



_ NEW CUTTING MATERIALS FOR TURNING AND MILLING

More bite,
more force,
more tiger.

Tiger-tec® Silver now
also for turning:
new ISO P generation



Tiger-tec® Silver

_ SILVER, BLACK, STRONGER

Tiger-tec® Silver: The benchmark.

GLOBALLY UNIQUE: THE TECHNOLOGY

Since the introduction of CVD coating technology which is globally unique, **Tiger-tec® Silver** has been determining the direction in which machining is heading, with increases in performance of up to 100 %.

The essential benefits of the new technology in turning and milling:

- enormous toughness due to optimum residual stress
- reduction in machining time through the use of aluminium oxide with optimised microstructure
- greatly reduced tribochemical wear due to perfect, smooth rake faces
- not susceptible to thermal stress variations during wet and dry machining

PERFORMANCE WITHOUT LIMITS: THE CUTTING TOOL MATERIAL

With the new **Tiger-tec® Silver** cutting tool material for turning and milling, we have come a lot closer towards finding the perfect cutting material. **Tiger-tec® Silver** is ideal for dry and wet machining in automotive and railway industries, power generation sector, mould and die and aerospace industries, as well in general mechanical engineering.



NEW: Extremely smooth rake face —————
for optimum tribochemical wear resistance

NEW: Microedge technology —————
+ 30 % longer tool life under conditions
of flank wear or plastic deformation

NEW: Silver flank face —————
Indicator layer for extremely easy wear detection



Tiger-tec® Silver

Milling insert

NEW: Mechanical post-treatment

Unique residual stress condition, increased process reliability

NEW: Extremely smooth rake face

for optimum tribochemical wear resistance

Watch product
animation:
Scan QR code
or go directly to
<http://goo.gl/Vb3eC>



Turning insert

NEW: Aluminium oxide with optimised microstructure
50 % higher tool life under conditions of crater wear, reduction of machining time

