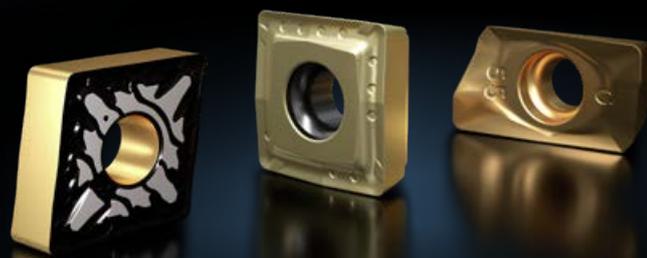


\_ GO FOR BETTER, GO FOR GOLD

**As strong as ever.  
More flexible  
than ever before.**

Product innovations

Turning, holemaking,  
milling



**Tiger-tec® Gold**

**AT HOME IN EVERY HABITAT.**  
**THANKS TO SUPERIOR**  
**TECHNOLOGY.**

High-performance  
turning

Reliable improvements  
in cost-efficiency



## High-performance holemaking

Guaranteed process  
reliability

## High-performance milling

Significant improvements  
in productivity

# Tiger-tec® Gold

**The new generation of cutting tool materials from Walter has arrived and has begun redefining peak performance in machining. But how can we set new standards in a segment that already seems to be optimised?**

Through our determination to better ourselves over and over again. Thanks to our customers, whose challenges are at the heart of Walter's work. And with superior technology that gets it all done, for instance in turning applications. Having mastered milling and holemaking, Tiger-tec® Gold has conquered the third machining discipline – turning.

The key to this superior solution is our holistic approach to development, which focuses on finding the best possible synergy between cost efficiency, process reliability and productivity. Customers who wish to implement all these aspects at the highest possible level will discover a solution that offers shining results in every sector: Tiger-tec® Gold – now for milling, holemaking *and* turning.

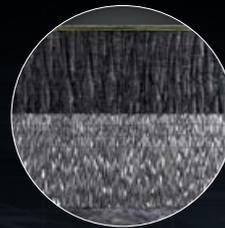
As strong as ever. More flexible than ever before.

# INDIVIDUAL STRENGTH IS THE RESULT OF A COMMON GOAL.

Turning



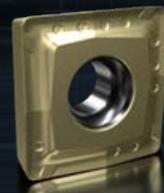
CVD



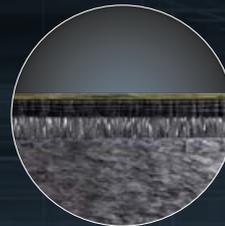
17/20  $\mu\text{m}$  coating thickness\*

TiCN +  $\text{Al}_2\text{O}_3$  (+TiN)

Holemaking  
Milling



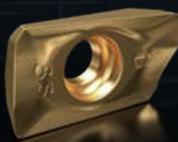
PVD



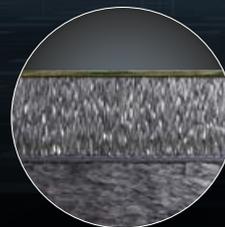
4  $\mu\text{m}$  coating thickness\*

TiAlN +  $\text{Al}_2\text{O}_3$  + ZrN

Milling



CVD



10  $\mu\text{m}$  coating thickness\*

TiAlN + TiN

## Tiger-tec® Gold

Whether turning, holemaking or milling – the components are so varied and the unique requirements of these tasks are so demanding that there really is only one answer to the search for the best tool solution: Tiger-tec® Gold.

After all, when productivity makes all the difference and process reliability is key, when flexibility is in demand and peak performance is standard, Tiger-tec® Gold is the right solution. A success story that began with milling, continued with holemaking and is still purposefully progressing with turning.

In practice, expanding Tiger-tec® Gold as a technology platform involves taking on each and every challenge using its individual

strengths: Geometries that are optimised for each task and a coating structure designed specifically for each machining operation.

