

Coated Cermet Grade for Steel Turning

T2100Z

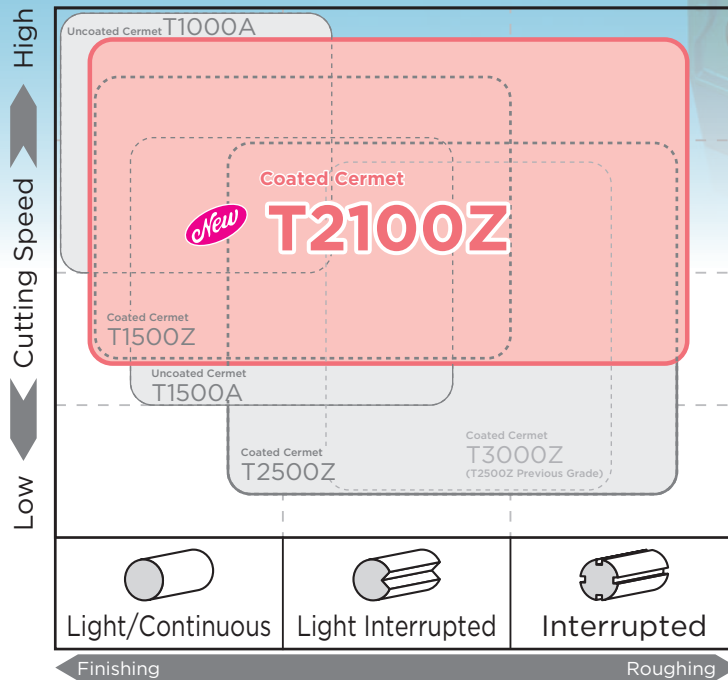
Introducing a New Coated Cermet Grade for Finishing with Outstanding Stability



Coated Cermet Grade for Steel Turning

T2100Z

Application Range



T2100Z *New* Coated

Outstanding fracture resistance

Fracture Resistance
3x that of conventional grades

High wear resistance and high-quality finish

General-purpose Coated Cermet **T1500Z** Coated
 Emphasis on Fracture Resistance Coated Cermet **T2500Z** Coated

Highly economical with reliable finish quality

Emphasis on Wear Resistance Uncoated Cermet **T1000A** Un Coated
 General-purpose Uncoated Cermet **T1500A** Un Coated

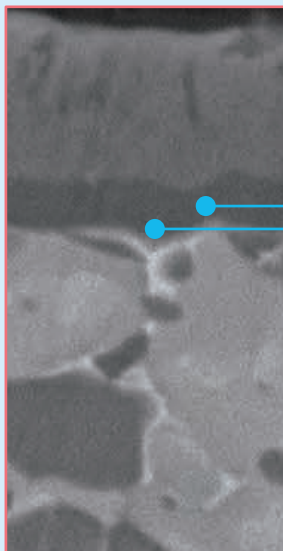
T1500Z/T2500Z
Tooling News



T1000A/T1500A
Tooling News



Features of T2100Z



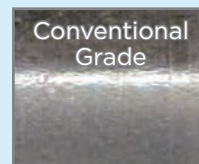
Highly Adhesive Coating Layer

Improved fracture resistance through a coating technology with excellent adhesion strength



Smooth Cutting Edge Treatment

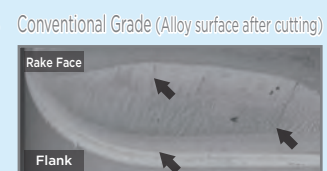
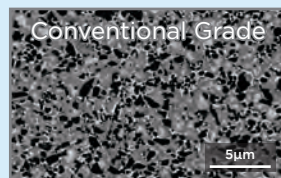
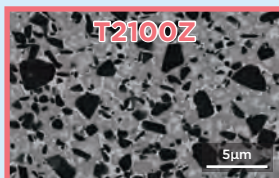
Smooth treatment method improves surface finish quality



Work Material: SCM415
 Cutting Conditions: $v_c = 100\text{m/min}$
 $f = 0.2\text{mm/rev}$
 $a_p = 1.0\text{mm}$ Wet