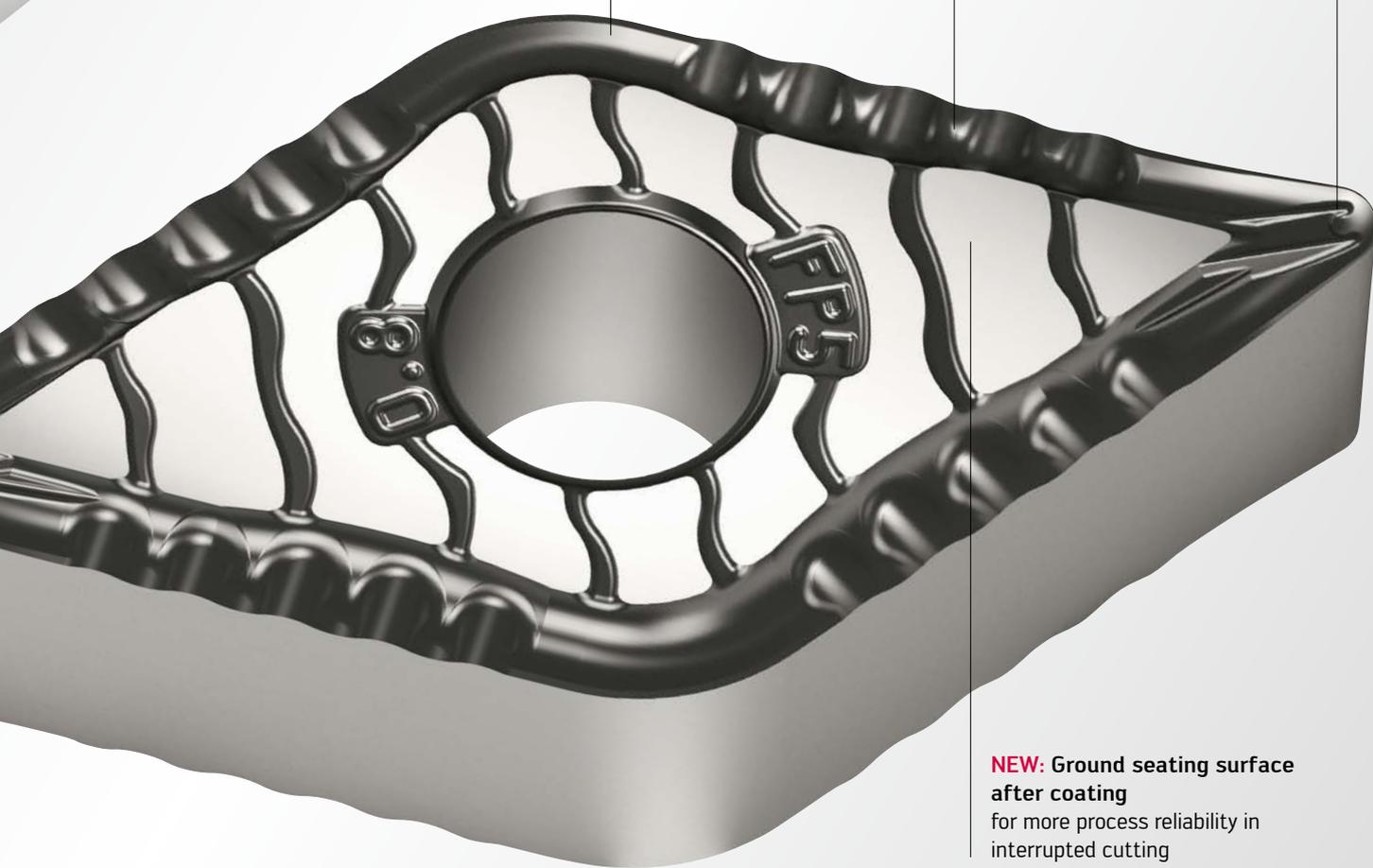
NEW: Mechanical post-treatment
Unique residual stress condition, increased process reliability

NEW: Silver flank face

Indicator layer for extremely easy wear detection

NEW: ISO P geometries
Large, universal chip breaking area and longer tool life

NEW: Ground seating surface after coating
for more process reliability in interrupted cutting



_ EXPERIENCE, KNOWLEDGE, STRATEGIES

Machining solution for key sectors.

Knowledge, experience and the ability to listen carefully are basic requirements for efficient machining solutions in metal cutting. Our engineering specialists are familiar with the most varied industry sectors for decades. Varied industry know-how is not simply a slogan for us.

Average performance increases of **75 %** are achieved by the high-tech **Tiger-tec® Silver** cutting tool material. With this material, our engineers are able to develop even more efficient and even more productive machining processes for the dry and wet machining of steel and cast iron components.

We are of course aware that every sector, every component and every material has its own special requirements for machining. But we also know that **Tiger-tec® Silver** indexable inserts can produce an unrestrained bite at any time and anywhere. In everyday use, this cutting tool material guarantees optimum cutting data and, as a result, greater cost efficiency in machining.

