



For more information

High precision grooving tool

# TETRAMCUT

Tungaloy Report No. 416S6-G

Expansion of the **NS9530 cermet** for excellent surface finish quality

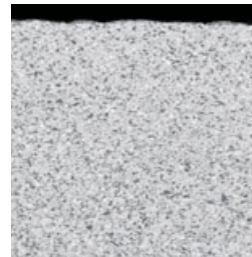


## NS9530 cermet for superior surface finish

### NS9530

#### Special Surface Technology

- **Tough and smooth top layer**  
Creates the ideal balance of hardness and toughness due to the controlled crystal composition

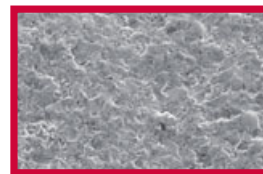


Improved toughness by 25% at the top layer

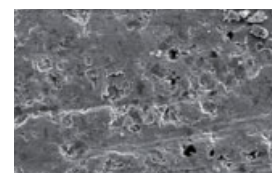


Consists of incredible fracture and wear resistance  
**Allows exceptionally stable machining!**

- **Drastically improved microscopic roughness**  
Effectively reduces chip welding on edges, improving surface finish. Enhances wear resistance

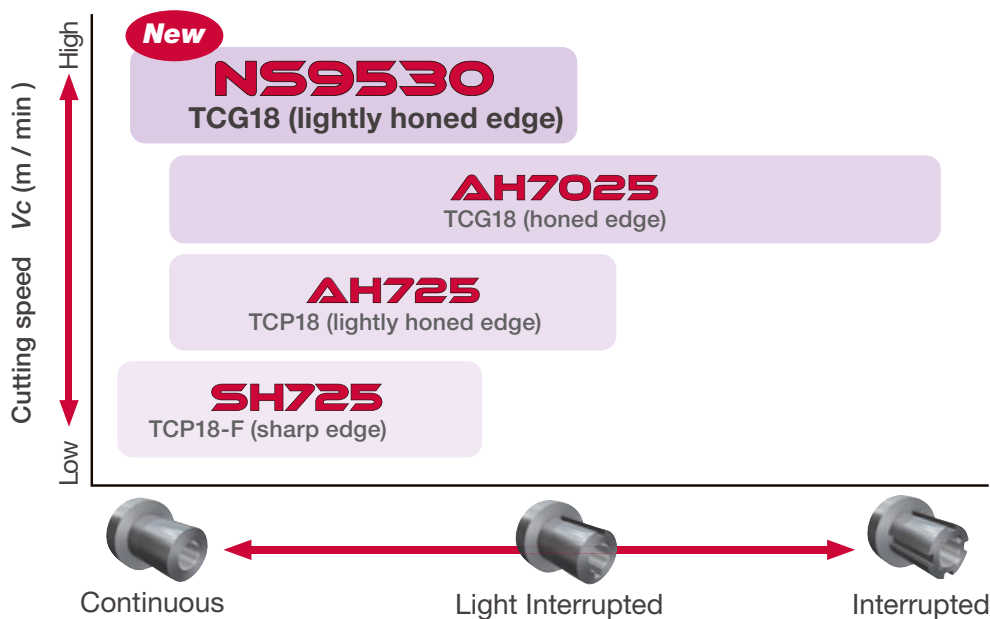


NS9530

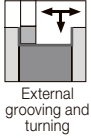


Conventional

#### APPLICATION AREA



**■ The combination of NS9530 with TetraMini-Cut's rigid insert clamping provides better surface quality**



Surface roughness of groove walls

**Higher surface quality is achieved with NS9530 and rigid insert clamping system**

<b>TETRAMCUT</b>	<b>Ra: 0.2 <math>\mu\text{m}</math>, Rz: 1.5 <math>\mu\text{m}</math></b>
Competitor (Cermet)	Ra: 0.59 $\mu\text{m}$ , Rz: 3.2 $\mu\text{m}$

Surface roughness of groove bottom

**Excellent surface quality when side-turned**

<b>TETRAMCUT</b>	<b>Ra: 0.19 <math>\mu\text{m}</math>, Rz: 1.35 <math>\mu\text{m}</math></b>
Competitor (Cermet)	Ra: 0.27 $\mu\text{m}$ , Rz: 1.58 $\mu\text{m}$

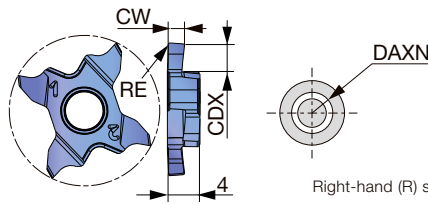
**P** Alloy steel  
SCM440, 34CrMo4

Insert	: TCG18R265-030 NS9530
Cutting speed	: $V_c = 150$ m/min
Groove bottom side turning	: $f = 0.08$ mm/rev
Feed	: $f = 0.08$ mm/rev
Groove width	: 3 mm
Groove depth	: 3 mm
Coolant	: Wet (External)



## INSERT

### TCG18R/L



P	Steel	★		★					
M	Stainless	★							
K	Cast iron	★		★					
N	Non-ferrous								
S	Superalloys	★							
H	Hard materials								

