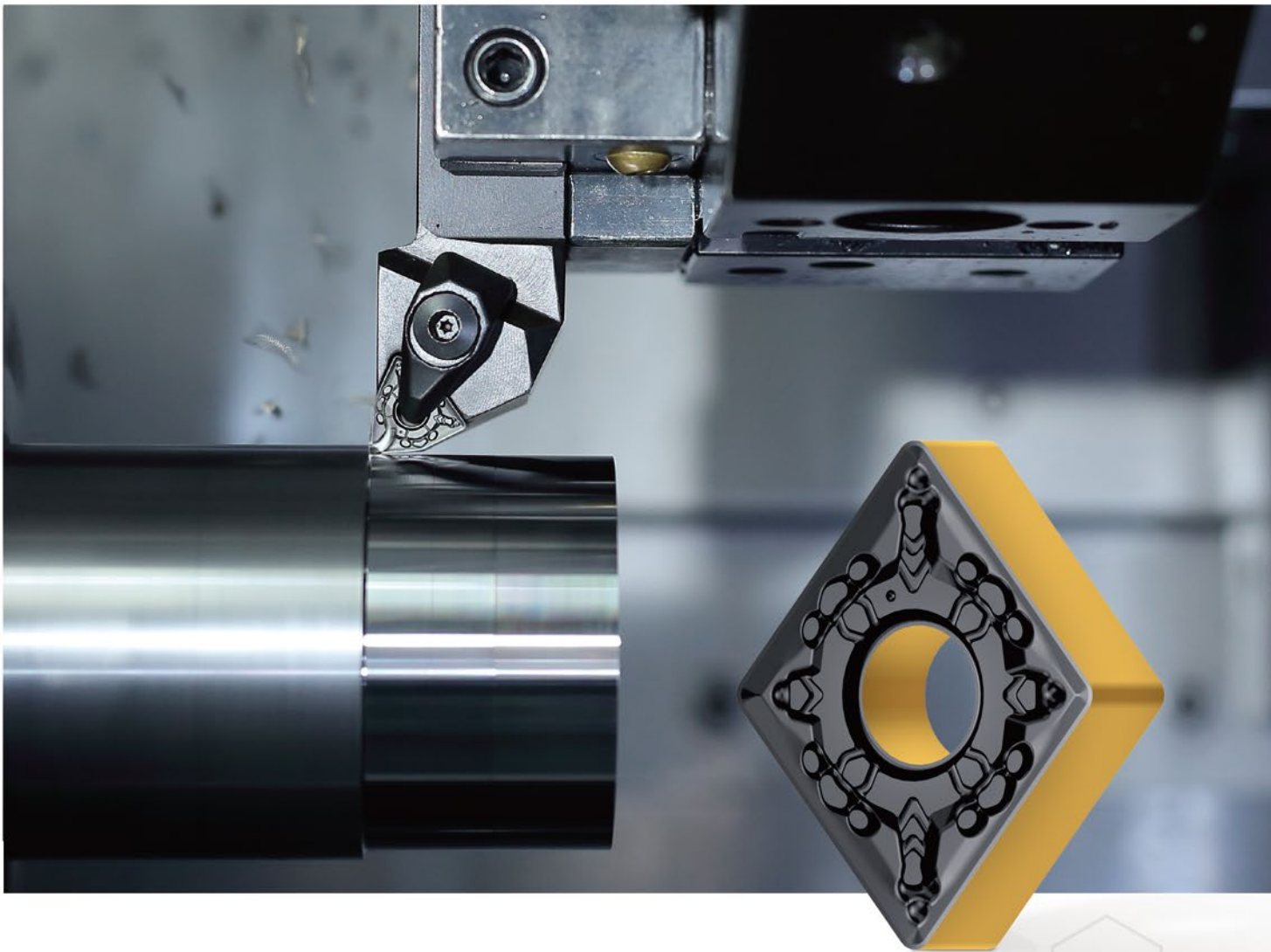


ACHTECK•TURN

New Chip Breaker **PD3**

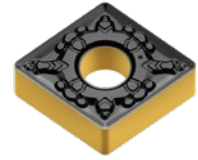
for Steel Machining



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PD3 Medium- Semi Finishing

First choice for steels machining and achieves high efficiency and stable machining.