AUTOMOTIVE INDUSTRY:
e.g. ball pivots



AUTOMOTIVE INDUSTRY:
e.g. engine block



RAILWAY TRANSPORTATION:
e.g. rail profile



WIND ENERGY:
e.g. rotor hub

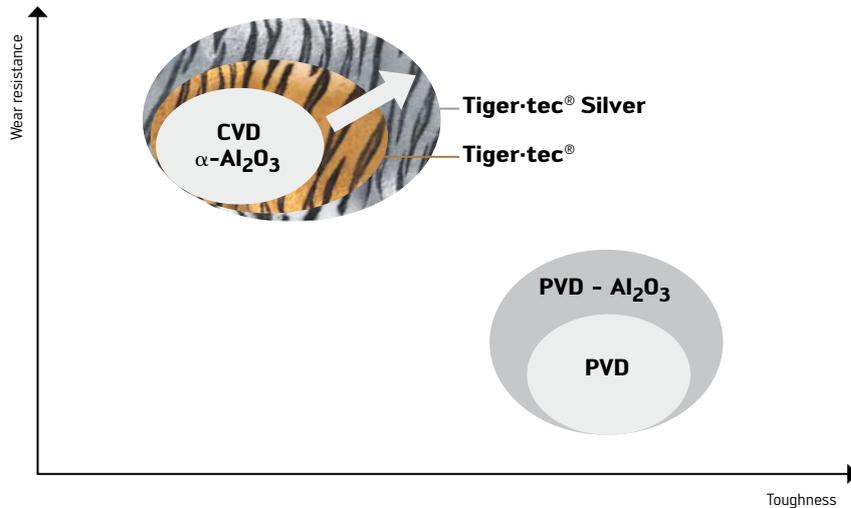


MECHANICAL ENGINEERING:
e.g. eccentric shaft

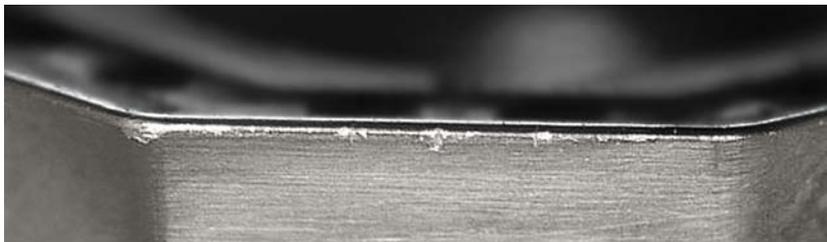


Tiger-tec® Silver

TIGER-TEC® SILVER TECHNOLOGY

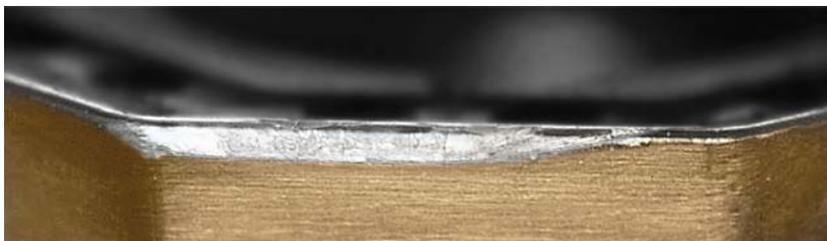


In addition to the special coating combination, the unique technology of **Tiger-tec® Silver** also includes a completely new surface treatment. Because of the optimal residual stress, the toughness of the **Tiger-tec® Silver** cutting tool material increases disproportionately. Wear resistance is increased by the new aluminium oxide with optimised microstructure. It is this combination of a high level of wear resistance and toughness which gives the **Tiger-tec® Silver** cutting tool material such superior power in machining.



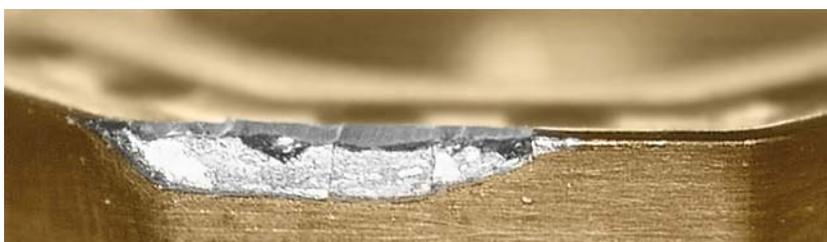
Tiger-tec® Silver

The high level of wear resistance, toughness and temperature resistance prevent fractures and wear. As a result, the insert lasts longer.



Tiger-tec®

Relatively uniform signs of wear and a low formation of hairline cracks demonstrate the performance of the legendary **Tiger-tec®** cutting tool materials.



