNMM 432HX	.500	.187	.203	.031		●	●	
	CNMM 643HX	.750	.250	.312	.047		●	●	
	CPMH 2.51.51	.313	.094	.138	.016		●	●	
	CPMH 2.51.52				.031		●	●	
	CPMH 321	.375	.125	.177	.016		●	●	
	CPMH 322	.375	.125	.177	.031		●	●	
	CPMH 2.51.51HQ	.313	.094	.138	.016		●	●	●
	CPMH 2.51.52HQ				.031		●	●	●
	CPMH 321HQ	.375	.125	.177	.016		●	●	●
	CPMH 322HQ	.375	.125	.177	.031		●	●	●
	CPMT 2.51.51GP	.313	.094	.138	.016		●	●	
	CPMT 321GP	.375	.125	.177	.016		●	●	
	CPMT 322GP	.375	.125	.177	.031		●	●	
	CPMT 2.51.51XP	.313	.094	.138	.016		●	●	
	CPMT 321XP	.375	.125	.177	.016		●	●	
	CPMT 322XP	.375	.125	.177	.031		●	●	
	CPMT 321XQ	.375	.125	.177	.016		●	●	
	CPMT 322XQ	.375	.125	.177	.031		●	●	
	DCMT 21.50.5GK				.008		●	●	●
	DCMT 21.51GK	.250	.094	.110	.016		●	●	●
	DCMT 21.52GK				.031		●	●	●
	DCMT 32.50.5GK				.008		●	●	●
	DCMT 32.51GK	.375	.156	.173	.016		●	●	●
	DCMT 32.52GK				.031		●	●	●
	DCMT 21.50.5GP	.250	.094	.110	.008		●	●	
	DCMT 21.51GP				.016		●	●	
	DCMT 32.51GP	.375	.156	.173	.016		●	●	
	DCMT 32.52GP	.375	.156	.173	.031		●	●	
	DCMT 21.50.5HQ				.008		●	●	●
	DCMT 21.51HQ	.250	.094	.110	.016		●	●	●
	DCMT 21.52HQ				.031		●	●	●
	DCMT 32.50.5HQ				.008		●	●	●
	DCMT 32.51HQ	.375	.156	.173	.016		●	●	●
	DCMT 32.52HQ				.031		●	●	●

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	DCMT 21.51XP	.250	.094	.110	.016		●	●	
	DCMT 32.50.5XP				.008		●	●	
	DCMT 32.51XP	.375	.156	.173	.016		●	●	
	DCMT 32.52XP				.031		●	●	
	DCMT 32.51XQ	.375	.156	.173	.016		●	●	
	DCMT 32.52XQ				.031		●	●	
	DNMG 431	.500	.187	.203	.016		●	●	
	DNMG 432	.500	.187	.203	.031		●	●	●
	DNMG 442	.500	.250	.203	.031		●	●	●
	DNMG 443	.500	.250	.203	.047		●	●	●
	DNMG 431CQ				.016	●	●	●	●
	DNMG 432CQ	.500	.187	.203	.031	●	●	●	●
	DNMG 433CQ				.047	●	●	●	●
	DNMG 442CQ	.500	.250	.203	.031	●	●	●	●
	DNMG 443CQ	.500	.250	.203	.047		●	●	
	DNMG 431CS	.500	.187	.203	.031		●	●	
	DNMG 432CS				.047		●	●	
	DNMG 331GP	.375	.187	.150	.016		●	●	
	DNMG 332GP				.031		●	●	
	DNMG 430.5GP				.008		●	●	
	DNMG 431GP	.500	.187	.203	.016	●	●	●	
	DNMG 432GP				.031	●	●	●	
	DNMG 331GS	.375	.187	.150	.016		●	●	
	DNMG 332GS				.031		●	●	
	DNMG 431GS				.016		●	●	
	DNMG 432GS	.500	.187	.203	.031		●	●	
	DNMG 433GS				.047		●	●	
	DNMG 432GT	.500	.187	.203	.031		●	●	
	DNMG 433GT	.500	.187	.203	.047		●	●	
	DNMG 442GT	.500	.250	.203	.031		●	●	
	DNMG 443GT	.500	.250	.203	.047		●	●	
	DNMG 330.5HQ	.375	.187	.150	.008		●	●	
	DNMG 331HQ				.016		●	●	
	DNMG 431HQ	.500	.187	.203	.016	●	●	●	●
	DNMG 432HQ	.500	.187	.203	.031	●	●	●	●
	DNMG 433HQ				.047	●	●	●	●
	DNMG 431HS	.500	.187	.203	.016		●	●	
	DNMG 432HS	.500	.187	.203	.031		●	●	
	DNMG 433HS				.047		●	●	
	DNMG 441HS	.500	.250	.203	.016		●	●	
	DNMG 442HS	.500	.250	.203	.031		●	●	
	DNMG 443HS				.047		●	●	

