

TurnLine



**T505**

[www.tungaloy.com/us](http://www.tungaloy.com/us)

**Tungaloy Report No. 539-US**

**T505** - the latest grade with outstanding wear resistance for cast iron turning



**INDUSTRY 4.0**  
*FEED the SPEED!*

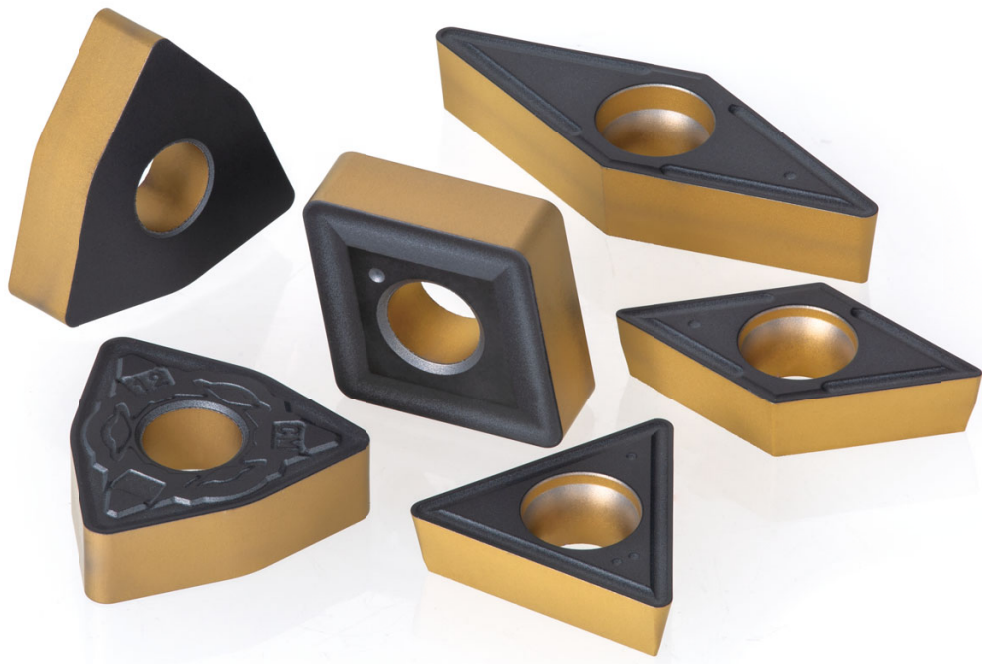


ACCELERATED MACHINING

TurnLine

**T505**

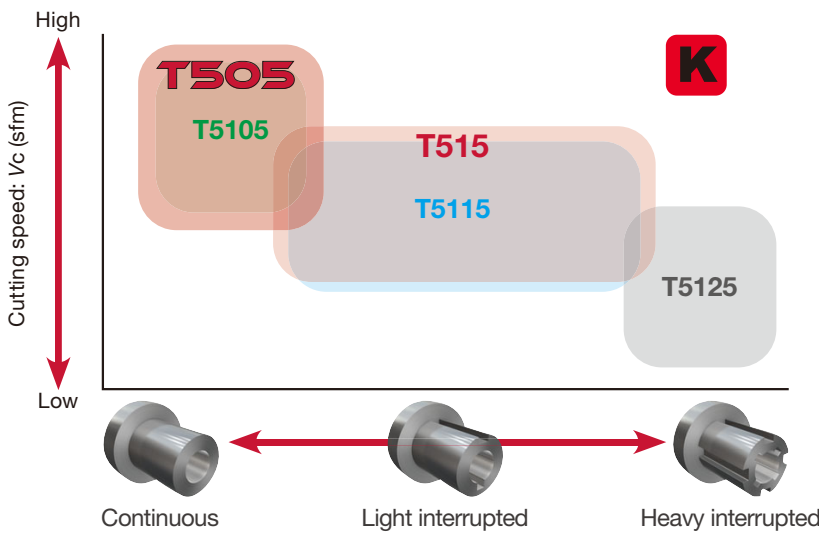
TUNGALOY



**New T505** grade complementing T515  
for cast iron turning

[www.tungaloy.com/us](http://www.tungaloy.com/us)

## New T505 - an optimal CVD grade for high speed machining of cast iron



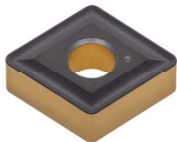
**New**

### T505

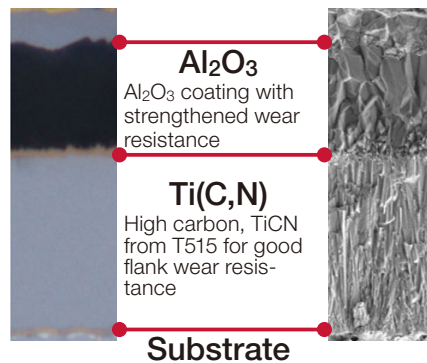
- Complementary grade to T515
- High wear resistance
- The best grade for high speed machining of K05 - K20

## The thickest coating layer of all Tungaloy's CVD grades ever

**New**



T505's coating thickness is 1.5 times thicker than conventional grades.