COMPETITORS

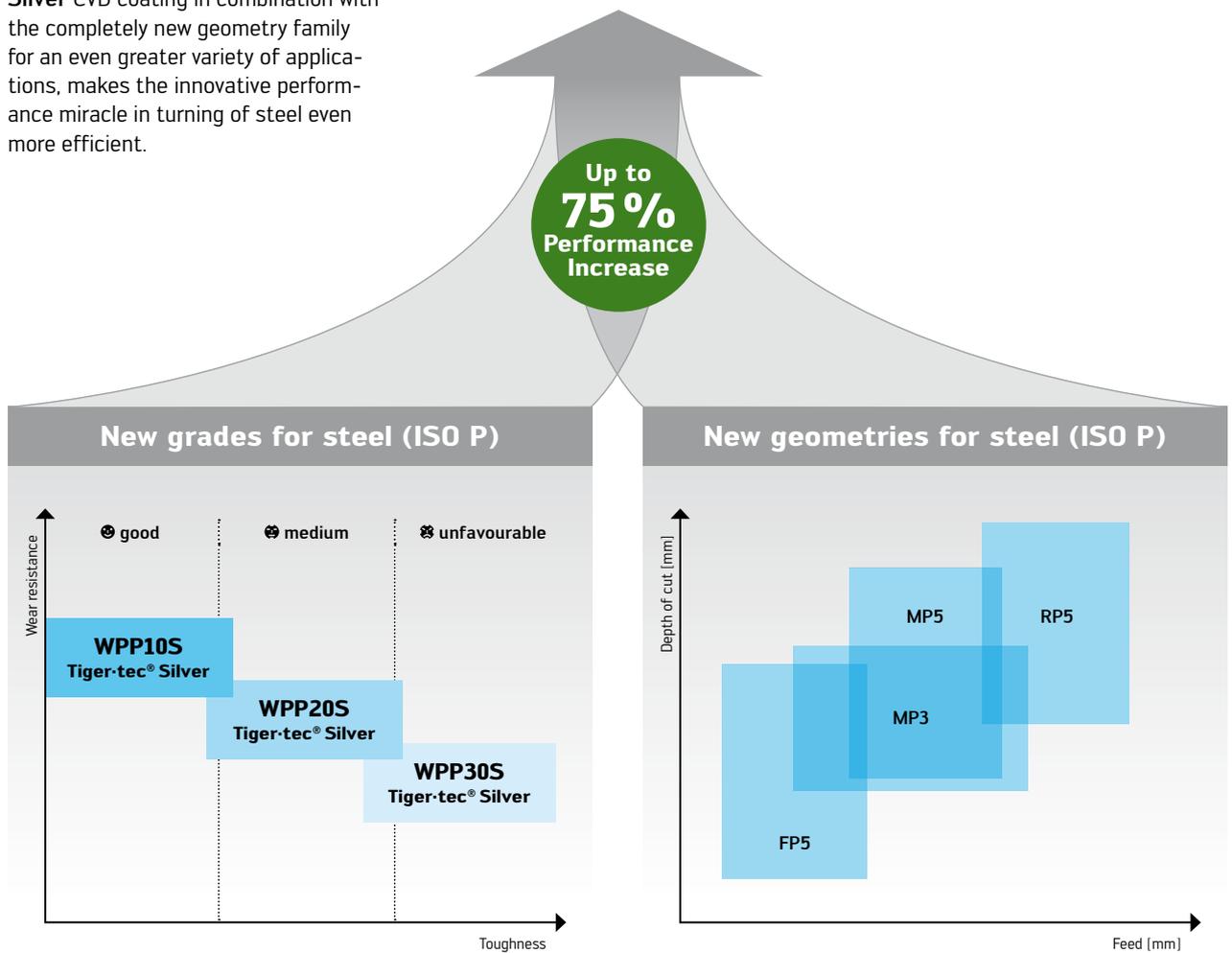
Competitor products exhibit heavy, clearly visible wear on the cutting edge and significant fractures.