Grade Application

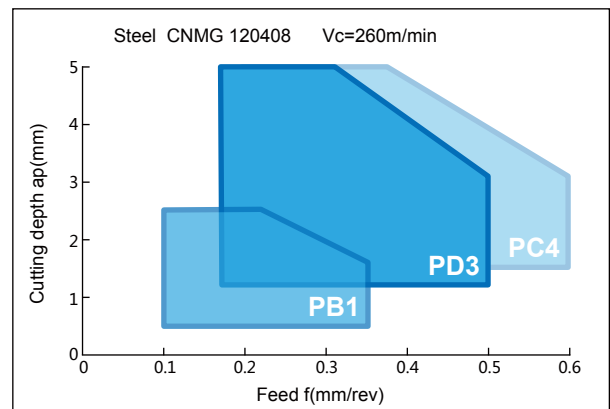
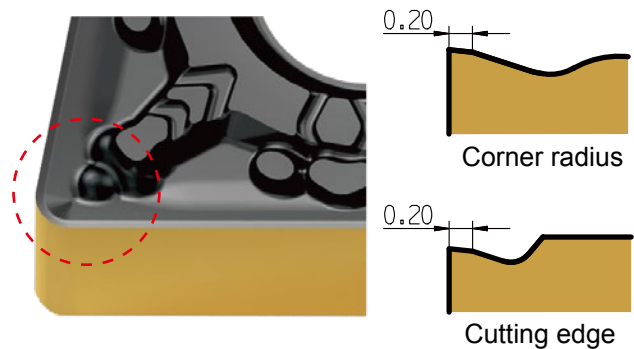
Application Range											
PD3	01	5	10	15	20	25	30	35	40	45	50
P			AC150P								
					AC250P						
							AC350P				

Chip Breaker Features

3 dimensional chip breaker design leads to extensive range of chipbreak.

Strong cutting edge geometry enhances its strength and toughness.

Positive rake angle design reduces cutting force.



● Machining Case

Work piece: Wheel hub

Material: Alloy steel

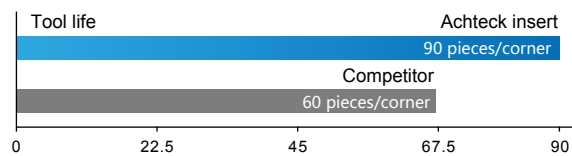
Insert: WNMG 080412E-PD3 AC250P

Other Company: WNMG 080412 AXX P25

Machining Type: External turning, End face turning

Cutting Parameter: $V_c=320\text{m/min}$ $a_p=1.5\text{mm}$
 $f=0.26\text{mm/rev}$

Condition: Dry cutting



Comparison Result: Achteck tool life is 33% higher than competitor

Work piece: Central Shaft

Material: Medium carbon steel

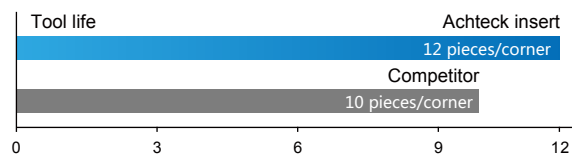
Insert: TNMG 160412E-PD3 AC250P

Other Company: TNMG 160412 AXX P25

Machining Type: External turning

Cutting Parameter: $V_c=260\text{m/min}$ $a_p=2.5\text{mm}$
 $f=0.28\text{mm/rev}$