Within the broad Tiger-tec® Gold range, individually designed cutting tool materials demonstrate what is currently possible at the limits of machining. A range of coating processes, as well as unique coating thicknesses, coating compositions and follow-up treatments enable almost all machining operations to be performed to the highest standard: Demonstrably more efficient and visibly more impressive – Tiger-tec® Gold is the leading technology platform, featuring its unique top layer with its striking gold appearance.



P	M	K	S
Steel	Stainless steel	Cast iron	Super-alloys and titanium
WPP10G WPP20G WPP30G			
WSP45G	WSP45G		WSP45G
WKP35G WMP45G	WMP45G	WKP35G	

Schematic coating diagram  
\*Approximate values

### High-performance turning

Since the cutting edge is practically always in contact during turning, high machining temperatures pose particular requirements for the cutting tool materials. Tiger-tec® Gold's answer to these requirements is a highly textured TiCN + Al<sub>2</sub>O<sub>3</sub> CVD layer, featuring excellent heat resistance that provides outstanding values in terms of tool life.

### High-performance holemaking

The different cutting speeds provided by the outer and inner indexable inserts are characteristic of holemaking operations. PVD is at a clear advantage here thanks to its optimum wear-resistance and reduced coating thickness.

### High-performance milling

The intermittent contact of the cutting edge requires a high-performance coating with a special structure. For dry milling with high cutting data in cast iron and steel, the CVD coating, which contains TiAlN, guarantees maximum efficiency. In contrast, cutting tool materials with a PVD coating containing Al<sub>2</sub>O<sub>3</sub> are used for stainless materials and materials with difficult cutting properties. Powerful and flexible:  
Milling with Tiger-tec® Gold.

# NOT JUST TURNING. GETTING THINGS DONE.



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## Tiger-tec® Gold

Machining professionals know that every steel machining operation involves its own unique challenges. So it's a good thing that Tiger-tec® Gold can handle almost any challenge involved in turning. No other solution is so uncompromisingly designed for high performance, while remaining so flexible and safe.

The secret to its outstanding flexibility is the specialised design of the individual grades. Whether high wear resistance is required because of continuous component contact, or difficult conditions resulting in a high number of interrupted cuts mean that maximum

toughness is key, the right grade makes all the difference. Not to mention a technology that sets standards around the world – Tiger-tec® Gold.

### Superior technology that revolutionises turning

- The fine columns of the highly textured MT-TiCN make the indexable inserts extremely resistant to flank face wear
- A multi-layered MT-TiCN structure ensures that the crystals provide significantly better elasticity
- Highly textured  $Al_2O_3$  minimises crater wear

Superior grades:  
**SPECIALISED HIGH-PERFORMANCE PROFILES**  
**FOR INDIVIDUAL REQUIREMENTS**



Superior geometries:  
**HIGH PRODUCTIVITY AND**  
**PERFECT CHIP BREAKING MEET**  
**MAXIMUM FLEXIBILITY**



MP3



MP5



FP5



FW5



MW5

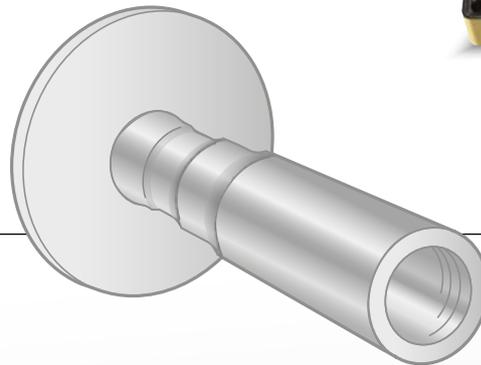


RP5



RP7

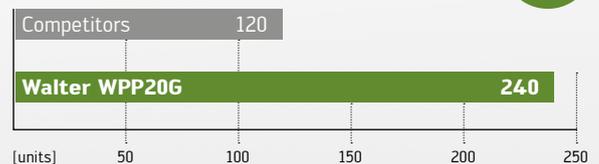
**Application example**  
**Drive shaft – longitudinal turning**