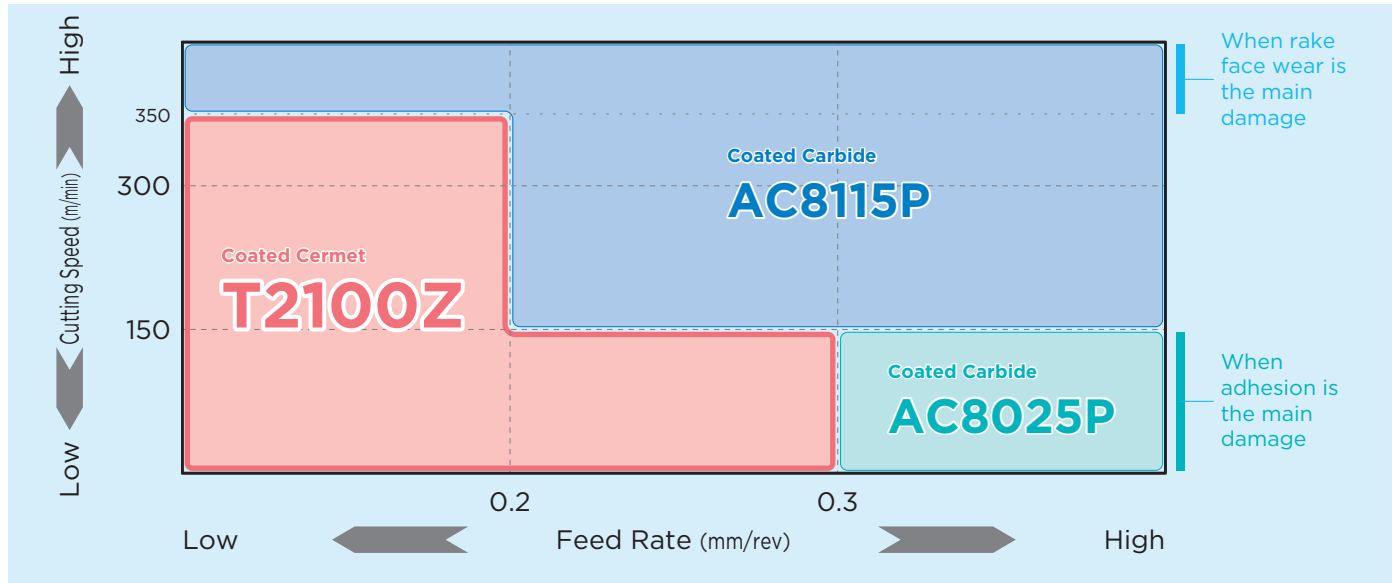
New Cermet Substrate

Crack progression dramatically suppressed with new dedicated high-strength alloy

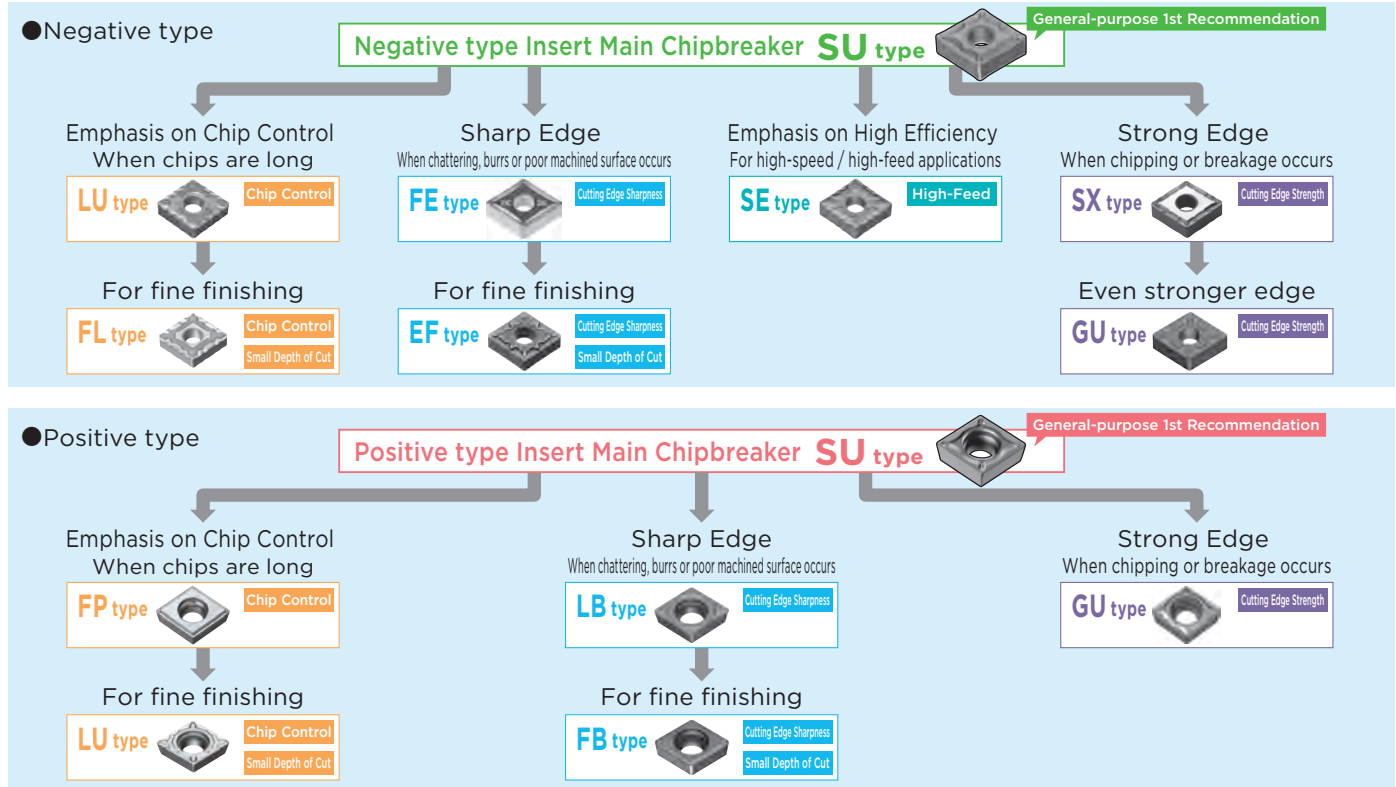


T2100Z

■ Distinguishing from Carbide Grades (example)