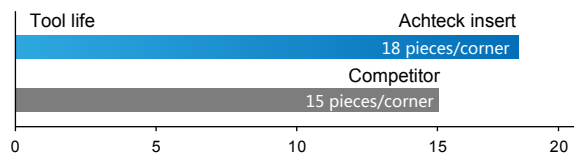
Condition: Wet cutting



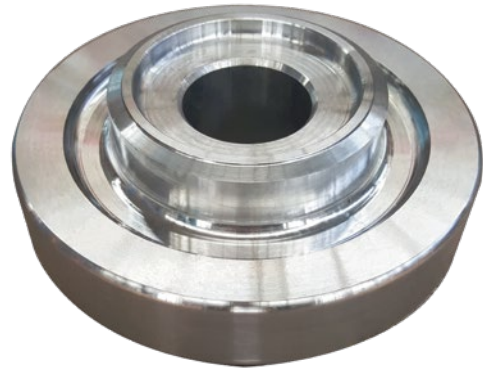
Comparison Result: Achteck tool life is 20% higher than competitor

Work piece: wheel
 Material: Alloy steel
 Insert: CNMG 120412E-PD3 AC150P
 Other Company: CNMG 120412 AXX P15
 Machining Type: External turning, End face turning
 Cutting Parameter: $V_c=260\text{m/min}$ $a_p=2.0\text{mm}$
 $f=0.30\text{mm/rev}$

Condition: Wet cutting

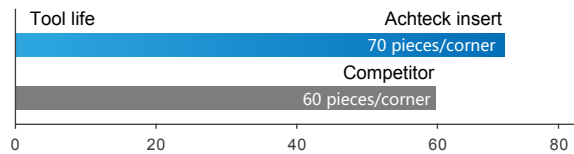


Comparison Result: Achteck tool life is 20% higher than competitor



Work piece: Hub bearing
 Material: High carbon steel
 Insert: WNMG 080408E-PD3 AC250P
 Other Company: WNMG 080408 AXX P25
 Machining Type: End face turning, External turning
 Cutting Parameter: $V_c=280\text{m/min}$ $a_p=1.6\text{mm}$
 $f=0.24\text{mm/rev}$

Condition: Dry cutting

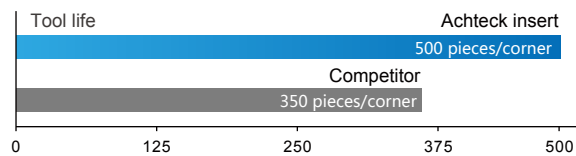


Comparison Result: Achteck tool life is 20% higher than competitor



Work piece: Bearing
 Material: Bearing steel
 Insert: WNMG 080412E-PD3 AC150P
 Other Company: WNMG 080412 AXX P15
 Machining Type: End face turning, internal turning
 Cutting Parameter: $V_c=180\text{m/min}$ $a_p=1.0\text{mm}$
 $f=0.30\text{-}0.45\text{mm/rev}$

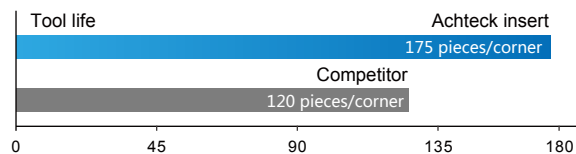
Condition: Dry cutting



Comparison Result: Achteck tool life is 30% higher than competitor

Work piece: Bell housing
 Material: Medium carbon steel
 Insert: TNMG 160408E-PD3 AC150P
 Other Company: TNMG 160408 AXX P15
 Machining Type: External turning, End face turning
 Cutting Parameter: $V_c=220\text{m/min}$ $a_p=1.5\text{mm}$
 $f=0.35\text{mm/rev}$

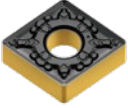
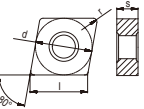
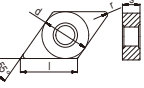
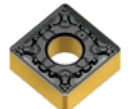
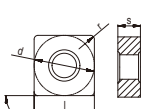
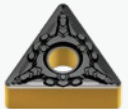
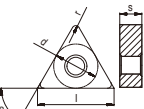
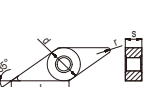
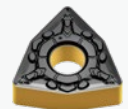
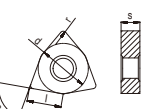
Condition: Dry cutting



