



ACHTECK
澳克泰工具

// 2025.01

Universal Geometry for P/M/K

— UC4



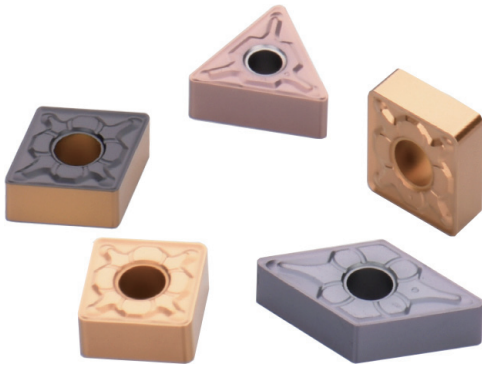
NO.100

www.achtecktool.com

Universal application for P/M/K

UC4 Medium Machining Geometry

The Chipbreaker's cross-boundary application offers extensive chip management capabilities achieving a perfect balance between cutting resistance and edge strength



Composite rake angle design

Suitable for P/M/K

Optimized chip breaker design

Good chip control with a strong cutting edge

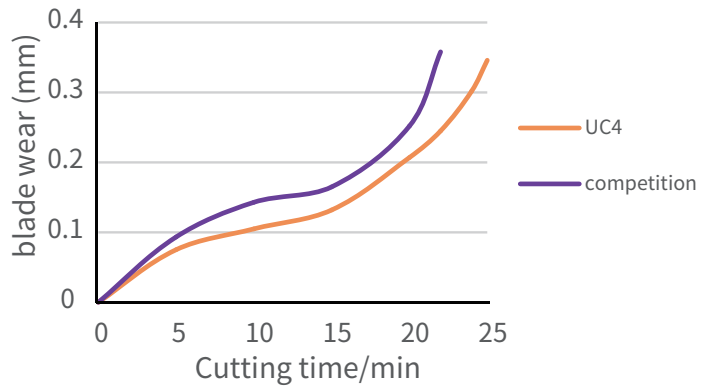
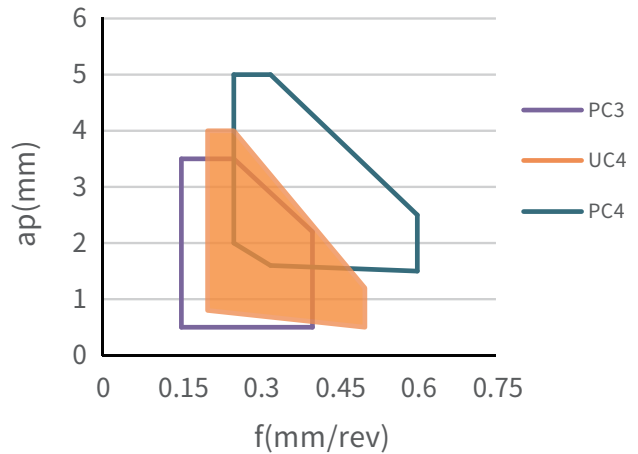
Double positive rake angle

sharp and strong cutting edge

Wide chip flute

Provides enough chip space for large depth of cut

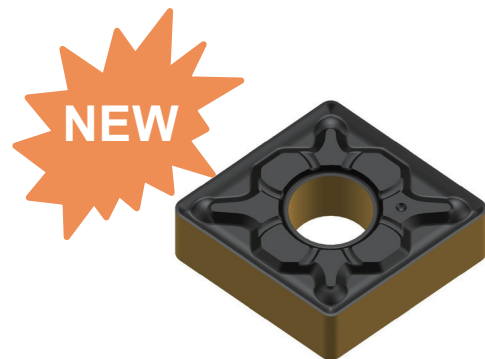
Chip break capability



Chips control test in lab

0.50								
0.40								
0.35								
0.30								
0.25								
0.20								
f/ap	0.8	1.2	1.8	2.0	2.5	3.0	3.5	4.0

Universal application for P/M/K



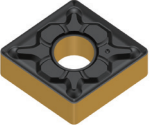
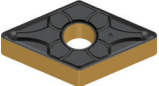

