

DORMER PRAMET

ON TOP OF EFFICIENCY

T9415 | Our most advanced steel turning grade
verified by customers.



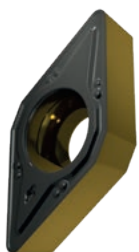
www.dormerpramet.com/T9415

PRAMET

INTRODUCTION

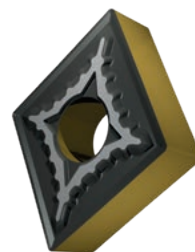


A new generation turning grade has been introduced offering one of the highest levels of productivity and versatility in the market today. The T9415 is our most advanced MT-CVD grade, bringing greater stability and performance in various cutting conditions. It covers a broad application range, replacing our previous T9310 and T9315 grades. In addition, it also partly overlaps with grade T9325, making T9415 the first choice for steel turning.



T9415

- Positive inserts
- Steels, cast irons, hard steels



T9415

- Negative inserts
- Steels, cast irons, hard steels

FEATURES & BENEFITS

Greatly improved application range.



FIRST CHOICE GRADE
for various steel (ISO-P) turning.

New MT-CVD coating is 30 % thicker resulting in greater resistance to flank wear, crater wear and plastic deformation.



TOOL LIFE AND PRODUCTIVITY
significantly increased compared to previous grades.

Newly developed post-treatment process reinforces stability of cutting edge.



IMPROVED RELIABILITY,
especially in unstable conditions.

Inserts produced on state-of-the-art electronic presses.



HIGH PRECISION
improves indexing accuracy and reduces idle time.

Optimized cutting-edge geometry.



REDUCED CUTTING FORCES
and enhanced performance.

Insert seating face ground after coating provides larger contact area and enhances heat transfer away from the cutting zone.



BETTER SEATING STABILITY
and improved overall tool life.

Manufactured using the latest technologies.



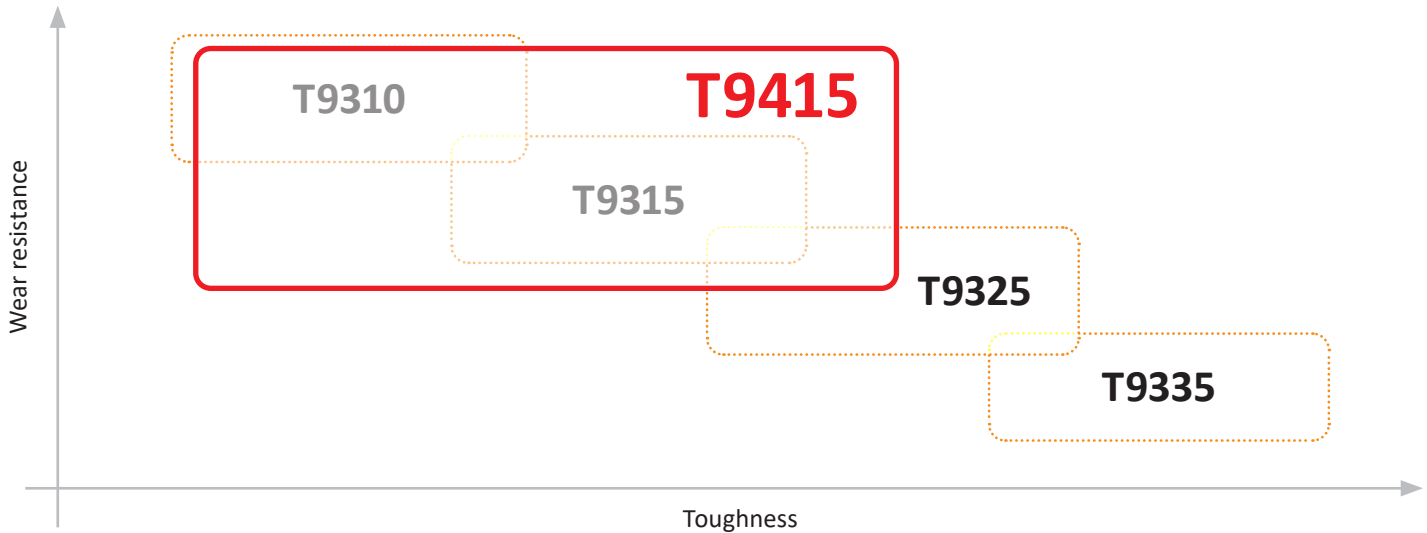
SUSTAINABLE
and environmentally friendly offer.

TiN coated gold colored insert flanks.

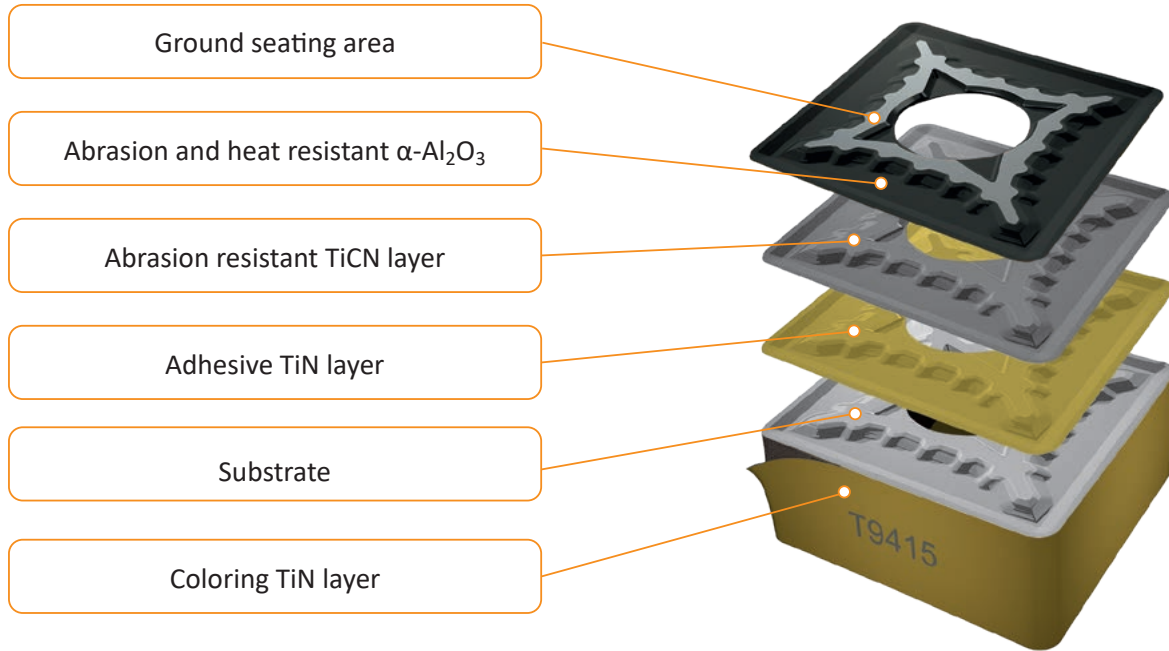


EASIER WEAR DETECTION.

APPLICATION AREA OF MT-CVD TURNING GRADES

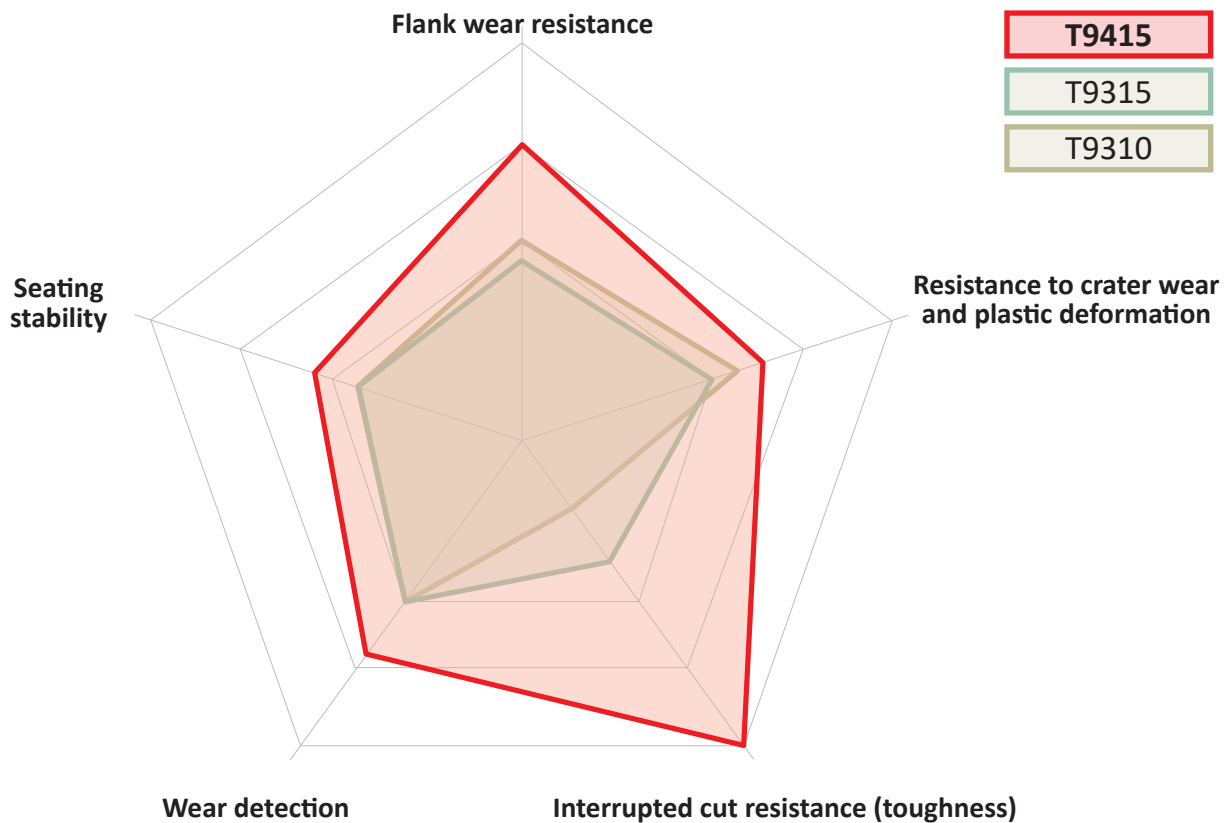


GRADE COMPOSITION



New CVD coating is 30 % thicker compared to previous grade.

FEATURES SPIDER DIAGRAM



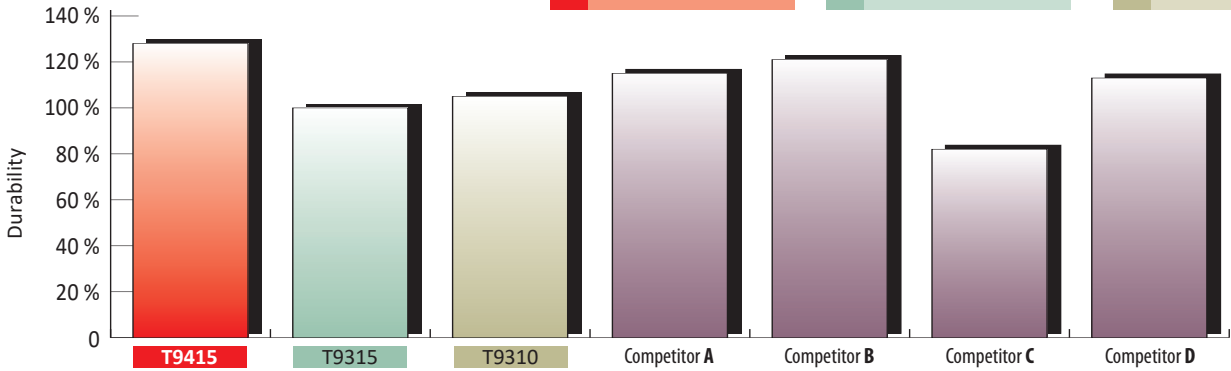
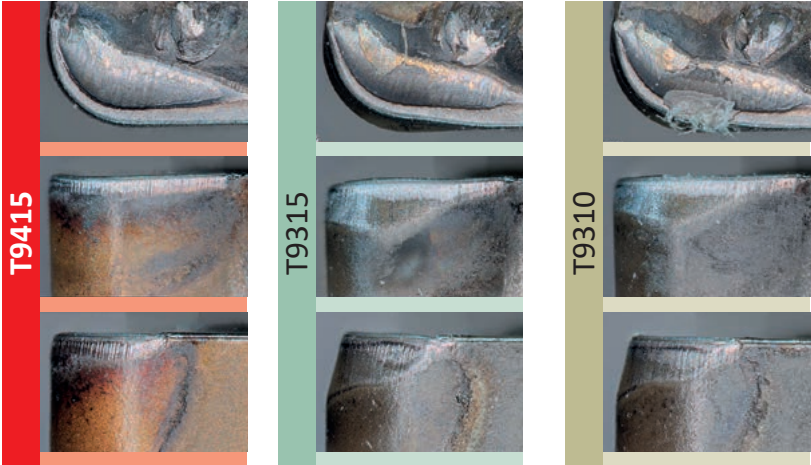
TURNING INSERTS

MACHINING EXAMPLES

Photos from continuous cutting. All taken after 16 minutes.

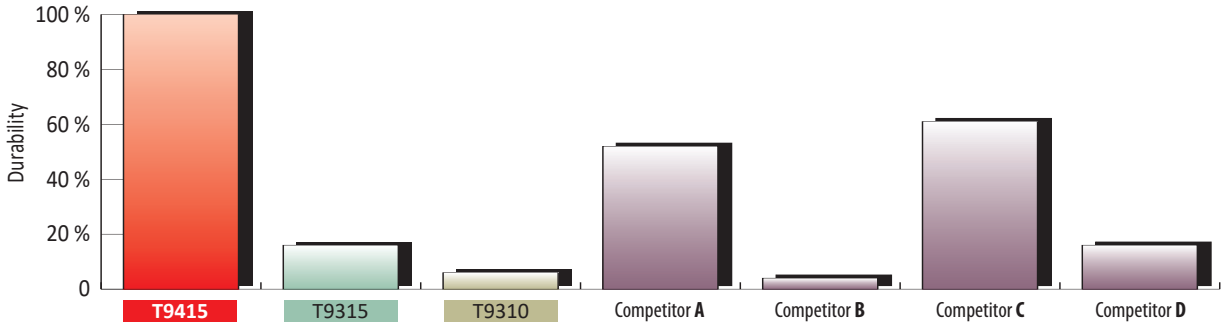
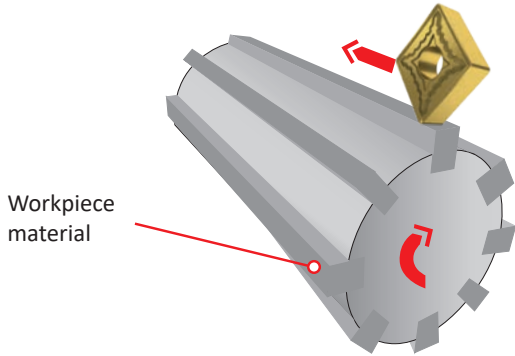
Material: C45 (Medium carbon steel)
 Machining: Continuous cut
 Application: Longitudinal turning
 Coolant: Yes

Cutting conditions		
v_c	f_n	a_p
984 (300)	.010 (0.25)	.079 (2)
Insert		
CNMG 432-M (CNMG 120408E-M)		



Material: 37Cr4 (Chromium steel)
 Machining: Interrupted cut
 Application: Longitudinal turning
 Coolant: No

Cutting conditions		
v_c	f_n	a_p
394 (120)	.008 (0.2)	.039 (1)
Insert		
CNMG 432-M (CNMG 120408E-M)		



v_c = cutting speed [sfm (m/min)], f_n = feed per revolution [in/r (mm/r)], a_p = depth of cut [in (mm)]

SUCCESS STORIES – T9415

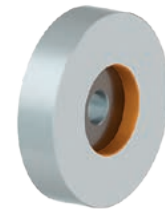
Company:	Subcontractor for a leading Brazilian oil and gas company.
Component:	Separator ring
Material:	SAE 1045 (Carbon Steel)
Hardness:	250 HB
Application:	Internal continuous turning. Workpiece is clamped directly into lathe through hydraulic clamping system.
Previous results:	With previous competitor insert, five pieces were completed.

