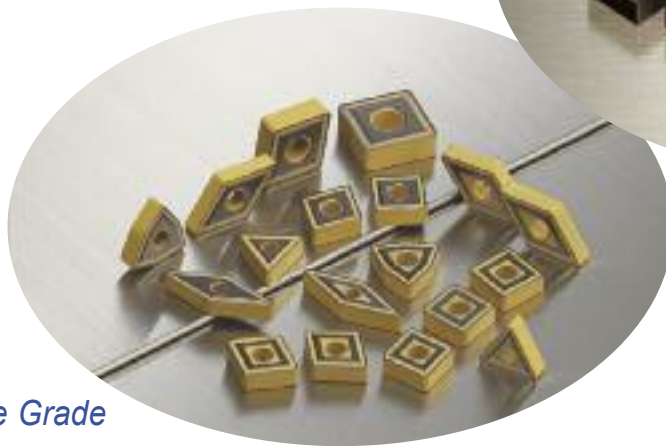


Premium Grade Cast and Ductile Iron Turning Inserts

AC410K / AC420K



AC410K

General Purpose Grade

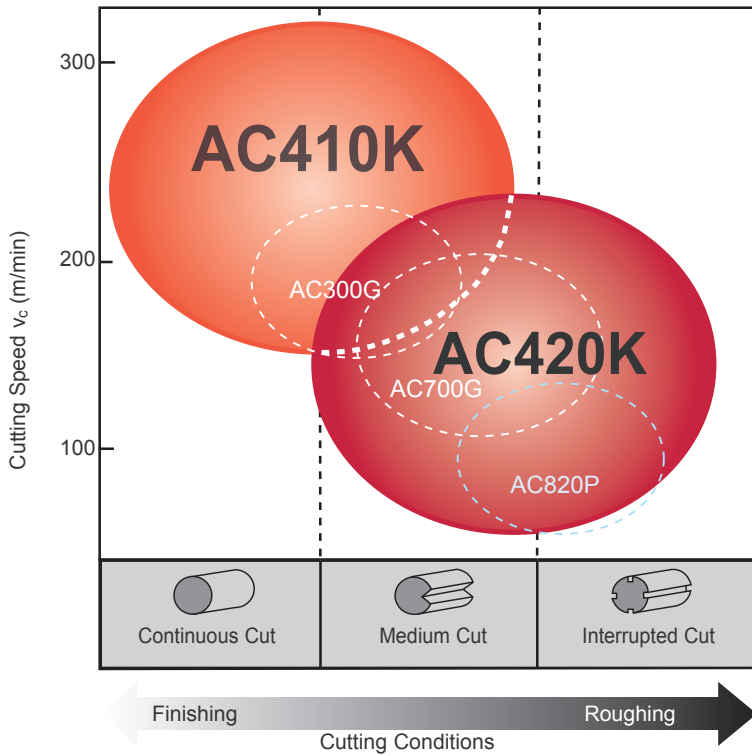


AC420K

Heavy Roughing Grade

ACE-Coat AC410K / AC420K

Application Range



AC410K

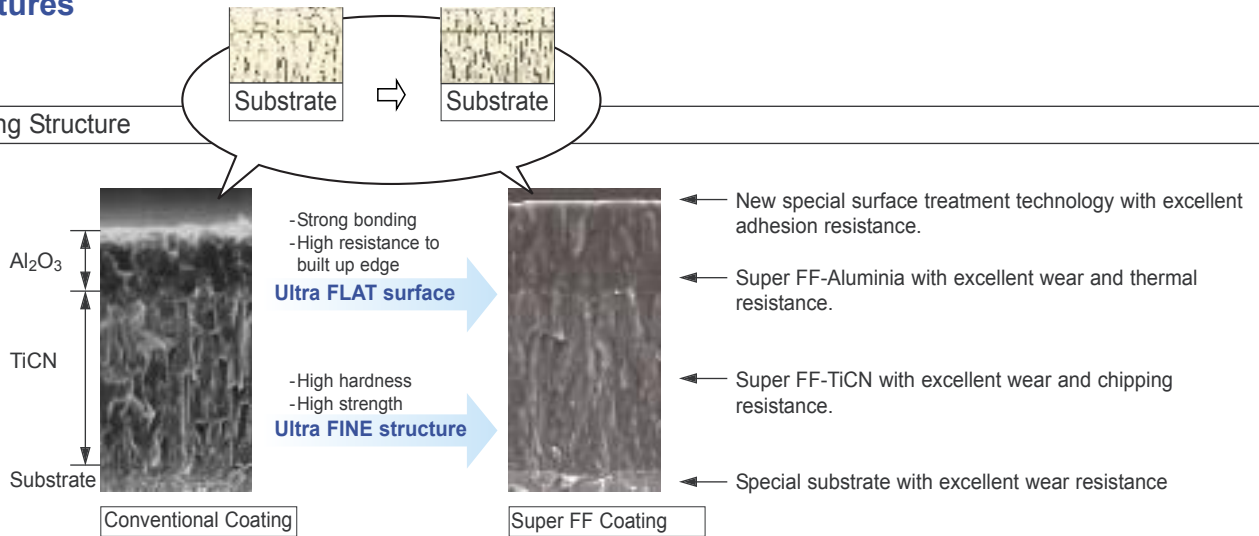
General purpose grade for continuous and light interrupted cuts.

