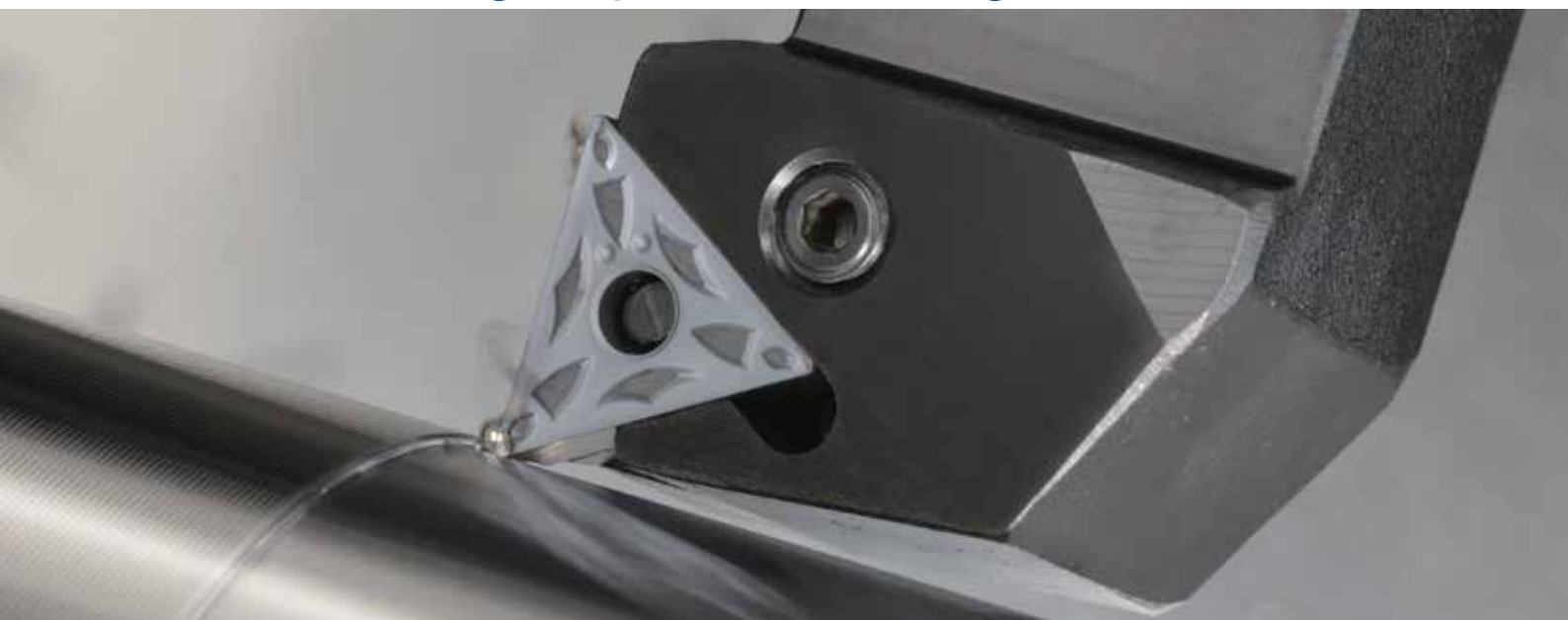


Uncoated Cermet Grades  
**T1000A / T1500A**

**T1000A** - High Speed Finishing Grade

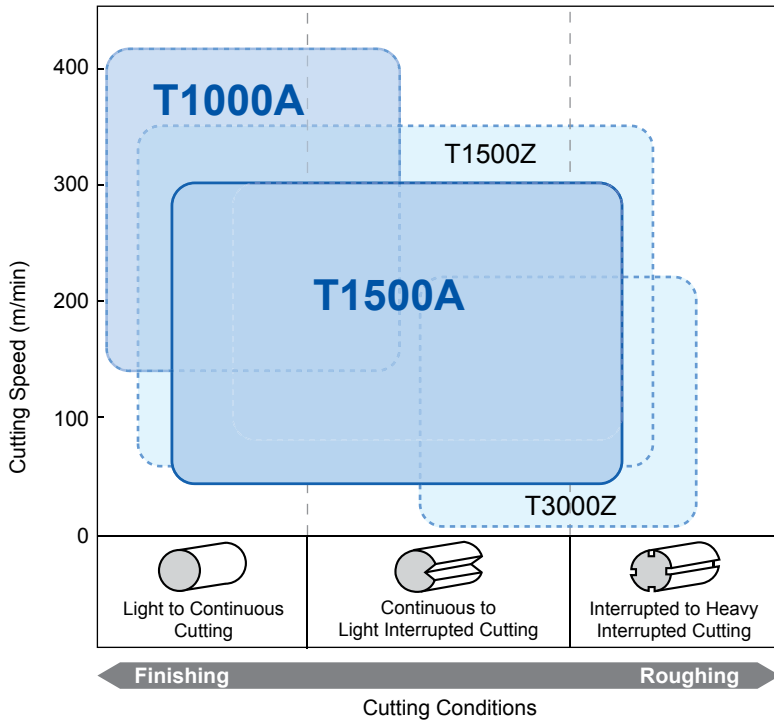


**T1500A** - General Purpose Grade



# Uncoated Cermet T1000A / T1500A

## Application Range



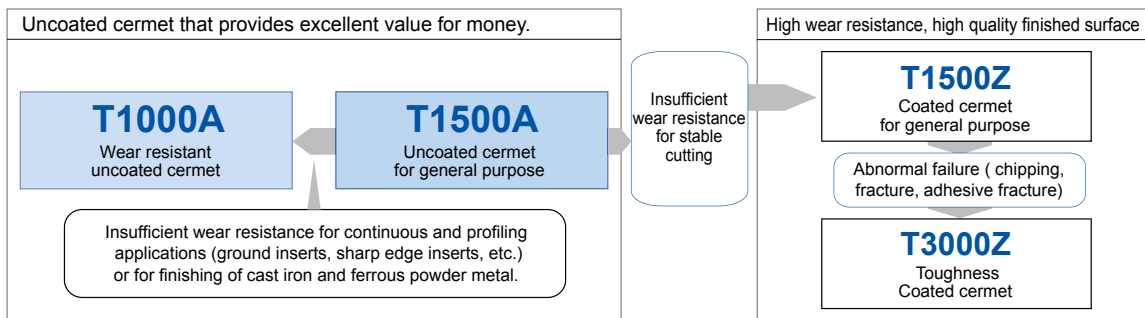
**T1000A** Uncoated  
An uncoated cermet grade designed with wear resistance in mind that provides long tool life and excellent wear resistance in continuous finishing and profiling applications.

**T1500A** Uncoated  
A general purpose uncoated cermet grade that provides excellent value for money and delivers improved finished surface quality while providing good wear and fracture resistance.

