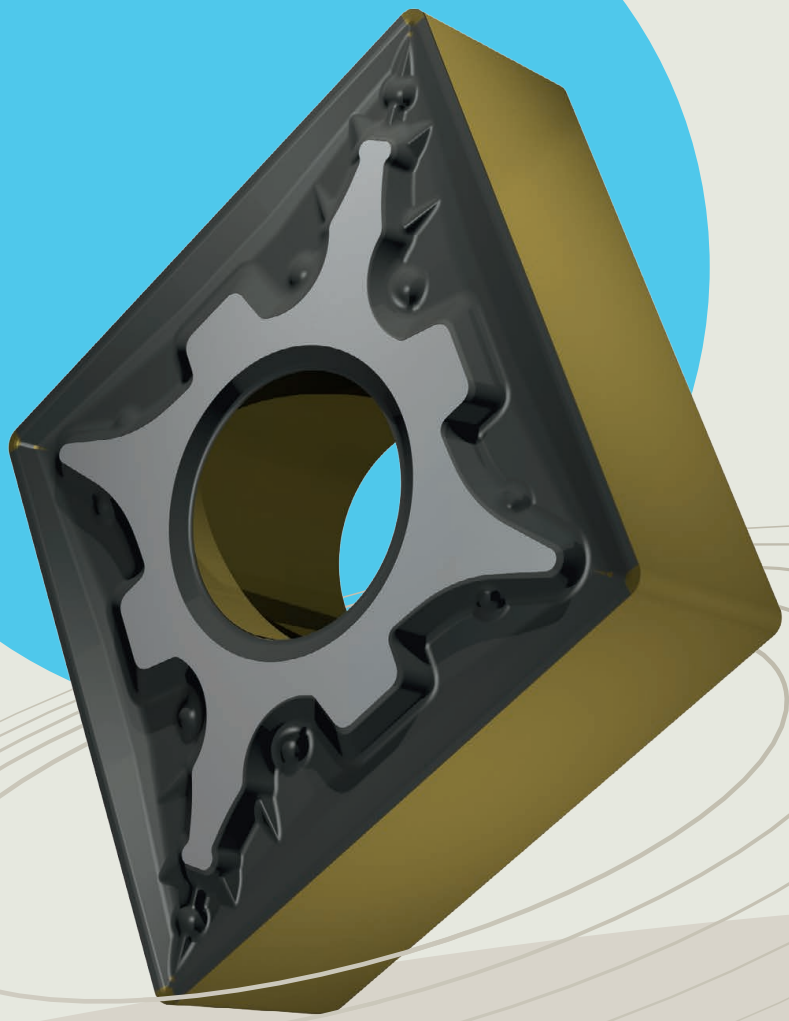
DORMER PRAMET™

T5405 grade

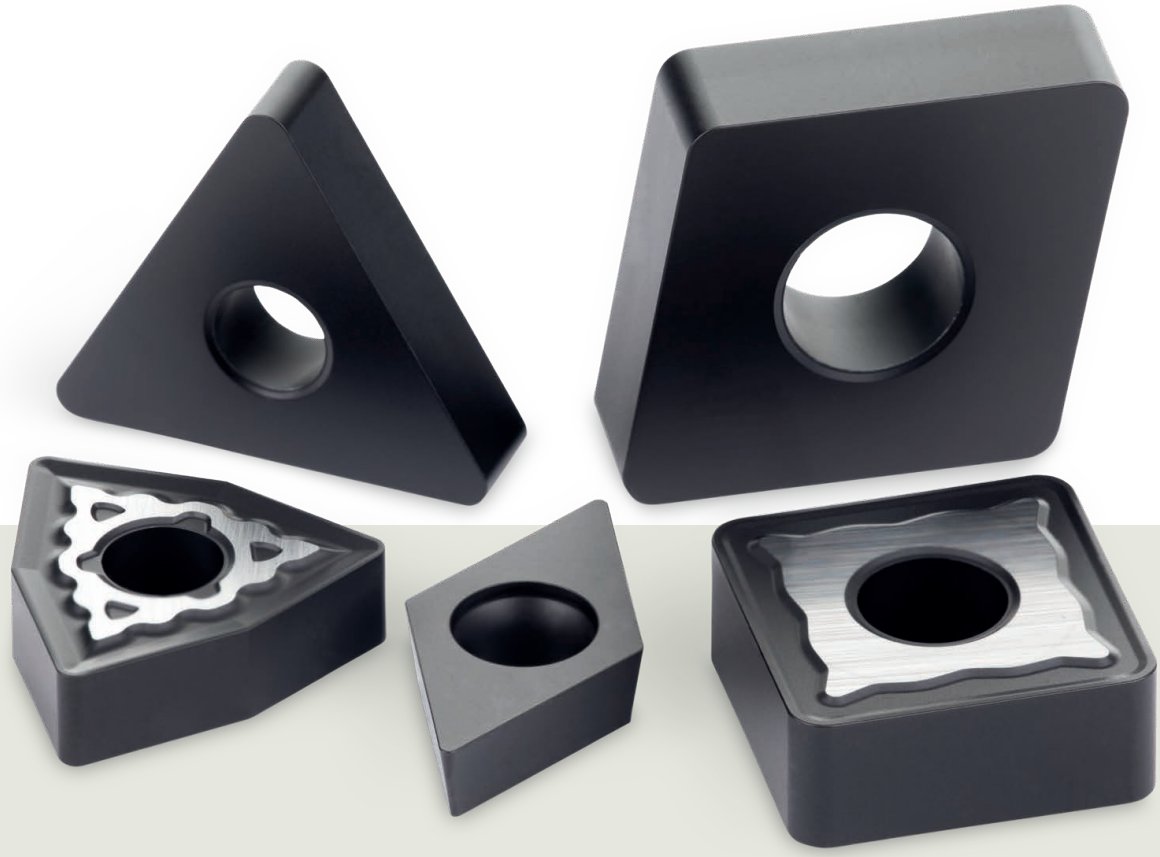
New CVD grade for gray cast iron



Certainty at every turn™

New CVD grade for gray cast iron

Maximize your productivity in gray cast iron

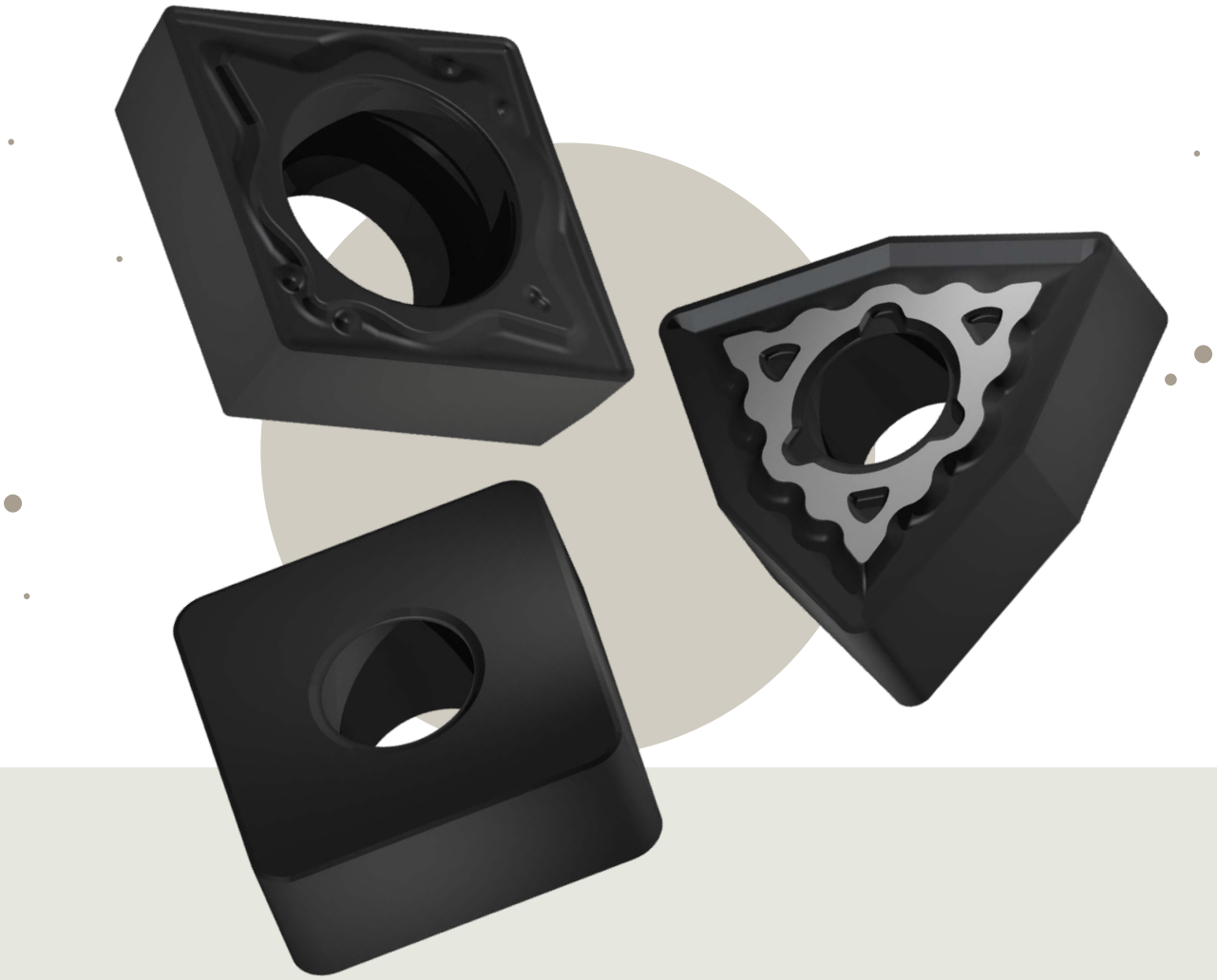


The new T5405 CVD turning grade provides excellent tool life in gray cast iron applications, thanks to its advanced α-Al_2O_3 coating technology.

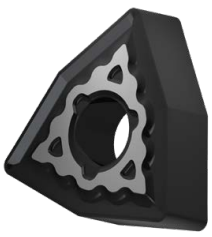
Key features and benefits include outstanding performance at high cutting speeds, a precision-ground seating face for improved stability, and additional suitability for white cast iron.

The T5405 is a reliable and efficient solution for high-productivity machining environments where durability and performance matter most.