**Material:** 21MnCr5/DIN 1.2162  
**Tensile strength:** 610 N/mm<sup>2</sup>  
**Tool:** DDJNR2525M15  
**Indexable insert:** DNNG150612-RP5 WPP20G

Cutting data:	Competitors ISO P20	Walter WPP20G Tiger-tec® Gold
v <sub>c</sub> [m/min]	250	250
f [mm]	0.45	0.45
a <sub>p</sub> [mm]	1.5–4	1.5–4
Cooling	Emulsion 30 bar	Emulsion 30 bar

**Comparison: Tool life**



# A PLATFORM THAT ALLOWS HOLEMAKING OPERATIONS TO REALLY SHINE.

A world first:  
**INDEXABLE INSERTS WITH  
PVD AL<sub>2</sub>O<sub>3</sub> COATING**



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P4841C-E57



P4840P-E57

## Tiger-tec® Gold

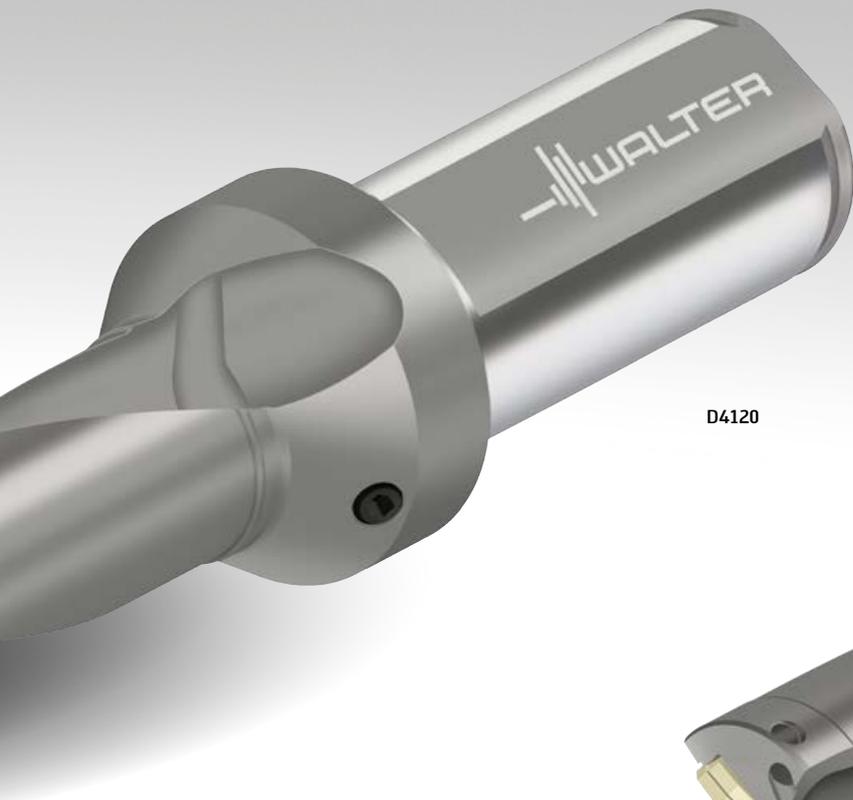
**Outstanding wear resistance meets maximum toughness. The principle behind Tiger-tec® Gold for holemaking is just that simple.**

Even under difficult conditions and when machining materials that have difficult cutting properties, Tiger-tec® Gold indexable inserts are in a class of their own when it comes to holemaking. This is because the PVD Al<sub>2</sub>O<sub>3</sub> coating is a world first and is class-leading thanks to its superior features. The resulting toughness enables the tool life to be up to 50% longer.

For the aviation and automotive industries, for mechanical engineering and for the production of components for energy recovery – high wear-resistance always pays off.