Tiger-tec® Silver ISO P generation: The new force in turning.

Tiger-tec® Silver - ISO P generation:
New cutting tool materials **plus** new geometries! The unique **Tiger-tec® Silver** CVD coating in combination with the completely new geometry family for an even greater variety of applications, makes the innovative performance miracle in turning of steel even more efficient.

Tiger-tec® Silver ISO P generation

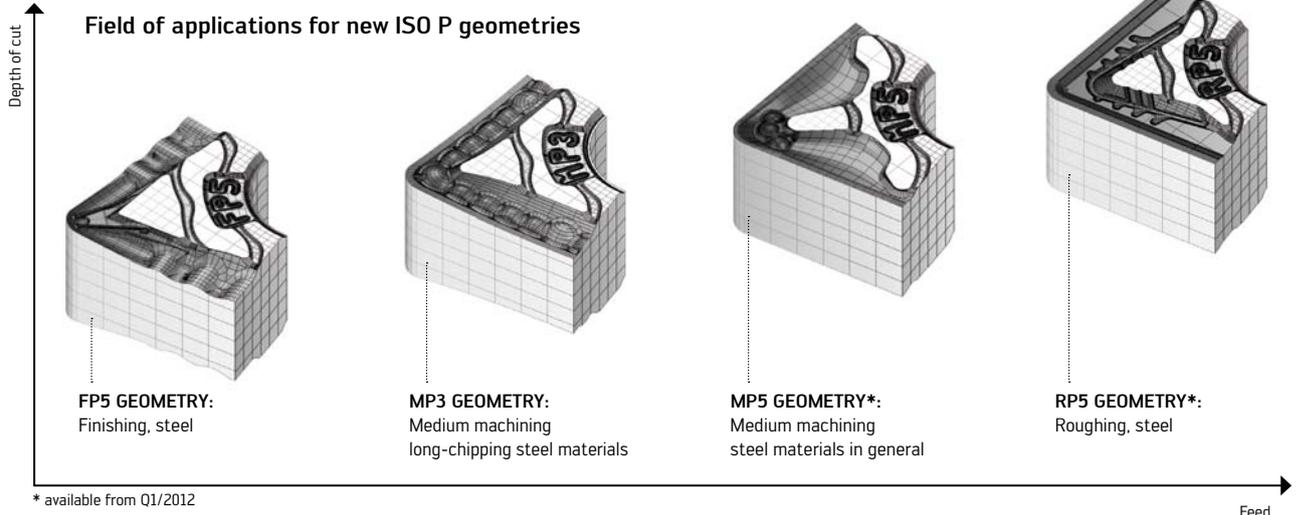
Up to
75%
Performance
Increase



Within the **Tiger-tec® Silver ISO P generation**, four geometries have been developed in parallel, synchronised with each other, the application area has been enlarged by 20 to 40 % in comparison to previous geometries. The result: The entire area of application in machining steel has been covered.



Tiger-tec® Silver



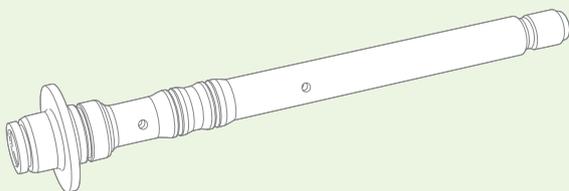
Finishing, gear shaft – without bird nesting

Workpiece material: Cf53 (1.1213)
Tensile strength: 750 N/mm²
Indexable insert: TNMG160408-FP5
Cutting tool material: WPP10S
Tiger-tec® Silver material: MTJNR2525M16 (93°)
Tool:

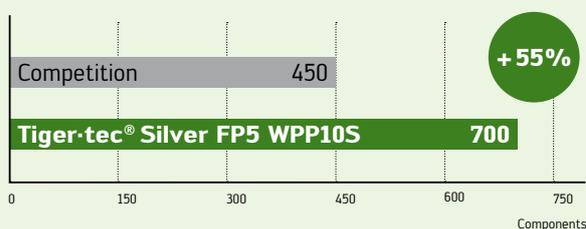


Cutting data

	Competition	Tiger-tec® Silver WPP10S
v_c	245 m/min	245 m/min
f	0.3 mm	0.3 mm
a_p	0.8 mm	0.8 mm
Tool life	450 parts	700 parts



Comparison of number of components



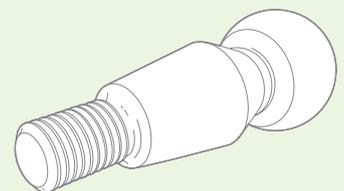
Roughing of forged ball joints

Workpiece material: 42CrMo454 (1.7225)
Tensile strength: 950 - 1,050 N/mm²
Indexable insert: DNMG150612-MP3
Cutting tool material: WPP10S –
Tiger-tec® Silver material: DDNNN2525M15 (62.5°)
Tool:

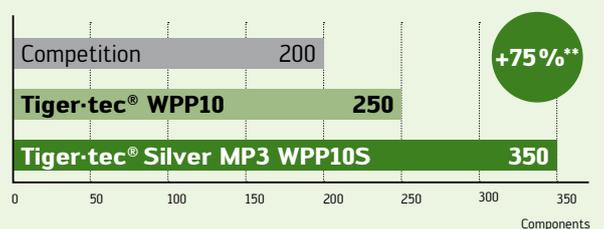


Cutting data

	Competition	Tiger-tec® WPP10	Tiger-tec® Silver WPP10S
v_c	165 m/min	165 m/min	200 m/min
f	0.2 - 0.38 mm	0.2 - 0.38 mm	0.2 - 0.38 mm
a_p	1.4 - 3.0 mm	1.4 - 3.0 mm	1.4 - 3.0 mm
Tool life	200 parts	250 parts	350 parts



Comparison of number of components

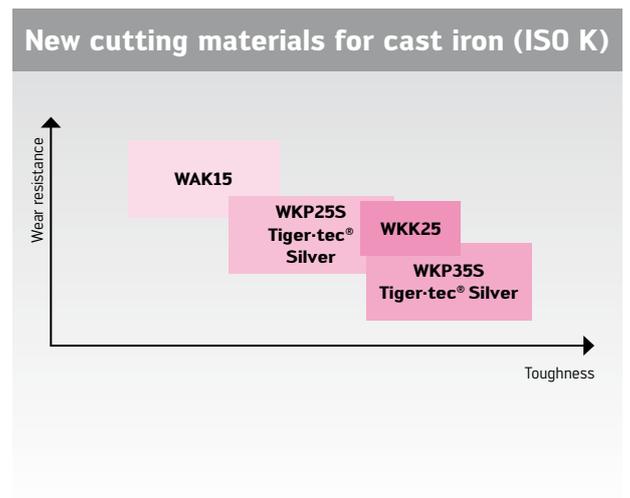


** in comparison to the competition

Tiger-tec® Silver WKP25S and WKP35S: two strong cutting materials.

Paired together, Tiger-tec® Silver WKP25S and WKP35S make a powerful team:

The new grade WKP25S and the commercially successful grade WKP35S win people over due to their extreme hardness, high temperature resistance and great toughness. The reason for these outstanding properties is the globally unique CVD aluminium oxide coating. The quite special surface treatment gives those cutting tool materials additional process reliability at medium and extremely high cutting speeds.



Tiger-tec® Silver

WKP25S

1st main application: All steel materials with high cutting speeds and medium feeds per tooth. Strong even under unfavourable conditions, e.g. during wet machining or when cutting high tensile strength material.

2nd main application: Milling of grey cast iron or cast iron with vermicular graphite at medium to high cutting speeds and medium tooth feed rates. For unfavourable conditions, e.g. wet machining, fluctuating material removal or aggressive interrupted cuts.