Related products



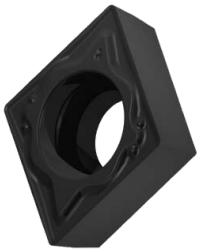
T5405



Negative inserts

Gray cast iron

T5405



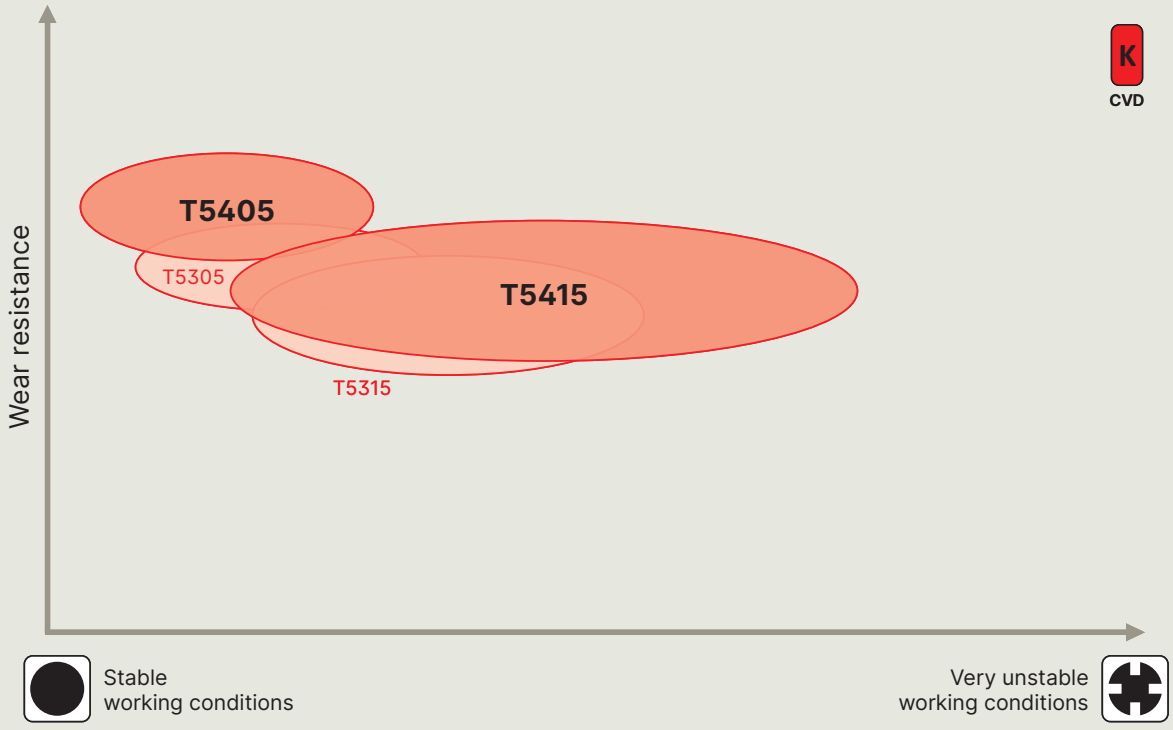
Positive inserts

Gray cast iron

Features & benefits

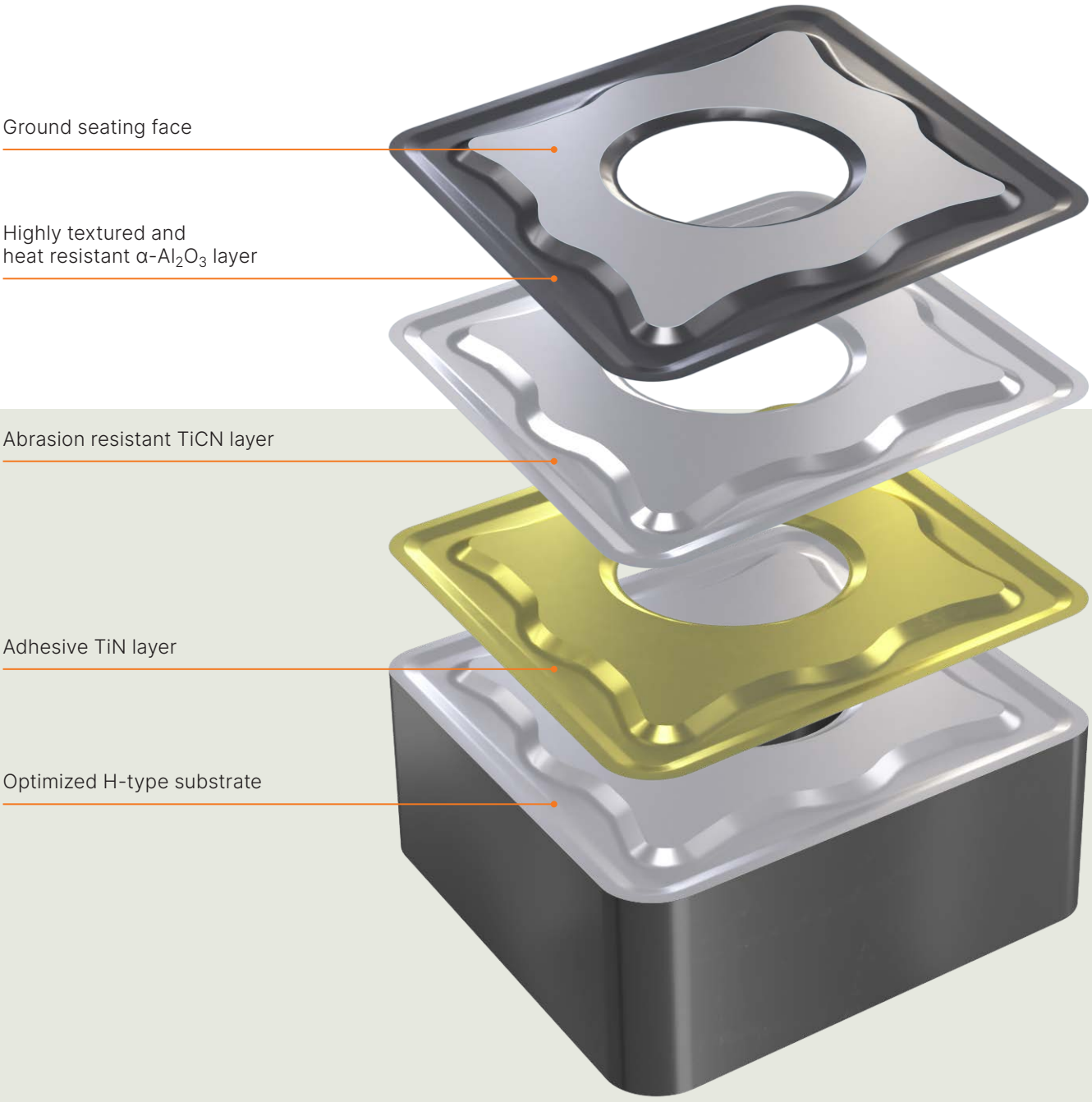
New CVD coating platform with enhanced layer thickness.	→	**Significantly boosts tool life** and productivity.
Advanced α-Al_2O_3 coating provides superior wear resistance.	→	**Reliable performance** and extended tool life in stable cutting conditions.
The highly textured α-Al_2O_3 coating provides increased heat stability.	→	**Increased productivity** at high cutting speeds.
Ground seating face provides larger contact area and optimizes heat transfer.	→	**Improved seating stability** ensures consistent high-quality performance.

Application area of T5405 turning grades



Grade composition

Thick and highly textured α-Al_2O_3 coating for maximum durability



Success stories

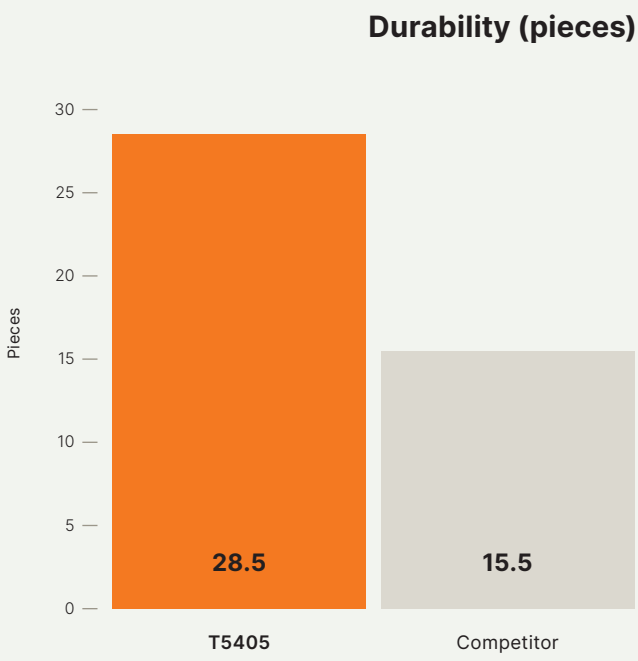
Enhance durability by **84%** in cast iron machining

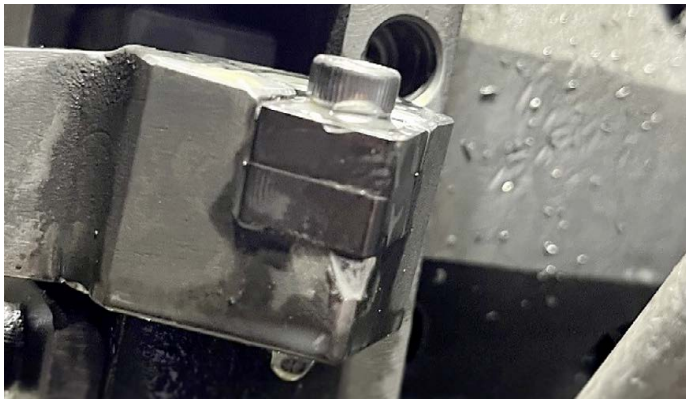
Customer result: The T5405 grade achieved an average tool life of 28.5 pieces, clearly outperforming the competitor's grade (15.5 pieces). Under cutting parameters of 432 m/min, 0.5 mm/rev, 4 mm depth of cut, the T5405 reached up to 42 pieces, proving its reliability in high-speed, high-productivity operations.
These results demonstrate the exceptional performance of the T5405 grade and durability in machining truck engine sleeves.