### The key advantages at a glance

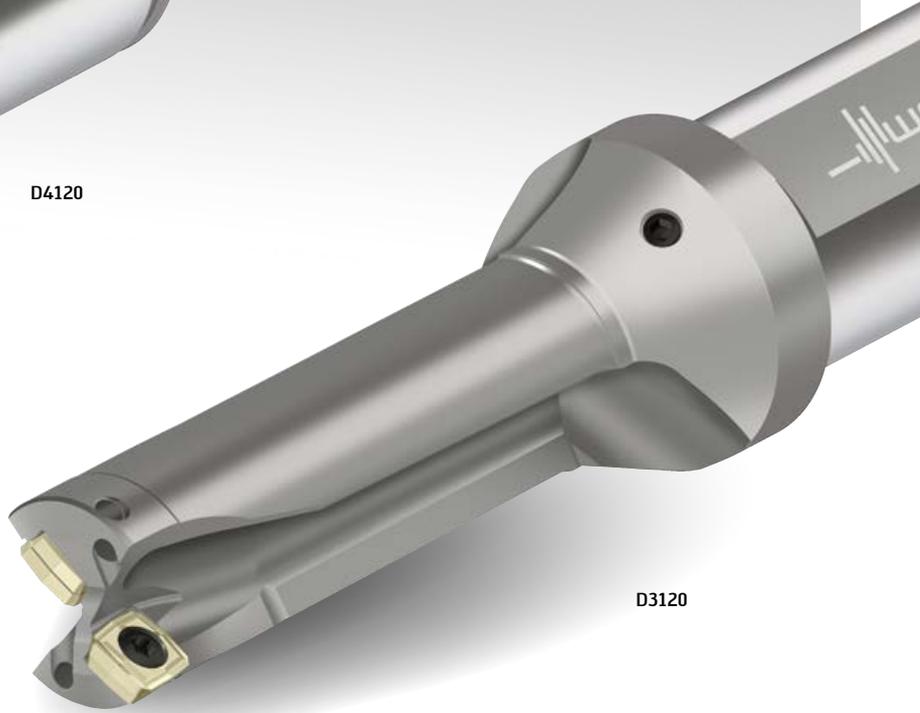
- Improved flexibility with respect to materials, including titanium alloys, high-alloy steels and austenitic stainless steels
- Safe processes, even on applications with multiple interrupted cuts or long overhangs
- Best wear detection due to the gold-coloured top layer
- Efficient and optimised mass production thanks to the impressive tool life



D4120



B3213



D3120



LCMX-E57

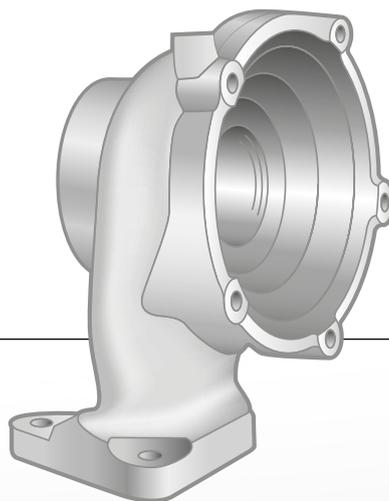


P2840S-E67

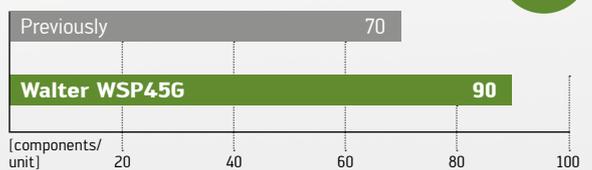
### Application example Turbocharger

**Material:** GX35CrNiSi 25 12 (1.4837), ISO M  
**Tool:** B3212.DF.13.7.Z01.27R  
**Indexable insert:** LCMX050203-E57  
**Grade:** WSP45G

Cutting data:	Previously	WSP45G
$v_c$ [m/min]	100	100
$n$ [rpm]	2323	2323
$f_n$ [mm]	0.1	0.1
$v_f$ [mm/min]	232	232
Drilling depth [mm]	30	30
Cooling	12% emulsion	12% emulsion
Adaptor	HSK63 – hydraulic expansion	HSK63 – hydraulic expansion