**T1500Z** Coated  
Superior turning quality thanks to „Brilliant Coat“. PVD coating with excellent adhesion resistance. A general purpose coated cermet grade capable of maintaining high-quality finished surfaces while providing excellent wear resistance.

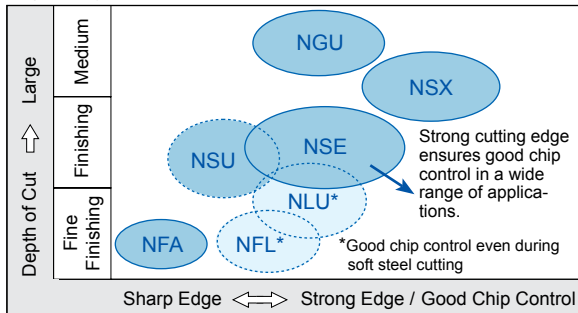
**T3000Z** Coated  
High stability coated cermet grade that covers a wide range of applications from finishing to roughing.

## Usage of Cermet Series

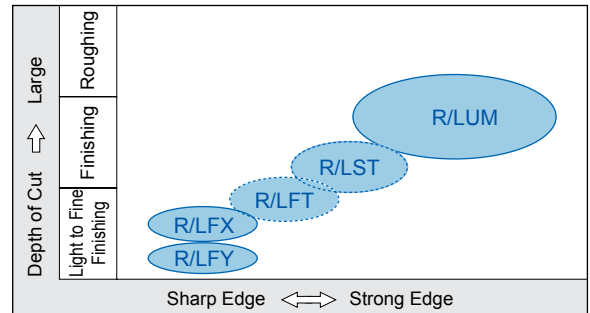


## Chipbreaker Application Range

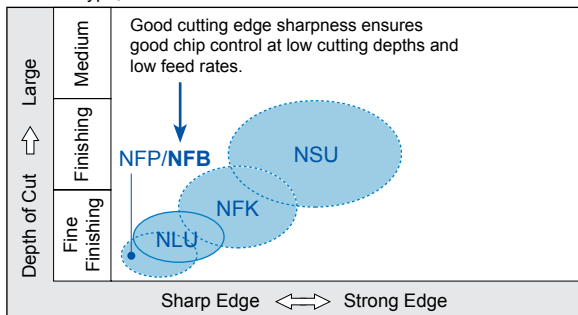
Negative Type, M-Class



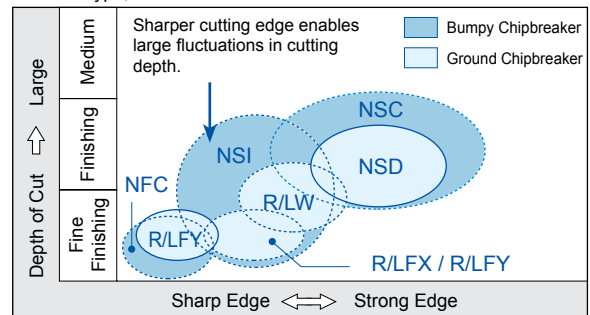
Negative Type, G-Class



Positive Type, M-Class



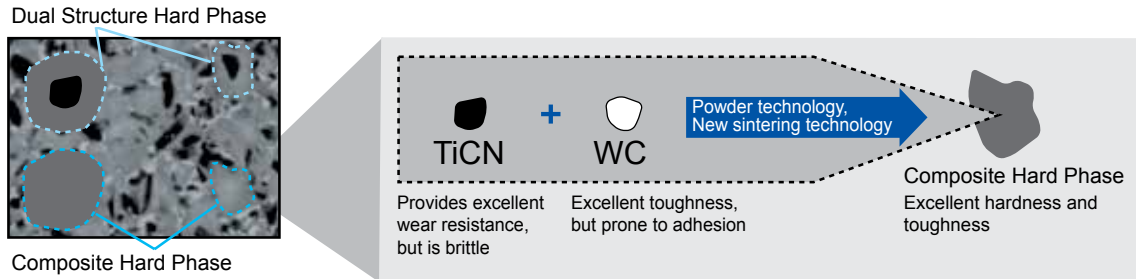
Positive Type, G-Class



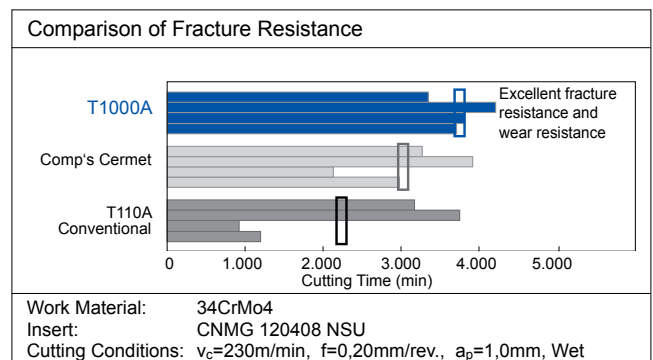
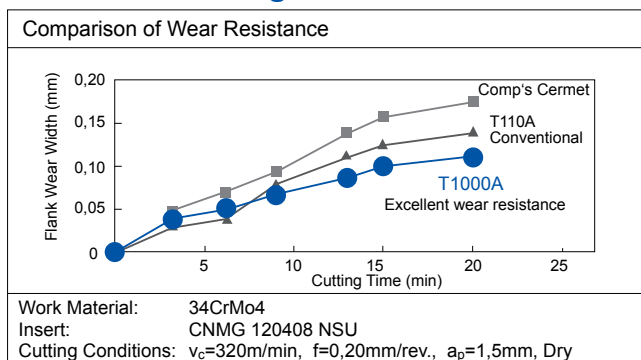
# Uncoated Cermet T1000A / T1500A

## Feature of T1000A

- Uncoated cermet designed with wear resistance in mind that is perfect for profiling and continuous high-speed cutting
- new grade that uses composite hard phase to provide exceptional toughness and adhesion for a hardened cermet
- perfect for fine finishing criteria
- extensive line up with emphasis on ground inserts to cover diverse applications



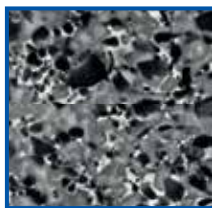
## T1000A Cutting Performance



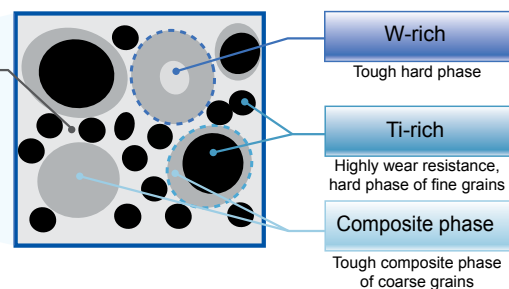
## Feature of T1500A

- General purpose uncoated cermet that provides stable finish quality in finishing and medium cutting
- a completely new cermet providing excellent fracture / wear resistance resulting from a structure comprised of varying levels of granularity
- 3D chip breaker comes into its own in applications where good chip control is required
- expanded lineup meets an even wider range of needs