Dormer Pramet solution

CNMG 433-RM:T9415 (CNMG 120412E-RM:T9415)

Machining data

v_c	f_n	a_p
820 (250)	.012 (0.3)	.118 (3)



Result with T9415: A total of 10 pieces completed, doubling production.

Company:	Italian manufacturer of shaft locking devices for the power generation and process industries.
Material:	C45N (Medium carbon steel)
Hardness:	172 – 242 HB
Coolant:	Yes
Application:	External continuous turning, short cuts
Previous result:	External turning of part diameter was carried out by a competitor solution. The customer wanted better tool life, while still achieving high quality surface finish.

Dormer Pramet solution

CNMG 433-RM:T9415 (CNMG 120412E-RM:T9415)

Machining data

v_c	f_n	a_p
656 (200)	.014 (0.35)	.118 (3)



Result with T9415: Using the new grade resulted in a 20 % increase in tool life, bringing considerable savings to the customer.

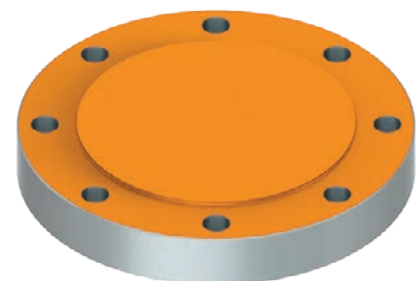
Company:	Industrial valves producer in Italy
Component:	Die
Material:	DIN 1.2344 (Tool steel)
Hardness:	Variable due to faulty heat treatment
Coolant:	Yes
Application:	Vertical lathe face turning operation with variable hardness of workpiece material.
Previous results:	Durability of initial T9325 grade did not resist to the mix of hard and soft cutting conditions. This led to rapid extensive wear of insert and poor surface finish of workpiece.

Dormer Pramet solution

SNMM 866-HR:T9415 (SNMM 250924E-HR:T9415)

Machining data

v_c	f_n	a_p
131 (40)	.020 (0.5)	.315 (8)



Result with T9415: The grade worked very well in low cutting speed and feed. It provided the best performance in roughing operations. With one cutting edge, a large component with a 2.500 mm diameter was machined.

TURNING INSERTS

Company: Czech manufacturer of quality precision parts for energy, building and automotive industries.

Component: Double end-stud

Material: 15142 (42CrMo4 alloy structural steel)

Coolant: Yes

Application: External continuous turning of slim workpiece

Previous result: The customer used a previous generation turning grade which completed three pieces per cutting edge.

Result with T9415: Applying the new grade, the customer was able to machine at a higher speed and completed six pieces with one cutting edge. This not only significantly increased productivity, but also doubled the life of the cutting tool.

Dormer Pramet solution		
TNMG 332-SM:T9415 (TNMG 160408E-SM:T9415)		
Machining data		
v_c	f_n	a_p
820 (250)	.016 (0.4)	.118 (3)



Company: Chinese automotive engineering company

Component: Diesel engine balance block

Material: Q235 (plain carbon structural steel)

Hardness: 180 – 230HB

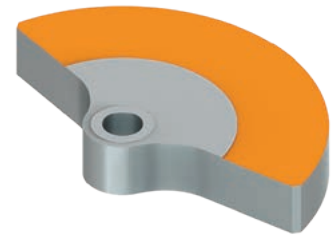
Coolant: No

Application: Heavily interrupted cut

Previous result: The customer used a competitor's grade that produced four pieces per cutting edge. The burrs on the workpiece were limiting the insert lifetime.

Result with T9415: New grade withstood existing cutting conditions, outperforming the previous option. It helped create six pieces with one cutting edge.

Dormer Pramet solution		
CNMG 644-RM:T9415 (CNMG 190616E-RM:T9415)		
Machining data		
v_c	f_n	a_p
492 (150)	.014 (0.35)	.024 (0.6)







T9415

NEW GENERATION MT-CVD GRADE

WHAT GRADE TO CHOOSE?

					
	T9415	T9310	T9315	T9325	T9335
High cutting speed, high system rigidity (stable working conditions)				-	-
High cutting speed, system rigidity slightly limited (depth of cut changing)		-			-
Medium cutting speed, system rigidity limited (slightly interrupted cut)		-	-		
Low cutting speed, low system rigidity (interrupted cut)	-	-	-	-	

TECHNICAL INFORMATION



Grade identification	Area of application	Application	Feed	Cutting speed	Resistance to adverse working conditions	Coating	Colour	Substrate	Coolant benefit
T9415	P05 – P30	■				MT-CVD		FGM	++
	K05 – K25	▣							
	H10 – H20	▣							

Grade description:

Highly wear-resistant material designed primarily for finish turning of common carbon and alloy steels. Despite its high abrasion resistance, it is also suitable for interrupted cutting operations. We recommend this material as the first choice for most turning operations, especially in high production applications.

ISO INSERTS POSITIVE – CHIPBREAKER NAVIGATOR

 Very unstable working conditions

 1st choice for stable working conditions
 Variants for different working conditions

 Unstable working conditions



 Stable working conditions

 Thin-walled and slim workpieces



ISO INSERTS NEGATIVE – CHIPBREAKER NAVIGATOR

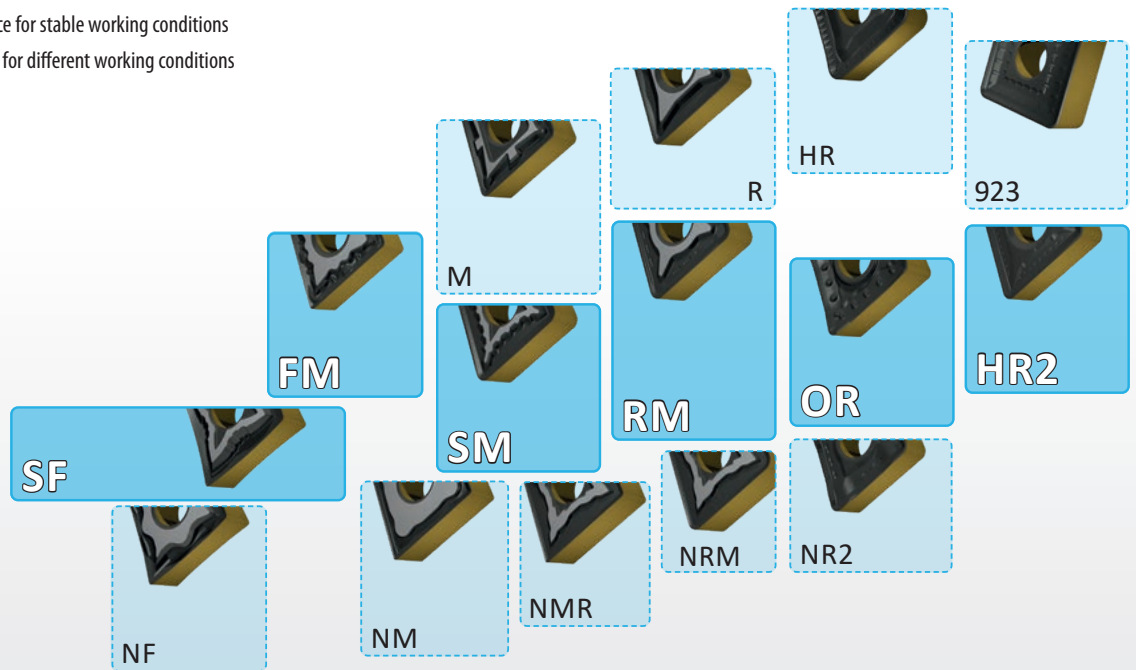
 Very unstable working conditions








 1st choice for stable working conditions
 Variants for different working conditions

 Unstable working conditions

 Stable working conditions

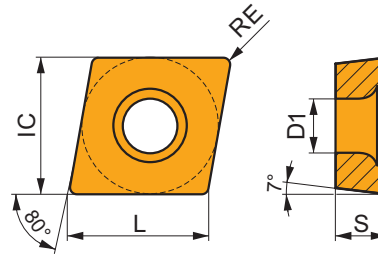
 Thin-walled and slim workpieces



					
 f in/r (mm/r)	.002 – .008 (0.05 – 0.2)	.008 – .016 (0.2 – 0.4)	.016 – .039 (0.4 – 1.0)	> .039 (> 1.0)	
 a in (mm)	.002 – .079 (0.05 – 2)	.079 – .157 (2 – 4)	.157 – .394 (4 – 10)	> .394 (> 10)	

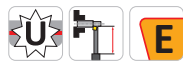
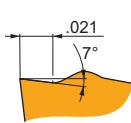
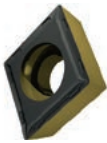
CCMT

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
2.52	.313	.134	.319	.125
21	.250	.110	.252	.094
32.5	.375	.173	.382	.156
43	.500	.217	.508	.187



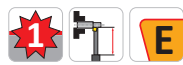
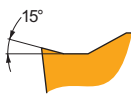
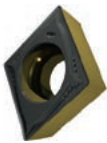
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



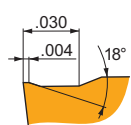
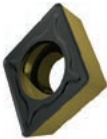
FF2 geometry with positive design for fine-finish to finish machining, and continuous to slightly interrupted cuts.

CCMT 21.50.5-FF2	T9415	.008	1296	.002	.031	–	–	–	1230	.002	.031	–	–	–	–	–	–	–	8345914
CCMT 21.51-FF2	T9415	.016	1001	.0047	.039	–	–	–	935	.0047	.039	–	–	–	–	–	–	–	8345917
CCMT 32.51-FF2	T9415	.016	984	.0047	.047	–	–	–	935	.0047	.047	–	–	–	–	–	–	–	8345887
CCMT 32.52-FF2	T9415	.031	984	.0079	.047	–	–	–	935	.0079	.047	–	–	–	–	–	–	–	8345911



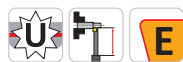
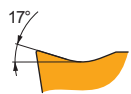
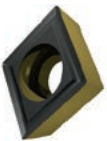
FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

CCMT 21.50.5-FM	T9415	.008	1099	.0039	.039	–	–	–	1033	.0039	.039	–	–	–	–	–	–	–	8345915
CCMT 21.51-FM	T9415	.016	1017	.0059	.039	–	–	–	951	.0059	.039	–	–	–	–	–	–	–	8244360
CCMT 21.52-FM	T9415	.031	1099	.0079	.039	–	–	–	1033	.0079	.039	–	–	–	–	–	–	–	8244361
CCMT 32.50.5-FM	T9415	.008	1083	.0039	.047	–	–	–	1017	.0039	.047	–	–	–	–	–	–	–	8345886
CCMT 32.51-FM	T9415	.016	1001	.0059	.047	–	–	–	935	.0059	.047	–	–	–	–	–	–	–	8244334
CCMT 32.52-FM	T9415	.031	1083	.0079	.047	–	–	–	1017	.0079	.047	–	–	–	–	–	–	–	8244337
CCMT 431-FM	T9415	.016	968	.0059	.067	–	–	–	919	.0059	.067	–	–	–	–	–	–	–	8244362
CCMT 432-FM	T9415	.031	1033	.0079	.067	–	–	–	968	.0079	.067	–	–	–	–	–	–	–	8244363



FM2 geometry for finish to medium machining, and continuous to interrupted cuts.

CCMT 2.521-FM2	T9415	.016	1001	.0047	.039	–	–	–	935	.0047	.039	–	–	–	–	–	–	–	8345922
CCMT 32.51-FM2	T9415	.016	1001	.0047	.039	–	–	–	935	.0047	.039	–	–	–	–	–	–	–	8345888
CCMT 32.52-FM2	T9415	.031	1050	.0067	.039	–	–	–	984	.0067	.039	–	–	–	–	–	–	–	8345912

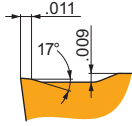
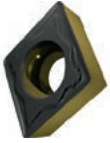


NF2 geometry with positive design for fine-finish to semi-rough machining, and continuous cuts.

CCMT 2.521-NF2	T9415	.016	1001	.0047	.039	–	–	–	935	.0047	.039	–	–	–	–	–	–	–	8345923
CCMT 21.51-NF2	T9415	.016	1033	.0047	.031	–	–	–	968	.0047	.031	–	–	–	–	–	–	–	8345918
CCMT 32.51-NF2	T9415	.016	984	.0047	.047	–	–	–	935	.0047	.047	–	–	–	–	–	–	–	8345889
CCMT 32.52-NF2	T9415	.031	1115	.0055	.047	–	–	–	1050	.0055	.047	–	–	–	–	–	–	–	8345913

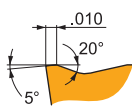
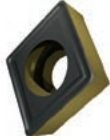
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



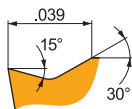
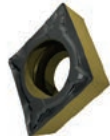
RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.

CCMT 32.51-RM	T9415	.016	837	.0098	.087	-	-	-	787	.0098	.087	-	-	-	-	-	-	164	.0071	.012	8244335
CCMT 32.52-RM	T9415	.031	935	.0118	.087	-	-	-	886	.0118	.087	-	-	-	-	-	-	180	.0059	.028	8244338
CCMT 432-RM	T9415	.031	919	.0118	.106	-	-	-	869	.0118	.106	-	-	-	-	-	-	180	.0059	.028	8244364
CCMT 433-RM	T9415	.047	919	.013	.106	-	-	-	869	.013	.106	-	-	-	-	-	-	180	.0067	.039	8244365



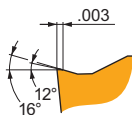
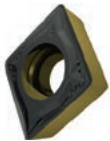
RM3 geometry for semi-rough to rough machining, and continuous to interrupted cuts.