Segment	Automotive
Component	Truck engine sleeve
Application	Turning
Material	EN-GJS-400-15 (GG40)
Coolant	No
Dormer Pramet solution	SNMA 150616S:T5405

Machining data		
v_c	f_n	a_p
432	0.5	4.0

K1.3





v_c = cutting speed (m/min), f_n = feed per revolution (mm/rev), a_p = axial depth of cut (mm)

Success stories

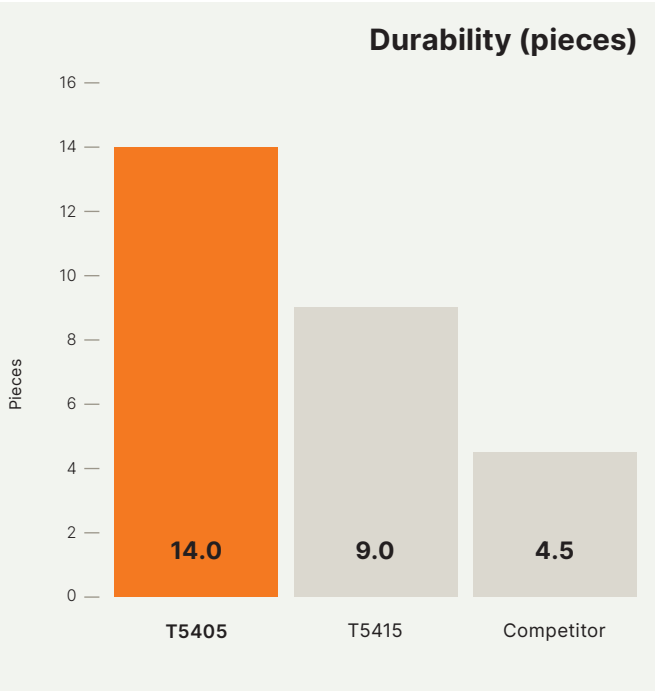
Achieve **211%** longer tool life in demanding operations

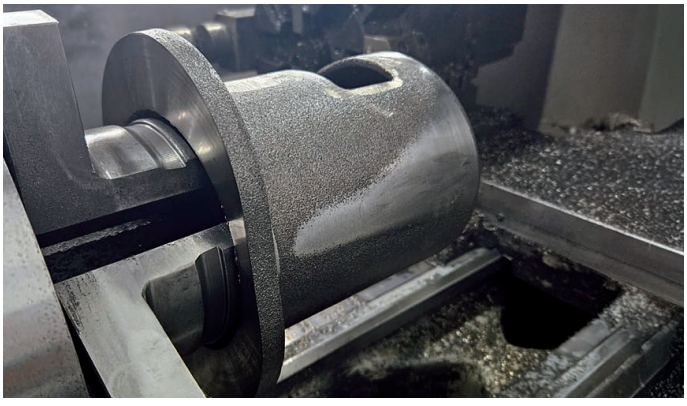
Customer result: The T5405 achieved an average tool life of 14 pieces, over three times more than the competitor's tool (4.5 pieces). At 320 m/min, 0.22 mm/rev, and 0.8 mm depth of cut, the T5405 outperformed T5415 as well, delivering 55% longer tool life.
This proves the T5405 as a reliable solution in demanding environments.

Segment	Agriculture
Component	Harvester sleeve
Application	Turning
Material	EN-GJS-500-7 (GGG50)
Coolant	Yes
Dormer Pramet solution	WNMA 080412:T5405

Machining data		
v_c	f_n	a_p
320	0.22	0.8

K3.1





v_c = cutting speed (m/min), f_n = feed per revolution (mm/rev), a_p = axial depth of cut (mm)

Machining examples

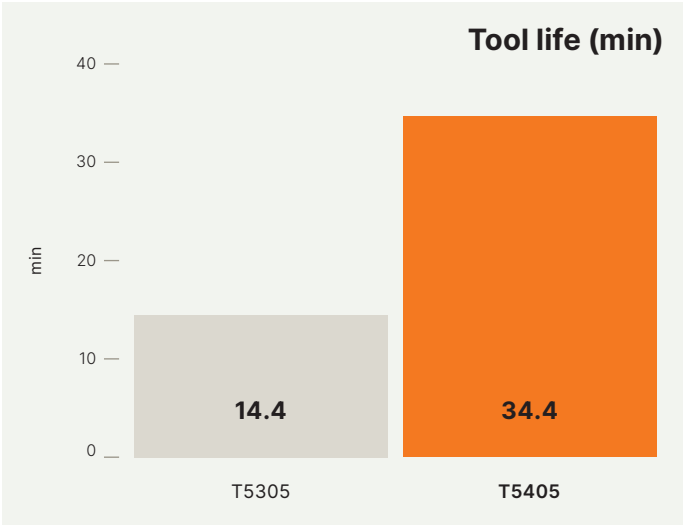
Boost tool life by **139%** in gray cast iron face turning

The tests in our testing rooms confirmed an outstanding improvement in durability against the previous grade. The new T5405 grade achieved a tool life of 34.4 minutes in face turning operations – 139% longer than the previous T5305 grade.

Application	Face turning
Material	GG25
Coolant	No
Dormer Pramet solution	CNMA 120408:T5405

Machining data		
v_c	f_n	a_p
330	0.3	2.0

K1.2



T5305

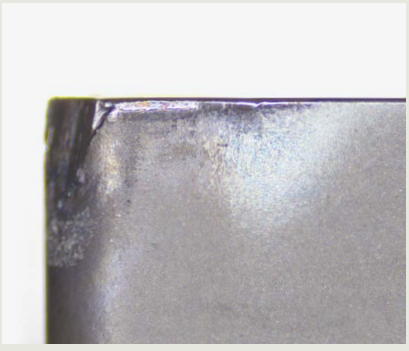


Photo taken after 14.4 minutes

T5405

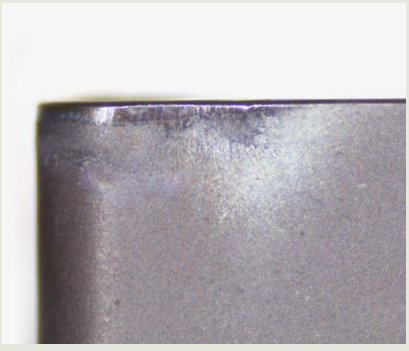


Photo taken after 14.4 minutes

T5405

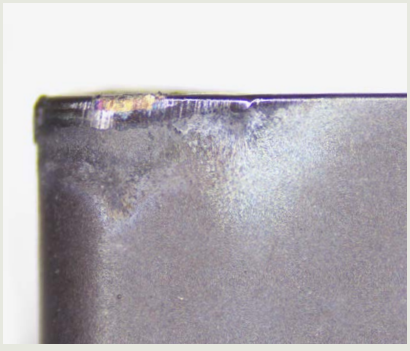


Photo taken after 31 minutes

v_c = cutting speed (m/min), f_n = feed per revolution (mm/rev), a_p = axial depth of cut (mm)

Machining examples

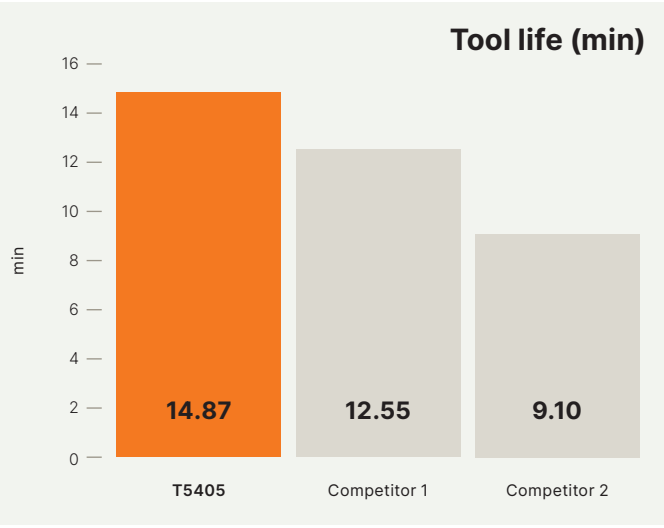
Significant higher tool life against the best competitor

In demanding combined operations the new T5405 grade delivered 14.9 minutes of tool life, which was higher than any competitor. The grade maintained consistent performance throughout both operations while outperforming all tested competitors by at least 18.5%.

Application	Combined face turning and longitudinal turning
Material	GG25
Coolant	Yes
Dormer Pramet solution	CNMA 120408:T5405

Machining data		
v_c	f_n	a_p
530	0.3	2.0

K1.2



T5405

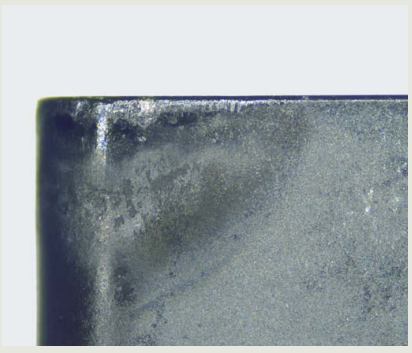


Photo taken after 12 minutes

Competitor 1

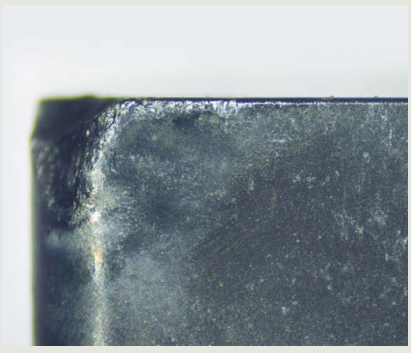


Photo taken after 12 minutes

Competitor 2

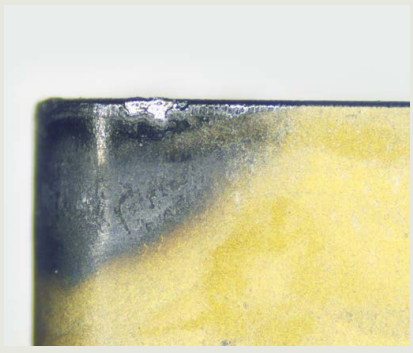


Photo taken after 9 minutes

v_c = cutting speed (m/min), f_n = feed per revolution (mm/rev), a_p = axial depth of cut (mm)