### Outstanding wear resistance

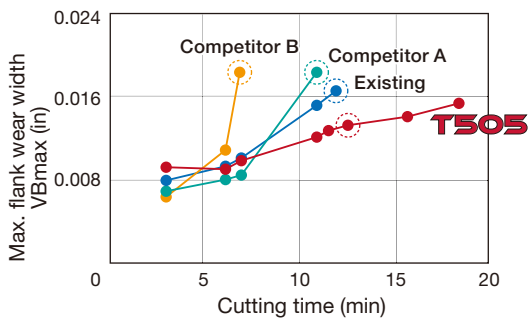
- Thickest coating layer of all Tungaloy's grades
- Al<sub>2</sub>O<sub>3</sub> coating with strengthened wear resistance
- TiCN layer with high carbon content
- New substrate with high thermal conductivity

ISO	Grade	Substrate			Coating layer	
		Specific gravity	Hardness (HRA)	T.R.S. (GPa)	Main Composition	Thickness (μm)
<b>K</b>	T505	15	91	2.4	Continuously formed columnar crystal TiCN + Al <sub>2</sub> O <sub>3</sub>	23

## CUTTING PERFORMANCE

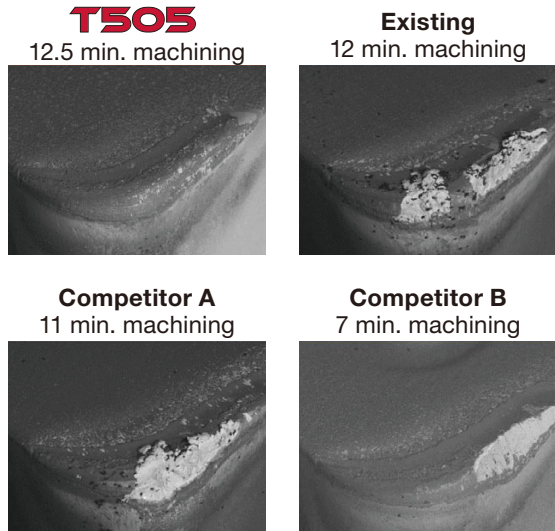
New CVD grade - Versatility at work in cast iron turning

### **K** Class 20

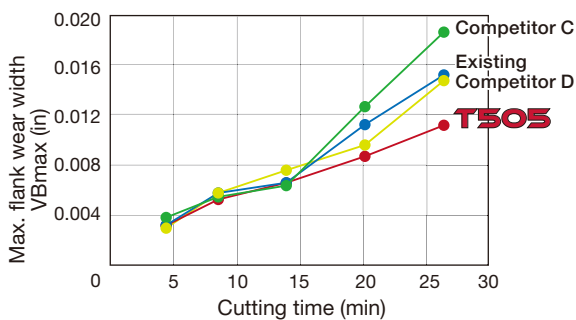


Workpiece material : Class 20  
 Cutting speed :  $V_c = 2297$  sfm  
 Feed :  $f = 0.012$  ipr  
 Depth of cut :  $a_p = 0.079$ "  
 Machining : Continuous cutting  
 Coolant : Wet

**T505 showed excellent wear resistance in high speed machining of cast iron.**

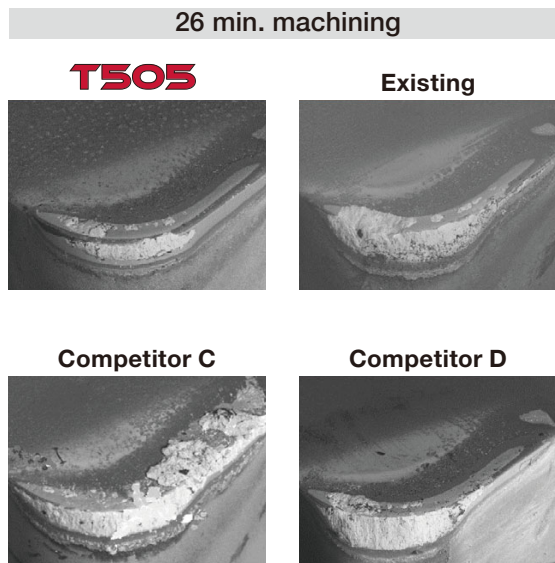


### **K** 80-55-06



Workpiece material : 80-55-06  
 Cutting speed :  $V_c = 492$  sfm  
 Feed :  $f = 0.012$  ipr  
 Depth of cut :  $a_p = 0.079$ "  
 Machining : Continuous cutting  
 Coolant : Wet