### Comparison: Number of components

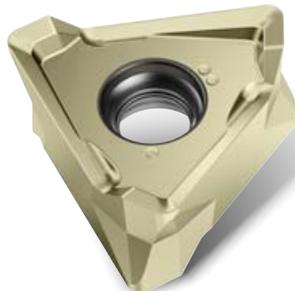


# LEADING MILLING TECHNOLOGY THAT'S AHEAD OF THE GAME.

Always the perfect solution:  
**INDEXABLE INSERTS WITH  
CVD AND PVD COATING**



TNMU-G57 – CVD coating



TNMU-G57 – PVD coating



Xtra-tec® XT M5137  
shoulder milling cutter



tigertec-gold.walter

## Tiger-tec® Gold

**Efficiency-oriented businesses cannot make any compromises when it comes to milling.** Customers seeking to optimise their production must not only improve their productivity, but also guarantee continuous process reliability.

This is exactly what Tiger-tec® Gold is designed for: Low wear and, as a result, optimum tool lifetimes. The result: Reliable processes, even under the toughest conditions. Customers who use Tiger-tec® Gold in their milling operations can be sure that their results will be reliable in every respect. What's more, the improved tool solution results in less downtime, which has a positive effect across the entire process.

**The superior properties of Tiger-tec® Gold are based on several related factors.**

The standout feature is the extremely tough and resistant TiAlN CVD layer, with an extremely high aluminium content. This is located directly underneath the TiN top layer and protects the substrate against abrasion, thermal cracks, plastic deformation and oxidation.

The eye-catching, gold-coloured top layer enables outstanding wear detection and boasts impressive friction characteristics. Another intricate TiN layer is located between the carbide substrate and the TiAlN layer, ensuring excellent layer bonding.



Xtra-tec® XT M5130  
shoulder milling cutter



BCMT..-G55



ROMX...-F67



LNMU...-L55T



XNMU...-F27



XNMU...-F57

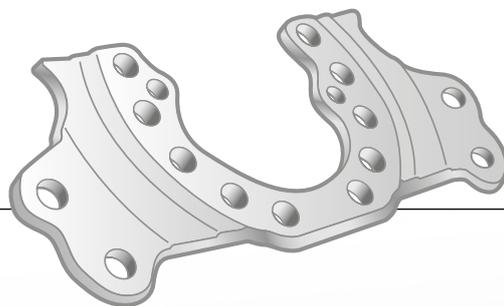


SDGT...-D57



SNMX...-F57

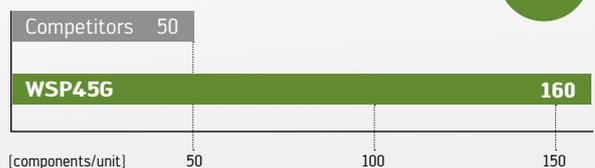
### Application example Flange



Material: S690Q (1.8928) – ISO P  
 Tool: M4002-080-B27-08-02  
 Indexable insert: SDMX1205ZDR-E27  
 Grade: WSP45G

Cutting data:	Competitors	WSP45G
$v_c$ [m/min]	280	280
$f_z$ [mm]	0.88	1.12
$a_p$ [mm]	1.3–1.6	1.3–1.6
$a_e$ [mm]	30–40	30–40
$v_f$ [mm/min]	7843	10,000

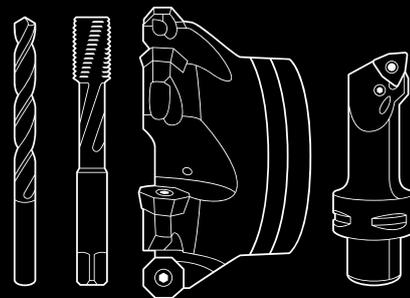
### Comparison: Tool life quantity



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