AC420K

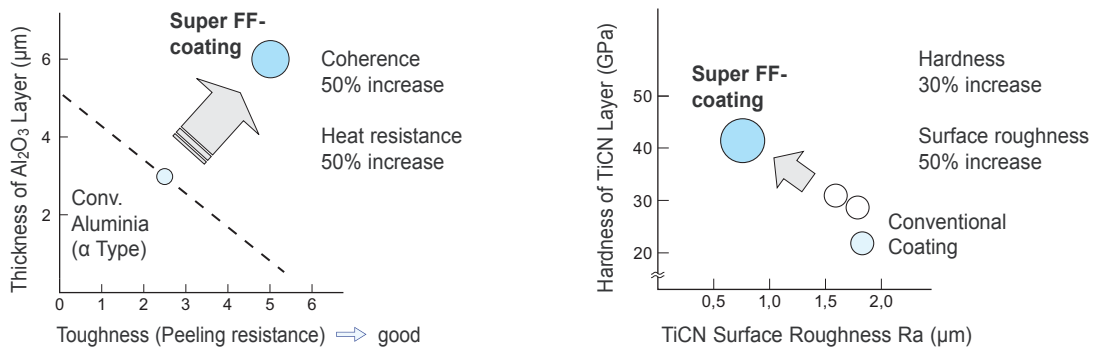
Tough grade for roughing operations, heavily interrupted cuts and removal of mill scale.

Features

Coating Structure










Feature of Coating







Insert Selection Negative Type

ACE-Coat AC410K / AC420K






80° Diamond Type

Shape	Catalogue No.	Stock		Dimensions (mm)						
		AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius			
	CNMG120404NUZ	●	●	12,9	12,7	4,76	0,4			
	CNMG120408NUZ	●	●				0,8			
	CNMG120412NUZ	●	●				1,2			
	CNMG120416NUZ	●	●	16,1	15,875	6,35	1,6			
	CNMG160608NUZ	●	●				0,8			
	CNMG160612NUZ	●	●				1,2			
	CNMG160616NUZ	●	●	19,3	19,05	6,35	1,6			
	CNMG190612NUZ	●	●				1,2			
	CNMG190616NUZ	●	●				1,6			
		CNMG120408NGZ	○	●	12,9	12,7	4,76	0,8		
CNMG120412NGZ		○	●	1,2						
CNMG120416NGZ		○	●	1,6						
	CNMG120404NUX	●	●	12,9	12,7	4,76	0,4			
	CNMG120408NUX	●	●				0,8			
	CNMG120412NUX	●	●				1,2			
	CNMG120416NUX	●	●	16,1	15,875	6,35	1,6			
	CNMG160608NUX	●	●				0,8			
	CNMG160612NUX	●	●				1,2			
	CNMG160616NUX	●	●	19,3	19,05	6,35	1,6			
	CNMA120404	●	●				12,9	12,7	4,76	0,4
	CNMA120408	●	●							0,8
	CNMA120412	●	●							1,2
	CNMA120416	●	●				16,1	15,875	6,35	1,6
	CNMA160608	●	○							0,8
	CNMA160612	●	●							1,2
CNMA160616	●	●	1,6							
	CNMA190612	●	●	19,3	19,05	6,35	1,2			
	CNMA190616	●	●				1,6			
	CNMG120404NLU-W	●	●	12,9	12,7	4,76	0,4			
	CNMG120408NLU-W	●	●				0,8			
	CNMG120412NLU-W	●	●				1,2			
	CNMG120408NGU-W	●	●	12,9	12,7	4,76	0,8			
	CNMG120412NGU-W	●	●				1,2			
	CNMG120416NGU-W	●	●				1,6			