Comparison Result: Achteck tool life is 42% higher than competitor

Insert Stocks

Negative insert

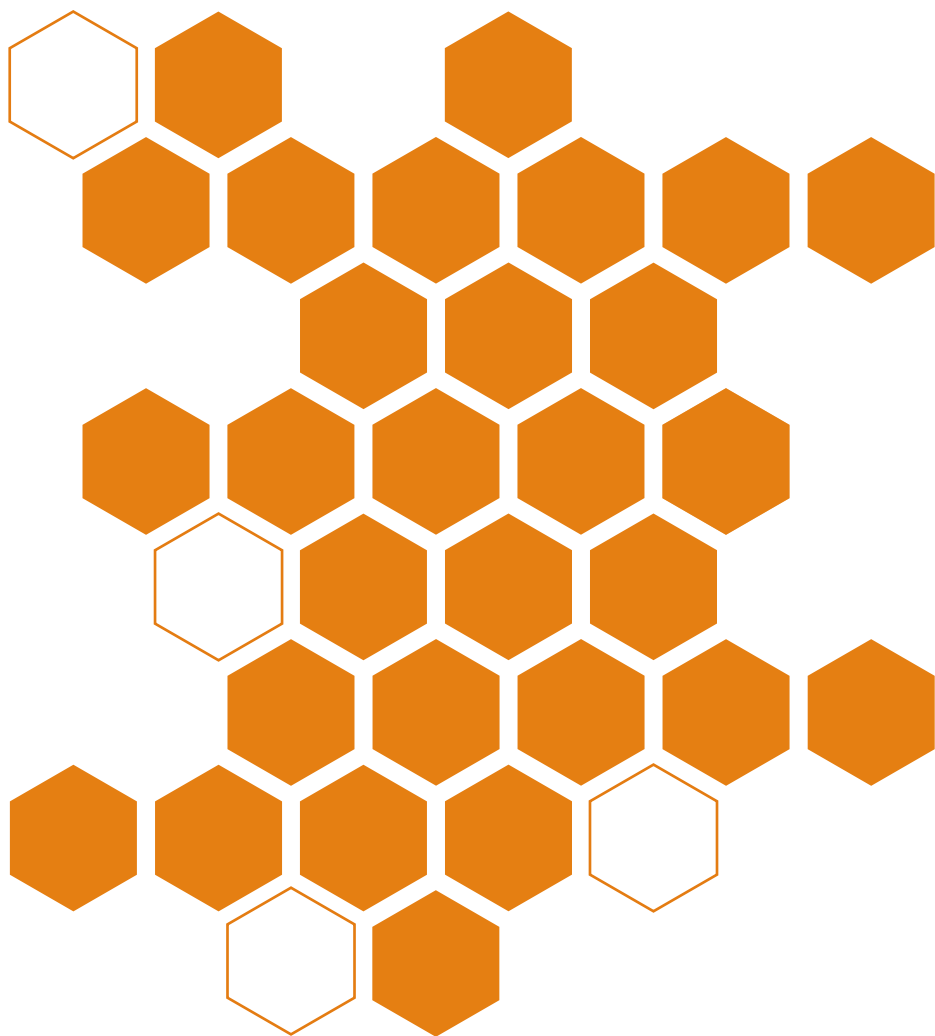
Insert	Item designation	Recommended cutting parameters		Dimension(mm)				Grade (CVD)			Geometry
		Feed (mm/rev)	ap (mm)	d	l	s	r	AC150P	AC250P	AC350P	
	CNMG 120404E-PD3	0.08-0.22	0.40-4.3	12.7	12.9	4.76	0.4	●	●	○	
	120408E-PD3	0.15-0.44	0.80-4.3	12.7	12.9	4.76	0.8	●	●	●	
	120412E-PD3	0.23-0.66	1.20-4.3	12.7	12.9	4.76	1.2	●	●	●	
	160608E-PD3	0.15-0.44	0.80-5.3	15.875	16.1	6.35	0.8	●	●	○	
	190608E-PD3	0.15-0.44	0.80-6.4	19.05	19.3	6.35	0.8	●	●	○	
	DNMG 110404E-PD3	0.08-0.22	0.40-2.9	9.525	11.62	4.76	0.4	●	●		
	110408E-PD3	0.15-0.44	0.80-2.9	9.525	11.62	4.76	0.8	●	●		
	110412E-PD3	0.23-0.66	1.20-2.9	9.525	11.62	4.76	1.2	○	○		
	150404E-PD3	0.08-0.22	0.40-3.9	12.7	15.5	4.76	0.4	●	●		
	150408E-PD3	0.15-0.44	0.80-3.9	12.7	15.5	4.76	0.8	●	●	○	
	150412E-PD3	0.23-0.66	1.20-3.9	12.7	15.5	4.76	1.2	●	●	○	
	150604E-PD3	0.08-0.22	0.40-3.9	12.7	15.5	6.35	0.4	●	●		
	150608E-PD3	0.15-0.44	0.80-3.9	12.7	15.5	6.35	0.8	●	●	●	
	150612E-PD3	0.23-0.66	1.20-3.9	12.7	15.5	6.35	1.2	●	●	●	
	SNMG 120404E-PD3	0.08-0.22	0.40-4.2	12.7	12.7	4.76	0.4	●	●	○	
	120408E-PD3	0.15-0.44	0.80-4.2	12.7	12.7	4.76	0.8	●	●	●	
	120412E-PD3	0.23-0.66	1.20-4.2	12.7	12.7	4.76	1.2	●	●	●	
	190608E-PD3	0.15-0.44	0.80-6.3	19.05	19.05	6.35	0.8	●	●	○	
	TNMG 160404E-PD3	0.08-0.22	0.40-4.1	9.525	16.5	4.76	0.4	●	●	○	