**T505 showed good wear resistance in machining ductile cast iron.**



## STANDARD CUTTING CONDITIONS

### Negative inserts

Chipbreaker	Grades	Corner radius RE (in)	Depth of cut ap (in)	Feed f (ipr)	Cutting speed: Vc (sfm)	
					Grey cast iron	Ductile cast iron
CM	T505	0.016	0.039 - 0.197	0.004 - 0.010	591 - 2297	591 - 1312
	T505	0.031	0.039 - 0.197	0.006 - 0.016	591 - 2297	591 - 1312
	T505	0.047	0.039 - 0.197	0.006 - 0.020	591 - 2297	591 - 1312
All-round	T505	0.016	0.039 - 0.236	0.008 - 0.012	591 - 2297	591 - 1312
	T505	0.031	0.039 - 0.236	0.008 - 0.020	591 - 2297	591 - 1312
	T505	0.047	0.039 - 0.236	0.008 - 0.020	591 - 2297	591 - 1312
	T505	0.063	0.039 - 0.236	0.012 - 0.020	591 - 2297	591 - 1312
Flat-top	T505	0.031	0.002 - 0.079	0.008 - 0.018	591 - 2297	591 - 1312
	T505	0.047	0.002 - 0.079	0.008 - 0.024	591 - 2297	591 - 1312

### Positive insert

Chipbreaker	Grades	Corner radius RE (in)	Depth of cut ap (in)	Feed f (ipr)	Cutting speed: Vc (sfm)	
					Grey cast iron	Ductile cast iron
CM	T505	0.016	0.002 - 0.079	0.002 - 0.008	591 - 2297	591 - 1312
	T505	0.031	0.002 - 0.079	0.002 - 0.012	591 - 2297	591 - 1312
	T505	0.047	0.002 - 0.079	0.002 - 0.012	591 - 2297	591 - 1312

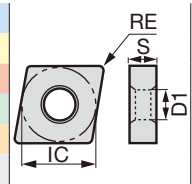
- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

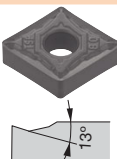
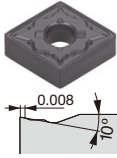
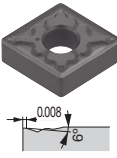
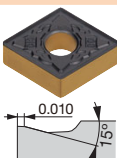
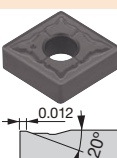
## Insert NEGATIVE TYPE

# CN

 Rhombic, 80° with hole

	P	M	K	N	S	H
Steel	●	●	●	●	●	●
Stainless	●	●	●	●	●	●
Cast iron	●	●	●	●	●	●
Non-ferrous	●	●	●	●	●	●
Superalloy	●	●	●	●	●	●
Hard material	●	●	●	●	●	●



Application	Chipbreaker	Designation		Coated		Dimension (in)				
		Inch	Metric	T505	T515	RE	IC	S	D1	
Finishing		<b>TSF</b>	<b>CNMG 431 TSF</b>	<b>CNMG120404-TSF</b>	●		0.016	0.500	0.188	0.203
			CNMG 432 TSF	CNMG120408-TSF	●		0.031	0.500	0.188	0.203
			CNMG 433 TSF	CNMG120412-TSF	●		0.047	0.500	0.188	0.203
Finishing to medium cutting (wiper)		<b>SW</b>	<b>CNMG 432 SW</b>	<b>CNMG120408-SW</b>	●		0.031	0.500	0.188	0.203
			CNMG 433 SW	CNMG120412-SW	●		0.047	0.500	0.188	0.203
Medium cutting		<b>TM</b>	<b>CNMG 331E TM</b>	<b>CNMG090404E-TM</b>	●		0.016	0.375	0.188	0.150
			CNMG 332E TM	CNMG090408E-TM	●		0.031	0.375	0.188	0.150
			CNMG 333E TM	CNMG090412E-TM	●		0.047	0.375	0.188	0.150
			CNMG 431 TM	CNMG120404-TM	●		0.016	0.500	0.188	0.203
			CNMG 432 TM	CNMG120408-TM	●		0.031	0.500	0.188	0.203
			CNMG 433 TM	CNMG120412-TM	●		0.047	0.500	0.188	0.203
			CNMG 434 TM	CNMG120416-TM	●		0.063	0.500	0.188	0.203
		<b>All-round</b>	<b>CNMG 431</b>	<b>CNMG120404</b>	●	●	0.016	0.500	0.188	0.203
		CNMG 432	CNMG120408	●	●	0.031	0.500	0.188	0.203	
		CNMG 433	CNMG120412	●	●	0.047	0.500	0.188	0.203	
		CNMG 434	CNMG120416	●	●	0.063	0.500	0.188	0.203	
		CNMG 543	CNMG160612	●	●	0.047	0.625	0.250	0.250	
		CNMG 544	CNMG160616	●	●	0.063	0.625	0.250	0.250	
		CNMG 643	CNMG190612	●	●	0.047	0.750	0.250	0.312	
		CNMG 644	CNMG190616	●	●	0.063	0.750	0.250	0.312	
Medium to heavy cutting		<b>CM</b>	<b>CNMG 431 CM</b>	<b>CNMG120404-CM</b>	●	●	0.016	0.500	0.188	0.203
			CNMG 432 CM	CNMG120408-CM	●	●	0.031	0.500	0.188	0.203
			CNMG 433 CM	CNMG120412-CM	●	●	0.047	0.500	0.188	0.203
			CNMG 543 CM	CNMG160612-CM	●	●	0.047	0.625	0.250	0.250
Medium to heavy cutting		<b>TH</b>	<b>CNMG 432 TH</b>	<b>CNMG120408-TH</b>	●		0.031	0.500	0.188	0.203
			CNMG 433 TH	CNMG120412-TH	●		0.047	0.500	0.188	0.203
			CNMG 434 TH	CNMG120416-TH	●		0.063	0.500	0.188	0.203