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5525
	DNMG 432HT	.500	.187	.203	.031		●	●	
	DNMG 433HT				.047		●	●	
	DNMG 443HT	.500	.250	.203	.047		●	●	
	DNMG 432HU	.500	.187	.203	.031			●	
	DNMG 431PS				.016	●	●	●	●
	DNMG 432PS	.500	.187	.203	.031	●	●	●	●
	DNMG 433PS				.047	●	●	●	●
	DNMG 441PS				.016		●	●	
	DNMG 442PS	.500	.250	.203	.031	●	●	●	●
DNMG 443PS				.047	●	●	●	●	
	DNMG 432PT	.500	.187	.203	.031	●			●
	DNMG 433PT				.047	●			●
	DNMG 442PT	.500	.250	.203	.031	●			●
DNMG 443PT				.047	●			●	
	DNMG 431XP	.500	.187	.203	.016	●	●	●	
	DNMG 432XP				.031	●	●	●	
	DNMG 431XQ	.500	.187	.203	.016	●	●	●	
	DNMG 432XQ				.031	●	●	●	
	DNMG 432XS	.500	.187	.203	.031	●	●	●	
	RNMG 32	.375	.125	.150	-		●	●	
	RNMG 43	.500	.187	.203	-		●	●	
	RNMG 54	.625	.250	.250	-		●	●	
	SCMT 32.51HQ	.375	.156	.173	.016		●	●	●
	SCMT 32.52HQ				.031		●	●	●
	SNMG 432				.031		●	●	●
	SNMG 433	.500	.187	.203	.047		●	●	●
	SNMG 434				.063		●	●	●
	SNMG 643	.750	.250	.312	.047				●
SNMG 644				.063				●	
	SNMG 431HQ				.016		●	●	
	SNMG 432HQ	.500	.187	.203	.031	●	●	●	●
	SNMG 433HQ				.047		●	●	●
	SNMG 432HS				.031		●	●	
	SNMG 433HS	.500	.187	.203	.047		●	●	●
	SNMG 434HS				.063		●	●	
	SNMG 432HT	.500	.187	.203	.031		●	●	

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5525
	SNMG 432PS				.031	●	●	●	●
	SNMG 433PS	.500	.187	.203	.047	●	●	●	●
	SNMG 434PS				.063		●	●	●
	SNMG 432PT				.031	●			●
	SNMG 433PT	.500	.187	.203	.047	●			●
	SNMG 432XP	.500	.187	.203	.031		●	●	
	SNMG 432XQ	.500	.187	.203	.031		●	●	
	SNMG 432XS	.500	.187	.203	.031		●	●	
	SPMR 321	.375	.125	-	.016		●	●	
	SPMR 322				.031		●	●	
	SPMR 421	.500	.125	-	.016		●	●	
	SPMR 422				.031		●	●	
	TBMT 1.210.5DP	.156	.063	.094	.008		●	●	
	TBMT 1.211DP				.016		●	●	
	TCMT 21.51HQ	.250	.094	.110	.016		●	●	●
	TCMT 21.52HQ				.031		●	●	●
	TNMA 432	.500	.187	.203	.031		●	●	
	TNMA 433				.047		●	●	
	TNMG 331				.016		●	●	
	TNMG 332	.375	.187	.150	.031		●	●	
	TNMG 333				.047		●	●	
	TNMG 432	.500	.187	.203	.031		●	●	
TNMG 433				.047		●	●		
	TNMG 331CQ				.016	●	●	●	●
	TNMG 332CQ	.375	.187	.150	.031	●	●	●	●
	TNMG 333CQ				.047	●	●	●	●
	TNMG 432CQ	.500	.187	.203	.031		●	●	
TNMG 433CQ				.047		●	●		
	TNMG 331CS	.375	.187	.150	.016		●	●	
	TNMG 332CS				.031		●	●	
	TNMG 330.5GP				.008	●	●	●	
	TNMG 331GP	.375	.187	.150	.016	●	●	●	
	TNMG 332GP				.031	●	●	●	
	TNMG 331GS	.375	.187	.150	.016		●	●	
	TNMG 332GS				.031		●	●	