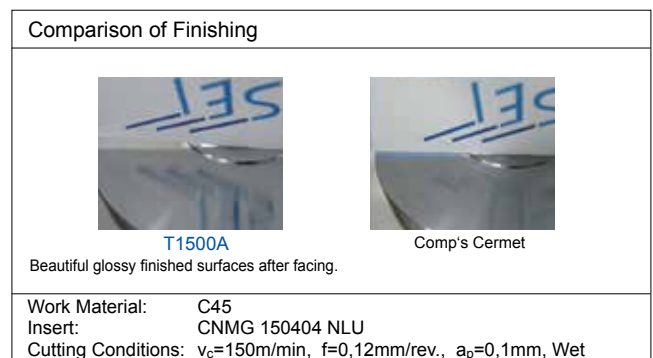
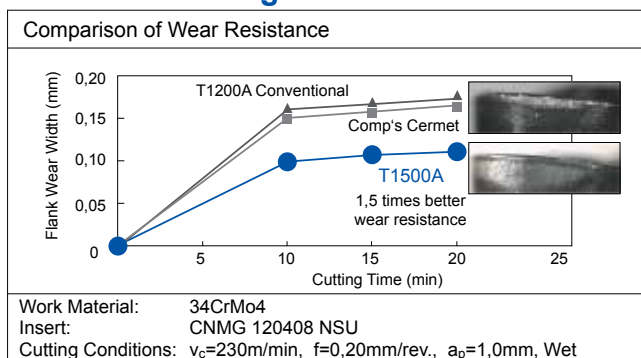
Fine TiCN grain phase in binder phase → Increased wear resistance.  
Composite hard phase of coarse grains → Increased fracture resistance.



Binder phase area: narrow  
Existence of fine TiCN grains  
Increased wear resistance +  
Suppression of crack widening




## T1500A Cutting Performance
















Insert Selection  
Negative Type

# Uncoated Cermet T1000A / T1500A


 Triangular Type, M-Class, with Insert Hole






Shape	Description	Grade		Dimensions (mm)			
		T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius
	TNMG 160404 NSX 160408 NSX		○	9,525	4,76	3,81	0,4 0,8
	TNMG 160404 NGU 160408 NGU		○	9,525	4,76	3,81	0,4 0,8
	TNMG 160404 RUM 160404 LUM	○	○	9,525	4,76	3,81	0,4 0,4
	160408 RUM 160408 LUM	○	○				0,8 0,8
	TNMG 220404 RUM 220404 LUM	○	○				12,7
	220408 RUM 220408 LUM	○	○	0,8 0,8			


 Triangular Type, G-Class, with Insert Hole


Shape	Description	Grade		Dimensions (mm)										
		T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius							
	TNGG 160402 NSU 160408 NSU	○	○	9,525	4,76	3,81	0,2 0,4 0,8							
	TNGG 160401 RFY 160401 LFY	○	○				9,525	4,76	3,81	0,1 0,1				
	160402 RFY 160402 LFY	○	○							0,2 0,2				
	160404 RFY 160404 LFY	○	○	0,4 0,4										
	160408 RFY 160408 LFY	○	○	0,8 0,8										
	160412 RFY 160412 LFY	○	○	1,2 1,2										
		TNGG 160402 RFX 160402 LFX	○	○	9,525	4,76				3,81	0,2 0,2			
		160404 RFX 160404 LFX	○	○							0,4 0,4			
			TNGG 110302 RFT 110302 LFT	○							○	6,35	3,18	2,26
110304 RFT 110304 LFT			○	○			0,4 0,4							
	TNGG 160302 RST 160602 LST		○	○	9,525	3,18	3,81	0,2 0,2						
	160304 RST 160304 LST		○	○				0,4 0,4						
	160308 RST 160308 LST	○	○	0,8 0,8										
	TNGG 160402 RST 160402 LST	○	○	9,525				4,76	3,81	0,2 0,2				
	160404 RST 160404 LST	○	○							0,4 0,4				
	160408 RST 160408 LST	○	○							0,8 0,8				
	160412 RST 160412 LST	○	○							1,2 1,2				
		TNGG 160402 RUM 160402 LUM	●							●	9,525	4,76	3,81	0,2 0,2
160404 RUM 160404 LUM		●	●		0,4 0,4									
160408 RUM 160408 LUM		●	●		0,8 0,8									
160412 RUM 160412 LUM		○	○		1,2 1,2									
TNGG 220404 RUM 220404 LUM		○	○	12,7	4,76	5,16	0,4 0,4							
220408 RUM 220408 LUM		○	○				0,8 0,8							
		TNGA 110308 160404	○					9,525	4,76	3,81				0,8 0,4
		160408	○				○							0,8


● Euro stock  
○ Japan stock







 35° Diamond Type, M-Class, with Insert Hole


Shape	Description	Grade		Dimensions (mm)			
		T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius
	VNMG 160404 NFA 160408 NFA	○	○	9,525	4,76	3,81	0,4 0,8
	VNMG 160404 NFL 160408 NFL	●	●	9,525	4,76	3,81	0,4 0,8
	VNMG 160402 NLU 160404 NLU	●	●	9,525	4,76	3,81	0,2 0,4
	160408 NLU	●	●				0,8
	VNMG 160402 NSU 160404 NSU	○	○				9,525
160408 NSU	○	○	0,8				
	VNMG 160404 NSE 160408 NSE	○	○	9,525	4,76	3,81	0,4 0,8
	VNMG 160404 NSX 160408 NSX		○	9,525	4,76	3,81	0,4 0,8
	VNMG 160404 NGU 160408 NGU		○				9,525


 35° Diamond Type, G-Class, with Insert Hole


	VNGG 160402 NSU 160404 NSU	○	○	9,525	4,76	3,81	0,2 0,4
	160408 NSU	○	○				0,8


 Trigon Type, M-Class, with Insert Hole

	WNMG 080402 NFA 080404 NFA	○	○	12,7	4,76	5,16	0,2 0,4
	080408 NFA	●	●				0,8
	WNMG 080404 NFL 080408 NFL	●	●				12,7
	WNMG 080404 NLU 080408 NLU	●	●	12,7	4,76	5,16	0,4 0,8
	080412 NLU	●	●				1,2
	WNMG 060404 NLUW 060408 NLUW		●				9,525
	WNMG 080404 NLUW 080408 NLUW		●	12,7	4,76	5,16	0,4 0,8
	080412 NLUW		○				1,2
	WNMG 080404 NSU 080408 NSU	●	●				12,7
	080412 NSU	○	○				1,2
	WNMG 080404 NSE 080408 NSE	○	○	12,7	4,76	5,16	0,4 0,8
	WNMG 080404 NSEW 080408 NSEW		○	12,7	4,76	5,16	0,4 0,8
	WNMG 080404 NSX 080408 NSX		○	12,7	4,76	5,16	0,4 0,8
	WNMG 080404 NGU 080408 NGU		○	12,7	4,76	5,16	0,4 0,8