55° Diamond Type

	DNMG150608NUZ	●	●	15,5	12,7	6,35	0,8
	DNMG150612NUZ	●	●				1,2
	DNMG150608NGZ	○	●	15,5	12,7	6,35	0,8
	DNMG150612NGZ	○	●				1,2
	DNMG150604NUX	●	●	15,5	12,7	6,35	0,4
	DNMG150608NUX	●	●				0,8
	DNMG150612NUX	●	●				1,2
	DNMG150616NUX	●	●				1,6
	DNMA150608	●	●	15,5	12,7	6,35	0,8
	DNMA150612	●	●				1,2



Square Type

	SNMG120408NUZ	●	●	12,7	12,7	4,76	0,8			
	SNMG120412NUZ	●	●				1,2			
	SNMG120416NUZ	●	●				1,6			
	SNMG150612NUZ	●	●	15,875	15,875	6,35	1,2			
	SNMG150616NUZ	●	●				1,6			
	SNMG190612NUZ	●	●				1,2			
	SNMG190616NUZ	●	●	19,05	19,05	6,35	1,6			
	SNMG120408NGZ	○	●				12,7	12,7	4,76	0,8
	SNMG120412NGZ	○	●							1,2
SNMG120416NGZ	○	●	1,6							
	SNMG120408NUX	●	●	12,7	12,7	4,76	0,8			
	SNMG120412NUX	●	●				1,2			
	SNMG120416NUX	●	●				1,6			
	SNMG150612NUX	●	●	15,875	15,875	6,35	1,2			
	SNMG190612NUX	●	●				1,2			
	SNMG190616NUX	●	●	19,05	19,05	6,35	1,6			
	SNMA120408	●	●				0,8			
	SNMA120412	●	●	12,7	12,7	4,76	1,2			
	SNMA120416	●	●				1,6			
	SNMA150612	●	●				1,2			
	SNMA190612	●	●	19,05	19,05	6,35	1,2			
	SNMA190616	●	●				1,6			







Triangel Type

Shape	Catalogue No.	Stock		Dimensions (mm)			
		AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius
	TNMG160404NUZ	●	●	16,5	9,525	4,76	0,4
	TNMG160408NUZ	●	●				0,8
	TNMG160412NUZ	●	●				1,2
	TNMG160416NUZ	●	●	22	12,7	4,76	1,6
	TNMG220408NUZ	●	●				0,8
	TNMG220412NUZ	●	●				1,2
	TNMG160408NGZ	○	●	16,5	9,525	4,76	0,8
	TNMG160412NGZ	○	●				1,2
	TNMG160404NUX	●	●	16,5	9,525	4,76	0,4
	TNMG160408NUX	●	●				0,8
	TNMG160412NUX	●	●				1,2
	TNMG220408NUX	●	●	22	12,7	4,76	0,8
	TNMG220412NUX	●	●				1,2
TNMG220416NUX	●	●	1,6				
	TNMG220416NMU	●	●	22	12,7	4,76	1,6
	TNMA160404	●	●	16,5	9,525	4,76	0,4
	TNMA160408	●	●				0,8
	TNMA160412	●	●				1,2
	TNMA160416	●	●	22,0	12,7	4,76	1,6
	TNMA220408	●	●				0,8
	TNMA220412	●	●				1,2
TNMA220416	●	●	1,6				

35° Diamond Type

	VNMG160404NUZ	●	●	16,6	9,525	4,76	0,4
	VNMG160408NUZ	●	●				0,8
	VNMG160412NUZ	●	●				1,2
	VNMG160404NUX	●	●	16,6	9,525	4,76	0,4
	VNMG160408NUX	●	●				0,8
	VNMG160412NUX	●	●				1,2
	VNMA160404	●	●	16,6	9,525	4,76	0,4
	VNMA160408	●	●				0,8
VNMA160412	●	●	1,2				