CCMT 431-RM3	T9415	.016	705	.0098	.098	-	-	-	656	.0098	.098	-	-	-	-	-	-	131	.0051	.012	8345924
CCMT 432-RM3	T9415	.031	820	.0106	.098	-	-	-	771	.0106	.098	-	-	-	-	-	-	164	.0055	.028	8345926
CCMT 433-RM3	T9415	.047	837	.0118	.098	-	-	-	787	.0118	.098	-	-	-	-	-	-	164	.0059	.039	8345928



UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

CCMT 21.50.5-UR	T9415	.008	968	.0039	.031	-	-	-	919	.0039	.031	-	-	-	-	-	-	-	-	-	8345916
CCMT 21.51-UR	T9415	.016	886	.0059	.039	-	-	-	837	.0059	.039	-	-	-	-	-	-	-	-	-	8345919
CCMT 21.52-UR	T9415	.031	951	.0079	.039	-	-	-	902	.0079	.039	-	-	-	-	-	-	-	-	-	8345921
CCMT 32.51-UR	T9415	.016	869	.0059	.047	-	-	-	820	.0059	.047	-	-	-	-	-	-	-	-	-	8244336
CCMT 32.52-UR	T9415	.031	935	.0079	.047	-	-	-	886	.0079	.047	-	-	-	-	-	-	-	-	-	8244339
CCMT 431-UR	T9415	.016	837	.0059	.067	-	-	-	787	.0059	.067	-	-	-	-	-	-	-	-	-	8345925
CCMT 432-UR	T9415	.031	902	.0079	.067	-	-	-	853	.0079	.067	-	-	-	-	-	-	-	-	-	8345927
CCMT 433-UR	T9415	.047	869	.0106	.067	-	-	-	820	.0106	.067	-	-	-	-	-	-	-	-	-	8345929

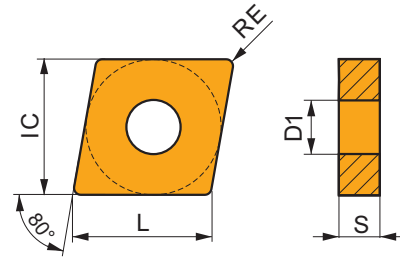


W-FM wiper geometry for fine to finish machining with increased feed rates and improved surface finish.

CCMT 21.51W-FM	T9415	.016	820	.0118	.031	-	-	-	771	.0118	.031	-	-	-	-	-	-	-	-	-	8345920
CCMT 32.51W-FM	T9415	.016	1001	.0059	.047	-	-	-	935	.0059	.047	-	-	-	-	-	-	-	-	-	8345910

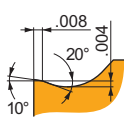
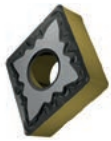
CNMG

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
32	.375	.150	.382	.125
43	.500	.203	.508	.187
54	.625	.250	.634	.250
64	.750	.313	.760	.250
86	1.000	.359	1.016	.375



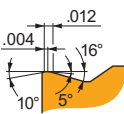
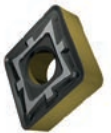
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE	P			M			K			N			S			H			MID
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	
	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	



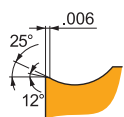
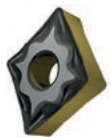
FM geometry with positive design for finish to semi-rough machining, and continuous to slightly interrupted cuts.

CNMG 321-FM	T9415	.016	1001	.0079	.055	—	—	—	935	.0079	.055	—	—	—	—	—	—	—	—	—	8244146
CNMG 322-FM	T9415	.031	1198	.0079	.055	—	—	—	1132	.0079	.055	—	—	—	—	—	—	—	—	—	8244147
CNMG 431-FM	T9415	.016	951	.0079	.083	—	—	—	902	.0079	.083	—	—	—	—	—	—	—	—	—	8244148
CNMG 432-FM	T9415	.031	1148	.0079	.083	—	—	—	1083	.0079	.083	—	—	—	—	—	—	—	—	—	8183351
CNMG 433-FM	T9415	.047	1083	.0106	.083	—	—	—	1017	.0106	.083	—	—	—	—	—	—	—	—	—	8244244



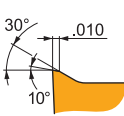
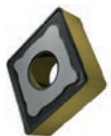
M geometry for finish to semi-rough machining, and continuous to interrupted cuts.

CNMG 322-M	T9415	.031	902	.0126	.071	—	—	—	853	.0126	.071	—	—	—	—	—	—	—	—	—	8345268
CNMG 431-M	T9415	.016	869	.0079	.083	—	—	—	820	.0079	.083	—	—	—	—	—	—	—	—	—	8244149
CNMG 432-M	T9415	.031	886	.0126	.083	—	—	—	837	.0126	.083	—	—	—	—	—	—	—	—	—	8183352
CNMG 433-M	T9415	.047	869	.0157	.083	—	—	—	820	.0157	.083	—	—	—	—	—	—	—	—	—	8183356
CNMG 542-M	T9415	.031	837	.0126	.142	—	—	—	787	.0126	.142	—	—	—	—	—	—	—	—	—	8244246
CNMG 543-M	T9415	.047	820	.0157	.142	—	—	—	771	.0157	.142	—	—	—	—	—	—	—	—	—	8244248
CNMG 642-M	T9415	.031	820	.0126	.165	—	—	—	771	.0126	.165	—	—	—	—	—	—	—	—	—	8244253
CNMG 643-M	T9415	.047	804	.0157	.165	—	—	—	755	.0157	.165	—	—	—	—	—	—	—	—	—	8183390
CNMG 644-M	T9415	.063	837	.0157	.165	—	—	—	787	.0157	.165	—	—	—	—	—	—	—	—	—	8345530



NF geometry with highly positive design for fine-finish to medium machining, and continuous cuts.

CNMG 431-NF	T9415	.016	1033	.0067	.067	—	—	—	968	.0067	.067	—	—	—	—	—	—	—	—	—	8345269
CNMG 432-NF	T9415	.031	1181	.0075	.067	—	—	—	1115	.0075	.067	—	—	—	—	—	—	—	—	—	8345515
CNMG 433-NF	T9415	.047	1033	.0118	.083	—	—	—	968	.0118	.083	—	—	—	—	—	—	—	—	—	8345518

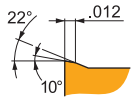


NM geometry with highly positive design for fine-finish, medium and rough machining, with continuous cuts.

CNMG 431-NM	T9415	.016	1001	.0079	.083	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8345510
CNMG 432-NM	T9415	.031	1099	.0098	.083	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8345516

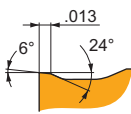
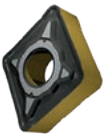
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



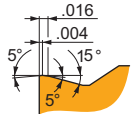
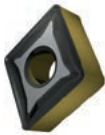
NMR geometry with positive design for medium to rough machining, and continuous cuts.

CNMG 431-NMR	T9415	.016	804	.0098	.079	-	-	-	-	-	-	-	-	-	-	-	-	-	8345511
CNMG 432-NMR	T9415	.031	837	.0138	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	8244241
CNMG 433-NMR	T9415	.047	837	.0157	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	8345519
CNMG 542-NMR	T9415	.031	804	.0138	.157	-	-	-	-	-	-	-	-	-	-	-	-	-	8345522
CNMG 543-NMR	T9415	.047	804	.0157	.157	-	-	-	-	-	-	-	-	-	-	-	-	-	8345524
CNMG 544-NMR	T9415	.063	787	.0177	.236	-	-	-	-	-	-	-	-	-	-	-	-	-	8345525
CNMG 642-NMR	T9415	.031	738	.0138	.315	-	-	-	-	-	-	-	-	-	-	-	-	-	8345526
CNMG 644-NMR	T9415	.063	787	.0177	.205	-	-	-	-	-	-	-	-	-	-	-	-	-	8345531



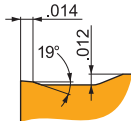
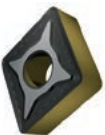
NRM geometry with positive design for semi-rough to rough machining, and continuous to moderate interrupted cuts.

CNMG 432-NRM	T9415	.031	804	.0138	.157	-	-	-	-	-	-	-	-	-	-	-	-	-	8345514
CNMG 433-NRM	T9415	.047	804	.0157	.157	-	-	-	-	-	-	-	-	-	-	-	-	-	8345517
CNMG 542-NRM	T9415	.031	771	.0138	.236	-	-	-	-	-	-	-	-	-	-	-	-	-	8345521
CNMG 543-NRM	T9415	.047	771	.0157	.236	-	-	-	-	-	-	-	-	-	-	-	-	-	8345523
CNMG 544-NRM	T9415	.063	787	.0177	.236	-	-	-	-	-	-	-	-	-	-	-	-	-	8244252
CNMG 643-NRM	T9415	.047	755	.0157	.315	-	-	-	-	-	-	-	-	-	-	-	-	-	8345527
CNMG 644-NRM	T9415	.063	755	.0177	.315	-	-	-	-	-	-	-	-	-	-	-	-	-	8345529



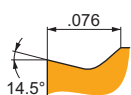
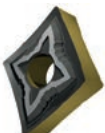
R geometry for semi-rough to rough machining, and continuous to interrupted cuts.

CNMG 432-R	T9415	.031	755	.0157	.157	-	-	-	705	.0157	.157	-	-	-	148	.0079	.028	8183353
CNMG 433-R	T9415	.047	771	.0177	.157	-	-	-	722	.0177	.157	-	-	-	148	.0091	.039	8345520
CNMG 543-R	T9415	.047	755	.0177	.217	-	-	-	705	.0177	.217	-	-	-	148	.0091	.039	8244249
CNMG 643-R	T9415	.047	738	.0177	.276	-	-	-	689	.0177	.276	-	-	-	148	.0091	.039	8345528
CNMG 644-R	T9415	.063	738	.0197	.276	-	-	-	689	.0197	.276	-	-	-	148	.0098	.051	8244257



RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.

CNMG 432-RM	T9415	.031	869	.0157	.157	-	-	-	820	.0157	.157	-	-	-	-	-	-	-	8183354
CNMG 433-RM	T9415	.047	886	.0177	.157	-	-	-	837	.0177	.157	-	-	-	-	-	-	-	8183357
CNMG 434-RM	T9415	.063	902	.0197	.157	-	-	-	853	.0197	.157	-	-	-	-	-	-	-	8244245
CNMG 542-RM	T9415	.031	837	.0157	.236	-	-	-	787	.0157	.236	-	-	-	-	-	-	-	8244247
CNMG 543-RM	T9415	.047	853	.0177	.236	-	-	-	804	.0177	.236	-	-	-	-	-	-	-	8244250
CNMG 544-RM	T9415	.063	869	.0197	.236	-	-	-	820	.0197	.236	-	-	-	-	-	-	-	8183359
CNMG 642-RM	T9415	.031	820	.0157	.295	-	-	-	771	.0157	.295	-	-	-	-	-	-	-	8244254
CNMG 643-RM	T9415	.047	820	.0177	.295	-	-	-	771	.0177	.295	-	-	-	-	-	-	-	8244255
CNMG 644-RM	T9415	.063	837	.0197	.295	-	-	-	787	.0197	.295	-	-	-	-	-	-	-	8183391
CNMG 866-RM	T9415	.094	410	.0315	.472	-	-	-	377	.0315	.472	-	-	-	-	-	-	-	8244258

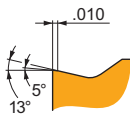


SF geometry with positive design for fine-finish machining of thin walls and continuous cuts.

CNMG 431-SF	T9415	.016	1033	.0067	.039	-	-	-	968	.0067	.039	-	-	-	197	.0051	.012	8345512
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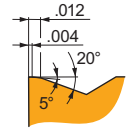
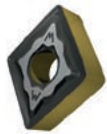
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



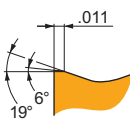
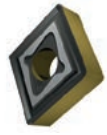
SM geometry with positive design for medium machining, and continuous to interrupted cuts.

CNMG 431-SM	T9415	.016	919	.0079	.079	—	—	—	869	.0079	.079	—	—	—	—	—	—	—	180	.0051	.012	8244240
CNMG 432-SM	T9415	.031	1001	.0098	.079	—	—	—	935	.0098	.079	—	—	—	—	—	—	—	197	.0051	.028	8183355
CNMG 433-SM	T9415	.047	984	.0118	.079	—	—	—	935	.0118	.079	—	—	—	—	—	—	—	197	.0059	.039	8183358
CNMG 543-SM	T9415	.047	951	.0118	.118	—	—	—	902	.0118	.118	—	—	—	—	—	—	—	180	.0059	.039	8244251
CNMG 643-SM	T9415	.047	919	.0118	.157	—	—	—	869	.0118	.157	—	—	—	—	—	—	—	180	.0059	.039	8244256



W-M wiper geometry for semi-rough to rough machining with increased feed rates and improved surface finish.

CNMG 432W-M	T9415	.031	804	.0177	.059	—	—	—	755	.0177	.059	—	—	—	—	—	—	—	—	—	—	8244242
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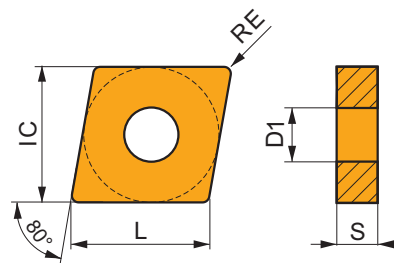
W-MR wiper geometry for finish to rough machining with increased feed rates and improved surface finish.

CNMG 431W-MR	T9415	.016	787	.0118	.059	—	—	—	738	.0118	.059	—	—	—	—	—	—	—	—	—	—	8345513
CNMG 432W-MR	T9415	.031	804	.0177	.059	—	—	—	755	.0177	.059	—	—	—	—	—	—	—	—	—	—	8244243
CNMG 433W-MR	T9415	.047	804	.0217	.059	—	—	—	755	.0217	.059	—	—	—	—	—	—	—	—	—	—	8194906

CNMM

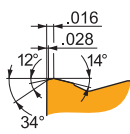
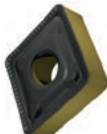


	IC (inch)	D1 (inch)	L (inch)	S (inch)
43	.500	.203	.508	.187
54	.625	.250	.634	.250
64	.750	.313	.760	.250
86	1.000	.359	1.016	.375



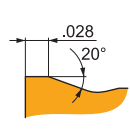
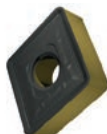
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



HR geometry for rough to heavy-rough machining, and continuous to interrupted cuts.