Technical information

Chipbreakers for negative T5405 inserts

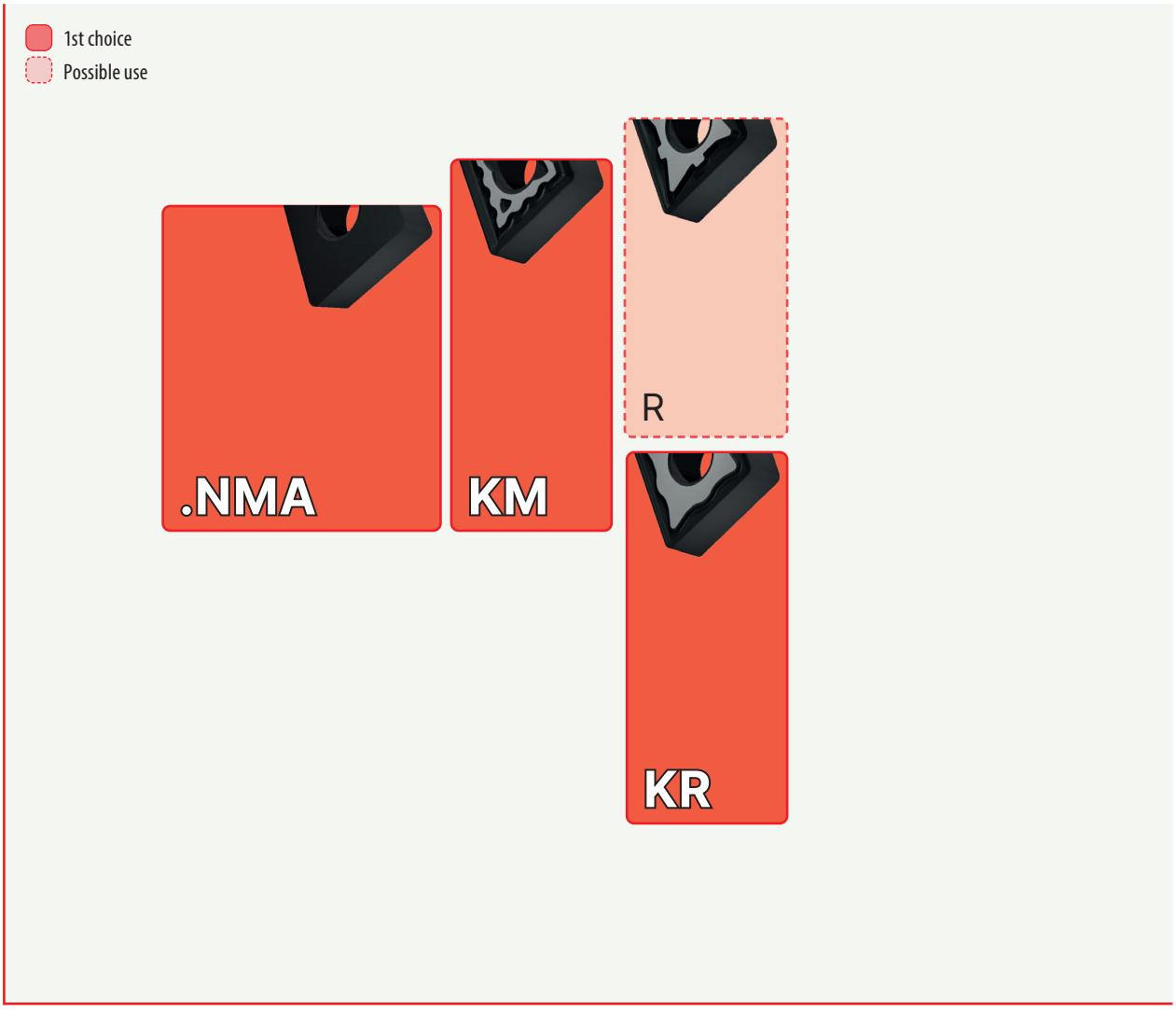
K

Very unstable working conditions

Unstable working conditions

Stable working conditions

Thin -walled and slim workpieces



	FF	F	M	R	HR
f ⇨	0.05 – 0.2 mm/rev		0.2 – 0.4 mm/rev	0.4 – 1.0 mm/rev	> 1.0 mm/rev
a_p	0.05 – 2 mm		2 – 4 mm	4 – 10 mm	> 10 mm

Technical information

Chipbreakers for positive T5405 inserts

K

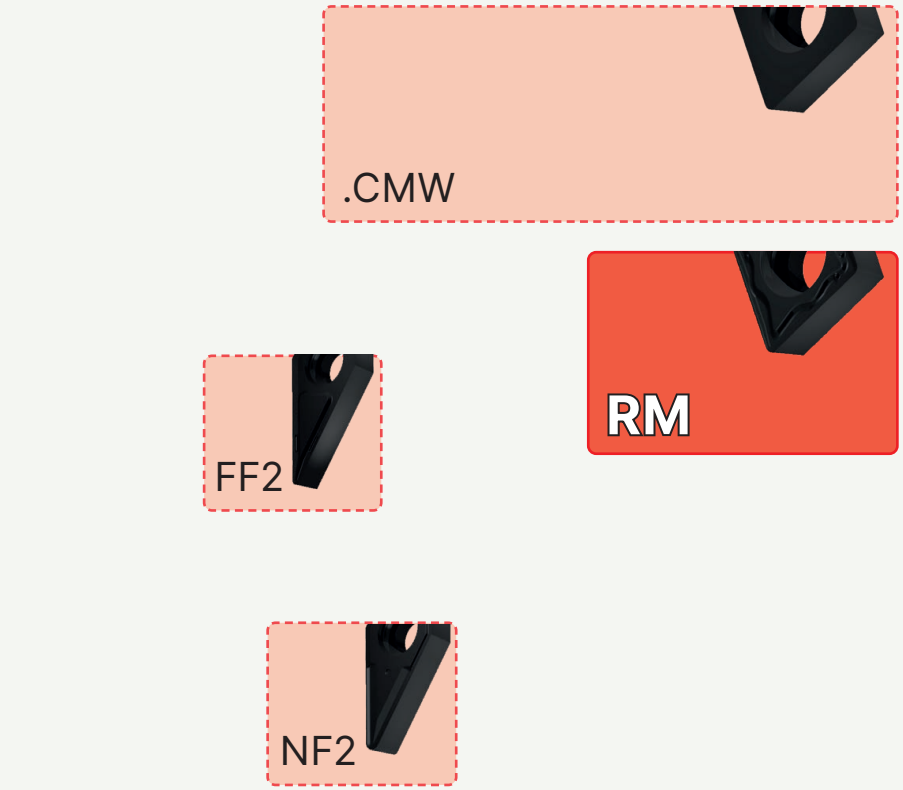
Very unstable working conditions

Unstable working conditions

Stable working conditions

Thin -walled and slim workpieces

1st choice
Possible use



	FF	F	M	R	HR
f ⇨	0.05 – 0.2 mm/rev		0.2 – 0.4 mm/rev	0.4 – 1.0 mm/rev	> 1.0 mm/rev
a_p	0.05 – 2 mm		2 – 4 mm	4 – 10 mm	> 10 mm

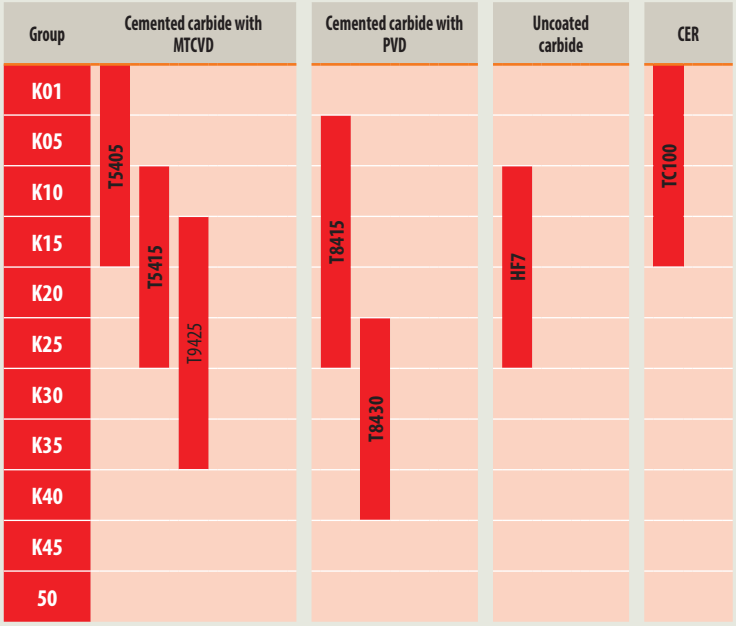
Technical information

T5405 application range and material compatibility

Grade identification	Area of application	Application	Feed	Cutting speed	Resistance to adverse working conditions	Coating	Colour	Substrate	Coolant benefit	Grade description
T5405	P05 - P15 / K01 - K15	◪ / ■	▂▄▆▇	▂▄▆▇	▂▄▆▇	MT-CVD		H	+	This wear resistant material is primarily intended for finishing and semi-roughing turning of cast iron parts (especially gray) at very high cutting speeds under stable cutting conditions. It is conditionally possible to use this material for machining steels.

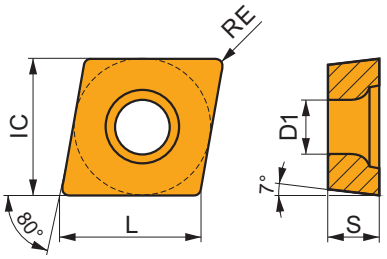
■ Primary use ◪ Possible use

Recommended grades by ISO material group



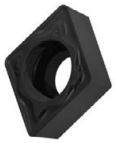
CCMT

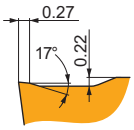
	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
09T3	9.525	4.40	9.70	3.97
1204	12.700	5.50	12.90	4.76



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

Product		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)
CCMT 09T304E-RM:T5405	●	0.4	◪ 325	0.25	2.2	–	–	–	■ 305	0.25	2.2	–	–	–	–	–	–	–	–	–
CCMT 09T308E-RM:T5405	⬌	0.8	◪ 365	0.30	2.2	–	–	–	■ 345	0.30	2.2	–	–	–	–	–	–	–	–	–
CCMT 120408E-RM:T5405	⬌	0.8	◪ 355	0.30	2.7	–	–	–	■ 335	0.30	2.7	–	–	–	–	–	–	–	–	–

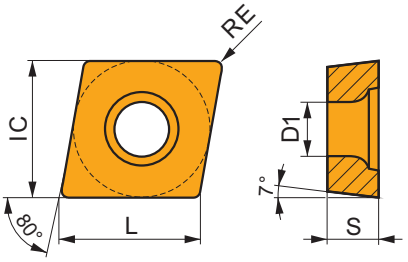




RM chip breaker is robust and the first choice for roughing of Steels and Cast irons. It features positive rake angle and stable, wide T-land. It's also suitable for Stainless steels, and conditionally for Super-alloys and Hard materials.

CCMW

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0602	6.350	2.80	6.40	2.38
09T3	9.525	4.40	9.70	3.97
1204	12.700	5.50	12.90	4.76



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

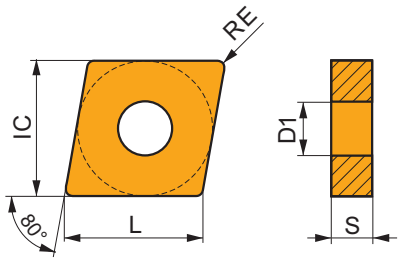
Product		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)	(m/min)	(mm/rev)	(mm)
CCMW 060202:T5405	●	0.2	–	–	–	–	–	–	■ 270	0.08	2.0	–	–	–	–	–	–	–	–	–
CCMW 060204:T5405	●	0.4	–	–	–	–	–	–	■ 270	0.10	2.0	–	–	–	–	–	–	–	–	–
CCMW 09T304:T5405	●	0.4	–	–	–	–	–	–	■ 205	0.20	3.0	–	–	–	–	–	–	–	–	–
CCMW 09T308:T5405	●	0.8	–	–	–	–	–	–	■ 245	0.20	3.0	–	–	–	–	–	–	–	–	–
CCMW 120404:T5405	●	0.4	–	–	–	–	–	–	■ 245	0.10	4.0	–	–	–	–	–	–	–	–	–
CCMW 120408:T5405	⬌	0.8	–	–	–	–	–	–	■ 235	0.20	4.0	–	–	–	–	–	–	–	–	–

.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

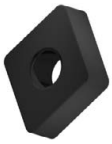
● Stable working conditions ⬌ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

CNMA

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1204	12.700	5.16	12.90	4.76
1606	15.875	6.35	16.10	6.35
1906	19.050	7.94	19.30	6.35