 Trigon Type, G-Class, with Insert Hole

	WNGG 080404 NSU	○	○	12,7	4,76	5,16	0,4
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 Square Type, M-Class, without Insert Hole






	SNMM 120408	○	○	12,7	4,76	0,8
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 Square Type, G-Class, without Insert Hole


	SNGN 120408	○	○	12,7	4,76	0,8
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 **55° Diamond Type, G-Class, with Insert Hole**


Shape	Relief Angle	Description	Grade		Dimensions (mm)						
			T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius			
	7°	DCGT 070201 M NFC	○	○	6,35	2,38	2,8	<0,1			
		070202 M NFC	○	○				<0,2			
		070204 M NFC	○	○				<0,4			
	7°	DCGT 11T301 M NFC	○	○	9,525	3,97	4,4	<0,1			
		11T302 M NFC	○	○				<0,2			
		11T304 M NFC	○	○				<0,4			
	7°	DCGT 070201 RFX	●	●	6,35	2,38	2,8	0,1			
		070201 LFX	●	●				0,1			
		070202 RFX	●	●				0,2			
		070202 LFX	●	●				0,2			
		070204 RFX	●	●				0,4			
		070204 LFX	●	●				0,4			
	7°	DCGT 11T301 RFX	●	●	9,525	3,97	4,4	0,1			
		11T301 LFX	●	●				0,1			
		11T302 RFX	●	●				0,2			
		11T302 LFX	●	●				0,2			
		11T304 RFX	●	●				0,4			
		11T304 LFX	●	●				0,4			
	7°	DCGT 070202 RSD	○	○	6,35	2,38	2,8	0,2			
		070202 LSD	○	○				0,2			
		070204 RSD	○	○				0,4			
		070204 LSD	○	○				0,4			
		DCGT 11T304 RSD	○	○				9,525	3,97	4,4	0,4
		11T304 LSD	○	○							0,4
11T308 RSD	○	○	0,8								
	7°	DCGT 070201 M NSI	○	○	6,35	2,38	2,8	<0,1			
		070202 M NSI	○	○				<0,2			
		070204 M NSI	○	○				<0,4			
		DCGT 11T301 M NSI	○	○				9,525	3,97	4,4	<0,1
		11T302 M NSI	○	○							<0,2
		11T304 M NSI	○	○							<0,4
11T308 M NSI	○	○	<0,8								




 **55° Diamond Type, G-Class, with Insert Hole**


	7°	DCGT 0702003 NSC	○	○	6,35	2,38	2,8	0,03			
		DCGT 070201 M NSC	●	●				<0,1			
		070202 M NSC	●	●				<0,2			
		070204 M NSC	●	●				<0,4			
		DCGT 090201 M NSC	○	○				7,94	2,38	3,4	<0,1
		090202 M NSC	○	○							<0,2
	7°	DCGT 110301 M NSC	○	○	9,525	3,18	4,4	<0,1			
		110302 M NSC	●	●				<0,2			
		DCGT 11T3003 NSC	○	○				9,525	3,97	4,4	0,03
		DCGT 11T301 M NSC	●	●							<0,1
		11T302 M NSC	●	●							<0,2
		11T304 M NSC	●	●							<0,4
11T308 M NSC	●	●	<0,8								










 **Square Type, M-Class, with Insert Hole**

	7°	SCMT 09T304 NFB	○	○	9,525	3,97	4,4	0,4
		09T308 NFB	○	○				0,8
	7°	SCMT 09T304 NLU	○	○	9,525	3,97	4,4	0,4
		09T308 NLU	○	○				0,8
	7°	SCMT 09T304 NFP	●	●	9,525	3,97	4,4	0,4
		09T308 NFP	●	●				0,8
		SCMT 120404 NFP	○	○				12,7
120408 NFP	○	○	0,8					
	11°	SPMT 090304 NFB	○	○	9,525	3,18	3,4	0,4
		090308 NFB	○	○				0,8
	11°	SPMT 090304 NLU	○	○	9,525	3,18	3,4	0,4
		090308 NLU	○	○				0,8

 **Square Type, G-Class, with Insert Hole**

Shape	Relief Angle	Description	Grade		Dimensions (mm)			
			T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius
	7°	SCGT 070201 M NSC	○	○	7,94	2,38	3,4	<0,1
		070202 M NSC	○	○				<0,2
		SCGT 090301 M NSC	○	○	9,525	3,18	4,4	<0,1
		090302 M NSC	○	○				<0,2
	11°	SCGT 09T301 M NSC	○	○	9,525	3,97	4,4	<0,1
		09T302 M NSC	○	○				<0,2
		SPGT 090302 RSD	○	○	9,525	3,18	3,4	0,2
		090302 LSD	○	○				0,2
		090304 RSD	○	○				0,4
090304 LSD	○	○	0,4					
090308 RSD	○	○	0,8					
	11°	SPGW 090304 T	●		9,525	3,18	3,4	0,4

 **Triangular Type, M-Class, with Insert Hole**

	7°	TCMT 110204 NFB	●	●	6,35	2,38	2,8	0,4
		110208 NFB	●	●				0,8
	7°	TCMT 110204 NLU	○	○	6,35	2,38	2,8	0,4
		110208 NLU	○	○				0,8
	7°	TCMT 090202 NFP		●	5,56	2,38	2,5	0,2
		090204 NFP		●				0,4
		090208 NFP		●				0,8
		TCMT 110202 NFP		●	6,35	2,38	2,8	0,2
		110204 NFP		●				0,4
		110208 NFP		●				0,8
TCMT 16T304 NFP			●	9,525	3,97	4,3	0,4	
	16T308 NFP		●				0,8	
	11°	TPMT 080202 NFB	○	○	4,76	2,38	2,4	0,2
		080204 NFB	○	○				0,4
		TPMT 090202 NFB	○	○	5,56	2,38	2,8	0,2
		090204 NFB	○	○				0,4
	11°	TPMT 110302 NFB	○	○	6,35	3,18	3,4	0,2
		110304 NFB	○	○				0,4
		110308 NFB	○	○				0,8
		TPMT 160304 NFB	○	○	9,525	3,18	4,4	0,4
		160308 NFB	○	○				0,8
		TPMT 160404 NFB	○	○				9,525
160408 NFB	○	○	0,8					
	11°	TPMT 090202 NLB		○	5,56	2,38	2,8	0,2
		090204 NLB		○				0,4
		TPMT 110302 NLB		○	6,35	3,18	3,4	0,2
		110304 NLB		○				0,4
110308 NLB		○	0,8					
	11°	TPMT 080202 NLU	○	○	4,76	2,38	2,4	0,2
		080204 NLU	○	○				0,4
		TPMT 090202 NLU	○	○	5,56	2,38	2,8	0,2
		090204 NLU	○	○				0,4
		TPMT 110302 NLU	○	○	6,35	3,18	3,4	0,2
		110304 NLU	○	○				0,4
110308 NLU	○	○	0,8					
	11°	TPMT 110304 NFK	●	●	6,35	3,18	3,4	0,4
		110308 NFK	●	●				0,8
		TPMT 160404 NFK	●	●	9,525	4,76	4,4	0,4
		160408 NFK	●	●				0,8
	11°	TPMT 080202 NSU	○	○	4,76	2,38	2,4	0,2
		080204 NSU	○	○				0,4
		TPMT 110302 NSU	○	○	6,35	3,18	3,4	0,2
		110304 NSU	○	○				0,4
		110308 NSU	○	●				0,8
		TPMT 160404 NSU			○	○	9,525	4,76
160408 NSU			○	●	0,8			