WKP35S

1st main application: All steel materials at medium to high cutting speeds and medium to high feeds per tooth. For unfavourable conditions, e.g. wet machining, fluctuating material removal or long projection length.

2nd main application: Milling of spheroidal graphite cast iron or ADI materials at low to medium cutting speeds and medium to high feeds per tooth. For unfavourable conditions, e.g. wet machining, fluctuating material removal or aggressive interrupted cuts.

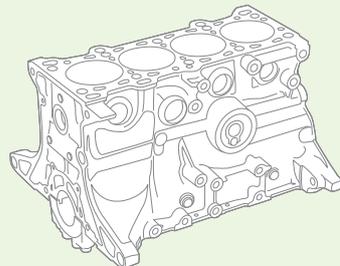
Crankcase (rough machining of the oil sump side)

Workpiece material: GG25 (0.6025), ISO K
Tool: F4045 / Z 28 / Ø 200 mm
Indexable insert: XNHF0705ANN-D67
Cutting tool material: WKP25S

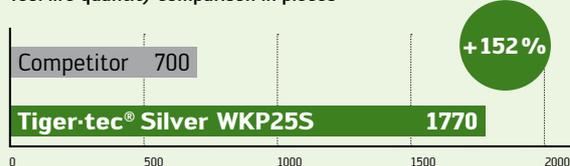


Cutting data:

	Competitors	Tiger-tec® Silver
Number of teeth	32	28
v_c	150 m/min	150 m/min
f_z	0.27 mm	0.32 mm
v_f	2100 mm/min	2100 mm/min
a_p	3 mm	3 mm
a_e	60 mm	60 mm



Tool life quantity comparison in pieces



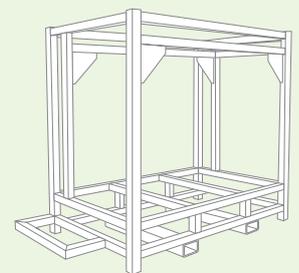
Machine frame (shoulder milling) of the inner surfaces

Workpiece material: St37 (1.0037), ISO P (BS879M39, EN40 Structural Steel)
Tool: F4042 / Z6 / dia. 63
Indexable insert: ADMT160608R-F56
Cutting tool material: WKP35S

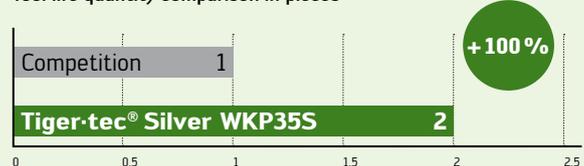


Cutting data:

	Competitors	Tiger-tec® Silver
v_c [m/min]	400	400
f_z [mm]	0.2	0.2
v_f [mm/min]	2425	2425
a_p [mm]	1.5 - 3	1.5 - 3
a_e [mm]	60	60
	with coolant	with coolant
Tool life	1 inner surface	2 inner surfaces