- : New
- : Line up







## Insert NEGATIVE TYPE

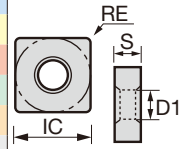
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

# SN



Square, 90° with hole

<b>P</b>	Steel																				
<b>M</b>	Stainless																				
<b>K</b>	Cast iron	●	●																		
<b>N</b>	Non-ferrous																				
<b>S</b>	Superalloy																				
<b>H</b>	Hard material																				



Application	Chipbreaker	Designation		Coated		Dimension (in)						
		Inch	Metric	T505	T515	RE	IC	S	D1			
Medium cutting		<b>All-round</b> SNMG 321	SNMG090304	●				0.016	0.375	0.125	0.150	
		SNMG 322	SNMG090308	●				0.031	0.375	0.125	0.150	
		SNMG 431	SNMG120404	●					0.016	0.500	0.187	0.203
		SNMG 432	SNMG120408	◐	●				0.031	0.500	0.187	0.203
		SNMG 433	SNMG120412	◐	●				0.047	0.500	0.187	0.203
		SNMG 434	SNMG120416	●					0.063	0.500	0.187	0.203
		<b>CM</b> SNMG 432 CM	SNMG120408-CM	◐	●				0.031	0.500	0.187	0.203
		SNMG 433 CM	SNMG120412-CM	◐	●				0.047	0.500	0.187	0.203
Finishing to medium cutting		<b>Flat-top</b> SNMA 432	SNMA120408	◐	●			0.031	0.500	0.187	0.203	
		SNMA 433	SNMA120412	◐	●			0.047	0.500	0.187	0.203	

- : New
- ◐ : Line up

- : Continuous cutting
- : Light interrupted cutting
- ✱ : Heavy interrupted cutting

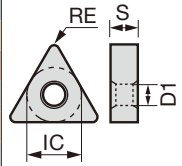
## Insert NEGATIVE TYPE

# TN



Triangular, 60° with hole

P	Steel																			
M	Stainless																			
K	Cast iron	●	●																	
N	Non-ferrous																			
S	Superalloy																			
H	Hard material																			



Application	Chipbreaker	Designation	Coated		Dimension (in)				
			T505	T515	RE	IC	S	D1	
		Inch	Metric						
Medium cutting	<b>All-round</b>	<b>TNMG 331</b>	<b>TNMG160404</b>	●	●	0.016	0.375	0.187	0.150
		<b>TNMG 332</b>	<b>TNMG160408</b>	●	●	0.031	0.375	0.187	0.150
		<b>TNMG 333</b>	<b>TNMG160412</b>	●	●	0.047	0.375	0.187	0.150
	<b>CM</b>	<b>TNMG 331 CM</b>	<b>TNMG160404-CM</b>	●	●	0.016	0.375	0.187	0.150
		<b>TNMG 332 CM</b>	<b>TNMG160408-CM</b>	●	●	0.031	0.375	0.187	0.150
		<b>TNMG 333 CM</b>	<b>TNMG160412-CM</b>	●	●	0.047	0.375	0.187	0.150
Medium to heavy cutting	<b>CH</b>	<b>TNMG 331 CH</b>	<b>TNMG160404-CH</b>	●		0.016	0.375	0.187	0.150
		<b>TNMG 332 CH</b>	<b>TNMG160408-CH</b>	●		0.031	0.375	0.187	0.150
		<b>TNMG 333 CH</b>	<b>TNMG160412-CH</b>	●		0.047	0.375	0.187	0.150
Finishing to medium cutting	<b>Flat-top</b>	<b>TNMA 231E</b>	<b>TNMA110404E</b>	●		0.016	0.250	0.187	0.089
		<b>TNMA 232E</b>	<b>TNMA110408E</b>	●		0.031	0.250	0.187	0.089
		<b>TNMA 233E</b>	<b>TNMA110412E</b>	●		0.047	0.250	0.187	0.089
		<b>TNMA 331</b>	<b>TNMA160404</b>	●	●	0.016	0.375	0.187	0.150
		<b>TNMA 332</b>	<b>TNMA160408</b>	●	●	0.031	0.375	0.187	0.150
		<b>TNMA 333</b>	<b>TNMA160412</b>	●	●	0.047	0.375	0.187	0.150