● Euro stock  
○ Japan stock

Note: Different model notation applies to products with negative nose tolerance.

**DCGT 11T304 M NSI**

M = Negative tolerance symbol

# Uncoated Cermet T1000A / T1500A

## Insert Selection Positive Type

### Triangular Type, G-Class, with Insert Hole

Shape	Relief Angle	Description	Grade		Dimensions (mm)			
			T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius
	5°	TBGT 060102 RFW	○	○	3,97	1,59	2,2	0,2
		060102 LFW	○	○				0,2
		060104 RFW	○	○				0,4
		060104 LFW	○	○				0,4
	5°	TBGT 060102 RFY	○	○	3,97	1,59	2,2	0,2
		060102 LFY	○	○				0,2
		060104 RFY	○	○				0,4
		060104 LFY	○	○				0,4
	5°	TBGT 060102 RW	○	●	3,97	1,59	2,2	0,2
		060102 LW	○	●				0,2
		060104 RW	○	●				0,4
		060104 LW	○	●				0,4
	5°	TBGW 060102	○	○	3,97	1,59	2,2	0,2
		060104	○	○				0,4
	7°	TCGT 080201 M NSC	○	○	4,76	2,38	2,3	<0,1
		080202 M NSC	○	○				<0,2
		TCGT 090201 M NSC	○	○	5,56	2,38	2,5	<0,1
		090202 M NSC	●	●				<0,2
		TCGT 110201 M NSC	○	○	6,35	2,38	2,8	<0,1
		110202 M NSC	●	●				<0,2
110204 M NSC	○	●	<0,4					
TCGT 110301 M NSC	○	○	6,35	3,18	2,8	<0,1		
110302 M NSC	○	○				<0,2		
	11°	TPGT 110302 M NFC	○	○	6,35	3,18	3,4	<0,2
		110304 M NFC	○	○				<0,4
	11°	TPGT 080202 RFW	○	○	4,76	2,38	2,4	0,2
		080202 LFW	○	○				0,2
		080204 RFW	○	○				0,4
		080204 LFW	○	○				0,4
		TPGT 110202 RFW	○	○	6,35	2,38	2,8	0,2
		110202 LFW	○	○				0,2
110204 RFW	○	○	0,4					
TPGT 090204 LFX	○	○	5,56	2,38	2,8	0,4		
	11°	TPGT 080202 RFY	○	○	4,76	2,38	2,4	0,2
		080202 LFY	○	○				0,2
		080204 RFY	○	○				0,4
		080204 LFY	○	○				0,4
		TPGT 110202 RFY	○	○	6,35	2,38	2,8	0,2
		110202 LFY	○	○				0,2
		110204 RFY	○	○				0,4
		110204 LFY	○	○				0,4
		110208 RFY	○	○				0,8
		110208 LFY	○	○				0,8
		TPGT 110302 RFY	○	○	6,35	3,18	3,4	0,2
		110302 LFY	○	○				0,2
		110304 RFY	○	○				0,4
		110304 LFY	○	○				0,4
110308 RFY	○	○	0,8					
110308 LFY	○	○	0,8					
	11°	TPGT 080202 RW	○	●	4,76	2,38	2,4	0,2
		080202 LW	○	●				0,2
		080204 RW	○	●				0,4
		080204 LW	○	●				0,4
		TPGT 110302 RW	○	●	6,35	3,18	3,4	0,2
		110302 LW	○	●				0,2
		110304 RW	○	●				0,4
		110304 LW	○	●				0,4
TPGT 160402 LW	○	●	9,525	4,76	4,4	0,2		
160404RW	○	●				0,4		
160404 LW	○	●	0,4					

### Triangular Type, G-Class, with Insert Hole

Shape	Relief Angle	Description	Grade		Dimensions (mm)			
			T1000A	T1500A	IC	Thick-ness	Hole size Ø	Nose radius
	11°	TPGT 110302 RSD	○	●	6,35	3,18	3,4	0,2
		110302 LSD	○	●				0,2
		110304 RSD	○	●				0,4
		110304 LSD	○	●				0,4
		110308 RSD	○	○				0,8
		110308 LSD	○	○				0,8
		TPGT 160402 RSD	○	○	9,525	4,76	4,4	0,2
		160402 LSD	○	●				0,2
		160404 RSD	○	●				0,4
		160404 LSD	○	●				0,4
	11°	TPGX 160404 R SDW	○	○	9,525	4,76	4,4	0,4
		160404 L SDW	○	○				0,4
		160408 R SDW	○	○				0,8
		160408 L SDW	○	○				0,8
	11°	TPGW 080202	○	○	4,76	2,38	2,4	0,2
		TPGW 110304	○	○	6,35	3,18	3,4	0,4
		110308	○	○				0,8

### 35° Diamond Type, M-Class, with Insert Hole

	5°	VBMT 110302 NFB	○	○	6,35	3,18	2,8	0,2
		110304 NFB	○	○				0,4
		110308 NFB	○	○				0,8
		VBMT 160404 NFB	●	●	9,525	4,76	4,4	0,4
160408 NFB	●	●	0,8					
	5°	VBMT 110202 NFP	●	●	6,35	2,38	2,8	0,2
		110204 NFP	●	●				0,4
		VBMT 160404 NFP	●	●	9,525	4,76	4,4	0,4
		160408 NFP	●	●				0,8
	5°	VBMT 160404 NLB	○	●	9,525	4,76	4,4	0,4
		160408 NLB	○	●				0,8
		160412 NLB	○	●				1,2
			5°	VBMT 110302 NLU	○	○	6,35	3,18
110304 NLU	○			○	0,4			
	5°	VBMT 160404 NLU	○	○	9,525	4,76	4,4	0,4
		160408 NLU	○	○				0,8
		VBMT 160404 NSU	○	○				9,525
160408 NSU	○	○	0,8					
	7°	VCMT 080202 NFB	○	○	4,76	2,38	2,3	0,2
		080204 NFB	○	○				0,4
		VCMT 160404 NFB	○	○	9,525	4,76	4,4	0,4
		160408 NFB	○	○				0,8
	7°	VCMT 160404 NLU	○	○	9,525	4,76	4,4	0,4
		160408 NLU	○	○				0,8

● Euro stock  
○ Japan stock

Note: Different model notation applies to products with negative nose tolerance.