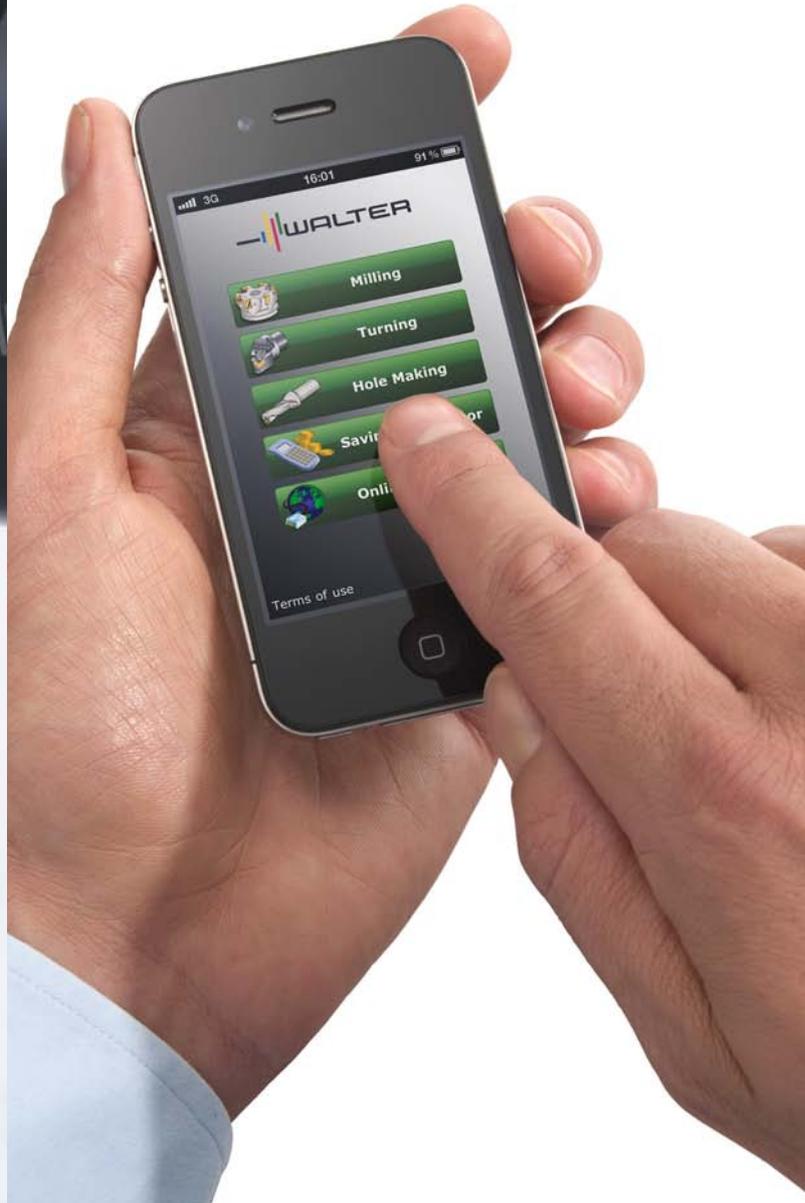
Tool life quantity comparison in pieces



_ WALTER TOOLS & MORE

Smarter machining with the Walter app.

With the new Walter app **Tools & More**, we make the daily machining work of smart phone owners (Android and iPhone®) much easier. The new app is free of charge, available in 23 languages and guides the user quickly and simply to the correct cutting data. With **Tools & More** on their smartphone, users can make detailed calculations on cutting data and cost efficiency. The user-friendly interface guides the user to the right menu every time.



The following values can be found for all operations: Torque, drive output, metal removal rate, essential operating time, main cutting force and average chip thickness. This facility



is available for shoulder, face and slot milling, for drilling and counterboring and for ISO turning and grooving. When calculations are made, the material group, rake angle, efficiency factor and wear factor are always taken into account.

When calculating cost efficiency, the costs per component in terms of indexable inserts, tool bodies, machine and presetting hours can be compared for two tool solutions in



each case. In addition, it is possible to calculate the spare machine capacity and savings per component, per batch or year. A whole range of online services such as TOOLSHOP, TEC & CCS or the Walter website complete the facilities provided by this machining app, making it a machining tool of real value.

Walter Tools & More we'll provide you with 3 variants:



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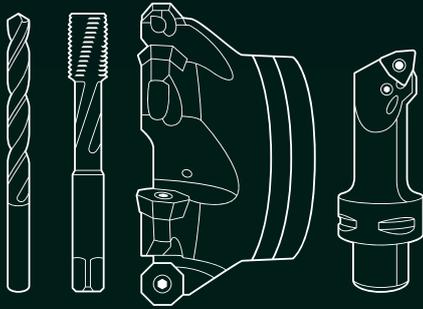
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