- : New
- : Line up

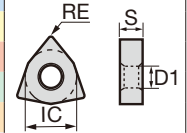
## Insert NEGATIVE TYPE

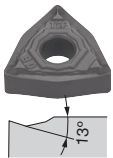

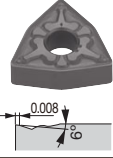
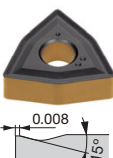
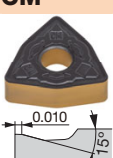
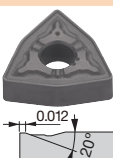
- : Continuous cutting
- ◐ : Light interrupted cutting
- ✳ : Heavy interrupted cutting

# WN

 **Trigon, 80° with hole**

<b>P</b> Steel																		
<b>M</b> Stainless																		
<b>K</b> Cast iron	●	●																
<b>N</b> Non-ferrous																		
<b>S</b> Superalloy																		
<b>H</b> Hard material																		



Application	Chipbreaker	Designation		Coated		Dimension (in)										
		Inch	Metric	T505	T515	RE	IC	S	D1							
Finishing		<b>TSF</b>	<b>WNMG 431 TSF</b>	<b>WNMG080404-TSF</b>	●							0.016	0.500	0.187	0.203	
			<b>WNMG 432 TSF</b>	<b>WNMG080408-TSF</b>	●								0.031	0.500	0.187	0.203
			<b>WNMG 433 TSF</b>	<b>WNMG080412-TSF</b>	●								0.047	0.500	0.187	0.203
Finishing to medium cutting (wiper)		<b>SW</b>	<b>WNMG 432 SW</b>	<b>WNMG080408-SW</b>	●							0.031	0.500	0.187	0.203	
			<b>WNMG 433 SW</b>	<b>WNMG080412-SW</b>	●								0.047	0.500	0.187	0.203
Medium cutting		<b>TM</b>	<b>WNMG 431 TM</b>	<b>WNMG080404-TM</b>	●							0.016	0.500	0.187	0.203	
			<b>WNMG 432 TM</b>	<b>WNMG080408-TM</b>	●								0.031	0.500	0.187	0.203
			<b>WNMG 433 TM</b>	<b>WNMG080412-TM</b>	●								0.047	0.500	0.187	0.203
			<b>WNMG 434 TM</b>	<b>WNMG080416-TM</b>	●								0.063	0.500	0.187	0.203
		<b>All-round</b>	<b>WNMG 431</b>	<b>WNMG080404</b>	● ●								0.016	0.500	0.187	0.203
		<b>WNMG 432</b>	<b>WNMG080408</b>	● ●								0.031	0.500	0.187	0.203	
		<b>WNMG 433</b>	<b>WNMG080412</b>	● ●								0.047	0.500	0.187	0.203	
		<b>CM</b>	<b>WNMG 432 CM</b>	<b>WNMG080408-CM</b>	● ●							0.031	0.500	0.187	0.203	
			<b>WNMG 433 CM</b>	<b>WNMG080412-CM</b>	● ●							0.047	0.500	0.187	0.203	
Medium to heavy cutting		<b>TH</b>	<b>WNMG 432 TH</b>	<b>WNMG080408-TH</b>	●							0.031	0.500	0.187	0.203	
			<b>WNMG 433 TH</b>	<b>WNMG080412-TH</b>	●							0.047	0.500	0.187	0.203	
			<b>WNMG 434 TH</b>	<b>WNMG080416-TH</b>	●							0.063	0.500	0.187	0.203	
																

- : New
- : Line up

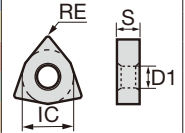
## Insert NEGATIVE TYPE

● : Continuous cutting  
 ● : Light interrupted cutting  
 \* : Heavy interrupted cutting

### WN



	P	M	K	N	S	H
Steel						
Stainless						
Cast iron	●	●	●			
Non-ferrous						
Superalloy						
Hard material						

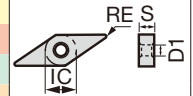


Application	Chipbreaker		Designation		Coated		Dimension (in)			
	Inch	Metric	T505	T515	RE	IC	S	D1		
Finishing to medium cutting		<b>Flat-top</b> WNMA 331E	WNMA060404E	●		0.016	0.375	0.187	0.150	
		WNMA 332E	WNMA060408E	●		0.031	0.375	0.187	0.150	
		WNMA 333E	WNMA060412E	●		0.047	0.375	0.187	0.150	
		WNMA 334E	WNMA060416E	●		0.063	0.375	0.187	0.150	
		WNMA 432	WNMA080408	●	●	0.031	0.500	0.187	0.203	
		WNMA 433	WNMA080412	●	●	0.047	0.500	0.187	0.203	
		WNMA 434	WNMA080416	●	●	0.063	0.500	0.187	0.203	

### VN



	P	M	K	N	S	H
Steel						
Stainless						
Cast iron	●	●	●			
Non-ferrous						
Superalloy						
Hard material						