**DCGT 11T304 M NSI**


M = Negative tolerance symbol





Insert Selection  
Positive Type


# Uncoated Cermet T1000A / T1500A



 35° Diamond Type, G-Class, with Insert Hole


Shape	Relief Angle	Description	Grade		Dimensions (mm)			Nose radius
			T1000A	T1500A	IC	Thick-ness	Hole size Ø	
	5°	VBGT 110301 RFX	○	○	6,35	3,18	2,8	0,1
		110301 LFX	○	○				0,1
		110302 RFX	○	○				0,2
		110302 LFX	○	○				0,2
		110304 RFX	○	○				0,4
	VBGT 160402 RFX	○	○	9,525	4,76	4,4	0,2	
	160402 LFX	○	○				0,2	
	160404 RFX	○	○				0,4	
	160404 LFX	○	○				0,4	
		○	○				0,4	
5°	VBGT 110301 RFY	○	○	6,35	3,18	2,8	0,1	
	110301 LFY	○	○				0,1	
	110302 RFY	○	○				0,2	
	110302 LFY	○	○				0,2	
7°	VCGT 110301 M NFC	○	○	6,35	3,18	2,8	<0,1	
	110302 M NFC	○	○				<0,2	
	110304 M NFC	○	○				<0,4	
7°	VCGT 110301 RFX	○	●	6,35	3,18	2,8	0,1	
	110301 LFX	○	●				0,1	
	110302 RFX	○	●				0,2	
	110302 LFX	○	●				0,2	
7°	VCGT 110301 M NSI	○	○	6,35	3,18	2,8	<0,1	
	110302 M NSI	○	○				<0,2	
	110304 M NSI	○	○				<0,4	
	110308 M NSI	○	○				<0,8	
	VCGT 160401 M NSI	○	○	9,525	4,76	4,4	<0,1	
	160402 M NSI	○	○				<0,2	
	160404 M NSI	○	○				<0,4	
		○	○				<0,4	


 Trigon Type, G-Class, with Insert Hole


	5°	WBGT 060102 RFW		○	3,97	1,59	2,2	0,2
		060102 LFW		○				0,2
		060104 RFW		○				0,4
		060104 LFW		○				0,4
		WBGT 080202 RFW		○				4,76
	080202 LFW		○	0,2				
	080204 RFW		○	0,4				
	080204 LFW		○	0,4				
			○	0,4				
	5°	WBGT 0601003 LFY			○	3,97	1,59	2,2
060101 RFY				○	0,1			
060101 LFY				○	0,1			
060102 RFY			○	○	0,2			
060102 LFY			○	○	0,2			
060104 RFY		○	○	0,4				
060104 LFY		○	○	0,4				
WBGT 080201 RFY			○	○	4,76	2,38	2,4	0,1
		080201 LFY	○	○				0,1
		080202 RFY	○	○				0,2
	080202 LFY	○	○	0,2				
	080204 RFY	○	○	0,4				
080204 LFY	○	○	0,4					
5°	WBGT 060102 RW	○	●	3,97	1,59	2,2	0,2	
	060102 LW	○	●				0,2	
	060104 RW	○	●				0,4	
	060104 LW	○	●				0,4	
		○	●				0,4	
11°	WPMT 110204 NLB		○	6,35	2,38	2,8	0,4	
	WPMT 160308 NLB		○	9,525	3,18	4,4	0,8	


 Square Type, M-Class, without Insert Hole


Shape	Relief Angle	Description	Grade		Dimensions (mm)			Nose radius
			T1000A	T1500A	IC	Thick-ness	Hole size Ø	
	11°	SPMR 090304 NFK	○	●	9,525	3,18	-	0,4
		090308 NFK	○	○				0,8
		SPMR 120304 NFK	○	○				12,7
120308 NFK	○	○	0,8					
	11°	SPMN 090304	○	○	9,525	3,18	-	0,4
		090308	○	○				0,8
		SPMN 120308	○	○				12,7
120312	○	○	1,2					




 Square Type, G-Class, without Insert Hole

	11°	SPGN 090304	○	●	9,525	3,18	-	0,4
		090308	○	●				0,8
	SPGN 120304	○	○	12,7	3,18	-	0,4	
		120308	○				○	0,8

 Triangular Type, M-Class, without Insert Hole

	11°	TPMR 090204 NFK		○	5,56	2,38	-	0,4
		TPMR 110302 NFK		○				0,2
		110304 NFK		●				6,35
	TPMR 110308 NFK		●	9,525	3,18	-	0,8	
		TPMR 160304 NFK					●	0,4
		160308 NFK					●	9,525
160312 NFK		○	1,2					
11°	TPMN 160308	○	○	9,525	3,18	-	0,8	
	TPMN 220408	○	○	12,7	4,76	-	0,8	

 Triangular Type, G-Class, without Insert Hole


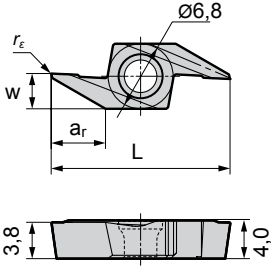
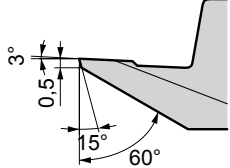

	5°	TBGR 060104 LW		○	3,97	1,59	-	0,4		
	5°	TBGN 060104		○	3,97	1,59	-	0,4		
	11°	TPGR 090202 RW		○	5,56	2,38	-	0,2		
		090202 LW		○				0,2		
		090204 RW		○				0,4		
		090204 LW		○				0,4		
		090208 RW		○				0,8		
		090208 LW		○				0,8		
	TPGR 110302 RW		○	○	6,35	3,18	-	0,2		
		110302 LW	○	○				0,2		
		110304 RW	○	●				0,4		
		110304 LW	○	●				0,4		
		110308 LW	○	○				0,8		
		TPGR 160302 RW		○				9,525	3,18	-
	160302 LW		○	0,2						
	160304 RW		○	0,4						
	160304 LW		○	0,4						
160308 RW		○	0,8							
160308 LW		○	0,8							
11°	TPGN 090202		○	5,56	2,38	-	0,2			
	090204		○				0,4			
	090208		○				0,8			
	TPGN 110302		○				6,35	3,18	-	0,2
	110304		○							0,4
	110308		○							0,8
TPGN 160302		○	○	9,525	3,18	-	0,2			
	160304	○	○				0,4			
	160308	○	○				0,8			
20°	TEGN 160308		○	9,525	3,18	-	0,8			