★ : First choice

Designation	HAND	CW±0.02	RE	Coated		Cermets								CDX	DAXN					
				AH7025	NS9530	1	2	3	4	5	6	7	8							
																9	10	11	12	13
TCG18R100-010	R	1	0.1	●	●													2	65	
TCG18L100-010	L	1	0.1	●	●														2	65
TCG18R120-010	R	1.2	0.1	●															2	65
TCG18L120-010	L	1.2	0.1	●															2	65
TCG18R125-010	R	1.25	0.1	●	●														2	65
TCG18L125-010	L	1.25	0.1	●	●														2	65
TCG18R125-020	R	1.25	0.2	●	●														2	65
TCG18L125-020	L	1.25	0.2	●	●														2	65
TCG18R130-020	R	1.3	0.2	●															2	65
TCG18L130-020	L	1.3	0.2	●															2	65
TCG18R140-010	R	1.4	0.1	●															3.5	65
TCG18L140-010	L	1.4	0.1	●															3.5	65
TCG18R140-020	R	1.4	0.2	●															3.5	65
TCG18L140-020	L	1.4	0.2	●															3.5	65
TCG18R145-010	R	1.45	0.1	●															3.5	65
TCG18L145-010	L	1.45	0.1	●															3.5	65
TCG18R145-020	R	1.45	0.2	●	●														3.5	65
TCG18L145-020	L	1.45	0.2	●	●														3.5	65
TCG18R150-010	R	1.5	0.1	●	●														3.5	65
TCG18L150-010	L	1.5	0.1	●	●														3.5	65
TCG18R150-020	R	1.5	0.2	●	●														3.5	65
TCG18L150-020	L	1.5	0.2	●	●														3.5	65
TCG18R160-020	R	1.6	0.2	●															3.5	65
TCG18L160-020	L	1.6	0.2	●															3.5	65
TCG18R170-020	R	1.7	0.2	●															3.5	65
TCG18L170-020	L	1.7	0.2	●															3.5	65
TCG18R175-010	R	1.75	0.1	●															3.5	65
TCG18L175-010	L	1.75	0.1	●															3.5	65
TCG18R175-020	R	1.75	0.2	●	●														3.5	65
TCG18L175-020	L	1.75	0.2	●	●														3.5	65
TCG18R185-020	R	1.85	0.2	●	●														3.5	65
TCG18L185-020	L	1.85	0.2	●	●														3.5	65
TCG18R195-020	R	1.95	0.2	●															3.5	65
TCG18L195-020	L	1.95	0.2	●															3.5	65
TCG18R200-010	R	2	0.1	●	●														3.5	65
TCG18L200-010	L	2	0.1	●	●														3.5	65
TCG18R200-020	R	2	0.2	●	●														3.5	65
TCG18L200-020	L	2	0.2	●	●														3.5	65

5 pieces per package

● : New product

● : Line up

P	Steel	★		★					
M	Stainless	★							
K	Cast iron	★		★					
N	Non-ferrous								
S	Superalloys	★							
H	Hard materials								

★ : First choice

Designation	HAND	CW±0.02	RE	Coated		Cermet		CDX	DAXN
				AH7025	NS9530				
TCG18R225-020	R	2.25	0.2	●				3.5	65
TCG18L225-020	L	2.25	0.2	●				3.5	65
TCG18R230-020	R	2.3	0.2	●	●			3.5	65
TCG18L230-020	L	2.3	0.2	●	●			3.5	65
TCG18R250-010	R	2.5	0.1	●				3.5	65
TCG18L250-010	L	2.5	0.1	●				3.5	65
TCG18R250-020	R	2.5	0.2	●				3.5	65
TCG18L250-020	L	2.5	0.2	●				3.5	65
TCG18R250-030	R	2.5	0.3	●	●			3.5	65
TCG18L250-030	L	2.5	0.3	●	●			3.5	65
TCG18R265-030	R	2.65	0.3	●	●			3.5	65
TCG18L265-030	L	2.65	0.3	●	●			3.5	65
TCG18R280-030	R	2.8	0.3	●	●			3.5	65
TCG18L280-030	L	2.8	0.3	●	●			3.5	65
TCG18R300-010	R	3	0.1	●	●			3.5	65
TCG18L300-010	L	3	0.1	●	●			3.5	65
TCG18R300-020	R	3	0.2	●				3.5	65
TCG18L300-020	L	3	0.2	●				3.5	65
TCG18R300-030	R	3	0.3	●	●			3.5	65
TCG18L300-030	L	3	0.3	●	●			3.5	65

5 pieces per package

● : New product

● : Line up

## STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Grade	Cutting speed Vc (m/min)	Feed: f (mm/rev)
P	Low carbon steel S15C, SS400, etc., C15E4, E275A, etc.	NS9530	150 - 250	0.03 - 0.1
	Carbon steel, Alloy steel S55C, SCM440, etc., C55, 42CrMo4, etc.	NS9530	80 - 220	0.03 - 0.1
	Prehardened steel NAK80, PX5, etc.	NS9530	80 - 180	0.03 - 0.1
K	Grey cast iron FC250, FC300, etc., 250, 300, etc., GG25, GG30, etc.	NS9530	50 - 180	0.03 - 0.1
	Ductile cast iron FCD400, etc., 400-15S, etc., GGG40, etc.	NS9530	50 - 180	0.03 - 0.1

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