Trigon Type




	WNMG080404NUZ	●	●	8,7	12,7	4,76	0,4
	WNMG080408NUZ	●	●				0,8
	WNMG080412NUZ	●	●				1,2
	WNMG080408NGZ	○	●	8,7	12,7	4,76	0,8
	WNMG080412NGZ	○	●				1,2
	WNMG080404NUX	●	●	8,7	12,7	4,76	0,4
	WNMG080408NUX	●	●				0,8
	WNMG080412NUX	●	●				1,2
	WNMA080408	●	●	8,7	12,7	4,76	0,8
	WNMA080412	●	●				1,2
	WNMA080416	●	●				1,6
	WNMG060404NLU-W	●	●	6,5	9,525	4,76	0,4
	WNMG060408NLU-W	●	●				0,8
	WNMG080404NLU-W	●	●				0,4
	WNMG080408NLU-W	●	●	8,7	12,7	4,76	0,8
	WNMG080412NLU-W	●	●				1,2
	WNMG080408NGU-W	●	●				0,8
WNMA080412NGU-W	●	●	8,7	12,7	4,76	1,2	

- Euro stock
- Japan stock



Insert Selection Positive Type

ACE-Coat AC410K / AC420K



80° Diamond Type

Shape	Relief angle	Catalogue No.	Stock		Dimensions (mm)			
			AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius
	7°	CCMT060202NSU	●		6,4	6,35	2,38	0,2
		CCMT060204NSU	●					0,4
		CCMT09T304NSU	●		9,7	9,525	3,97	0,4
		CCMT09T308NSU	●					0,8
	7°	CCMT120404NSU	●		12,9	12,7	4,76	0,4
		CCMT120408NSU	●					0,8
		CCMT09T304NMU	●	●	9,7	9,525	3,97	0,4
		CCMT09T308NMU	●	●				0,8
	7°	CCMT09T304NLU-W	●		9,7	9,525	3,97	0,4
		CCMT09T308NLU-W	●					0,8

55° Diamond Type



Shape	Relief angle	Catalogue No.	Stock		Dimensions (mm)			
			AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius
	7°	DCMT070202NSU	●		7,7	6,35	2,38	0,2
		DCMT070204NSU	●					0,4
		DCMT070208NSU	●		11,6	9,525	3,97	0,2
		DCMT11T302NSU	●					0,8
	7°	DCMT11T304NSU	●		11,6	9,525	3,97	0,4
		DCMT11T308NSU	●					0,8
		DCMT11T304NMU	●	●	11,6	9,525	3,97	0,4
		DCMT11T308NMU	●	●				0,8

Square Type



Shape	Relief angle	Catalogue No.	Stock		Dimensions (mm)			
			AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius
	7°	SCMT09T304NSU	●		9,525	9,525	3,97	0,4
		SCMT09T308NSU	●					0,8
		SCMT120404NSU	●		12,7	12,7	4,76	0,4
SCMT120408NSU	●		0,8					
	7°	SCMT09T308NMU	●	●	9,525	9,525	3,97	0,8
		SCMT120408NMU	●	●	12,7	12,7	4,76	0,8

- Euro stock
- Japan stock

Triangle Type

Shape	Relief angle	Catalogue No.	Stock		Dimensions (mm)			
			AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius
	7°	TCMT110204NSU	●		11,0	6,35	2,38	0,4
		TCMT110208NSU	●					0,8
		TCMT16T304NSU	●		16,5	9,525	2,38	0,4
		TCMT16T308NSU	●					0,8
	11°	TPMT110304NSU	●		11,0	6,35	3,18	0,4
		TPMT110308NSU	●					0,8
		TPMT160404NSU	●		16,5	9,525	4,76	0,4
		TPMT160408NSU	●					0,8