# Uncoated Cermet T1000A / T1500A

## Recommended Cutting Conditions

Work Material	Cutting Process	Chip Breaker	Grades	Cutting Conditions		
				Depth of Cut $a_p$ (mm)	Feed Rate $f$ (mm/rev)	Cutting Speed $v_c$ (m/min)
Soft Steel	Fine Finishing	R/LFY / R/LFX	T1000A	0,1 - <b>0,4</b> - 0,8	0,04 - <b>0,10</b> - 0,20	150 - <b>280</b> - 400
	Fine Finishing to Finishing	NFL	T1500A	0,2 - <b>0,5</b> - 1,0	0,05 - <b>0,15</b> - 0,25	150 - <b>280</b> - 400
Carbon Steel Alloy Steel	Fine Finishing	R/LFY / NFA	T1000A	0,1 - <b>0,4</b> - 0,8	0,04 - <b>0,10</b> - 0,20	100 - <b>200</b> - 300
	Finishing	NSU / NSE	T1500A	0,5 - <b>1,0</b> - 2,0	0,08 - <b>0,20</b> - 0,35	100 - <b>200</b> - 300
	Medium	NGU	T1500A	0,8 - <b>2,2</b> - 4,0	0,15 - <b>0,25</b> - 0,50	100 - <b>200</b> - 300
High Carbon Steel Alloy Steel	Fine Finishing	NFA	T1000A	0,2 - <b>0,5</b> - 1,0	0,05 - <b>0,15</b> - 0,25	50 - <b>150</b> - 250
	Finishing	NSU / NSE	T1500A	0,5 - <b>1,0</b> - 2,0	0,08 - <b>0,20</b> - 0,35	50 - <b>150</b> - 250
	Medium	NGU	T1500A	0,8 - <b>2,2</b> - 4,0	0,15 - <b>0,25</b> - 0,50	50 - <b>150</b> - 250

## Inserts for Mini Tool Holders SBT Type / PBT Type

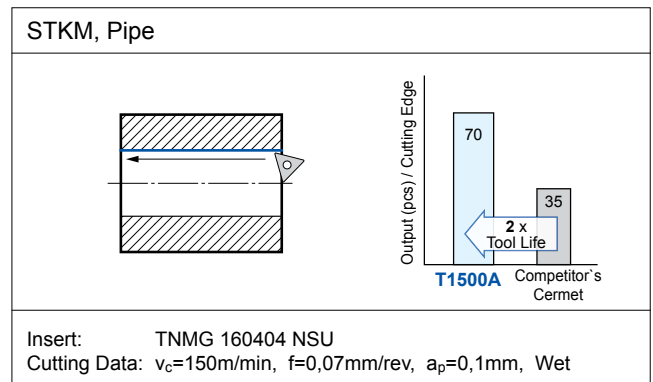
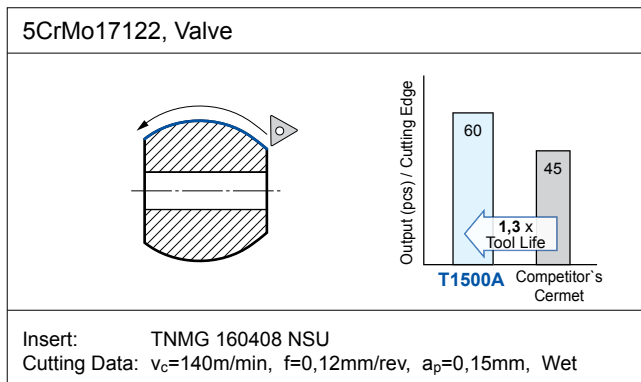
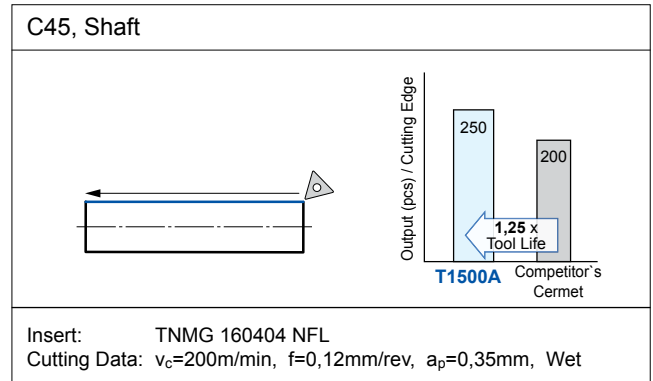
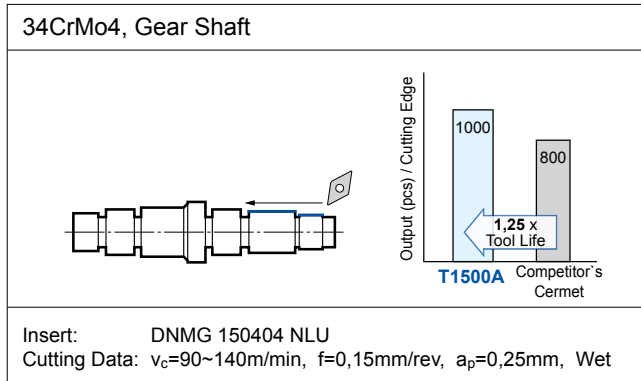
						
						
Description	Stock	Dimensions (mm)				Applicable Tool Holder
	T1500A	L	$a_r$	w	$r_\epsilon$	
BTR 3505	●	15	3,5	2,5	0,05	SBT35R□□□□
BTR 3515	●	15	3,5	2,5	0,15	PBT35R□□□□