Application	Chipbreaker		Designation		Coated		Dimension (in)			
	Inch	Metric	T505	T515	RE	IC	S	D1		
Medium cutting		<b>All-round</b> VNMG 331	VNMG160404	●	●	0.016	0.375	0.187	0.150	
		VNMG 332	VNMG160408	●	●	0.031	0.375	0.187	0.150	
		VNMG 333	VNMG160412	●	●	0.047	0.375	0.187	0.150	
		<b>CM</b> VNMG 332 CM	VNMG160408-CM	●	●	0.031	0.375	0.187	0.150	
		<b>Flat-top</b> VNMA 2.331E	VNMA120404E	●		0.016	0.281	0.187	0.150	
Finishing to medium cutting		VNMA 2.332E	VNMA120408E	●		0.031	0.281	0.187	0.150	

● : New  
 ● : Line up

- : Continuous cutting
- ◐ : Light interrupted cutting
- ✱ : Heavy interrupted cutting

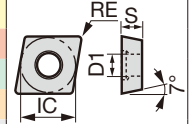
## Insert POSITIVE TYPE

### CC



**Rhombic, 80° with hole Positive 7°**

<b>P</b>	Steel																			
<b>M</b>	Stainless																			
<b>K</b>	Cast iron	●	●																	
<b>N</b>	Non-ferrous																			
<b>S</b>	Superalloy																			
<b>H</b>	Hard material																			



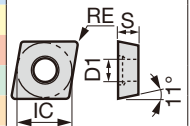
Application	Chipbreaker	Designation		Coated		Dimension (in)				
		Inch	Metric	T505	T515	RE	IC	S	D1	
Finishing to medium cutting	 70°	<b>CM</b>	<b>CCMT 21.51 CM</b>	<b>CCMT060204-CM</b>	●	●	0.016	0.250	0.094	0.110
			CCMT 21.52 CM	CCMT060208-CM	●	●	0.031	0.250	0.094	0.110
			CCMT 32.51 CM	CCMT09T304-CM	●	●	0.016	0.375	0.156	0.173
			CCMT 32.52 CM	CCMT09T308-CM	●	●	0.031	0.375	0.156	0.173

### CP



**Rhombic, 80° with hole Positive 11°**

<b>P</b>	Steel																			
<b>M</b>	Stainless																			
<b>K</b>	Cast iron	●	●																	
<b>N</b>	Non-ferrous																			
<b>S</b>	Superalloy																			
<b>H</b>	Hard material																			



Application	Chipbreaker	Designation		Coated		Dimension (in)				
		Inch	Metric	T505	T515	RE	IC	S	D1	
Finishing to medium cutting	 70°	<b>CM</b>	<b>CPMT 321 CM</b>	<b>CPMT090304-CM</b>	●	●	0.016	0.375	0.125	0.173
			CPMT 322 CM	CPMT090308-CM	●	●	0.031	0.375	0.125	0.173
			CPMT 32.51 CM	CPMT09T304-CM	●	●	0.016	0.375	0.156	0.173
			CPMT 32.52 CM	CPMT09T308-CM	●	●	0.031	0.375	0.156	0.173

- : New
- ◐ : Line up

## Insert POSITIVE TYPE

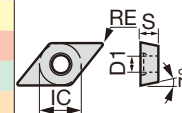
- : Continuous cutting
- : Light interrupted cutting
- ✳ : Heavy interrupted cutting

### DC

Rhombic, 55°  
with hole  
Positive 7°



P	Steel																	
M	Stainless																	
K	Cast iron	●	●●															
N	Non-ferrous																	
S	Superalloy																	
H	Hard material																	



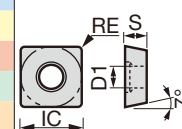
Application	Chipbreaker	Designation		Coated		Dimension (in)			
		Inch	Metric	T505	T515	RE	IC	S	D1
		<b>CM</b>	DCMT 32.51 CM	DCMT11T304-CM	●	●	0.016	0.375	0.156
Finishing to medium cutting		DCMT 32.52 CM	DCMT11T308-CM	●	●	0.031	0.375	0.156	0.173

### SC

Square, 90°  
with hole  
Positive 7°



P	Steel																	
M	Stainless																	
K	Cast iron	●	●●															
N	Non-ferrous																	
S	Superalloy																	
H	Hard material																	



Application	Chipbreaker	Designation		Coated		Dimension (in)			
		Inch	Metric	T505	T515	RE	IC	S	D1
		<b>CM</b>	SCMT 32.51 CM	SCMT09T304-CM	●	●	0.016	0.375	0.156
Finishing to medium cutting		SCMT 32.52 CM	SCMT09T308-CM	●	●	0.031	0.375	0.156	0.173
		SCMT 431 CM	SCMT120404-CM	●	●	0.016	0.500	0.187	0.217
		SCMT 432 CM	SCMT120408-CM	●	●	0.031	0.500	0.187	0.217