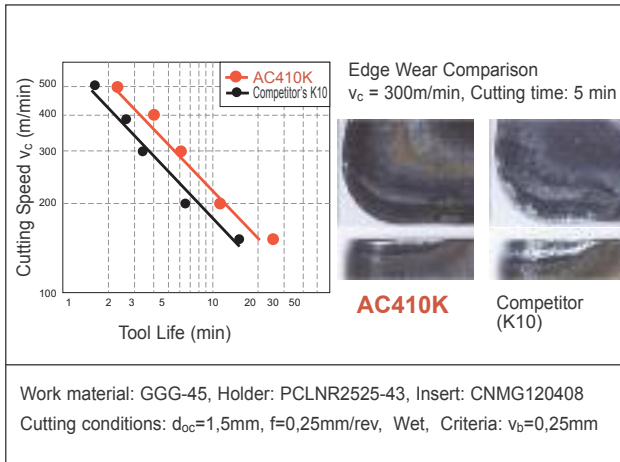
35° Diamond Type

Shape	Relief angle	Catalogue No.	Stock		Dimensions (mm)			
			AC410K	AC420K	Cutting edge length	IC	Thick-ness	Nose radius
	5°	VBMT110304NSU	●		11,0	6,35	3,18	0,4
		VBMT110308NSU	●					0,8
		VBMT160404NSU	●		16,6	9,525	4,76	0,4
VBMT160408NSU	●		0,8					
	7°	VCMT160404NSU	●		16,6	9,525	4,76	0,4
		VCMT160408NSU	●					0,8

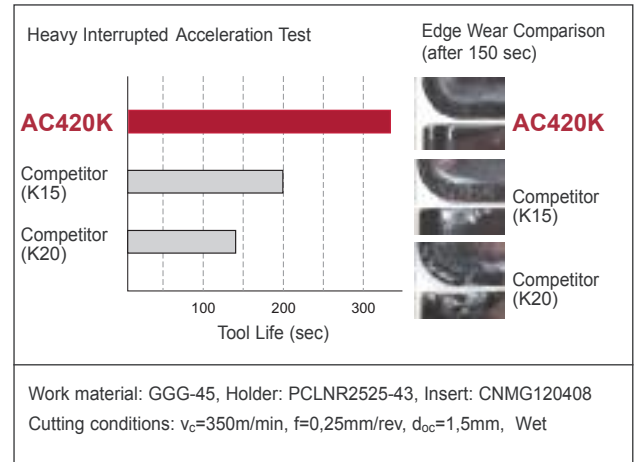
ACE-Coat AC410K / AC420K

Performance

AC410K Continuous Cutting

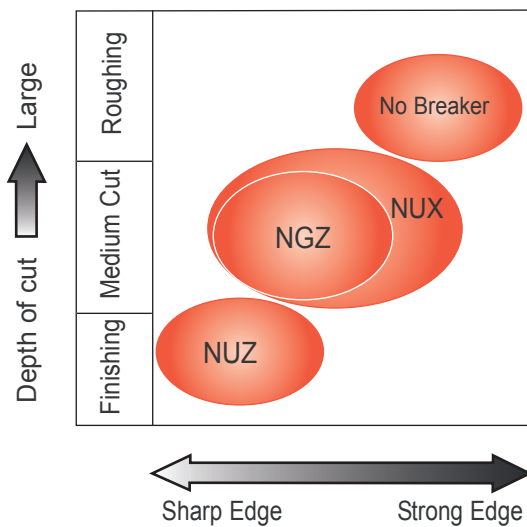


AC420K Heavy and Interrupted Cutting

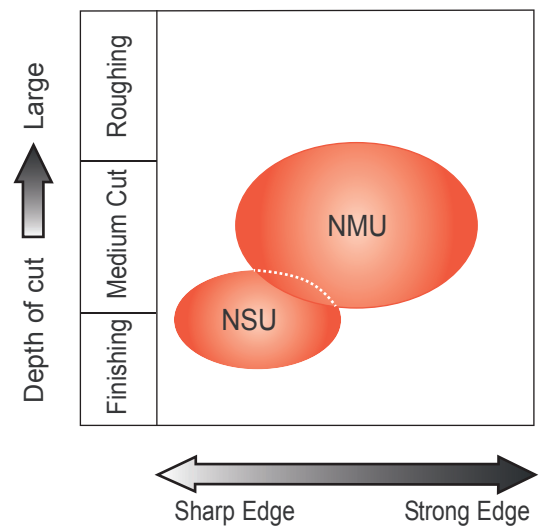


Chipbreaker Selection

Negative Type



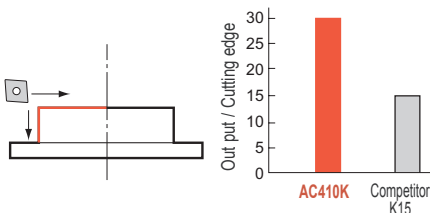
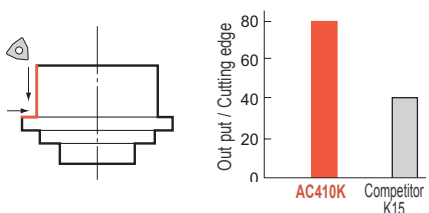
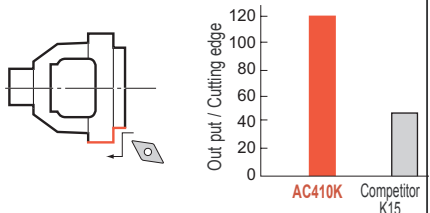
Positive Type