● Euro stock

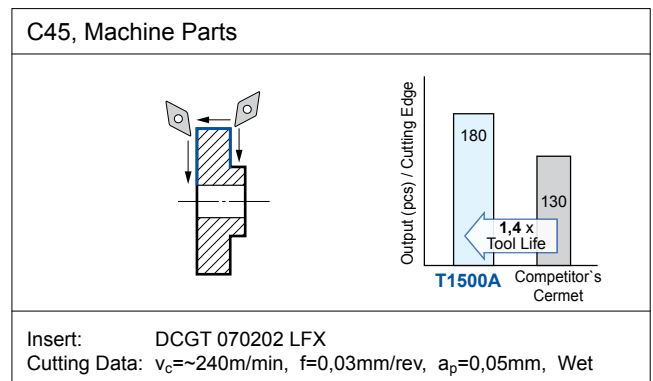
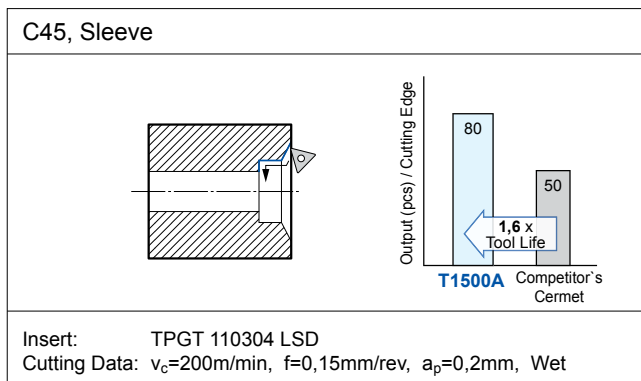
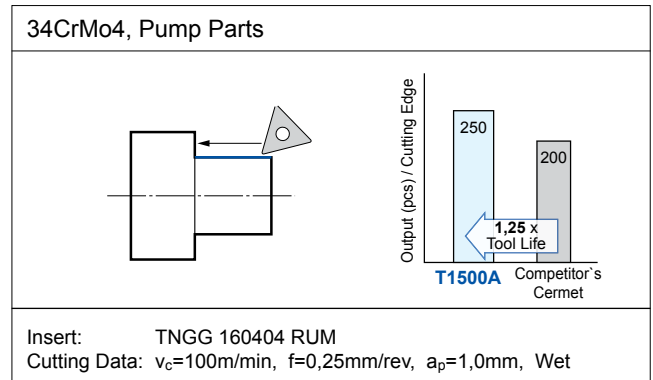
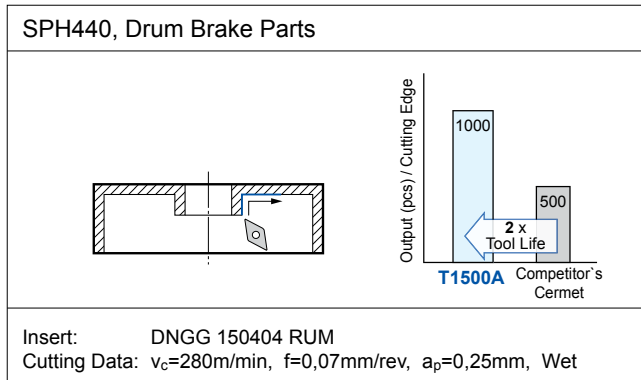
# Uncoated Cermet T1500A

## Application Examples

### T1500A – M-Class Insert



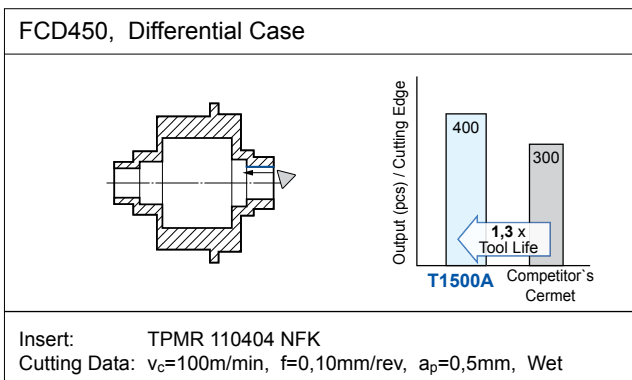
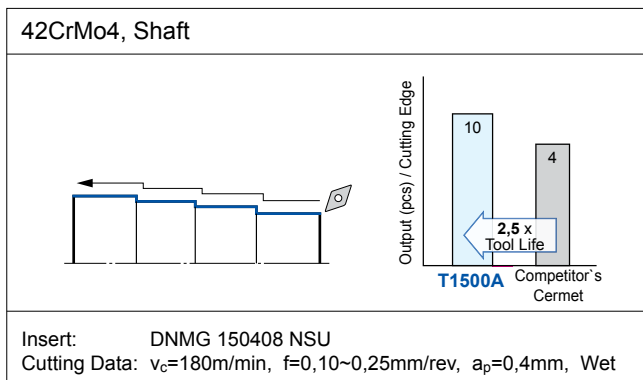
### T1500A – G-Class Insert



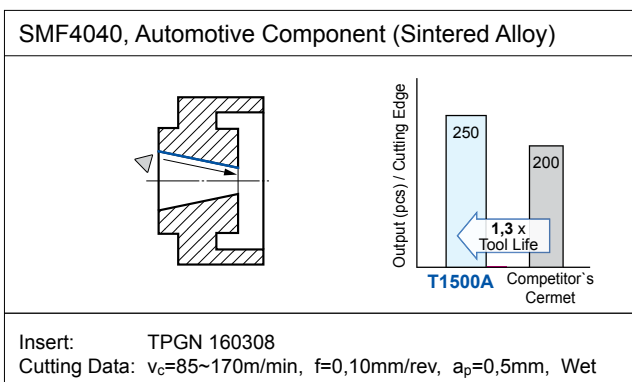
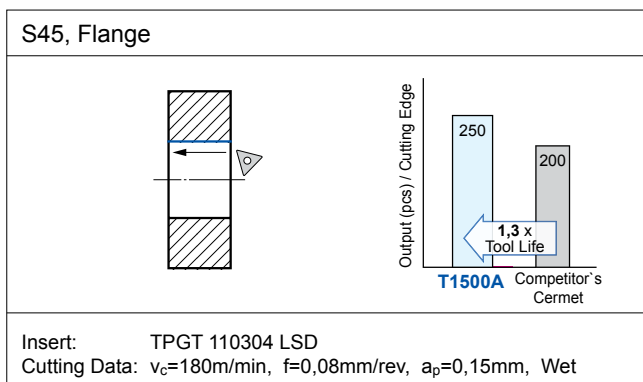
# Uncoated Cermet T1000A

## Application Examples

### T1000A – M-Class Insert



### T1000A – G-Class Insert



(Germany)  
SUMITOMO ELECTRIC Hartmetall GmbH  
Siemensring 84, D - 47877 Willich  
Tel. +49(0)2154 4992-0, Fax +49(0)2154 41072  
e-Mail: [Info@SumitomoTool.com](mailto:Info@SumitomoTool.com)  
Internet: [www.sumitomoTool.com](http://www.sumitomoTool.com)



(UK and Ireland)  
SUMITOMO ELECTRIC Hardmetal Ltd.  
Summerleys Road, Princes Risborough  
Buckinghamshire HP27 9PW, UK  
Tel. +44(0)1844 342081, Fax: +44(0)1844 342415  
e-Mail: [enquiries@sumitomo-hardmetal.co.uk](mailto:enquiries@sumitomo-hardmetal.co.uk)  
Internet: [www.sumitomo-hardmetal.co.uk](http://www.sumitomo-hardmetal.co.uk)



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