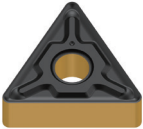

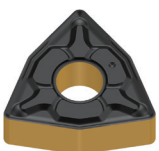
Insert: CNMG 120408E-UC4 AC152P
Cutting condition: material 4140, continuous, wet
Cutting date: Vc=280m/min, ap=0.8-4.0mm, fn=0.2-0.5mm/r

• **Success stories**

Insert	WNUMG 080408E-UC4 AP200U	Insert	WNUMG 080408E-UC4 AP200U	Insert	WNUMG 080412E-UC4 AC252P
Workpiece	 Hardware	Workpiece	 Flange	Workpiece	 Transmission Gear Shaft
Material	SUS304	Material	SUS316L	Material	Forging
Cutting conditions	Continuous	Cutting conditions	Interrupted	Cutting conditions	Continuous
Vc	184m/min	Vc	130m/min	Vc	300m/min
f	0.3mm/rev	f	0.20mm/rev	f	0.5mm/rev
Ap	1-2mm	Ap	2.0mm	Ap	1.0-1.5mm
Coolant	Wet	Coolant	Wet	Coolant	Wet
result	 <p>Tool life of UC4 increased 20% VS current</p>	result	 <p>Tool life of UC4 increased 20% VS current</p>	result	 <p>Tool life of UC4 increased 22% VS current</p>

Insert	SNMG120412E-UC4 AC052P	Insert	WNUMG 080408E-UC4 AC152P	Insert	WNUMG 080408E-UC4 AC252P
Workpiece	 Oil pipe coupling	Workpiece	 Axel	Workpiece	 Hydraulic pipe Joint
Material	37Mn5	Material	20CrNiMo	Material	C45
Cutting conditions	Continuous	Cutting conditions	Continuous	Cutting conditions	Interrupted
Vc	180m/min	Vc	350m/min	Vc	200m/min
f	0.45-0.5mm/rev	f	0.20mm/rev	f	0.25mm/rev
Ap	2.0mm	Ap	0.5mm	Ap	1.5mm
Coolant	Wet	Coolant	Wet	Coolant	Wet
result	 <p>Tool life of UC4 increased 12% VS current</p>	result	 <p>Tool life of UC4 increased 23% VS current. As well as better chip control</p>	result	 <p>Tool life of UC4 increased 20% VS current</p>

● **Product list**

Illustrate	Product code	Cutting Data Recommendation		Grades			
		Feed	Depth of cut				
		(mm/rev)	(mm)	AC052P	AC152P	AC252P	AP200U
	CNMG 120404E-UC4	0.08-0.24	0.40-5.0	●	●	●	●
	CNMG 120408E-UC4	0.15-0.48	0.80-5.0	●	●	●	●
	CNMG 120412E-UC4	0.23-0.72	1.20-5.0	●	●	●	●
	CNMG 160608E-UC4	0.15-0.48	0.80-5.5	●	●	●	○
	CNMG 160612E-UC4	0.23-0.72	1.20-5.5	●	●	●	○
	DNMG 150408E-UC4	0.15-0.48	0.80-4.5	●	●	●	●
	DNMG 150608E-UC4	0.15-0.48	0.80-4.5	●	●	●	○
	DNMG 150612E-UC4	0.23-0.72	1.20-4.5	●	●	●	○
	SNMG 120408E-UC4	0.15-0.48	0.80-4.5	●	●	●	○
	SNMG 120412E-UC4	0.23-0.72	1.20-4.5	●	●	●	○
	SNMG 150612E-UC4	0.23-0.72	1.20-5.5	○	●	●	○
	TNMG 160408E-UC4	0.15-0.48	0.80-4.5	●	●	●	●
	TNMG 160412E-UC4	0.23-0.72	1.20-4.5	●	●	●	○
	VNMG 160408E-UC4	0.15-0.48	0.80-3.5	●	●	●	●
	VNMG 160412E-UC4	0.23-0.72	1.20-3.5	●	●	●	○
	WNMG 060412E-UC4	0.23-0.72	1.20-3.2	●	●	●	○
	WNMG 080404E-UC4	0.08-0.24	0.40-3.2	●	●	●	●
	WNMG 080408E-UC4	0.15-0.48	0.80-3.2	●	●	●	●
	WNMG 080412E-UC4	0.23-0.72	1.20-3.2	●	●	●	●

●-Running stock ○-Rolling stock