CNMM 646-HR	T9415	.094	394	.0256	.394	—	—	—	361	.0256	.394	—	—	—	—	—	—	—	—	—	—	8183392
CNMM 866-HR	T9415	.094	394	.0256	.551	—	—	—	361	.0256	.551	—	—	—	—	—	—	—	—	—	—	8244262

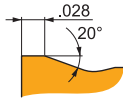
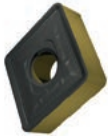


HR2 geometry for rough to heavy-rough machining, and continuous to interrupted cuts.

CNMM 644-HR2	T9415	.063	377	.0256	.394	—	—	—	344	.0256	.394	—	—	—	—	—	—	—	—	—	—	8345538
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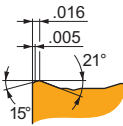
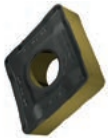
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



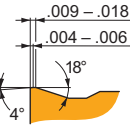
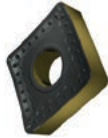
HR2 geometry for rough to heavy-rough machining, and continuous to interrupted cuts.

CNMM 646-HR2	T9415	.094	361	.0335	.394	–	–	–	328	.0335	.394	–	–	–	–	–	–	–	–	8345540
CNMM 866-HR2	T9415	.094	361	.0335	.472	–	–	–	328	.0335	.472	–	–	–	–	–	–	–	–	8244261



NR2 geometry for semi-rough to rough machining, and continuous to interrupted cuts.

CNMM 432-NR2	T9415	.031	820	.0157	.197	–	–	–	771	.0157	.197	–	–	–	–	–	–	–	–	8345532
CNMM 644-NR2	T9415	.063	787	.0197	.354	–	–	–	738	.0197	.354	–	–	–	–	–	–	–	–	8244260
CNMM 866-NR2	T9415	.094	394	.0315	.472	–	–	–	361	.0315	.472	–	–	–	–	–	–	–	–	8345542



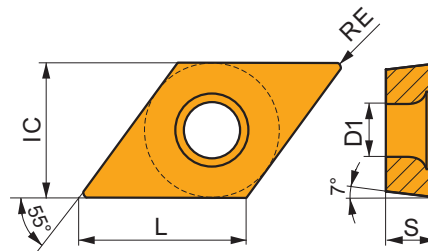
OR geometry for semi-rough to rough machining, and continuous to interrupted cuts.

CNMM 432-OR	T9415	.031	820	.0157	.197	–	–	–	771	.0157	.197	–	–	–	–	–	–	–	–	8345533
CNMM 433-OR	T9415	.047	820	.0177	.197	–	–	–	771	.0177	.197	–	–	–	–	–	–	–	–	8345534
CNMM 542-OR	T9415	.031	804	.0157	.236	–	–	–	755	.0157	.236	–	–	–	–	–	–	–	–	8345535
CNMM 543-OR	T9415	.047	820	.0177	.236	–	–	–	771	.0177	.236	–	–	–	–	–	–	–	–	8345536
CNMM 544-OR	T9415	.063	820	.0197	.236	–	–	–	771	.0197	.236	–	–	–	–	–	–	–	–	8345537
CNMM 643-OR	T9415	.047	787	.0177	.354	–	–	–	738	.0177	.354	–	–	–	–	–	–	–	–	8244259
CNMM 644-OR	T9415	.063	787	.0197	.354	–	–	–	738	.0197	.354	–	–	–	–	–	–	–	–	8345539
CNMM 646-OR	T9415	.094	705	.0315	.354	–	–	–	656	.0315	.354	–	–	–	–	–	–	–	–	8345541
CNMM 866-OR	T9415	.094	361	.0394	.472	–	–	–	328	.0394	.472	–	–	–	–	–	–	–	–	8345543

DCMT

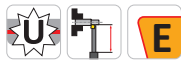
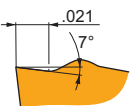


IC (inch)	D1 (inch)	L (inch)	S (inch)
21	.250	.307	.094
32.5	.375	.457	.156
43	.500	.610	.187



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	

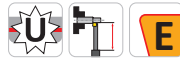
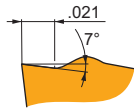
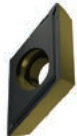


FF2 geometry with positive design for fine-finish to finish machining, and continuous to slightly interrupted cuts.

DCMT 21.51-FF2	T9415	.016	820	.0047	.031	–	–	–	771	.0047	.031	–	–	–	–	–	–	–	–	8345939
DCMT 21.52-FF2	T9415	.031	869	.0067	.031	–	–	–	820	.0067	.031	–	–	–	–	–	–	–	–	8345942

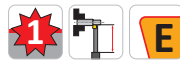
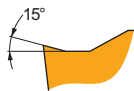
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



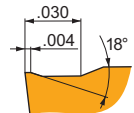
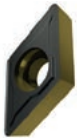
FF2 geometry with positive design for fine-finish to finish machining, and continuous to slightly interrupted cuts.

DCMT 32.51-FF2	T9415	.016	820	.0047	.031	-	-	-	771	.0047	.031	-	-	-	-	-	-	-	8345932
DCMT 32.52-FF2	T9415	.031	869	.0067	.031	-	-	-	820	.0067	.031	-	-	-	-	-	-	-	8345935



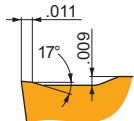
FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

DCMT 21.50.5-FM	T9415	.008	902	.0039	.031	-	-	-	853	.0039	.031	-	-	-	-	-	-	-	8244371
DCMT 21.51-FM	T9415	.016	902	.0047	.031	-	-	-	853	.0047	.031	-	-	-	-	-	-	-	8244372
DCMT 32.50.5-FM	T9415	.008	902	.0039	.031	-	-	-	853	.0039	.031	-	-	-	-	-	-	-	8345930
DCMT 32.51-FM	T9415	.016	902	.0047	.031	-	-	-	853	.0047	.031	-	-	-	-	-	-	-	8183669
DCMT 32.52-FM	T9415	.031	951	.0067	.031	-	-	-	902	.0067	.031	-	-	-	-	-	-	-	8183840
DCMT 32.53-FM	T9415	.047	869	.0087	.047	-	-	-	820	.0087	.047	-	-	-	-	-	-	-	8244369



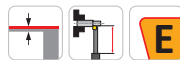
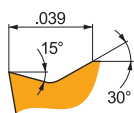
FM2 geometry for finish to medium machining, and continuous to interrupted cuts.

DCMT 21.51-FM2	T9415	.016	820	.0047	.031	-	-	-	771	.0047	.031	-	-	-	-	-	-	-	8345940
DCMT 32.51-FM2	T9415	.016	820	.0047	.031	-	-	-	771	.0047	.031	-	-	-	-	-	-	-	8345933
DCMT 32.52-FM2	T9415	.031	869	.0067	.031	-	-	-	820	.0067	.031	-	-	-	-	-	-	-	8345936



RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.

DCMT 32.51-RM	T9415	.016	771	.0079	.039	-	-	-	722	.0079	.039	-	-	-	-	-	148	.0055	.012	8244366
DCMT 32.52-RM	T9415	.031	837	.0106	.039	-	-	-	787	.0106	.039	-	-	-	-	-	164	.0055	.028	8244367
DCMT 32.53-RM	T9415	.047	853	.0106	.047	-	-	-	804	.0106	.047	-	-	-	-	-	164	.0055	.035	8244370
DCMT 432-RM	T9415	.031	771	.0106	.075	-	-	-	722	.0106	.075	-	-	-	-	-	148	.0055	.028	8244373

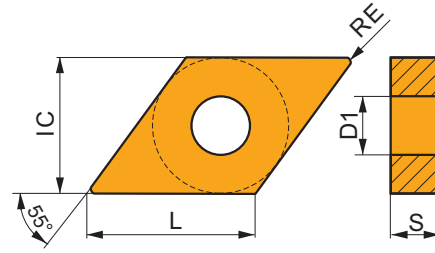


UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

DCMT 21.50.5-UR	T9415	.008	771	.0039	.031	-	-	-	722	.0039	.031	-	-	-	-	-	-	-	8345938
DCMT 21.51-UR	T9415	.016	787	.0047	.031	-	-	-	738	.0047	.031	-	-	-	-	-	-	-	8345941
DCMT 32.50.5-UR	T9415	.008	771	.0039	.031	-	-	-	722	.0039	.031	-	-	-	-	-	-	-	8345931
DCMT 32.51-UR	T9415	.016	787	.0047	.031	-	-	-	738	.0047	.031	-	-	-	-	-	-	-	8345934
DCMT 32.52-UR	T9415	.031	820	.0067	.031	-	-	-	771	.0067	.031	-	-	-	-	-	-	-	8244368
DCMT 32.53-UR	T9415	.047	755	.0087	.047	-	-	-	705	.0087	.047	-	-	-	-	-	-	-	8345937

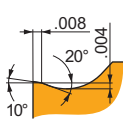
DNMG

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
33	.375	.150	.457	.187
43	.500	.203	.610	.187
44	.500	.203	.610	.250



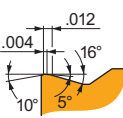
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



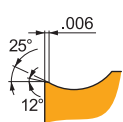
FM geometry with positive design for finish to semi-rough machining, and continuous to slightly interrupted cuts.

DNMG 331-FM	T9415	.016	853	.0079	.031	—	—	—	804	.0079	.031	—	—	—	—	—	—	—	8244263
DNMG 332-FM	T9415	.031	1001	.0079	.031	—	—	—	935	.0079	.031	—	—	—	—	—	—	—	8244264
DNMG 431-FM	T9415	.016	771	.0079	.067	—	—	—	722	.0079	.067	—	—	—	—	—	—	—	8244268
DNMG 432-FM	T9415	.031	919	.0079	.067	—	—	—	869	.0079	.067	—	—	—	—	—	—	—	8244269
DNMG 441-FM	T9415	.016	771	.0079	.067	—	—	—	722	.0079	.067	—	—	—	—	—	—	—	8183395
DNMG 442-FM	T9415	.031	919	.0079	.067	—	—	—	869	.0079	.067	—	—	—	—	—	—	—	8183396
DNMG 443-FM	T9415	.047	902	.0098	.067	—	—	—	853	.0098	.067	—	—	—	—	—	—	—	8244276
DNMG 444-FM	T9415	.063	886	.0118	.067	—	—	—	837	.0118	.067	—	—	—	—	—	—	—	8244280



M geometry for finish to semi-rough machining, and continuous to interrupted cuts.


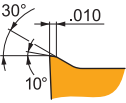


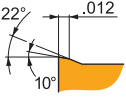


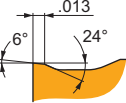


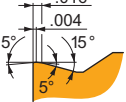


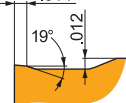


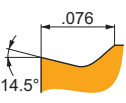


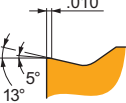

DNMG 331-M	T9415	.016	738	.0079	.047	—	—	—	689	.0079	.047	—	—	—	—	—	148	.0055	.012	8345544
DNMG 332-M	T9415	.031	771	.0118	.047	—	—	—	722	.0118	.047	—	—	—	—	—	148	.0059	.028	8244265
DNMG 333-M	T9415	.047	722	.0157	.047	—	—	—	673	.0157	.047	—	—	—	—	—	131	.0079	.035	8345547
DNMG 431-M	T9415	.016	689	.0079	.075	—	—	—	640	.0079	.075	—	—	—	—	—	131	.0055	.012	8345548
DNMG 432-M	T9415	.031	722	.0118	.075	—	—	—	673	.0118	.075	—	—	—	—	—	131	.0059	.028	8183393
DNMG 433-M	T9415	.047	689	.0157	.075	—	—	—	640	.0157	.075	—	—	—	—	—	131	.0079	.035	8183394
DNMG 441-M	T9415	.016	689	.0079	.075	—	—	—	640	.0079	.075	—	—	—	—	—	131	.0055	.012	8244272
DNMG 442-M	T9415	.031	722	.0118	.075	—	—	—	673	.0118	.075	—	—	—	—	—	131	.0059	.028	8183397
DNMG 443-M	T9415	.047	689	.0157	.075	—	—	—	640	.0157	.075	—	—	—	—	—	131	.0079	.035	8183398



NF geometry with highly positive design for fine-finish to medium machining, and continuous cuts.

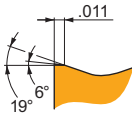
DNMG 332-NF	T9415	.031	1033	.0067	.039	—	—	—	968	.0067	.039	—	—	—	—	—	—	—	8345545
DNMG 431-NF	T9415	.016	853	.0059	.067	—	—	—	804	.0059	.067	—	—	—	—	—	—	—	8345549
DNMG 432-NF	T9415	.031	984	.0067	.067	—	—	—	935	.0067	.067	—	—	—	—	—	—	—	8345550
DNMG 441-NF	T9415	.016	853	.0059	.075	—	—	—	804	.0059	.075	—	—	—	—	—	—	—	8345552
DNMG 442-NF	T9415	.031	968	.0067	.075	—	—	—	919	.0067	.075	—	—	—	—	—	—	—	8345555

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID	
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)		
			NM geometry with highly positive design for fine-finish, medium to rough machining, and continuous cuts.																		
DNMG 442-NM	T9415	.031	902	.0098	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345556	
			NMR geometry with positive design for medium to rough machining, and continuous cuts.																		
DNMG 332-NMR	T9415	.031	787	.0118	.031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345546	
DNMG 432-NMR	T9415	.031	722	.0118	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345551	
DNMG 441-NMR	T9415	.016	689	.0079	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345553	
DNMG 442-NMR	T9415	.031	722	.0118	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345557	
DNMG 443-NMR	T9415	.047	771	.0118	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345561	
			NRM geometry with positive design for semi-rough to rough machining, and continuous to moderate interrupted cuts.																		
DNMG 442-NRM	T9415	.031	689	.0118	.118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345554	
			R geometry for semi-rough to rough machining, and continuous to interrupted cuts.																		
DNMG 442-R	T9415	.031	623	.0157	.118	-	-	-	591	.0157	.118	-	-	-	-	-	-	115	.0079	.028	8345558
DNMG 443-R	T9415	.047	656	.0157	.118	-	-	-	623	.0157	.118	-	-	-	-	-	-	131	.0079	.035	8345562
			RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.																		
DNMG 332-RM	T9415	.031	755	.0157	.079	-	-	-	705	.0157	.079	-	-	-	-	-	-	-	-	-	8244266
DNMG 333-RM	T9415	.047	869	.0118	.079	-	-	-	820	.0118	.079	-	-	-	-	-	-	-	-	-	8244267
DNMG 432-RM	T9415	.031	722	.0157	.118	-	-	-	673	.0157	.118	-	-	-	-	-	-	-	-	-	8244270
DNMG 433-RM	T9415	.047	755	.0157	.118	-	-	-	705	.0157	.118	-	-	-	-	-	-	-	-	-	8244271
DNMG 442-RM	T9415	.031	722	.0157	.118	-	-	-	673	.0157	.118	-	-	-	-	-	-	-	-	-	8244274
DNMG 443-RM	T9415	.047	755	.0157	.118	-	-	-	705	.0157	.118	-	-	-	-	-	-	-	-	-	8244277
DNMG 444-RM	T9415	.063	804	.0157	.118	-	-	-	755	.0157	.118	-	-	-	-	-	-	-	-	-	8244281
			SF geometry with positive design for fine-finish machining of thin walls and continuous cuts.																		
DNMG 442-SF	T9415	.031	951	.0067	.059	-	-	-	902	.0067	.059	-	-	-	-	-	-	180	.0047	.028	8345559
			SM geometry with positive design for medium machining, and continuous to interrupted cuts.																		
DNMG 441-SM	T9415	.016	738	.0079	.067	-	-	-	689	.0079	.067	-	-	-	-	-	-	148	.0055	.012	8244273
DNMG 442-SM	T9415	.031	820	.0098	.067	-	-	-	771	.0098	.067	-	-	-	-	-	-	164	.0051	.028	8244275
DNMG 443-SM	T9415	.047	804	.0118	.067	-	-	-	755	.0118	.067	-	-	-	-	-	-	148	.0059	.035	8244278

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



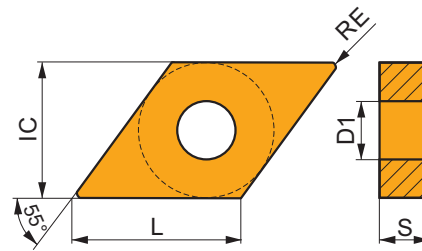
W-MR wiper geometry for finish to rough machining with increased feed rates and improved surface finish.