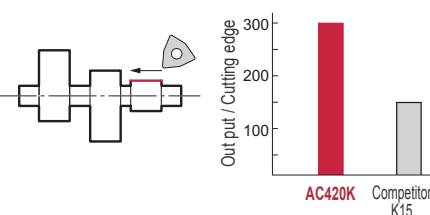
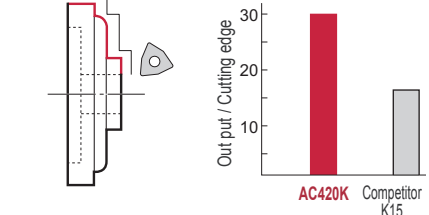
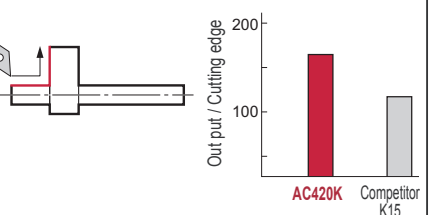


Recommended Cutting Conditions

Work Material / Cutting Condition	Grey Cast Iron (GG)				Ductile Cast Iron (GGG)			
	Grade	Breaker	Cutting Speed v_c (m/min)	Feed Rate f (mm/rev)	Grade	Breaker	Cutting Speed v_c (m/min)	Feed Rate f (mm/rev)
Continuous-Light Cut	AC410K	UZ	200-350-500	0,1-0,25-0,4	AC410K	GZ	150-300-450	0,1-0,25-0,4
Medium Interrupted	AC410K	GZ	150-275-400	0,1-0,3-0,5	AC410K	GZ	150-250-350	0,1-0,3-0,5
Heavy Interrupted	AC420K	GZ	100-200-300	0,1-0,3-0,5	AC420K	GZ	80-150-220	0,1-0,3-0,5
Heavy Cut	AC420K	flat	100-175-250	0,1-0,35-0,6	AC420K	flat	80-130-180	0,1-0,3-0,5

Application Examples

GG25 Brake Disc	GGG45 Hub	GGG60 Differential Gear Case
		
Insert: CNMA120412 (AC410K) Cutting data: $v_c = 380$ m/min $f = 0,25$ mm/rev $d_{oc} = 1,5$ mm, Dry	Insert: WNMG080408NUZ (AC410K) Cutting data: $v_c = 200$ m/min $f = 0,25-0,30$ mm/rev $d_{oc} = 1,5$ mm, Wet	Insert: DNMG150404NUX (AC410K) Cutting data: $v_c = 350$ m/min $f = 0,20$ mm/rev $d_{oc} = 0,3$ mm, Wet
AC410K achieved a 25% increase in cutting speed and double the tool life.	AC410K doubled the tool life.	Outstanding wear resistance from AC410K increased tool life by 300%.

GGG70 Camshaft	GGG45 Drive Sprocket	GGG50 Shaft
		
Insert: WNMA080408 (AC420K) Cutting data: $v_c = 100-250$ m/min $f = 0,15-0,30$ mm/rev $d_{oc} = 1,0$ mm, Wet	Insert: WNMA080412 (AC420K) Cutting data: $v_c = 200$ m/min $f = 0,32$ mm/rev $d_{oc} = 3,0$ mm, Wet	Insert: DNMG150412NGZ (AC420K) Cutting data: $v_c = 100-270$ m/min $f = 0,15-0,40$ mm/rev $d_{oc} = 1,5$ mm, Wet
This high hardness casting using AC420K to rough turn the OD achieved double the tool life.	The workpiece was unstable but AC420K still doubled the tool life when turning this casting.	Even during a heavily interrupted turning operation AC420K still increased tool life by 30%.



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