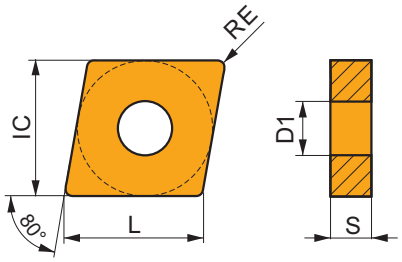
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ⬌ ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
			.NMA flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.																	
CNMA 120404:T5405	●	0.4	–	–	–	–	–	–	■ 275	0.10	4.0	–	–	–	–	–	–	–	–	–
CNMA 120408:T5405	⬌	0.8	–	–	–	–	–	–	■ 265	0.20	4.0	–	–	–	–	–	–	–	–	–
CNMA 120412:T5405	⬌	1.2	–	–	–	–	–	–	■ 245	0.30	4.0	–	–	–	–	–	–	–	–	–
CNMA 120416:T5405	⬌	1.6	–	–	–	–	–	–	■ 235	0.40	4.0	–	–	–	–	–	–	–	–	–
CNMA 160612:T5405	⬌	1.2	–	–	–	–	–	–	■ 240	0.30	5.0	–	–	–	–	–	–	–	–	–
CNMA 160616:T5405	⬌	1.6	–	–	–	–	–	–	■ 230	0.40	5.0	–	–	–	–	–	–	–	–	–
CNMA 190612:T5405	⬌	1.2	–	–	–	–	–	–	■ 235	0.30	6.0	–	–	–	–	–	–	–	–	–
CNMA 190616:T5405	⬌	1.6	–	–	–	–	–	–	■ 225	0.40	6.0	–	–	–	–	–	–	–	–	–
																				
			.NMA..S flat insert is designed for medium machining of Cast irons. It features neutral rake angle and negative, moderate T-land. It's also conditionally suitable for Hard materials.																	
CNMA 120408S:T5405	⬌	0.8	–	–	–	–	–	–	■ 265	0.20	4.0	–	–	–	–	–	–	–	–	–
CNMA 120412S:T5405	⬌	1.2	–	–	–	–	–	–	■ 245	0.30	4.0	–	–	–	–	–	–	–	–	–
CNMA 160612S:T5405	⬌	1.2	–	–	–	–	–	–	■ 240	0.30	5.0	–	–	–	–	–	–	–	–	–
CNMA 190616S:T5405	⬌	1.6	–	–	–	–	–	–	■ 225	0.40	6.0	–	–	–	–	–	–	–	–	–

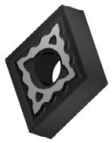
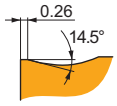
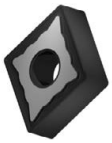
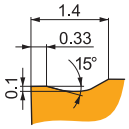
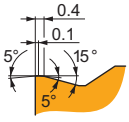
● Stable working conditions ⬌ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

CNMG

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1204	12.700	5.16	12.90	4.76
1606	15.875	6.35	16.10	6.35
1906	19.050	7.94	19.30	6.35



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

Product	● ⬌ ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
CNMG 120404-KM:T5405	●	0.4	◪	340	0.20	2.1	–	–	–	■	320	0.20	2.1	–	–	–	–	–	–	–	–	–
CNMG 120408-KM:T5405	⬌	0.8	◪	350	0.32	2.1	–	–	–	■	330	0.32	2.1	–	–	–	–	–	–	–	–	–
CNMG 120412-KM:T5405	⬌	1.2	◪	345	0.40	2.1	–	–	–	■	325	0.40	2.1	–	–	–	–	–	–	–	–	–
																				
CNMG 120408E-KR:T5405	⬌	0.8	◪	300	0.40	4.0	–	–	–	■	285	0.40	4.0	–	–	–	–	–	–	–	–	–
CNMG 120412E-KR:T5405	⬌	1.2	◪	345	0.40	2.1	–	–	–	■	325	0.40	2.1	–	–	–	–	–	–	–	–	–
CNMG 120416E-KR:T5405	⬌	1.6	◪	360	0.40	2.1	–	–	–	■	340	0.40	2.1	–	–	–	–	–	–	–	–	–
CNMG 160608E-KR:T5405	⬌	0.8	◪	310	0.35	4.5	–	–	–	■	290	0.35	4.5	–	–	–	–	–	–	–	–	–
CNMG 160612E-KR:T5405	⬌	1.2	◪	305	0.45	4.5	–	–	–	■	285	0.45	4.5	–	–	–	–	–	–	–	–	–
CNMG 160616E-KR:T5405	⬌	1.6	◪	305	0.50	4.5	–	–	–	■	285	0.50	4.5	–	–	–	–	–	–	–	–	–
CNMG 190608E-KR:T5405	⬌	0.8	◪	295	0.35	7.0	–	–	–	■	280	0.35	7.0	–	–	–	–	–	–	–	–	–
CNMG 190612E-KR:T5405	⬌	1.2	◪	290	0.45	7.0	–	–	–	■	275	0.45	7.0	–	–	–	–	–	–	–	–	–
CNMG 190616E-KR:T5405	⬌	1.6	◪	295	0.50	7.0	–	–	–	■	280	0.50	7.0	–	–	–	–	–	–	–	–	–
																				
CNMG 120408E-R:T5405	⬌	0.8	◪	300	0.40	4.0	–	–	–	■	285	0.40	4.0	–	–	–	–	–	–	–	–	–
CNMG 160612E-R:T5405	⬌	1.2	◪	300	0.45	5.5	–	–	–	■	285	0.45	5.5	–	–	–	–	–	–	–	–	–
CNMG 160616E-R:T5405	⬌	1.6	◪	300	0.50	5.5	–	–	–	■	285	0.50	5.5	–	–	–	–	–	–	–	–	–
CNMG 190612E-R:T5405	⬌	1.2	◪	290	0.45	7.0	–	–	–	■	275	0.45	7.0	–	–	–	–	–	–	–	–	–

KM chip breaker is versatile and the first choice for medium machining of Cast irons. It features slightly positive rake angle and stable, wide T-land. It's also conditionally suitable for Steels and Hard materials.

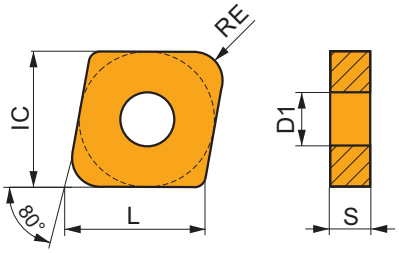
KR chip breaker is robust and the first choice for roughing of Cast irons. It features slightly positive rake angle and , wide T-land. It's also suitable for Steels, and conditionally for Hard materials.

R chip breaker is robust and designed for roughing of Steels and Cast irons. It features slightly positive rake angle and negative/stable, extra-wide double T-land. It's also conditionally suitable for Hard materials.

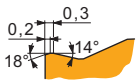
● Stable working conditions ⬌ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

CNMX 19

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1907	19.050	7.75	19.30	7.94

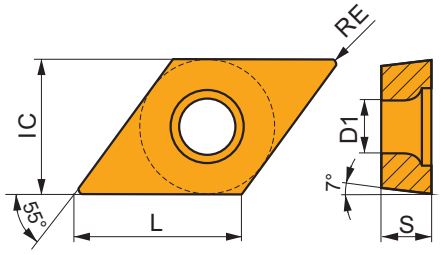


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

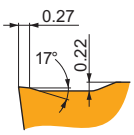
Product	● ✱ ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
   **RF** geometry for semi-rough to rough machining, and continuous to interrupted cuts.																				
CNMX 190740SN-RF:T5405	✱	4.0	◪ 125	0.85	4.0	–	–	–	■ 115	0.85	4.0	–	–	–	–	–	–	–	–	–

DCMT

	IC (mm)	D1 (mm)	L (mm)	S (mm)
11T3	9.525	4.40	11.60	3.97



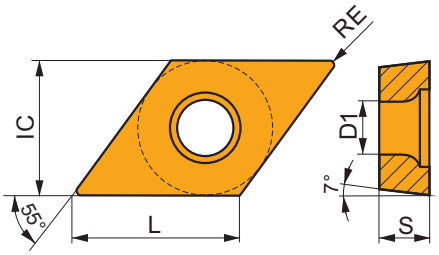
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱ ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
   **RM** chip breaker is robust and the first choice for roughing of Steels and Cast irons. It features positive rake angle and stable, wide T-land. It's also suitable for Stainless steels, and conditionally for Super-alloys and Hard materials.																			
DCMT 11T304E-RM:T5405	●	0.4	◪ 305	0.20	1.0	–	–	–	■ 285	0.20	1.0	–	–	–	–	–	–	–	–	–
DCMT 11T308E-RM:T5405	●	0.8	◪ 340	0.27	0.8	–	–	–	■ 320	0.27	0.8	–	–	–	–	–	–	–	–	–

● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

DCMW

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0702	6.350	2.80	7.80	2.38
11T3	9.525	4.40	11.60	3.97



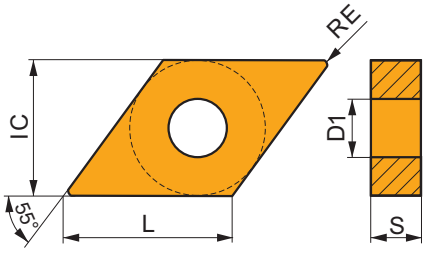
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
DCMW 070202:T5405	●	0.2	–	–	–	–	–	–	■ 235	0.08	0.8	–	–	–	–	–	–	–	–	–
DCMW 070204:T5405	●	0.4	–	–	–	–	–	–	■ 235	0.10	0.8	–	–	–	–	–	–	–	–	–
DCMW 11T304:T5405	●	0.4	–	–	–	–	–	–	■ 225	0.10	1.2	–	–	–	–	–	–	–	–	–
DCMW 11T308:T5405	●	0.8	–	–	–	–	–	–	■ 225	0.18	1.2	–	–	–	–	–	–	–	–	–

.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

DNMA

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1504	12.700	5.16	15.50	4.76
1506	12.700	5.16	15.50	6.35



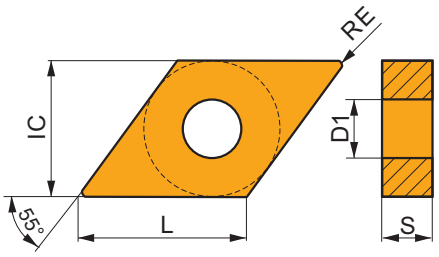
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
DNMA 150408:T5405	●	0.8	–	–	–	–	–	–	■ 230	0.20	1.7	–	–	–	–	–	–	–	–	–
DNMA 150604:T5405	●	0.4	–	–	–	–	–	–	■ 240	0.10	1.7	–	–	–	–	–	–	–	–	–
DNMA 150608:T5405	●	0.8	–	–	–	–	–	–	■ 230	0.20	1.7	–	–	–	–	–	–	–	–	–
DNMA 150612:T5405	✱	1.2	–	–	–	–	–	–	■ 245	0.20	1.7	–	–	–	–	–	–	–	–	–

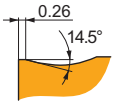
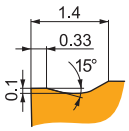
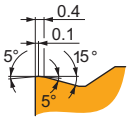
.NMA flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

DNMG

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1504	12.700	5.16	15.50	4.76
1506	12.700	5.16	15.50	6.35