DNMG 442W-MR	T9415	.031	673	.0157	.059	–	–	–	623	.0157	.059	–	–	–	–	–	–	–	–	8345560
DNMG 443W-MR	T9415	.047	656	.0197	.059	–	–	–	623	.0197	.059	–	–	–	–	–	–	–	–	8244279

DNMM

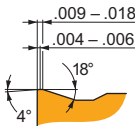


	IC (inch)	D1 (inch)	L (inch)	S (inch)
44	.500	.203	.610	.250



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



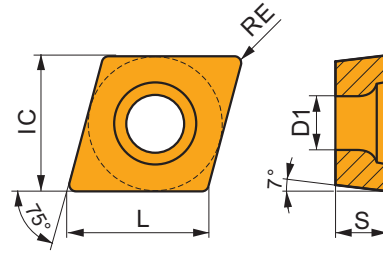
OR geometry for semi-rough to rough machining, and continuous to interrupted cuts.

DNMM 443-OR	T9415	.047	722	.0157	.118	–	–	–	673	.0157	.118	–	–	–	–	–	–	–	–	8345563
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ECMT

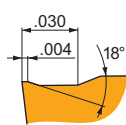
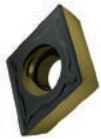


	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
2.52	.313	.134	.323	.125
21	.250	.110	.256	.094



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



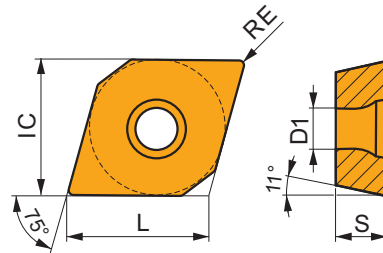
FM2 geometry for finish to medium machining, and continuous to interrupted cuts.

ECMT 2.521-FM2	T9415	.016	902	.0047	.039	—	—	—	853	.0047	.039	—	—	—	—	—	—	—	—	8345945
ECMT 2.522-FM2	T9415	.031	951	.0067	.039	—	—	—	902	.0067	.039	—	—	—	—	—	—	—	—	8345946
ECMT 21.51-FM2	T9415	.016	935	.0047	.031	—	—	—	886	.0047	.031	—	—	—	—	—	—	—	—	8345944

EPMT

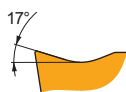
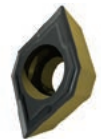


	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
1.81.5	.219	.098	.224	.094



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	

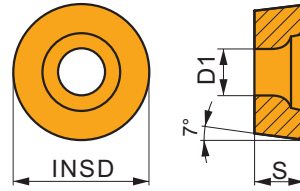


NF2 geometry with positive design for fine-finish to semi-rough machining, and continuous cuts.

EPMT 1.81.50.5-NF2	T9415	.008	1165	.002	.031	—	—	—	1099	.002	.031	—	—	—	—	—	—	—	—	8345947
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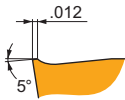
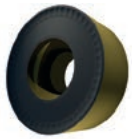
RCMT

	INSD	D1	S
	(inch)	(inch)	(inch)
0602	.236	.110	.094
0803	.315	.134	.125
10	.394	.173	.156
12	.472	.173	.187
16	.630	.217	.250
20	.787	.256	.250
30	1.181	.394	.375



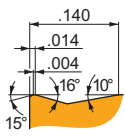
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE	P			M			K			N			S			H			MID
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	
	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	



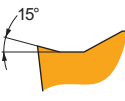
Geometry 37 for semi-rough to heavy-rough machining, and continuous to interrupted cuts.

RCMT 1606MOS-37	T9415	-	656	.0236	.118	-	-	-	623	.0236	.118	-	-	-	-	-	-	-	-	-	8183847
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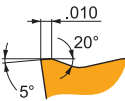
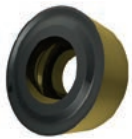
Geometry 371 for semi-rough to heavy-rough machining, and continuous to interrupted cuts.

RCMT 2006MOS-371	T9415	-	607	.0315	.118	-	-	-	574	.0315	.118	-	-	-	-	-	-	-	-	-	8366640
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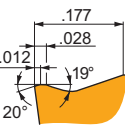
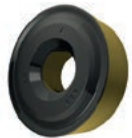
FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

RCMT 0602MOE-FM	T9415	-	1050	.0177	.047	-	-	-	984	.0177	.047	-	-	-	-	-	-	-	-	-	8345950
RCMT 0803MOE-FM	T9415	-	919	.0236	.063	-	-	-	869	.0236	.063	-	-	-	-	-	-	-	-	-	8345952
RCMT 10T3MOE-FM	T9415	-	902	.0256	.067	-	-	-	853	.0256	.067	-	-	-	-	-	-	-	-	-	8345948
RCMT 1204MOE-FM	T9415	-	853	.0276	.071	-	-	-	804	.0276	.071	-	-	-	-	-	-	-	-	-	8244375



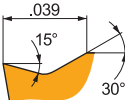
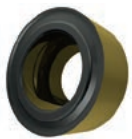
RM3 geometry for semi-rough to rough machining, and continuous to interrupted cuts.

RCMT 0803MOE-RM3	T9415	-	902	.0197	.051	-	-	-	853	.0197	.051	-	-	-	-	-	-	180	.0098	.020	8345953
RCMT 1204MOE-RM3	T9415	-	837	.0236	.071	-	-	-	787	.0236	.071	-	-	-	-	-	-	164	.0118	.031	8345954
RCMT 1606MOE-RM3	T9415	-	804	.0256	.079	-	-	-	755	.0256	.079	-	-	-	-	-	-	148	.013	.043	8239165



RR4 geometry for heavy rough machining, and continuous to heavy interrupted cuts.


RCMT 3009MO-RR4	T9415	-	312	.0433	.157	-	-	-	295	.0433	.157	-	-	-	-	-	-	-	-	-	8183848
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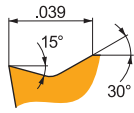


UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

RCMT 0602MOE-UR	T9415	-	935	.0157	.047	-	-	-	886	.0157	.047	-	-	-	-	-	-	-	-	-	8345951
RCMT 0803MOE-UR	T9415	-	869	.0177	.063	-	-	-	820	.0177	.063	-	-	-	-	-	-	-	-	-	8244374

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
																				
RCMT 10T3MOE-UR	T9415	—	■	853 .0197 .055	—	—	—	■	804 .0197 .055	—	—	—	—	—	—	—	—	—	—	8345949
RCMT 1204MOE-UR	T9415	—	■	804 .0217 .071	—	—	—	■	755 .0217 .071	—	—	—	—	—	—	—	—	—	—	8244376

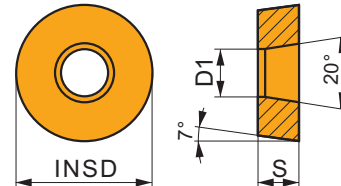


UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

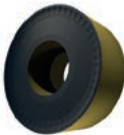
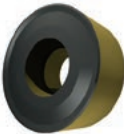


RCMX

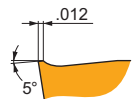


	INSD (inch)	D1 (inch)	S (inch)
12	.472	.165	.187
16	.630	.205	.250
20	.787	.256	.250
25	.984	.283	.313
32	1.260	.374	.375

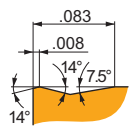


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

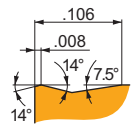
Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
																				
RCMX 1606M0S-37	T9415	—	■	656 .0236 .118	—	—	—	■	623 .0236 .118	—	—	—	—	—	—	—	—	—	—	8239166
																				
RCMX 1204M0S-321	T9415	—	■	558 .0394 .118	—	—	—	■	525 .0394 .118	—	—	—	—	—	—	—	—	—	—	8345955
																				
RCMX 1606M0S-331	T9415	—	■	509 .0472 .138	—	—	—	■	476 .0472 .138	—	—	—	—	—	—	—	—	—	—	8239167
																				
RCMX 2006M0-RF1	T9415	—	■	344 .0315 .138	—	—	—	■	312 .0315 .138	—	—	—	—	—	—	—	—	—	—	8239168
RCMX 2507M0-RF1	T9415	—	■	328 .0394 .138	—	—	—	■	312 .0394 .138	—	—	—	—	—	—	—	—	—	—	8366641



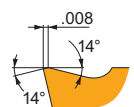
Geometry 37 for semi-rough to heavy-rough machining, and continuous to interrupted cuts.



Geometry 321 for semi-rough to heavy-rough machining, and continuous to interrupted cuts.

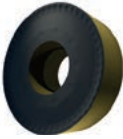
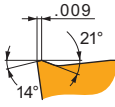
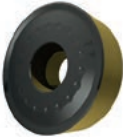
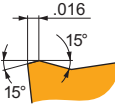

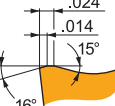


Geometry 331 for semi-rough to heavy-rough machining, and continuous to interrupted cuts.



RF1 geometry for finish to semi-rough machining, and continuous to interrupted cuts.

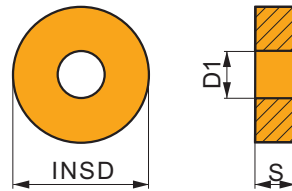
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
																				
RCMX 2006M0-RM1	T9415	328	.0394	.138	–	–	–	312	.0394	.138	–	–	–	–	–	–	–	–	8183849	
RCMX 2507M0-RM1	T9415	328	.0394	.138	–	–	–	312	.0394	.138	–	–	–	–	–	–	–	–	8183900	
																				
RCMX 2507M0-RM2	T9415	312	.0433	.138	–	–	–	295	.0433	.138	–	–	–	–	–	–	–	–	8239169	
RCMX 3209M0-RM2	T9415	312	.0394	.177	–	–	–	295	.0394	.177	–	–	–	–	–	–	–	–	8183901	
																				
RCMX 3209M0-RR2	T9415	230	.0551	.177	–	–	–	213	.0551	.177	–	–	–	–	–	–	33	.0276	.079	8239170

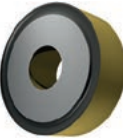
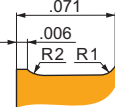
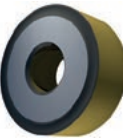
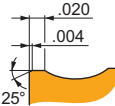
RNMG



	INSD (inch)	D1 (inch)	S (inch)
43	.500	.203	.187
54	.625	.250	.250
64	.750	.313	.250
86	1.000	.359	.375

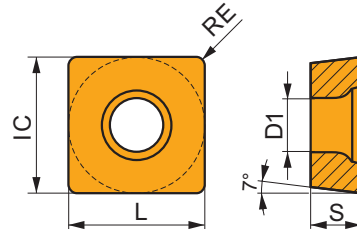


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
																				
RNMG 430-08	T9415	623	.0276	.118	–	–	–	591	.0276	.118	–	–	–	–	–	–	115	.0138	.031	8345564
RNMG 540-08	T9415	623	.0276	.118	–	–	–	591	.0276	.118	–	–	–	–	–	–	115	.0138	.039	8345565
RNMG 640-08	T9415	623	.0276	.118	–	–	–	591	.0276	.118	–	–	–	–	–	–	115	.0138	.051	8345566
																				
RNMG 860-081	T9415	328	.0354	.197	–	–	–	312	.0354	.197	–	–	–	–	–	–	66	.0177	.067	8345567

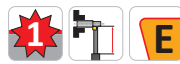
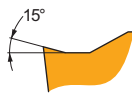
SCMT

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
32.5	.375	.173	.375	.156
43	.500	.217	.500	.187



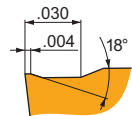
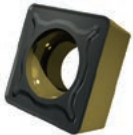
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE	P			M			K			N			S			H			MID
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	
	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	(ft/min)	(in/rev)	(inch)	



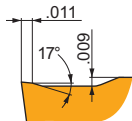
FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

SCMT 32.51-FM	T9415	.016	1050	.0059	.047	984	.0059	.047	1083	.0079	.047	968	.0059	.063	1115	.0079	.063	1050	.0106	.063	984	.0106	.063	8345956
SCMT 32.52-FM	T9415	.031	1148	.0079	.047	1083	.0079	.047	968	.0059	.063	1115	.0079	.063	1050	.0079	.063	984	.0106	.063	8345958			
SCMT 431-FM	T9415	.016	1033	.0059	.063	968	.0059	.063	1115	.0079	.063	1050	.0079	.063	984	.0106	.063	8345961						
SCMT 432-FM	T9415	.031	1115	.0079	.063	1050	.0079	.063	984	.0106	.063	8345962												
SCMT 433-FM	T9415	.047	1050	.0106	.063	984	.0106	.063	8345965															



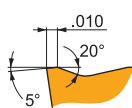
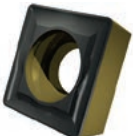
FM2 geometry for finish to medium machining, and continuous to interrupted cuts.

SCMT 32.52-FM2	T9415	.031	1115	.0067	.039	1050	.0067	.039	8345959																
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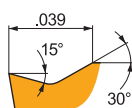
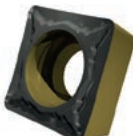
RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.

SCMT 32.52-RM	T9415	.031	968	.0118	.079	919	.0118	.079	180	.0059	.028	8345959												
SCMT 432-RM	T9415	.031	968	.0118	.091	919	.0118	.091	180	.0059	.028	8345963												



RM3 geometry for semi-rough to rough machining, and continuous to interrupted cuts.