- : New
- : Line up

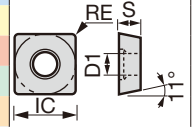
## Insert POSITIVE TYPE

### SP

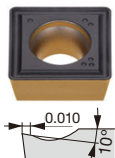


Square, 90°  
with hole  
Positive 11°

P	Steel																			
M	Stainless																			
K	Cast iron	●	●●																	
N	Non-ferrous																			
S	Superalloy																			
H	Hard material																			



Application	Chipbreaker		Designation		Coated		Dimension (in)			
		Inch		Metric	T505	T515	RE	IC	S	D1
	Finishing to medium cutting	<b>CM</b>	SPMT 431 CM		SPMT120404-CM	●	●	0.016	0.500	0.187
		SPMT 432 CM		SPMT120408-CM	●	●	0.031	0.500	0.187	0.217

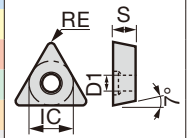


### TC

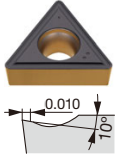


Triangular, 60°  
with hole  
Positive 7°

P	Steel																			
M	Stainless																			
K	Cast iron	●	●●																	
N	Non-ferrous																			
S	Superalloy																			
H	Hard material																			



Application	Chipbreaker		Designation		Coated		Dimension (in)			
		Inch		Metric	T505	T515	RE	IC	S	D1
	Finishing to medium cutting	<b>CM</b>	TCM T32.51 CM		TCMT16T304-CM	●	●	0.016	0.375	0.156
		TCMT 32.52 CM		TCMT16T308-CM	●	●	0.031	0.375	0.156	0.173
		TCMT 32.53 CM		TCMT16T312-CM	●	●	0.047	0.375	0.156	0.173



● : New  
 ● : Line up



- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊛ : Heavy interrupted cutting

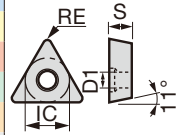
## Insert POSITIVE TYPE

### TP



**Triangular, 60° with hole Positive 11°**

Material	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
<b>P</b> Steel																							
<b>M</b> Stainless																							
<b>K</b> Cast iron	●	●																					
<b>N</b> Non-ferrous																							
<b>S</b> Superalloy																							
<b>H</b> Hard material																							



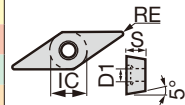
Application	Chipbreaker	Designation		Coated		Dimension (in)				
		Inch	Metric	T505	T515	RE	IC	S	D1	
Finishing to medium cutting		<b>PM</b>	TPMT 32.51 CM	TPMT16T304-CM	●	●	0.016	0.375	0.156	0.173
			TPMT 32.52 CM	TPMT16T308-CM	●	●	0.031	0.375	0.156	0.173
			TPMT 32.53 CM	TPMT16T312-CM	●	●	0.047	0.375	0.156	0.173

### VB



**Rhombic, 35° with hole Positive 5°**

Material	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
<b>P</b> Steel																							
<b>M</b> Stainless																							
<b>K</b> Cast iron	●	●																					
<b>N</b> Non-ferrous																							
<b>S</b> Superalloy																							
<b>H</b> Hard material																							



Application	Chipbreaker	Designation		Coated		Dimension (in)				
		Inch	Metric	T505	T515	RE	IC	S	D1	
Finishing to medium cutting		<b>CM</b>	VBMT 331 CM	VBMT160404-CM	●	●	0.016	0.375	0.187	0.173
			VBMT 332 CM	VBMT160408-CM	●	●	0.031	0.375	0.187	0.173
			VBMT 333 CM	VBMT160412-CM	●	●	0.047	0.375	0.187	0.173

- : New
- : Line up

## Insert POSITIVE TYPE

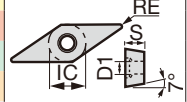
● : Continuous cutting  
 ● : Light interrupted cutting  
 ✱ : Heavy interrupted cutting

