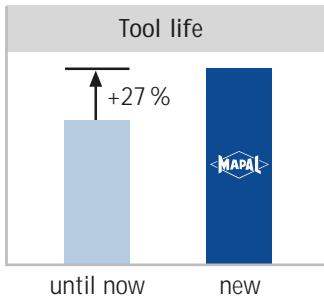


Examples from the practice



Machining surface

Description

The heavily interrupted cut on the serrated surface creates extreme stress for cutting material and tool.

Gear wheel/ timing gear

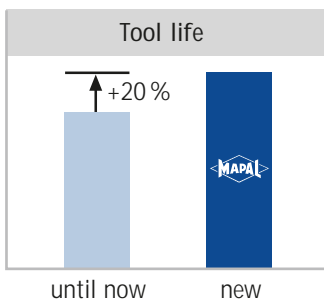
Serrated surface

Operation (dry machining)	Face turning the lateral serrated surface
Workpiece	Gear wheel (timing gear)
Material	20 MnCr 5
Hardness	59 - 61 HRC
Cutting speed v_c	140 m/min
Feed f	0,12 mm
Cutting depth a_p	0,15 - 0,2 mm
Blade	CNGA 120408-S58
Type	FDG1A0

Gear wheel/ timing gear

Bore

Operation (dry machining)	Finish turning bore \varnothing 64 N6
Workpiece	Gear wheel (timing gear)
Material	25 MoCr 4
Hardness	59 - 63 HRC
Cutting speed v_c	170 m/min
Feed f	0,14 mm
Cutting depth a_p	0,15 mm
Blade	DCGW 11T312-S54-2
Type	FDG1A0



Machining surface

Description

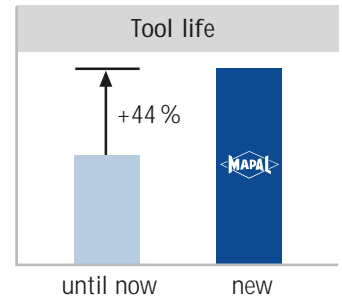
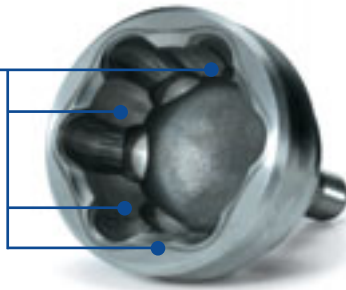
As a result of optimised cutting edge geometry combined with the selected MAPAL PCBN grade, an enormous increase in tool life could be achieved compared to the competitor's tool.

Examples from the practice

Machining surface

Description

The heavily interrupted cut and the contoured machining profile mean that the blade geometry must be produced very accurately.



Operation (dry machining)	Cage-type track Finishing inner diameter
Workpiece	Axle journal UF type
Material	CF 53
Hardness	60 HRC +/- 2 HRC inductively hardened
Cutting speed v_c	140 m/min
Feed f	0,16 mm
Cutting depth a_p	0,3 mm
Blade	DCMW11T316T-T48
Type	FJJ1A0

Axle journal Cage-type track

Operation (dry machining)	Machining spigot 3x external \varnothing 15,00 (-7 μ m/-27 μ m) Rough and finish machining	
Workpiece	Tripod	
Material	Steel – case-hardened	
Hardness	58+4 HRC	
	Rough machining	Finish machining
Cutting speed v_c	140 m/min	140 m/min
Feed f	0,15 mm	0,10 mm
Cutting depth a_p	0,25	0,15
Blade	CCGW09T308T 25MC-S	CCGW09T308-W64-2
Type	FJG7A0	FDG1A0

Tripod Machining spigot

Machining surface

Description

Various cutting conditions because of the run-out error which is caused by the workpiece clamping. By adjusting the machine program and optimised cutting edge with an efficient MAPAL PCBN grade a significant increase in tool life was achieved.