SCMT 432-RM3	T9415	.031	869	.0106	.091	820	.0106	.091	164	.0055	.028	8345964												
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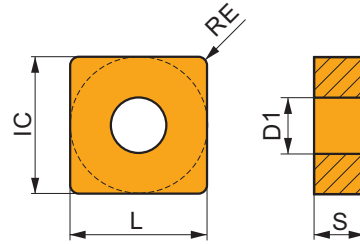


UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

SCMT 32.51-UR	T9415	.016	919	.0059	.047	869	.0059	.047	8345957															
SCMT 32.52-UR	T9415	.031	984	.0079	.047	935	.0079	.047	8345960															

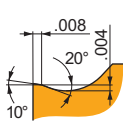
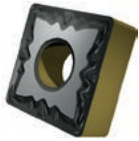
SNMG

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
43	.500	.203	.500	.187
54	.625	.250	.625	.250
64	.750	.313	.750	.250
86	1.000	.359	1.000	.375



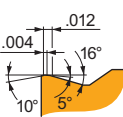
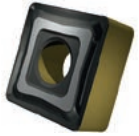
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



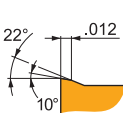
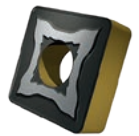
FM geometry with positive design for finish to semi-rough machining, and continuous to slightly interrupted cuts.

SNMG 431-FM	T9415	.016	1001	.0079	.083	—	—	—	935	.0079	.083	—	—	—	—	—	—	—	8244282
SNMG 432-FM	T9415	.031	1198	.0079	.083	—	—	—	1132	.0079	.083	—	—	—	—	—	—	—	8244283
SNMG 433-FM	T9415	.047	1132	.0106	.083	—	—	—	1066	.0106	.083	—	—	—	—	—	—	—	8244286



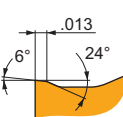
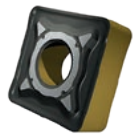
M geometry for finish to semi-rough machining, and continuous to interrupted cuts.

SNMG 432-M	T9415	.031	919	.0126	.083	—	—	—	869	.0126	.083	—	—	—	—	—	180	.0063	.028	8345568
SNMG 433-M	T9415	.047	902	.0157	.083	—	—	—	853	.0157	.083	—	—	—	—	—	180	.0079	.039	8345570
SNMG 543-M	T9415	.047	853	.0157	.134	—	—	—	804	.0157	.134	—	—	—	—	—	164	.0079	.039	8345572
SNMG 643-M	T9415	.047	837	.0157	.157	—	—	—	787	.0157	.157	—	—	—	—	—	164	.0079	.039	8345575
SNMG 644-M	T9415	.063	886	.0157	.157	—	—	—	837	.0157	.157	—	—	—	—	—	164	.0079	.051	8345576



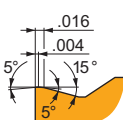
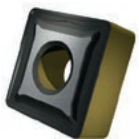
NMR geometry with positive design for medium to rough machining, and continuous cuts.

SNMG 644-NRM	T9415	.063	820	.0177	.205	—	—	—	—	—	—	—	—	—	—	—	—	—	8345577
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NRM geometry with positive design for semi-rough to rough machining, and continuous to moderate interrupted cuts.

SNMG 433-NRM	T9415	.047	869	.0157	.118	—	—	—	—	—	—	—	—	—	—	—	—	—	8345569
SNMG 544-NRM	T9415	.063	820	.0177	.197	—	—	—	—	—	—	—	—	—	—	—	—	—	8345574
SNMG 866-NRM	T9415	.094	410	.0276	.354	—	—	—	377	.0276	.354	—	—	—	—	—	—	—	8345579

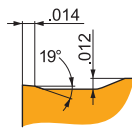
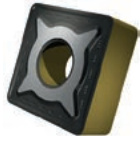


R geometry for semi-rough to rough machining, and continuous to interrupted cuts.

SNMG 434-R	T9415	.063	820	.0197	.150	—	—	—	771	.0197	.150	—	—	—	—	—	164	.0098	.051	8345571
SNMG 543-R	T9415	.047	804	.0177	.177	—	—	—	755	.0177	.177	—	—	—	—	—	148	.0091	.039	8345573
SNMG 644-R	T9415	.063	787	.0197	.236	—	—	—	738	.0197	.236	—	—	—	—	—	148	.0098	.051	8345578

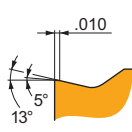
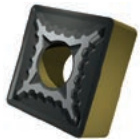
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.

SNMG 432-RM	T9415	.031	919	.0157	.157	—	—	—	869	.0157	.157	—	—	—	—	—	—	—	8244284
SNMG 433-RM	T9415	.047	919	.0177	.157	—	—	—	869	.0177	.157	—	—	—	—	—	—	—	8244287
SNMG 434-RM	T9415	.063	951	.0197	.157	—	—	—	902	.0197	.157	—	—	—	—	—	—	—	8244289
SNMG 543-RM	T9415	.047	902	.0177	.197	—	—	—	853	.0177	.197	—	—	—	—	—	—	—	8244290
SNMG 544-RM	T9415	.063	935	.0197	.197	—	—	—	886	.0197	.197	—	—	—	—	—	—	—	8244291
SNMG 643-RM	T9415	.047	886	.0177	.276	—	—	—	837	.0177	.276	—	—	—	—	—	—	—	8244292
SNMG 644-RM	T9415	.063	886	.0197	.276	—	—	—	837	.0197	.276	—	—	—	—	—	—	—	8244293
SNMG 866-RM	T9415	.094	427	.0315	.472	—	—	—	394	.0315	.472	—	—	—	—	—	—	—	8183399



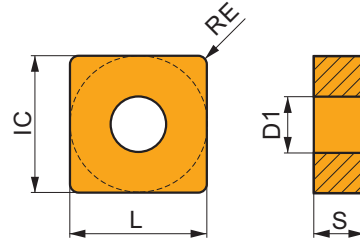
SM geometry with positive design for medium machining and continuous to interrupted cuts.

SNMG 432-SM	T9415	.031	1066	.0098	.071	—	—	—	1001	.0098	.071	—	—	—	—	—	213	.0051	.028	8244285
SNMG 433-SM	T9415	.047	1066	.0118	.071	—	—	—	1001	.0118	.071	—	—	—	—	—	213	.0059	.039	8244288

SNMM

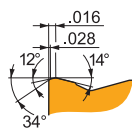
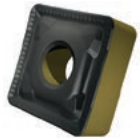


	IC (inch)	D1 (inch)	L (inch)	S (inch)
43	.500	.203	.500	.187
54	.625	.250	.625	.250
64	.750	.313	.750	.250
85	1.000	.359	1.000	.313
86	1.000	.359	1.000	.375



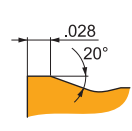
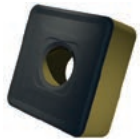
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



HR geometry for rough to heavy-rough machining, and continuous to interrupted cuts.


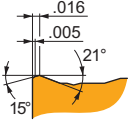


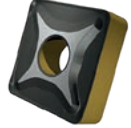
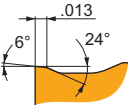


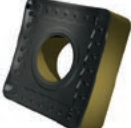
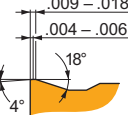


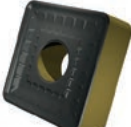
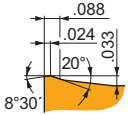


SNMM 646-HR	T9415	.094	427	.0256	.354	—	—	—	394	.0256	.354	—	—	—	—	—	—	—	8244295
SNMM 856-HR	T9415	.094	410	.0256	.512	—	—	—	377	.0256	.512	—	—	—	—	—	—	—	8345587
SNMM 866-HR	T9415	.094	410	.0256	.512	—	—	—	377	.0256	.512	—	—	—	—	—	—	—	8183403



HR2 geometry for rough to heavy-rough machining, and continuous to interrupted cuts.

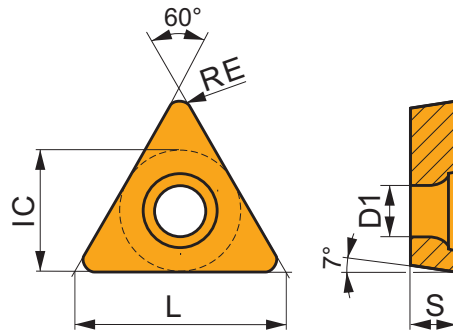
SNMM 644-HR2	T9415	.063	410	.0256	.350	—	—	—	377	.0256	.350	—	—	—	—	—	—	—	8345584
SNMM 646-HR2	T9415	.094	394	.0335	.350	—	—	—	361	.0335	.350	—	—	—	—	—	—	—	8244294
SNMM 866-HR2	T9415	.094	377	.0335	.433	—	—	—	344	.0335	.433	—	—	—	—	—	—	—	8183402

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
				NR2 geometry for semi-rough to rough machining, and continuous to interrupted cuts.																
SNMM 644-NR2	T9415 .063	853	.0197	.315	–	–	–	804	.0197	.315	–	–	–	–	–	–	–	–	8183400	
SNMM 856-NR2	T9415 .094	410	.0315	.472	–	–	–	377	.0315	.472	–	–	–	–	–	–	–	–	8183401	
SNMM 866-NR2	T9415 .094	410	.0315	.472	–	–	–	377	.0315	.472	–	–	–	–	–	–	–	–	8345589	
				NRM geometry with positive design for semi-rough to rough machining, and continuous to moderate interrupted cuts.																
SNMM 856-NRM	T9415 .094	427	.0256	.354	–	–	–	394	.0256	.354	–	–	–	–	–	–	–	–	8345586	
				OR geometry for semi-rough to rough machining, and continuous to interrupted cuts.																
SNMM 432-OR	T9415 .031	869	.0157	.185	–	–	–	820	.0157	.185	–	–	–	–	–	–	–	–	8345580	
SNMM 433-OR	T9415 .047	886	.0177	.185	–	–	–	837	.0177	.185	–	–	–	–	–	–	–	–	8345581	
SNMM 544-OR	T9415 .063	869	.0197	.236	–	–	–	820	.0197	.236	–	–	–	–	–	–	–	–	8345582	
SNMM 643-OR	T9415 .047	820	.0177	.315	–	–	–	771	.0177	.315	–	–	–	–	–	–	–	–	8345583	
SNMM 644-OR	T9415 .063	853	.0197	.315	–	–	–	804	.0197	.315	–	–	–	–	–	–	–	–	8345585	
SNMM 646-OR	T9415 .094	738	.0315	.315	–	–	–	689	.0315	.315	–	–	–	–	–	–	–	–	8244296	
SNMM 856-OR	T9415 .094	394	.0394	.472	–	–	–	361	.0394	.472	–	–	–	–	–	–	–	–	8345588	
SNMM 866-OR	T9415 .094	394	.0394	.472	–	–	–	361	.0394	.472	–	–	–	–	–	–	–	–	8345590	
				Geometry 923 for semi-rough to heavy-rough machining, and continuous to heavy interrupted cuts.																
SNMM 866S-923	T9415 .094	377	.0335	.433	–	–	–	344	.0335	.433	–	–	–	–	–	–	–	–	8345591	

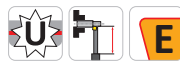
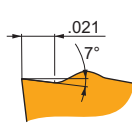
TCMT

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
1.21.2	.156	.087	.272	.078
1.81.5	.219	.098	.378	.094
21	.250	.110	.433	.094
32.5	.375	.173	.650	.156



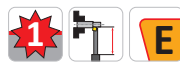
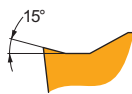
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



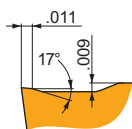
FF2 geometry with positive design for fine-finish to finish machining, and continuous to slightly interrupted cuts.

TCMT 1.21.20.5-FF2	T9415	.008	1099	.002	.031	–	–	–	1033	.002	.031	–	–	–	–	–	–	–	8345966
TCMT 1.21.21-FF2	T9415	.016	869	.0047	.031	–	–	–	820	.0047	.031	–	–	–	–	–	–	–	8345967
TCMT 1.81.51-FF2	T9415	.016	853	.0047	.039	–	–	–	804	.0047	.039	–	–	–	–	–	–	–	8244379
TCMT 21.51-FF2	T9415	.016	869	.0047	.031	–	–	–	820	.0047	.031	–	–	–	–	–	–	–	8345977
TCMT 21.52-FF2	T9415	.031	919	.0067	.031	–	–	–	869	.0067	.031	–	–	–	–	–	–	–	8244381
TCMT 32.51-FF2	T9415	.016	869	.0047	.031	–	–	–	820	.0047	.031	–	–	–	–	–	–	–	8345968
TCMT 32.52-FF2	T9415	.031	919	.0067	.031	–	–	–	869	.0067	.031	–	–	–	–	–	–	–	8345972



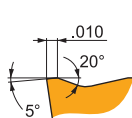
FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

TCMT 21.50.5-FM	T9415	.008	951	.0039	.031	–	–	–	902	.0039	.031	–	–	–	–	–	–	–	8345976
TCMT 21.51-FM	T9415	.016	968	.0047	.031	–	–	–	919	.0047	.031	–	–	–	–	–	–	–	8244380
TCMT 21.52-FM	T9415	.031	1017	.0067	.031	–	–	–	951	.0067	.031	–	–	–	–	–	–	–	8244382
TCMT 32.51-FM	T9415	.016	886	.0047	.067	–	–	–	837	.0047	.067	–	–	–	–	–	–	–	8345969
TCMT 32.52-FM	T9415	.031	935	.0067	.067	–	–	–	886	.0067	.067	–	–	–	–	–	–	–	8345973



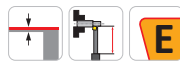
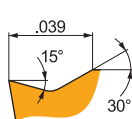
RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.

TCMT 32.52-RM	T9415	.031	820	.0106	.075	–	–	–	771	.0106	.075	–	–	–	–	–	164	.0055	.028	8244377
TCMT 32.53-RM	T9415	.047	869	.0106	.075	–	–	–	820	.0106	.075	–	–	–	–	–	164	.0055	.035	8244378



RM3 geometry for semi-rough to rough machining, and continuous to interrupted cuts.