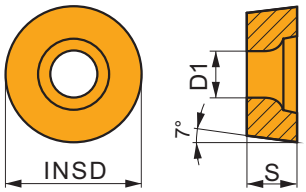
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
			**KM** chip breaker is versatile and the first choice for medium machining of Cast irons. It features slightly positive rake angle and stable, wide T-land. It's also conditionally suitable for Steels and Hard materials.																	
DNMG 150404-KM:T5405	●	0.4	◪	275	0.20	1.9	–	–	–	■	260	0.20	1.9	–	–	–	–	–	–	–	–	–
DNMG 150412-KM:T5405	✱	1.2	◪	280	0.40	1.9	–	–	–	■	265	0.40	1.9	–	–	–	–	–	–	–	–	–
DNMG 150608-KM:T5405	●	0.8	◪	285	0.30	1.9	–	–	–	■	270	0.30	1.9	–	–	–	–	–	–	–	–	–
			**KR** chip breaker is robust and the first choice for roughing of Cast irons. It features slightly positive rake angle and , wide T-land. It's also suitable for Steels, and conditionally for Hard materials.																	
DNMG 150608E-KR:T5405	●	0.8	◪	260	0.35	3.0	–	–	–	■	245	0.35	3.0	–	–	–	–	–	–	–	–	–
DNMG 150612E-KR:T5405	✱	1.2	◪	260	0.40	3.0	–	–	–	■	245	0.40	3.0	–	–	–	–	–	–	–	–	–
DNMG 150616E-KR:T5405	✱	1.6	◪	260	0.50	3.0	–	–	–	■	245	0.50	3.0	–	–	–	–	–	–	–	–	–
			**R** chip breaker is robust and designed for roughing of Steels and Cast irons. It features slightly positive rake angle and negative/stable, extra-wide double T-land. It's also conditionally suitable for Hard materials.																	
DNMG 150608E-R:T5405	✱	0.8	◪	250	0.40	3.0	–	–	–	■	235	0.40	3.0	–	–	–	–	–	–	–	–	–
DNMG 150616E-R:T5405	✱	1.6	◪	275	0.40	3.0	–	–	–	■	260	0.40	3.0	–	–	–	–	–	–	–	–	–

● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

RCMW

	D1 (mm)	S (mm)
0602	2.80	2.38
0803	3.40	3.18
10T3	4.40	3.97
1204	4.40	4.76



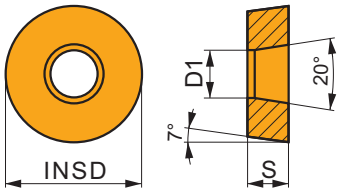
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ⬌ ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
RCMW 0602MO:T5405	⬌	–	–	–	–	–	–	–	■ 355	0.25	0.6	–	–	–	–	–	–	–	–	–
RCMW 0803MO:T5405	⬌	–	–	–	–	–	–	–	■ 320	0.30	0.8	–	–	–	–	–	–	–	–	–
RCMW 10T3MO:T5405	⬌	–	–	–	–	–	–	–	■ 285	0.40	1.0	–	–	–	–	–	–	–	–	–
RCMW 1204MO:T5405	⬌	–	–	–	–	–	–	–	■ 270	0.45	1.2	–	–	–	–	–	–	–	–	–

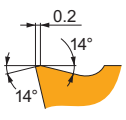
.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

RCMX

	D1 (mm)	S (mm)
2006	6.50	6.35



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

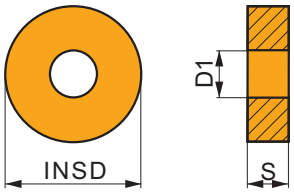
Product	● ⬌ ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
RCMX 2006MO-RF1:T5405	⬌	–	◪ 155	0.80	3.5	–	–	–	◪ 145	0.80	3.5	–	–	–	–	–	–	–	–	–

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

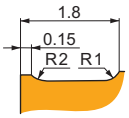
● Stable working conditions ⬌ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

RNMG

	D1 (mm)	S (mm)
1204	5.16	4.76
1506	6.35	6.35



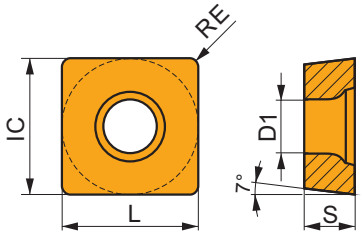
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
RNMG 120400E-08:T5405	●	–	◪	255	0.70	3.0	–	–	–	◪	240	0.70	3.0	–	–	–	–	–	–	–	–	–
RNMG 150600E-08:T5405	●	–	◪	255	0.70	3.0	–	–	–	◪	240	0.70	3.0	–	–	–	–	–	–	–	–	–

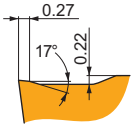
08 geometry for semi-rough to heavy-rough machining, and continuous to interrupted cuts.

SCMT

	IC (mm)	D1 (mm)	L (mm)	S (mm)
09T3	9.525	4.40	9.53	3.97
1204	12.700	5.50	12.70	4.76



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

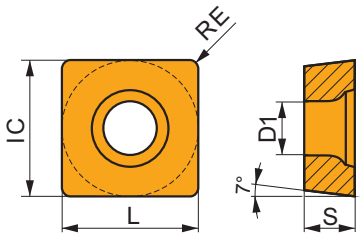
Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
SCMT 09T308E-RM:T5405	✱	0.8	◪	390	0.30	2.0	–	–	–	■	370	0.30	2.0	–	–	–	–	–	–	–	–	–
SCMT 120408E-RM:T5405	✱	0.8	◪	385	0.30	2.3	–	–	–	■	365	0.30	2.3	–	–	–	–	–	–	–	–	–

RM chip breaker is robust and the first choice for roughing of Steels and Cast irons. It features positive rake angle and stable, wide T-land. It's also suitable for Stainless steels, and conditionally for Super-alloys and Hard materials.

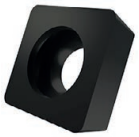
● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

SCMW

	IC (mm)	D1 (mm)	L (mm)	S (mm)
09T3	9.525	4.40	9.53	3.97
1204	12.700	5.50	12.70	4.76



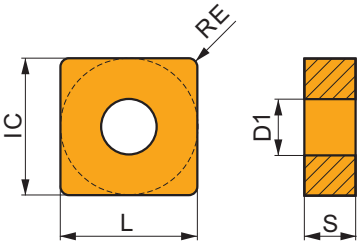
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
SCMW 09T304:T5405	●	0.4	–	–	–	–	–	–	■ 285	0.10	2.0	–	–	–	–	–	–	–	–	–
SCMW 09T308:T5405	✱	0.8	–	–	–	–	–	–	■ 270	0.20	2.0	–	–	–	–	–	–	–	–	–
SCMW 120408:T5405	✱	0.8	–	–	–	–	–	–	■ 250	0.20	4.0	–	–	–	–	–	–	–	–	–

.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

SNMA

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1204	12.700	5.16	12.70	4.76
1506	15.875	6.35	15.88	6.35
1906	19.050	7.94	19.05	6.35
2507	25.400	9.12	25.40	7.94
2509	25.400	9.12	25.40	9.53



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

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
SNMA 120408:T5405	✱	0.8	–	–	–	–	–	–	■ 280	0.20	4.0	–	–	–	–	–	–	–	–	–
SNMA 120412:T5405	✱	1.2	–	–	–	–	–	–	■ 260	0.30	4.0	–	–	–	–	–	–	–	–	–
SNMA 150612:T5405	✱	1.2	–	–	–	–	–	–	■ 255	0.30	5.0	–	–	–	–	–	–	–	–	–
SNMA 190612:T5405	✱	1.2	–	–	–	–	–	–	■ 245	0.30	6.0	–	–	–	–	–	–	–	–	–
SNMA 190616:T5405	✱	1.6	–	–	–	–	–	–	■ 240	0.40	6.0	–	–	–	–	–	–	–	–	–
SNMA 250724:T5405	✱	2.4	–	–	–	–	–	–	■ 135	0.60	8.0	–	–	–	–	–	–	–	–	–
SNMA 250924:T5405	✱	2.4	–	–	–	–	–	–	■ 135	0.60	8.0	–	–	–	–	–	–	–	–	–
																				
SNMA 120412S:T5405	✱	1.2	–	–	–	–	–	–	■ 260	0.30	4.0	–	–	–	–	–	–	–	–	–

.NMA flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

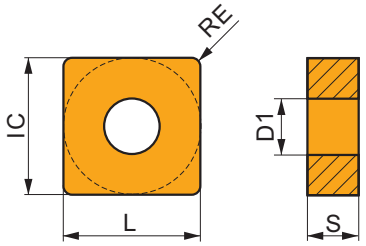
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ⇕ ✱	RE	P			M			K			N			S			H		
			vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)
																				
.NMA..S flat insert is designed for medium machining of Cast irons. It features neutral rake angle and negative, moderate T-land. It's also conditionally suitable for Hard materials.																				
SNMA 150616S:T5405	⇕	1.6	–	–	–	–	–	–	■ 270	0.30	5.0	–	–	–	–	–	–	–	–	–
SNMA 190616S:T5405	⇕	1.6	–	–	–	–	–	–	■ 240	0.40	6.0	–	–	–	–	–	–	–	–	–
SNMA 250724S:T5405	⇕	2.4	–	–	–	–	–	–	■ 135	0.60	8.0	–	–	–	–	–	–	–	–	–
SNMA 250924S:T5405	⇕	2.4	–	–	–	–	–	–	■ 135	0.60	8.0	–	–	–	–	–	–	–	–	–

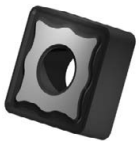
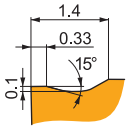
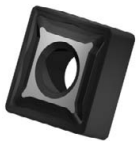
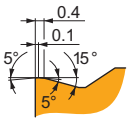
SNMG

DORMER PRAMET

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1204	12.700	5.16	12.70	4.76
1506	15.875	6.35	15.88	6.35
1906	19.050	7.94	19.05	6.35



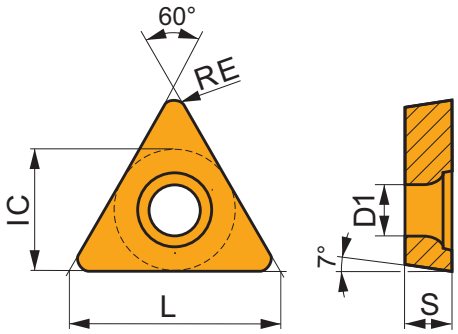
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ⇕ ✱	RE	P			M			K			N			S			H		
			vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)
																				