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	TNMG 332GT	.375	.187	.150	.031		•	•	
	TNMG 333GT				.047		•	•	
	TNMG 331HQ	.375	.187	.150	.016	•	•	•	•
	TNMG 332HQ				.031	•	•	•	•
	TNMG 333HQ				.047		•	•	
	TNMG 331HS	.375	.187	.150	.016		•	•	
	TNMG 332HS				.031		•	•	
	TNMG 333HS				.047		•	•	
	TNMG 332HT	.375	.187	.150	.031		•	•	
	TNMG 332HU	.375	.187	.150	.031			•	
	TNMG 331PS	.375	.187	.150	.016	•	•	•	•
	TNMG 332PS				.031	•	•	•	•
	TNMG 333PS				.047		•	•	
	TNMG 431PS	.500	.187	.203	.016		•	•	•
	TNMG 432PS				.031	•	•	•	•
	TNMG 433PS				.047	•	•	•	•
	TNMG 332PT	.375	.187	.150	.031	•			•
	TNMG 333PT				.047	•			•
	TNMG 331XP	.375	.187	.150	.016	•	•	•	
	TNMG 332XP				.031	•	•	•	
	TNMG 331XQ	.375	.187	.150	.016	•	•	•	
	TNMG 332XQ				.031	•	•	•	
	TNMG 332XS	.375	.187	.150	.031	•	•	•	
	TNMG 331 R/L-ST	.375	.187	.150	.016		•	•	
	TNMG 332 R/L-ST				.031		•	•	
	TPMT 1.81.51GP	.218	.094	.118	.016		•	•	
	TPMT 221GP	.250	.125	.138	.031		•	•	
	TPMT 222GP				.047		•	•	
	TPMT 321GP	.375	.125	.173	.031		•	•	

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	TPMT 1.81.50.5HQ	.218	.094	.118	.008		•	•	
	TPMT 1.81.51HQ				.016		•	•	•
	TPMT 220.5HQ				.008		•	•	
	TPMT 221HQ	.250	.125	.138	.016		•	•	•
	TPMT 222HQ				.031		•	•	•
	TPMT 321HQ	.375	.125	.173	.016		•	•	•
	TPMT 322HQ				.031		•	•	•
	TPMT 1.81.51XP	.218	.094	.118	.016		•	•	
	TPMT 221XP	.250	.125	.138	.016		•	•	
	TPMT 222XP				.031		•	•	
	TPMT 321XP	.375	.125	.173	.016		•	•	
	TPMT 322XP				.031		•	•	
	TPMT 221XQ	.250	.125	.138	.016		•	•	
	TPMT 222XQ				.031		•	•	
	TPMT 321XQ	.375	.125	.173	.016		•	•	
	TPMT 322XQ				.031		•	•	
	TPMR 221	.250	.125	-	.016		•	•	
	TPMR 222				.031		•	•	
	TPMR 321	.375	.125	-	.016		•	•	
	TPMR 322				.031		•	•	
	TPMR 1.81.51G	.218	.094	-	.016		•	•	
	TPMR 321GP	.375	.125	-	.016		•	•	
	TPMR 221HQ	.250	.125	-	.016		•	•	•
	TPMR 222HQ				.031		•	•	•
	TPMR 321HQ	.375	.125	-	.016		•	•	•
	TPMR 322HQ				.031		•	•	•
	VBMT 221GP	.250	.125	.110	.016		•	•	
	VBMT 331GP	.375	.187	.173	.016		•	•	
	VBMT 332GP				.031		•	•	
	VBMT 221HQ	.250	.125	.110	.016		•	•	•
	VBMT 222HQ				.031		•	•	•
	VBMT 331HQ	.375	.187	.173	.016		•	•	•
	VBMT 332HQ				.031		•	•	•
	VBMT 333HQ				.047		•	•	•
	VCMT 1.51.50.5HQ	.187	.094	.091	.008		•	•	
	VCMT 1.51.51HQ				.016		•	•	•
	VNMG 331	.375	.187	.150	.016		•	•	•
	VNMG 332				.031		•	•	•

	Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535		Description	I.C.	Thk.	Hole Dia.	R.	CA5505	CA5515	CA5525	CA5535
	VNMG 330.5GP				.008		●	●							.016	●	●	●	●
	VNMG 331GP	.375	.187	.150	.016		●	●				.500	.187	.203	.031	●	●	●	●
	VNMG 332GP				.031		●	●							.047	●	●	●	●
	VNMG 331HQ				.016	●	●	●	●							●			●
	VNMG 332HQ	.375	.187	.150	.031	●	●	●	●							●			●
	VNMG 333HQ				.047	●	●	●	●			.500	.187	.203	.016	●	●	●	
	VNMG 331VF				.016		●	●							.031	●	●	●	
	VNMG 332VF	.375	.187	.150	.031		●	●				.500	.187	.203	.016	●	●	●	
	VNMG 333VF				.047		●	●				.500	.187	.203	.031	●	●	●	
	WBMT 1.210.5L-DP	.156	.063	.091	.008		●	●							.047	●	●	●	
	WBMT 1.211L-DP				.016		●	●				.500	.187	.203	.016	●	●	●	
	WBMT 1.51.50.5 R/L-DP	.187	.094	.091	.008		●	●							.031	●	●	●	
	WBMT 1.51.51 R/L-DP				.016		●	●				.500	.187	.203	.016	●	●	●	
	WNMG 431				.016		●	●				.500	.187	.203	.031	●	●	●	
	WNMG 432	.500	.187	.203	.031		●	●	●						.016	●	●	●	
	WNMG 433				.047		●	●	●			.500	.187	.203	.031	●	●	●	●
	WNMG 431CQ				.016	●	●	●							.047	●	●	●	●
	WNMG 432CQ	.500	.187	.203	.031	●	●	●	●			.500	.187	.203	.031		●	●	
	WNMG 433CQ				.047	●	●	●	●						.008		●	●	
	WNMG 432CS	.500	.187	.203	.031		●	●				.500	.187	.203	.031		●	●	
	WNMG 431GS				.008		●	●							.047		●	●	
	WNMG 432GS	.500	.187	.203	.031		●	●				.500	.187	.203	.031		●	●	
	WNMG 433GS				.047		●	●							.047		●	●	
	WNMG 432GT	.500	.187	.203	.031		●	●							.016	●	●	●	●
	WNMG 433GT				.047		●	●				.500	.187	.203	.031	●	●	●	●
	WNMG 431HQ				.016	●	●	●	●						.047	●	●	●	●
	WNMG 432HQ	.500	.187	.203	.031	●	●	●	●						.016		●	●	
	WNMG 433HQ				.047	●	●	●	●			.500	.187	.203	.031		●	●	
	WNMG 431HS				.016		●	●							.047		●	●	
	WNMG 432HS	.500	.187	.203	.031		●	●				.500	.187	.203	.031		●	●	
	WNMG 433HS				.047		●	●							.047		●	●	
	WNMG 432HT	.500	.187	.203	.031		●	●				.500	.187	.203	.031			●	
	WNMG 433HT				.047		●	●											
	WNMG 432HU	.500	.187	.203	.031														

Recommended Cutting Speeds

Work Materials	Insert Grade (SFM)			
	CA5505	CA5515	CA5525	CA5535
	Continuous	Continuous / Interrupted	Continuous / Interrupted	Interrupted
Low-carbon Steel Alloy	550~1100	500~1000	325~900	300~800
Medium-carbon Steel/Alloy	350~1000	325~900	325~850	300~750
High-carbon Alloy Tool Steel	350~775	325~700	250~700	225~625
Heat Treated Steel High Hard Mat'l (40-50Rc)	225~450 (continuous)	200~400 (continuous)		-
	-	100~225 (interrupted)		90~200 (interrupted)

THE NEW VALUE FRONTIER



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