TCMT 32.51-RM3	T9415	.016	673	.0079	.079	–	–	–	623	.0079	.079	–	–	–	–	–	131	.0055	.012	8345970
TCMT 32.52-RM3	T9415	.031	722	.0106	.079	–	–	–	673	.0106	.079	–	–	–	–	–	131	.0055	.028	8345974

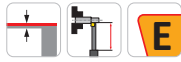
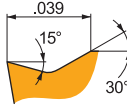


UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

TCMT 21.51-UR	T9415	.016	837	.0047	.031	–	–	–	787	.0047	.031	–	–	–	–	–	–	–	8345978
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Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



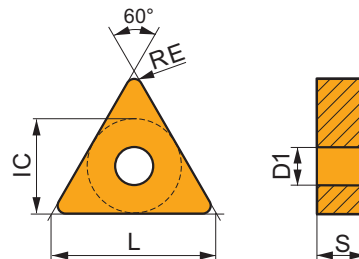
UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

TCMT 32.51-UR	T9415	.016	837	.0047	.031	-	-	-	787	.0047	.031	-	-	-	-	-	-	-	8345971
TCMT 32.52-UR	T9415	.031	869	.0067	.031	-	-	-	820	.0067	.031	-	-	-	-	-	-	-	8345975

TNMG

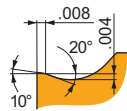
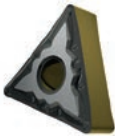
PRAMET

	IC (inch)	D1 (inch)	L (inch)	S (inch)
33	.375	.150	.650	.187
43	.500	.203	.866	.187
54	.625	.250	1.083	.250



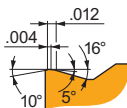
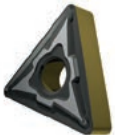
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



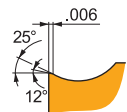
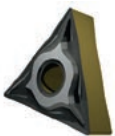
FM geometry with positive design for finish to semi-rough machining, and continuous to slightly interrupted cuts.

TNMG 331-FM	T9415	.016	820	.0079	.067	-	-	-	771	.0079	.067	-	-	-	-	-	-	-	8183404
TNMG 332-FM	T9415	.031	984	.0079	.067	-	-	-	935	.0079	.067	-	-	-	-	-	-	-	8183405
TNMG 333-FM	T9415	.047	951	.0098	.067	-	-	-	902	.0098	.067	-	-	-	-	-	-	-	8244302
TNMG 431-FM	T9415	.016	820	.0079	.067	-	-	-	771	.0079	.067	-	-	-	-	-	-	-	8244305
TNMG 432-FM	T9415	.031	984	.0079	.067	-	-	-	935	.0079	.067	-	-	-	-	-	-	-	8244306



M geometry for finish to semi-rough machining, and continuous to interrupted cuts.

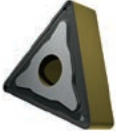
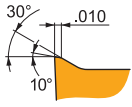

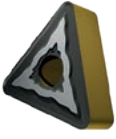
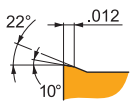

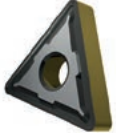
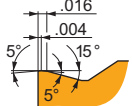

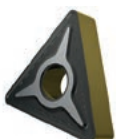
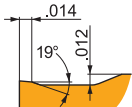

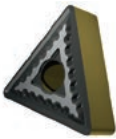
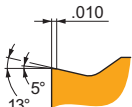

TNMG 331-M	T9415	.016	755	.0079	.063	-	-	-	705	.0079	.063	-	-	-	-	-	148	.0055	.012	8244297
TNMG 332-M	T9415	.031	787	.0118	.063	-	-	-	738	.0118	.063	-	-	-	-	-	148	.0059	.028	8244299
TNMG 333-M	T9415	.047	738	.0157	.063	-	-	-	689	.0157	.063	-	-	-	-	-	148	.0079	.035	8244303
TNMG 432-M	T9415	.031	755	.0118	.083	-	-	-	705	.0118	.083	-	-	-	-	-	148	.0059	.028	8244307
TNMG 433-M	T9415	.047	738	.0157	.083	-	-	-	689	.0157	.083	-	-	-	-	-	148	.0079	.035	8244310



NF geometry with highly positive design for fine-finish to medium machining, and continuous cuts.

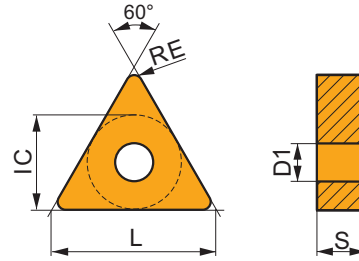
TNMG 331-NF	T9415	.016	935	.0059	.055	-	-	-	886	.0059	.055	-	-	-	-	-	-	-	8345592
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Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
			NM geometry with highly positive design for fine-finish, medium and rough machining, in continuous cuts.																	
TNMG 332-NM	T9415 .031	951	.0098	.075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345594
			NMR geometry with positive design for medium to rough machining, and continuous cuts.																	
TNMG 332-NMR	T9415 .031	771	.0118	.067	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345594
TNMG 333-NMR	T9415 .047	820	.0118	.067	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345596
TNMG 433-NMR	T9415 .047	804	.0118	.083	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345599
			R geometry for semi-rough to rough machining, and continuous to interrupted cuts.																	
TNMG 332-R	T9415 .031	673	.0157	.118	-	-	-	623	.0157	.118	-	-	-	-	-	-	131	.0079	.028	8345595
TNMG 333-R	T9415 .047	705	.0157	.118	-	-	-	656	.0157	.118	-	-	-	-	-	-	131	.0079	.035	8345597
TNMG 432-R	T9415 .031	640	.0157	.157	-	-	-	607	.0157	.157	-	-	-	-	-	-	115	.0079	.028	8345598
TNMG 433-R	T9415 .047	673	.0157	.157	-	-	-	623	.0157	.157	-	-	-	-	-	-	131	.0079	.035	8244311
			RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.																	
TNMG 332-RM	T9415 .031	771	.0157	.118	-	-	-	722	.0157	.118	-	-	-	-	-	-	-	-	-	8244300
TNMG 333-RM	T9415 .047	804	.0157	.118	-	-	-	755	.0157	.118	-	-	-	-	-	-	-	-	-	8244304
TNMG 432-RM	T9415 .031	738	.0157	.157	-	-	-	689	.0157	.157	-	-	-	-	-	-	-	-	-	8244308
TNMG 433-RM	T9415 .047	771	.0157	.157	-	-	-	722	.0157	.157	-	-	-	-	-	-	-	-	-	8244312
TNMG 434-RM	T9415 .063	820	.0157	.157	-	-	-	771	.0157	.157	-	-	-	-	-	-	-	-	-	8244314
TNMG 544-RM	T9415 .063	459	.0157	.236	-	-	-	427	.0157	.236	-	-	-	-	-	-	-	-	-	8244315
			SM geometry with positive design for medium machining, and continuous to interrupted cuts.																	
TNMG 331-SM	T9415 .016	787	.0079	.067	-	-	-	738	.0079	.067	-	-	-	-	-	-	148	.0055	.012	8244298
TNMG 332-SM	T9415 .031	869	.0098	.067	-	-	-	820	.0098	.067	-	-	-	-	-	-	164	.0051	.028	8244301
TNMG 432-SM	T9415 .031	869	.0098	.067	-	-	-	820	.0098	.067	-	-	-	-	-	-	164	.0051	.028	8244309
TNMG 433-SM	T9415 .047	853	.0118	.067	-	-	-	804	.0118	.067	-	-	-	-	-	-	164	.0059	.035	8244313

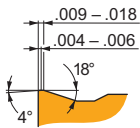
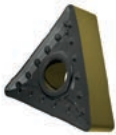
TNMM

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
33	.375	.150	.650	.187



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)				

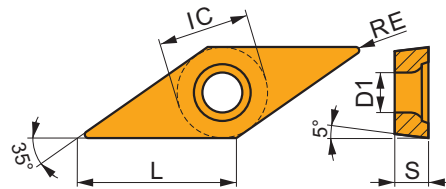


OR geometry for semi-rough to rough machining, and continuous to interrupted cuts.

TNMM 332-OR	T9415	.031	738	.0157	.118	689	.0157	.118											8345600
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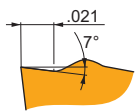
VBMT

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
22	.250	.110	.437	.125
33	.375	.173	.654	.187



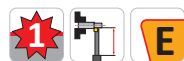
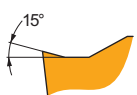
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)				



FF2 geometry with positive design for fine-finish to finish machining, and continuous to slightly interrupted cuts.


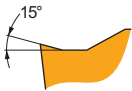


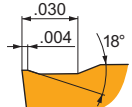


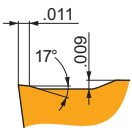


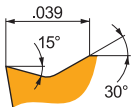

VBMT 331-FF2	T9415	.016	755	.0047	.031	705	.0047	.031											8345979
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FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

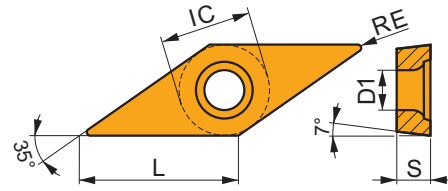
VBMT 221-FM	T9415	.016	837	.0047	.031	787	.0047	.031											8244383
VBMT 222-FM	T9415	.031	886	.0067	.031	837	.0067	.031											8183842
VBMT 330.5-FM	T9415	.008	804	.0039	.047	755	.0039	.047											8244384
VBMT 331-FM	T9415	.016	804	.0047	.047	755	.0047	.047											8244385

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID	
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)		
				FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.																	
		VBMT 332-FM	T9415	.031	853	.0067	.047	—	—	—	804	.0067	.047	—	—	—	—	—	—	—	—
VBMT 333-FM	T9415	.047	804	.0087	.047	—	—	—	755	.0087	.047	—	—	—	—	—	—	—	—	8244391	
				FM2 geometry for finish to medium machining, and continuous to interrupted cuts.																	
		VBMT 331-FM2	T9415	.016	722	.0047	.047	—	—	—	673	.0047	.047	—	—	—	—	—	—	—	8345980
VBMT 332-FM2	T9415	.031	722	.0079	.047	—	—	—	673	.0079	.047	—	—	—	—	—	—	—	—	8345981	
VBMT 333-FM2	T9415	.047	738	.0087	.047	—	—	—	689	.0087	.047	—	—	—	—	—	—	—	—	8345982	
				RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.																	
		VBMT 331-RM	T9415	.016	837	.0047	.047	—	—	—	787	.0047	.047	—	—	—	—	—	164	.0047	.012
VBMT 332-RM	T9415	.031	886	.0067	.047	—	—	—	837	.0067	.047	—	—	—	—	—	—	164	.0047	.028	8244389
VBMT 333-RM	T9415	.047	787	.0106	.047	—	—	—	738	.0106	.047	—	—	—	—	—	—	148	.0055	.035	8244392
				UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.																	
		VBMT 331-UR	T9415	.016	689	.0047	.047	—	—	—	640	.0047	.047	—	—	—	—	—	—	—	8244387
VBMT 332-UR	T9415	.031	738	.0067	.047	—	—	—	689	.0067	.047	—	—	—	—	—	—	—	—	8244390	
VBMT 333-UR	T9415	.047	689	.0087	.047	—	—	—	640	.0087	.047	—	—	—	—	—	—	—	—	8244393	

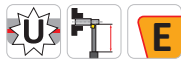
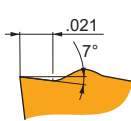
VCGT

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
2.52	.313	.134	.543	.125



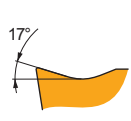
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



FF2 geometry with positive design for fine-finish to finish machining, and continuous to slightly interrupted cuts.

VCGT 2.520.5-FF2	T9415	.008	886	.002	.039	—	—	—	837	.002	.039	—	—	—	—	—	—	—	8345983
VCGT 2.521-FF2	T9415	.016	705	.0047	.039	—	—	—	656	.0047	.039	—	—	—	—	—	—	—	8345984
VCGT 2.522-FF2	T9415	.031	738	.0067	.039	—	—	—	689	.0067	.039	—	—	—	—	—	—	—	8345986

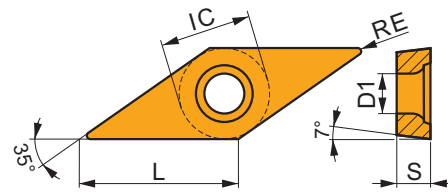


NF2 geometry with positive design for fine-finish to semi-rough machining, and continuous cuts.

VCGT 2.521-NF2	T9415	.016	738	.0039	.039	—	—	—	689	.0039	.039	—	—	—	—	—	—	—	8345985
VCGT 2.522-NF2	T9415	.031	738	.0067	.039	—	—	—	689	.0067	.039	—	—	—	—	—	—	—	8345987

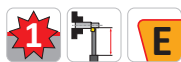
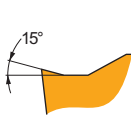
VCMT

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
22	.250	.110	.437	.125
33	.375	.173	.654	.187



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	

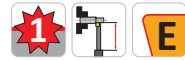
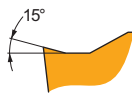


FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

VCMT 331-FM	T9415	.016	755	.0047	.047	—	—	—	705	.0047	.047	—	—	—	—	—	—	—	8244394
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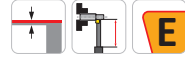
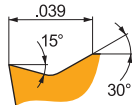
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



FM geometry for finish to semi-rough machining, and continuous to slightly interrupted cuts.

VCMT 332-FM	T9415	.031	804	.0067	.047	-	-	-	755	.0067	.047	-	-	-	-	-	-	-	-	8244395
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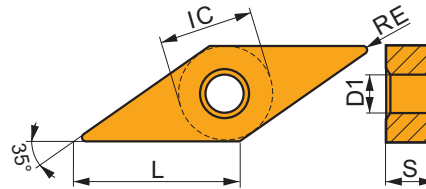
UR geometry for fine to finish machining, and continuous to slightly interrupted cuts.

VCMT 221-UR	T9415	.016	689	.0047	.031	-	-	-	640	.0047	.031	-	-	-	-	-	-	-	-	8345988
VCMT 222-UR	T9415	.031	722	.0067	.031	-	-	-	673	.0067	.031	-	-	-	-	-	-	-	-	8345989
VCMT 331-UR	T9415	.016	656	.0047	.047	-	-	-	623	.0047	.047	-	-	-	-	-	-	-	-	8345990
VCMT 332-UR	T9415	.031	689	.0067	.047	-	-	-	640	.0067	.047	-	-	-	-	-	-	-	-	8345991

VNMG

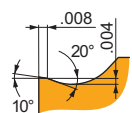


	IC (inch)	D1 (inch)	L (inch)	S (inch)
33	.375	.150	.654	.187



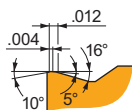
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



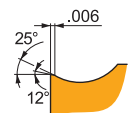
FM geometry with positive design for finish to semi-rough machining and continuous to slightly interrupted cuts.

VNMG 331-FM	T9415	.016	705	.0079	.047	-	-	-	656	.0079	.047	-	-	-	-	-	-	-	-	8183406
VNMG 332-FM	T9415	.031	837	.0079	.055	-	-	-	787	.0079	.055	-	-	-	-	-	-	-	-	8183407
VNMG 333-FM	T9415	.047	837	.0087	.055	-	-	-	787	.0087	.055	-	-	-	-	-	-	-	-	8183408



M geometry for finish to semi-rough machining and continuous to interrupted cuts.