### VC

Rhombic, 35°  
with hole  
Positive 7°



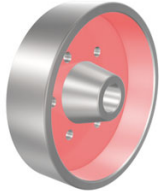
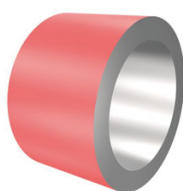
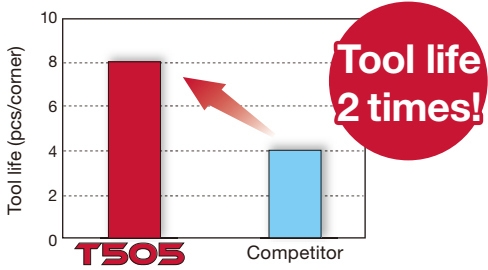
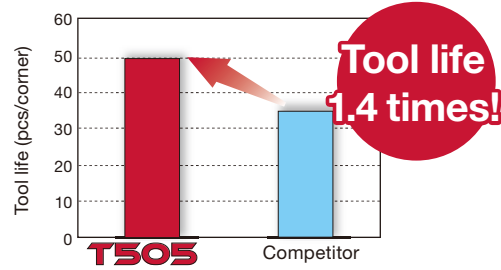
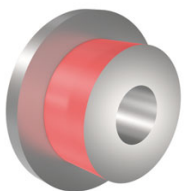
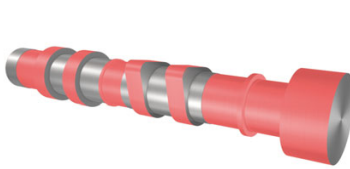
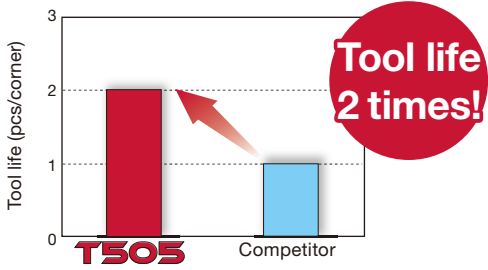
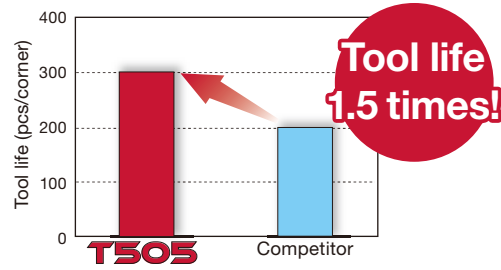
P	Steel																					
M	Stainless																					
K	Cast iron	●	●																			
N	Non-ferrous																					
S	Superalloy																					
H	Hard material																					



Application	Chipbreaker	Designation		Coated		Dimension (in)							
		Inch	Metric	T505	T515	RE	IC	S	D1				
Finishing to medium cutting		VCMT 331 CM	VCMT160404-CM	●	●					0.016	0.375	0.187	0.173
		VCMT 332 CM	VCMT160408-CM	●	●					0.031	0.375	0.187	0.173

● : New  
 ● : Line up

## PRACTICAL EXAMPLES

Workpiece type		Fly wheel	Machine part
Insert		CNMG 432	CNMG 432 CM
Grade		T505	T505
		Class 30	80-55-06
Workpiece material		 <b>K</b>	 <b>K</b>
Cutting conditions	Cutting speed: $V_c$ (sfm)	660	330
	Feed : $f$ (ipr)	0.010	0.020
	Depth of cut : $a_p$ (in)	0.118	0.079
	Machining	Internal and face turning	External turning
	Coolant	Wet	Dry
Results		 <p><b>T505</b> machined 8 parts per edge, doubling tool life.</p>	 <p><b>T505</b> machined 50 parts per edge, increasing tool life by 1.4 times.</p>
Workpiece type		Automotive part	Cam shaft
Insert		CNMA 432	DNMG 432
Grade		T505	T505
		80-55-06	100-70-03
Workpiece material		 <b>K</b>	 <b>K</b>
Cutting conditions	Cutting speed: $V_c$ (sfm)	1398	490 - 660
	Feed : $f$ (ipr)	0.012	0.008 - 0.014
	Depth of cut : $a_p$ (in)	0.118	0.039
	Machining	External turning	External and face turning
	Coolant	Wet	Dry
Results		 <p><b>T505</b> machined 2 parts per edge, doubling tool life.</p>	 <p><b>T505</b> machined 300 pcs per edge, improving tool life by 1.5 times over the competitor.</p>

# Tungaloy America, Inc.

3726 N Ventura Drive, Arlington Heights, IL 60004, U.S.A.

Inside Sales: +1-888-554-8394

Technical Support: +1-888-554-8391

Fax: +1-888-554-8392

[www.tungaloy.com/us](http://www.tungaloy.com/us)

## Tungaloy Canada

432 Elgin St. Unit 3, Brantford, Ontario N3S 7P7, Canada

Phone: +1-519-758-5779 Fax: +1-519-758-5791

[www.tungaloy.com/ca](http://www.tungaloy.com/ca)

## Tungaloy de Mexico S.A.

C Los Arellano 113, Parque Industrial Siglo XXI

Aguascalientes, AGS, Mexico 20290

Phone: +52-449-929-5410 Fax: +52-449-929-5411

[www.tungaloy.com/mx](http://www.tungaloy.com/mx)



Scan for instant  
web access



[www.tungaloy.com/us](http://www.tungaloy.com/us)

follow us at:

[facebook.com/tungaloyamerica](https://facebook.com/tungaloyamerica)

[twitter.com/tungaloy](https://twitter.com/tungaloy)

[instagram.com/tungaloyamerica](https://instagram.com/tungaloyamerica)

[linkedin.com/company/tungaloy-america](https://linkedin.com/company/tungaloy-america)

To see Tungaloy products in action visit:



[www.youtube.com/tungaloycorporation](https://www.youtube.com/tungaloycorporation)

Distributed by:



FIND US ON THE CLOUD!  
[machiningcloud.com](http://machiningcloud.com)



Available on the  
App Store



GET IT ON  
Google play



Available on the  
App Store



GET IT ON  
Google play