KR chip breaker is robust and the first choice for roughing of Cast irons. It features slightly positive rake angle and , wide T-land. It's also suitable for Steels, and conditionally for Hard materials.																				
SNMG 120408E-KR:T5405	⇕	0.8	◪ 330	0.35	3.8	–	–	–	■ 310	0.35	3.8	–	–	–	–	–	–	–	–	–
SNMG 120412E-KR:T5405	⇕	1.2	◪ 340	0.40	3.8	–	–	–	■ 320	0.40	3.8	–	–	–	–	–	–	–	–	–
SNMG 120416E-KR:T5405	⇕	1.6	◪ 340	0.45	3.8	–	–	–	■ 320	0.45	3.8	–	–	–	–	–	–	–	–	–
SNMG 150612E-KR:T5405	⇕	1.2	◪ 320	0.45	4.5	–	–	–	■ 300	0.45	4.5	–	–	–	–	–	–	–	–	–
SNMG 150616E-KR:T5405	⇕	1.6	◪ 325	0.50	4.5	–	–	–	■ 305	0.50	4.5	–	–	–	–	–	–	–	–	–
SNMG 190612E-KR:T5405	⇕	1.2	◪ 300	0.45	7.0	–	–	–	■ 285	0.45	7.0	–	–	–	–	–	–	–	–	–
SNMG 190616E-KR:T5405	⇕	1.6	◪ 310	0.50	7.0	–	–	–	■ 290	0.50	7.0	–	–	–	–	–	–	–	–	–
																				
R chip breaker is robust and designed for roughing of Steels and Cast irons. It features slightly positive rake angle and negative/stable, extra-wide double T-land. It's also conditionally suitable for Hard materials.																				
SNMG 120408E-R:T5405	⇕	0.8	◪ 320	0.40	3.8	–	–	–	■ 300	0.40	3.8	–	–	–	–	–	–	–	–	–

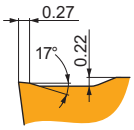
● Stable working conditions ⇕ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

TCMT

	IC (mm)	D1 (mm)	L (mm)	S (mm)
16T3	9.525	4.40	16.50	3.97



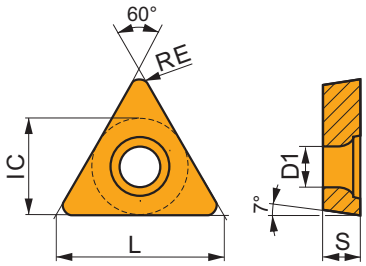
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
  																				
TCMT 16T308E-RM:T5405	●	0.8	◪ 330	0.27	1.9	–	–	–	■ 310	0.27	1.9	–	–	–	–	–	–	–	–	–
TCMT 16T312E-RM:T5405	●	1.2	◪ 345	0.27	1.9	–	–	–	■ 325	0.27	1.9	–	–	–	–	–	–	–	–	–

RM chip breaker is robust and the first choice for roughing of Steels and Cast irons. It features positive rake angle and stable, wide T-land. It's also suitable for Stainless steels, and conditionally for Super-alloys and Hard materials.

TCMW

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1102	6.350	2.80	11.00	2.38
16T3	9.525	4.40	16.50	3.97



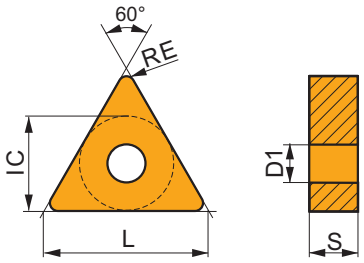
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
  																				
TCMW 110204:T5405	●	0.4	–	–	–	–	–	–	■ 240	0.10	1.2	–	–	–	–	–	–	–	–	–
TCMW 16T304:T5405	●	0.4	–	–	–	–	–	–	■ 235	0.10	1.5	–	–	–	–	–	–	–	–	–
TCMW 16T308:T5405	●	0.8	–	–	–	–	–	–	■ 230	0.18	1.5	–	–	–	–	–	–	–	–	–

.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

TNMA

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1604	9.525	3.81	16.50	4.76
2204	12.700	5.16	22.00	4.76

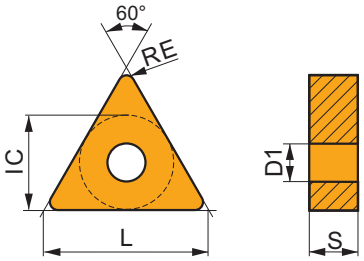


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

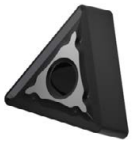
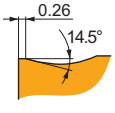
Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
.NMA flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.																				
TNMA 160404:T5405	●	0.4	–	–	–	–	–	–	■ 260	0.10	1.5	–	–	–	–	–	–	–	–	–
TNMA 160408:T5405	●	0.8	–	–	–	–	–	–	■ 250	0.20	1.5	–	–	–	–	–	–	–	–	–
TNMA 160412:T5405	✱	1.2	–	–	–	–	–	–	■ 265	0.20	1.5	–	–	–	–	–	–	–	–	–
TNMA 220408:T5405	●	0.8	–	–	–	–	–	–	■ 245	0.20	2.0	–	–	–	–	–	–	–	–	–
TNMA 220412:T5405	✱	1.2	–	–	–	–	–	–	■ 255	0.20	2.0	–	–	–	–	–	–	–	–	–
																				
.NMA..S flat insert is designed for medium machining of Cast irons. It features neutral rake angle and negative, moderate T-land. It's also conditionally suitable for Hard materials.																				
TNMA 160408S:T5405	✱	0.8	–	–	–	–	–	–	■ 250	0.20	1.5	–	–	–	–	–	–	–	–	–

TNMG

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1604	9.525	3.81	16.50	4.76
2204	12.700	5.16	22.00	4.76



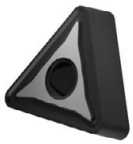
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

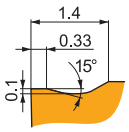
Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
KM chip breaker is versatile and the first choice for medium machining of Cast irons. It features slightly positive rake angle and stable, wide T-land. It's also conditionally suitable for Steels and Hard materials.																				
TNMG 160408-KM:T5405	●	0.8	◪ 300	0.30	2.1	–	–	–	■ 285	0.30	2.1	–	–	–	–	–	–	–	–	–

● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

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

Product	● ⬌ ✱	RE	P			M			K			N			S			H		
			vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)
TNMG 160408E-KR:T5405	●	0.8	◪ 275	0.35	3.0	–	–	–	■ 260	0.35	3.0	–	–	–	–	–	–	–	–	–
TNMG 160412E-KR:T5405	⬌	1.2	◪ 280	0.40	3.0	–	–	–	■ 265	0.40	3.0	–	–	–	–	–	–	–	–	–
TNMG 220408E-KR:T5405	●	0.8	◪ 270	0.35	4.0	–	–	–	■ 255	0.35	4.0	–	–	–	–	–	–	–	–	–
TNMG 220412E-KR:T5405	⬌	1.2	◪ 270	0.40	4.0	–	–	–	■ 255	0.40	4.0	–	–	–	–	–	–	–	–	–



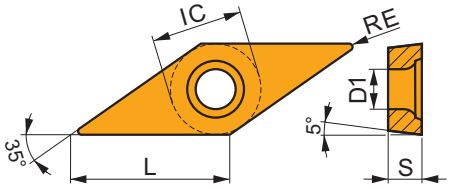


KR chip breaker is robust and the first choice for roughing of Cast irons. It features slightly positive rake angle and , wide T-land. It's also suitable for Steels, and conditionally for Hard materials.

VBMT

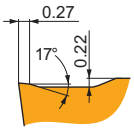
DORMER PRAMET

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1604	9.525	4.40	16.60	4.76



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

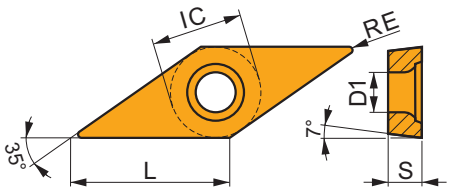
Product	● ⬌ ✱	RE	P			M			K			N			S			H		
			vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)
VBMT 160404E-RM:T5405	●	0.4	◪ 320	0.12	1.2	–	–	–	■ 300	0.12	1.2	–	–	–	–	–	–	–	–	–
VBMT 160408E-RM:T5405	●	0.8	◪ 345	0.17	1.2	–	–	–	■ 325	0.17	1.2	–	–	–	–	–	–	–	–	–



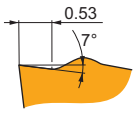
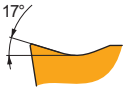
RM chip breaker is robust and the first choice for roughing of Steels and Cast irons. It features positive rake angle and stable, wide T-land. It's also suitable for Stainless steels, and conditionally for Super-alloys and Hard materials.

VCGT

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1303	7.940	3.40	13.80	3.18

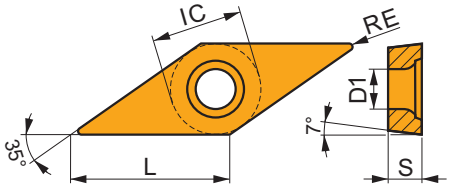


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
 																			
FF2 chip breaker is sharp and the first choice for fine-finishing of Steels. It features slightly positive rake angle without T-land. It's also suitable for Cast irons.																			
VCGT 130302E-FF2:T5405	0.2	◪ 330	0.05	1.0	–	–	–	■ 310	0.05	1.0	–	–	–	–	–	–	–	–	–
VCGT 130304E-FF2:T5405	0.4	◪ 270	0.12	1.0	–	–	–	■ 255	0.12	1.0	–	–	–	–	–	–	–	–	–
 																			
NF2 chip breaker is sharp and the first choice for finishing of Stainless steels. It features positive rake angle without T-land. It's also suitable for Super-alloys, and conditionally for Steels, Cast irons and Non-ferrous alloys.																			
VCGT 130304E-NF2:T5405	0.4	◪ 270	0.12	1.0	–	–	–	◪ 255	0.12	1.0	–	–	–	–	–	–	–	–	–
VCGT 130308E-NF2:T5405	0.8	◪ 290	0.17	1.0	–	–	–	◪ 275	0.17	1.0	–	–	–	–	–	–	–	–	–

VCGW

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1303	7.940	3.40	13.80	3.18



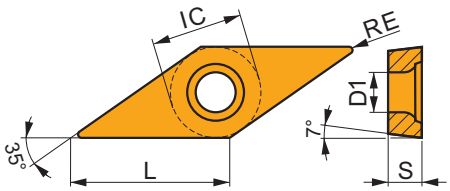
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
 																			
.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.																			
VCGW 130302:T5405	0.2	–	–	–	–	–	–	■ 195	0.08	1.3	–	–	–	–	–	–	–	–	–
VCGW 130304:T5405	0.4	–	–	–	–	–	–	■ 190	0.10	1.3	–	–	–	–	–	–	–	–	–
VCGW 130308:T5405	0.8	–	–	–	–	–	–	■ 190	0.18	1.3	–	–	–	–	–	–	–	–	–

● Stable working conditions ◓ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

VCMW

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1103	6.350	2.80	11.10	3.18
1604	9.525	4.40	16.60	4.76



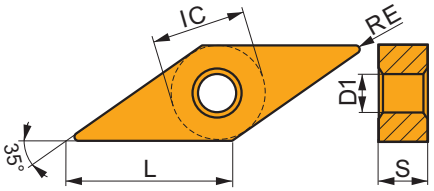
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
VCMW 110302:T5405	●	0.2	–	–	–	–	–	–	■ 195	0.08	1.2	–	–	–	–	–	–	–	–	–
VCMW 110304:T5405	●	0.4	–	–	–	–	–	–	■ 195	0.10	1.2	–	–	–	–	–	–	–	–	–
VCMW 160404:T5405	●	0.4	–	–	–	–	–	–	■ 190	0.10	1.5	–	–	–	–	–	–	–	–	–
VCMW 160408:T5405	●	0.8	–	–	–	–	–	–	■ 190	0.18	1.5	–	–	–	–	–	–	–	–	–

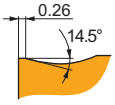
.CMW flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.