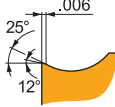

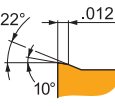

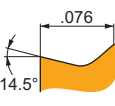

VNMG 331-M	T9415	.016	640	.0079	.047	-	-	-	607	.0079	.047	-	-	-	-	-	115	.0055	.012	8345601
VNMG 332-M	T9415	.031	656	.0118	.055	-	-	-	623	.0118	.055	-	-	-	-	-	131	.0059	.028	8244316



NF geometry with highly positive design for fine-finish to medium machining, and continuous cuts.

VNMG 331-NF	T9415	.016	837	.0047	.047	-	-	-	787	.0047	.047	-	-	-	-	-	-	-	-	8345602
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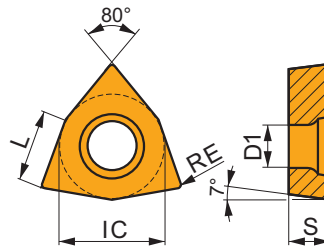
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID	
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)		
 																					
VNMG 332-NF	T9415	.031	886	.0067	.055	—	—	—	837	.0067	.055	—	—	—	—	—	—	—	—	8244317	
 																					
VNMG 332-NMR	T9415	.031	656	.0118	.055	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8345604	
 																					
VNMG 332-SF	T9415	.031	837	.0067	.055	—	—	—	787	.0067	.055	—	—	—	—	—	—	164	.0047	.028	8345605
 																					
VNMG 331-SM	T9415	.016	689	.0071	.047	—	—	—	640	.0071	.047	—	—	—	—	—	—	131	.0051	.012	8345603

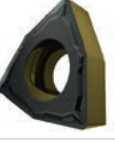
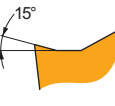
WCMT



	IC (inch)	D1 (inch)	L (inch)	S (inch)
32.5	.375	.173	.256	.156
43	.500	.217	.343	.187

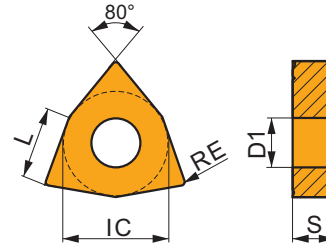


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	
 																				
WCMT 32.51-FM	T9415	.016	1001	.0059	.047	—	—	—	935	.0059	.047	—	—	—	—	—	—	—	—	8345992
WCMT 32.52-FM	T9415	.031	1083	.0079	.047	—	—	—	1017	.0079	.047	—	—	—	—	—	—	—	—	8345993
WCMT 432-FM	T9415	.031	1033	.0079	.067	—	—	—	968	.0079	.067	—	—	—	—	—	—	—	—	8345994

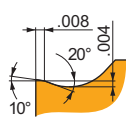
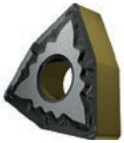
WNMG

	IC	D1	L	S
	(inch)	(inch)	(inch)	(inch)
33	.375	.150	.256	.187
43	.500	.203	.343	.187



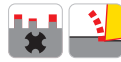
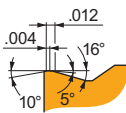
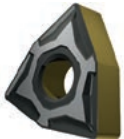
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	



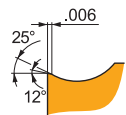
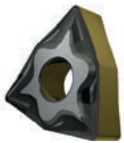
FM geometry with positive design for finish to semi-rough machining, and continuous to slightly interrupted cuts.

WNMG 331-FM	T9415	.016	1001	.0079	.055	—	—	—	935	.0079	.055	—	—	—	—	—	—	—	8244318
WNMG 332-FM	T9415	.031	1198	.0079	.055	—	—	—	1132	.0079	.055	—	—	—	—	—	—	—	8244319
WNMG 333-FM	T9415	.047	1148	.0106	.047	—	—	—	1083	.0106	.047	—	—	—	—	—	—	—	8244321
WNMG 431-FM	T9415	.016	1017	.0079	.047	—	—	—	951	.0079	.047	—	—	—	—	—	—	—	8244322
WNMG 432-FM	T9415	.031	1148	.0079	.075	—	—	—	1083	.0079	.075	—	—	—	—	—	—	—	8244324
WNMG 433-FM	T9415	.047	1099	.0106	.075	—	—	—	1033	.0106	.075	—	—	—	—	—	—	—	8244330



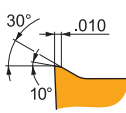
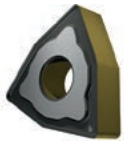
M geometry for finish to semi-rough machining, and continuous to interrupted cuts.

WNMG 331-M	T9415	.016	886	.0079	.071	—	—	—	837	.0079	.071	—	—	—	—	—	164	.0051	.012	8345606
WNMG 332-M	T9415	.031	902	.0126	.071	—	—	—	853	.0126	.071	—	—	—	—	—	180	.0063	.028	8345608
WNMG 431-M	T9415	.016	869	.0079	.083	—	—	—	820	.0079	.083	—	—	—	—	—	164	.0051	.012	8345612
WNMG 432-M	T9415	.031	886	.0126	.083	—	—	—	837	.0126	.083	—	—	—	—	—	164	.0063	.028	8183410
WNMG 433-M	T9415	.047	869	.0157	.083	—	—	—	820	.0157	.083	—	—	—	—	—	164	.0079	.039	8183412



NF geometry with highly positive design for fine-finish to medium machining, and continuous cuts.


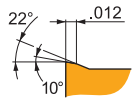

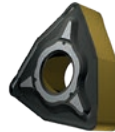
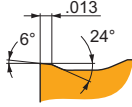

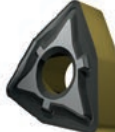
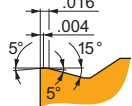

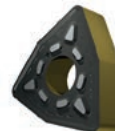
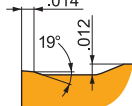

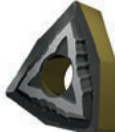
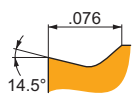

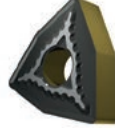
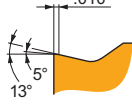

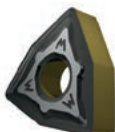
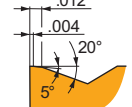

WNMG 331-NF	T9415	.016	1115	.0067	.031	—	—	—	1050	.0067	.031	—	—	—	—	—	—	—	8345607
WNMG 332-NF	T9415	.031	1247	.0075	.039	—	—	—	1181	.0075	.039	—	—	—	—	—	—	—	8345609
WNMG 432-NF	T9415	.031	1181	.0075	.067	—	—	—	1115	.0075	.067	—	—	—	—	—	—	—	8345617
WNMG 433-NF	T9415	.047	1033	.0118	.083	—	—	—	968	.0118	.083	—	—	—	—	—	—	—	8345621



NM geometry with highly positive design for fine-finish, medium and rough machining, with continuous cuts.

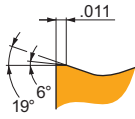
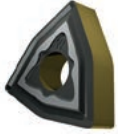
WNMG 431-NM	T9415	.016	1001	.0079	.083	—	—	—	—	—	—	—	—	—	—	—	—	—	8345613
WNMG 432-NM	T9415	.031	1099	.0098	.083	—	—	—	—	—	—	—	—	—	—	—	—	—	8345618

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID	
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)		
			NMR geometry with positive design for medium to rough machining, and continuous cuts.																		
WNMG 431-NMR	T9415 .016	787	.0098	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345614	
WNMG 432-NMR	T9415 .031	837	.0138	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8244325	
WNMG 433-NMR	T9415 .047	837	.0157	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345622	
			NRM geometry with positive design for semi-rough to rough machining, and continuous to moderate interrupted cuts.																		
WNMG 432-NRM	T9415 .031	837	.0138	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345616	
WNMG 433-NRM	T9415 .047	837	.0157	.106	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8345620	
			R geometry for semi-rough to rough machining, and continuous to interrupted cuts.																		
WNMG 432-R	T9415 .031	771	.0157	.138	-	-	-	722	.0157	.138	-	-	-	-	-	-	148	.0079	.028	8244326	
WNMG 433-R	T9415 .047	787	.0177	.138	-	-	-	738	.0177	.138	-	-	-	-	-	-	148	.0091	.039	8183413	
			RM geometry for semi-rough to rough machining, and continuous to interrupted cuts.																		
WNMG 333-RM	T9415 .047	919	.0177	.118	-	-	-	869	.0177	.118	-	-	-	-	-	-	-	-	-	8183409	
WNMG 432-RM	T9415 .031	869	.0157	.157	-	-	-	820	.0157	.157	-	-	-	-	-	-	-	-	-	8244327	
WNMG 433-RM	T9415 .047	886	.0177	.157	-	-	-	837	.0177	.157	-	-	-	-	-	-	-	-	-	8244331	
WNMG 434-RM	T9415 .063	902	.0197	.157	-	-	-	853	.0197	.157	-	-	-	-	-	-	-	-	-	8244333	
			SF geometry with positive design for fine-finish machining and for machining thin walls, with continuous cuts.																		
WNMG 432-SF	T9415 .031	1165	.0079	.039	-	-	-	1099	.0079	.039	-	-	-	-	-	-	230	.0051	.028	8345619	
			SM geometry with positive design for medium machining, and continuous to interrupted cuts.																		
WNMG 431-SM	T9415 .016	919	.0079	.079	-	-	-	869	.0079	.079	-	-	-	-	-	-	180	.0051	.012	8244323	
WNMG 432-SM	T9415 .031	1001	.0098	.079	-	-	-	935	.0098	.079	-	-	-	-	-	-	197	.0051	.028	8183411	
WNMG 433-SM	T9415 .047	984	.0118	.079	-	-	-	935	.0118	.079	-	-	-	-	-	-	197	.0059	.039	8183414	
			W-M wiper geometry for semi-rough to rough machining with increased feed rates and improved surface finish.																		
WNMG 332W-M	T9415 .031	837	.0177	.047	-	-	-	787	.0177	.047	-	-	-	-	-	-	-	-	-	8244320	
WNMG 333W-M	T9415 .047	820	.0217	.047	-	-	-	771	.0217	.047	-	-	-	-	-	-	-	-	-	8345611	
WNMG 432W-M	T9415 .031	804	.0177	.059	-	-	-	755	.0177	.059	-	-	-	-	-	-	-	-	-	8244328	

Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our cutting conditions app for further options.

Product	RE (inch)	P			M			K			N			S			H			MID
		vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	vc (ft/min)	f (in/rev)	ap (inch)	

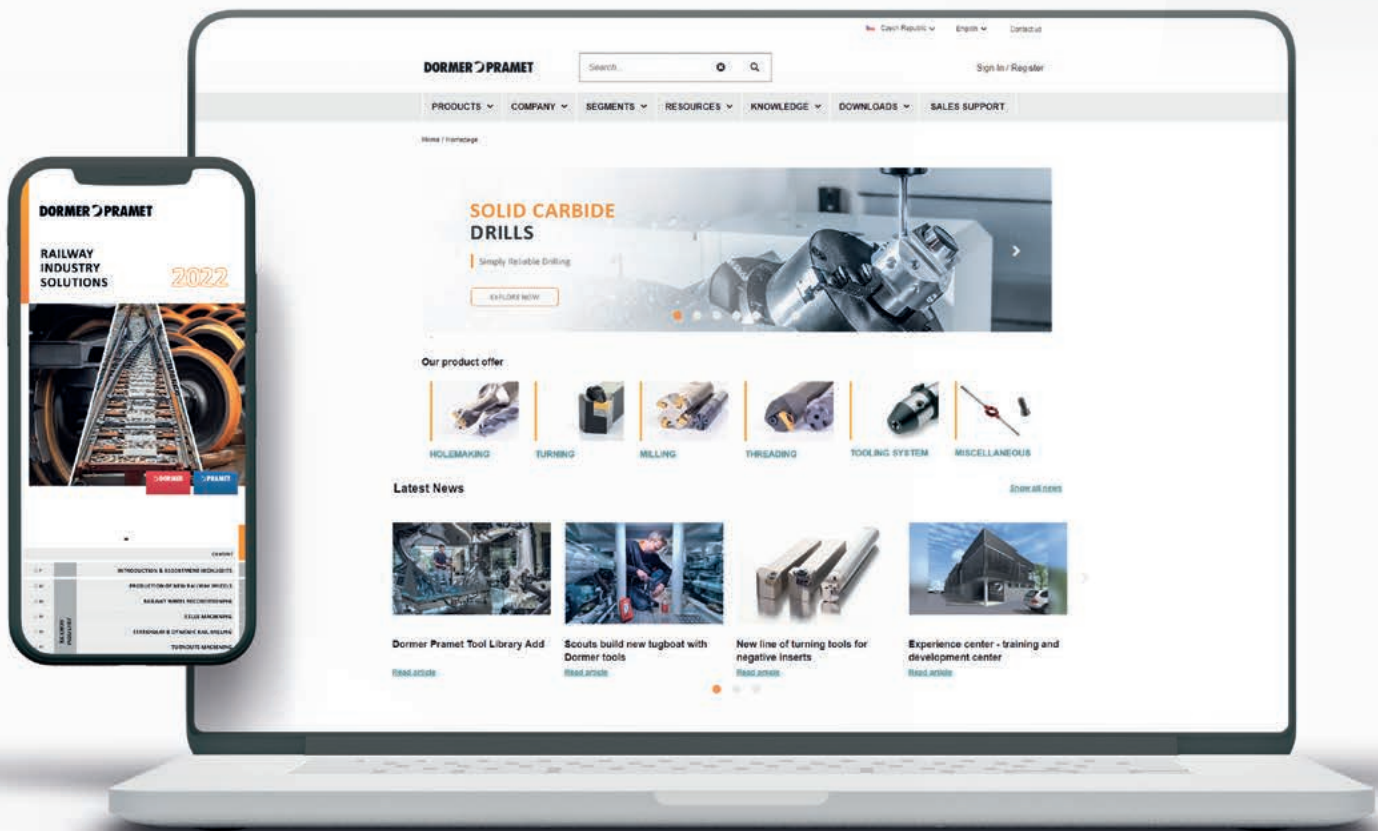


W-MR wiper geometry for finish to rough machining with increased feed rates and improved surface finish.

WNMG 332W-MR	T9415	.031	837	.0177	.047	–	–	–	787	.0177	.047	–	–	–	–	–	–	–	–	8345610
WNMG 431W-MR	T9415	.016	787	.0118	.059	–	–	–	738	.0118	.059	–	–	–	–	–	–	–	–	8345615
WNMG 432W-MR	T9415	.031	804	.0177	.059	–	–	–	755	.0177	.059	–	–	–	–	–	–	–	–	8244329
WNMG 433W-MR	T9415	.047	804	.0217	.059	–	–	–	755	.0217	.059	–	–	–	–	–	–	–	–	8244332



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