	160408E-PD3	0.15-0.44	0.80-4.1	9.525	16.5	4.76	0.8	●	●	●	
	160412E-PD3	0.23-0.66	1.20-4.1	9.525	16.5	4.76	1.2	●	●	○	
	VNMG 160404E-PD3	0.08-0.22	0.40-3.3	9.525	16.5	4.76	0.4	●	●		
	160408E-PD3	0.15-0.44	0.80-3.3	9.525	16.5	4.76	0.8	●	●		
	160412E-PD3	0.23-0.66	1.20-3.3	9.525	16.5	4.76	1.2	●	●		
	WNMG 060408E-PD3	0.15-0.44	0.80-2.1	9.525	6.52	4.76	0.8	●	●	○	
	080404E-PD3	0.08-0.22	0.40-2.9	12.7	8.7	4.76	0.4	●	●	●	
	080408E-PD3	0.15-0.44	0.80-2.9	12.7	8.7	4.76	0.8	●	●	●	
	080412E-PD3	0.23-0.66	1.20-2.9	12.7	8.7	4.76	1.2	●	●	●	

Remark: ● represent for standard stock
○ represent for Make-To-Order

Recommended Cutting Parameters

Cutting Materials				Achteck turning insert grade application range								
ISO	Material classification	Tensile strength (N/mm ²)	Hardness (HB)	AC150P			AC250P			AC350P		
				P10-25			P20-35			P30-45		
				CVD			CVD			CVD		
				f(mm/rev)			f(mm/rev)			f(mm/rev)		
				Min	Med	Max	Min	Med	Max	Min	Med	Max
P	Non-alloy steels	<600	<180	485	378	270	380	260	160	250	182	115
		<950	<280	335	243	150	240	162	100	160	117	75
	Alloyed steels	700-950	200-280	230	168	120	215	155	90	148	109	70
		950-1200	280-355	210	150	90	180	137	75	135	100	65
		1200-1400	355-415	175	110	70	135	92	55	93	69	45

* The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, work piece clamping and coolants. (f=mm/rpm needs to adjust according to corner radius)



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