VNMG

	IC (mm)	D1 (mm)	L (mm)	S (mm)
1604	9.525	3.81	16.60	4.76



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

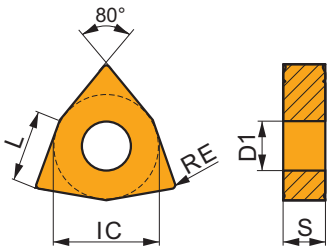
Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
																				
VNMG 160408-KM:T5405	●	0.8	◪ 260	0.30	1.4	–	–	–	■ 245	0.30	1.4	–	–	–	–	–	–	–	–	–

KM chip breaker is versatile and the first choice for medium machining of Cast irons. It features slightly positive rake angle and stable, wide T-land. It's also conditionally suitable for Steels and Hard materials.

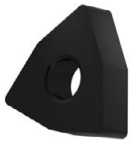
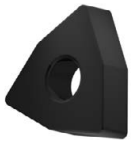
● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

WNMA

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0804	12.700	5.16	8.70	4.76

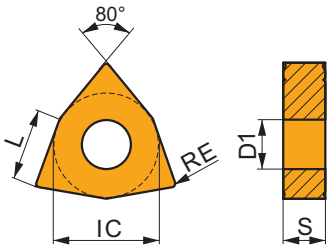


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

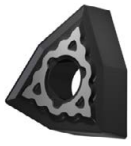
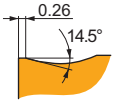
Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
 			E																	
.NMA flat insert is designed for medium machining of Cast irons. It features neutral rake angle without T-land. It's also conditionally suitable for Hard materials.																				
WNMA 080404:T5405	●	0.4	–	–	–	–	–	–	■ 275	0.10	4.0	–	–	–	–	–	–	–	–	–
WNMA 080408:T5405	✱	0.8	–	–	–	–	–	–	■ 265	0.20	4.0	–	–	–	–	–	–	–	–	–
WNMA 080412:T5405	✱	1.2	–	–	–	–	–	–	■ 245	0.30	4.0	–	–	–	–	–	–	–	–	–
 			S																	
.NMA..S flat insert is designed for medium machining of Cast irons. It features neutral rake angle and negative, moderate T-land. It's also conditionally suitable for Hard materials.																				
WNMA 080408S:T5405	✱	0.8	–	–	–	–	–	–	■ 265	0.20	4.0	–	–	–	–	–	–	–	–	–

WNMG

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0604	9.525	3.81	6.50	4.76
0804	12.700	5.16	8.70	4.76

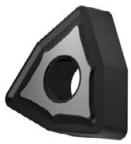
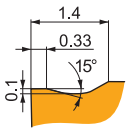
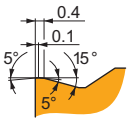


Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	● ✱	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
 			S																	
KM chip breaker is versatile and the first choice for medium machining of Cast irons. It features slightly positive rake angle and stable, wide T-land. It's also conditionally suitable for Steels and Hard materials.																				
WNMG 060404-KM:T5405	●	0.4	◪ 345	0.20	1.8	–	–	–	■ 325	0.20	1.8	–	–	–	–	–	–	–	–	–
WNMG 080404-KM:T5405	●	0.4	◪ 340	0.20	2.1	–	–	–	■ 320	0.20	2.1	–	–	–	–	–	–	–	–	–
WNMG 080408-KM:T5405	✱	0.8	◪ 350	0.32	2.1	–	–	–	■ 330	0.32	2.1	–	–	–	–	–	–	–	–	–
WNMG 080412-KM:T5405	✱	1.2	◪ 345	0.40	2.1	–	–	–	■ 325	0.40	2.1	–	–	–	–	–	–	–	–	–

● Stable working conditions ✱ Unstable working conditions ✱ Heavy working conditions ■ Primary use ◪ Possible use

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

Product	● ⬌ ✱	RE	P			M			K			N			S			H		
			vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)	vc (m/min)	f (mm/rev)	ap (mm)
									**KR** chip breaker is robust and the first choice for roughing of Cast irons. It features slightly positive rake angle and , wide T-land. It's also suitable for Steels, and conditionally for Hard materials.											
WNMG 080408E-KR:T5405	⬌	0.8	◪ 320	0.35	3.5	–	–	–	■ 300	0.35	3.5	–	–	–	–	–	–	–	–	–
WNMG 080412E-KR:T5405	⬌	1.2	◪ 325	0.40	3.5	–	–	–	■ 305	0.40	3.5	–	–	–	–	–	–	–	–	–
WNMG 080416E-KR:T5405	⬌	1.6	◪ 320	0.50	3.5	–	–	–	■ 300	0.50	3.5	–	–	–	–	–	–	–	–	–
									**R** chip breaker is robust and designed for roughing of Steels and Cast irons. It features slightly positive rake angle and negative/stable, extra-wide double T-land. It's also conditionally suitable for Hard materials.											
WNMG 080408E-R:T5405	⬌	0.8	◪ 305	0.40	3.5	–	–	–	■ 285	0.40	3.5	–	–	–	–	–	–	–	–	–
WNMG 080412E-R:T5405	⬌	1.2	◪ 315	0.45	3.5	–	–	–	■ 295	0.45	3.5	–	–	–	–	–	–	–	–	–

ISO group		WMG (Work Material Group)			Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)
P	P1	P1.1	Free machining steel (carbon steels with increased machinability)	Sulfurized	< 240 HB	≤ 830
		P1.2		Sulfurized and phosphorized	< 180 HB	≤ 620
		P1.3		Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2	P2.1	Plain carbon steel (steels comprised of mainly iron and carbon)	Containing <0.25 % C	< 180 HB	≤ 620
		P2.2		Containing <0.55 % C	< 240 HB	≤ 830
		P2.3		Containing >0.55 % C	< 300 HB	≤ 1030
	P3	P3.1	Alloy steel (carbon steels with an alloying content ≤ 10%)	Annealed	< 180 HB	≤ 620
		P3.2		Hardened and tempered	180 – 260 HB	> 620 ≤ 900
		P3.3			260 – 360 HB	> 900 ≤ 1240
	P4	P4.1	Tool steel (special alloy steel for tools, dies and molds)	Annealed	< 26 HRC	≤ 900
		P4.2		Hardened and tempered	26 – 39 HRC	> 900 ≤ 1240
		P4.3			39 – 45 HRC	> 1240 ≤ 1450
M	M1	M1.1	Ferritic stainless steel (straight chromium non-hardenable alloys)		< 160 HB	≤ 520
		M1.2			160 – 220 HB	> 520 ≤ 700
	M2	M2.1	Martensitic stainless steel (straight chromium hardenable alloys)	Annealed	< 200 HB	≤ 670
		M2.2		Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		M2.3		Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
	M3	M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)		< 200 HB	≤ 750
		M3.2			200 – 260 HB	> 750 ≤ 870
		M3.3			260 – 300 HB	> 870 ≤ 1040
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel		< 300 HB	≤ 990
		M4.2	Precipitation hardening austenitic stainless steel		300 – 380 HB	≤ 1320
K	K1	K1.1	Gray iron or Automotive Gray iron (GG) (iron-carbon castings with a lamellar graphite microstructure)	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		K1.2		Ferritic-pearlictic or pearlitic	180 – 240 HB	> 190 ≤ 310
		K1.3		Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2	K2.1	Malleable iron (GTS/GTW) (iron-carbon castings with a graphite-free microstructure)	Ferritic	< 160 HB	≤ 400
		K2.2		Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		K2.3		Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3	K3.1	Ductile iron (GGG) (iron-carbon castings with a nodular graphite microstructure)	Ferritic	< 180 HB	≤ 560
		K3.2		Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		K3.3		Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4	K4.1	Austenitic gray iron (ASTM A436) (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)		< 180 HB	≤ 190
		K4.2	Austenitic ductile iron (ASTM A439 or ASTM A571) (iron-carbon alloy castings with an austenitic nodular graphite microstructure)		< 240 HB	≤ 740
		K4.3	Austempered ductile iron (ASTM A897) (iron-carbon alloy castings with an ausferrite microstructure)		< 280 HB	> 840 ≤ 980
		K4.4			280 – 320 HB	> 980 ≤ 1130
		K4.5			320 – 360 HB	> 1130 ≤ 1280
	K5	K5.1	Compacted graphite iron CGI (ASTM A842) (iron-carbon castings with a vermicular graphite structure)	Ferritic	< 180 HB	≤ 400
		K5.2		Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450
		K5.3		Pearlitic	220 – 260 HB	> 450 ≤ 500
N	N1	N1.1	Commercially pure wrought aluminium		< 60 HB	≤ 240
		N1.2	Wrought aluminium alloys	Half hard tempered	60 – 100 HB	> 240 ≤ 400
		N1.3		Full hard tempered	100 – 150 HB	> 400 ≤ 590
	N2	N2.1	Cast aluminium alloys		< 75 HB	≤ 240
		N2.2			75 – 90 HB	> 240 ≤ 270
		N2.3			90 – 140 HB	> 270 ≤ 440
	N3	N3.1	Free-cutting copper-alloys materials with excellent machining properties		–	–
		N3.2	Short-chip copper-alloys with good to moderate machining properties		–	–
		N3.3	Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties		–	–
	N4	N4.1	Thermoplastic polymers		–	–
		N4.2	Thermosetting polymers		–	–
		N4.3	Reinforced polymers or composites		–	–
	N5	N5.1	Graphite		–	–
S	S1	S1.1	Titanium or titanium alloys		< 200 HB	≤ 660
		S1.2			200 – 280 HB	> 660 ≤ 950
		S1.3			280 – 360 HB	> 950 ≤ 1200
	S2	S2.1	Fe-based high-temperature alloys		< 200 HB	≤ 690
		S2.2			200 – 280 HB	> 690 ≤ 970
	S3	S3.1	Ni-based high-temperature alloys		< 280 HB	≤ 940
		S3.2			280 – 360 HB	> 940 ≤ 1200
	S4	S4.1	Co-based high-temperature alloys		< 240 HB	≤ 800
		S4.2			240 – 320 HB	> 800 ≤ 1070
H	H1	H1.1	Chilled cast iron		< 440 HB	–
	H2	H2.1	Hardened cast iron		< 55 HRC	–
		H2.2			> 55 HRC	–
	H3	H3.1	Hardened steel < 55 HRC		< 51 HRC	–
		H3.2			51 – 55 HRC	–
	H4	H4.1	Hardened steel > 55 HRC		55 – 59 HRC	–
		H4.2			> 59 HRC	–

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