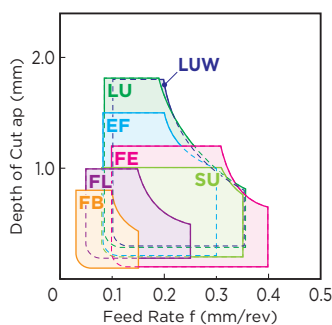


■ Chipbreaker Selection

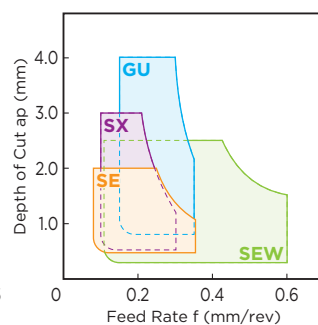


■ Chipbreaker Application Range

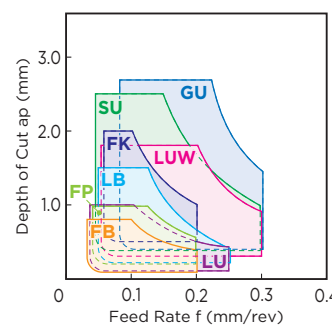
● Negative M-class (fine to light cutting)



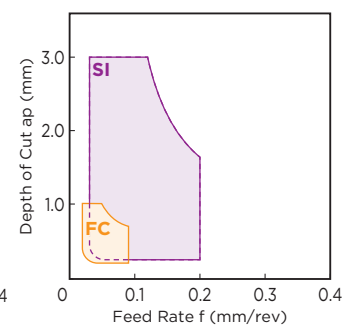
● Negative M-class (up to medium cutting)



● Positive M-class



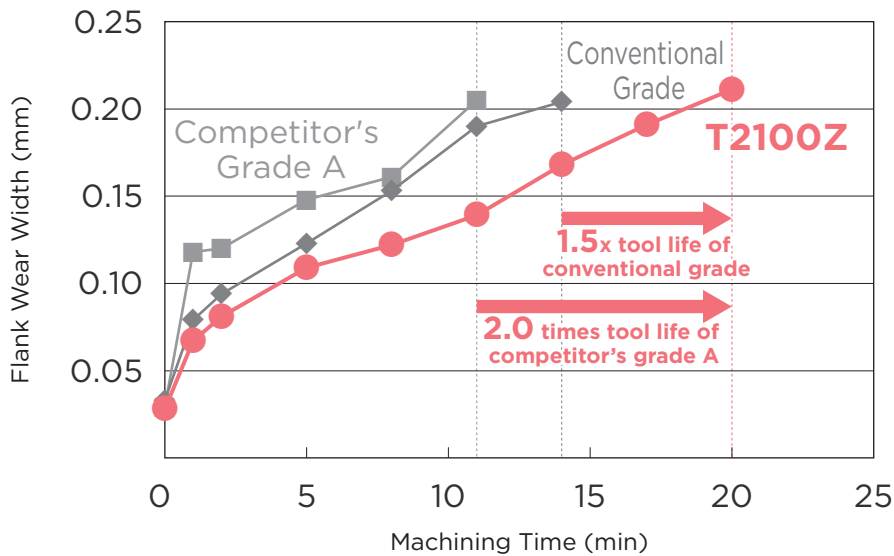
● Positive G-class



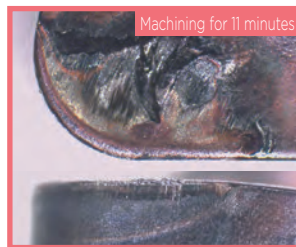
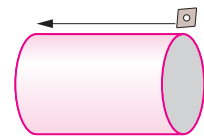
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Wear Resistance Through External Continuous Turning (Steel)

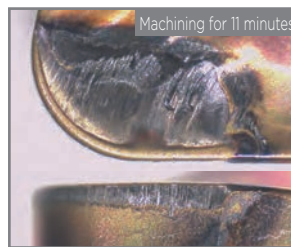
When flank wear is the main form of damage, wear resistance is higher compared to conventional grades and competitors' grades



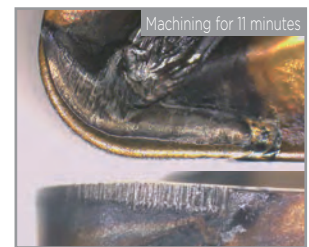
Work Material: SCM435
Continuous
External
Turning
Insert: CNMG120408
Cutting Conditions: $v_c = 330\text{m/min}$
 $f = 0.2\text{mm/rev}$
 $a_p = 1.5\text{mm}$
Wet



T2100Z



Conventional Grade



Competitor's Grade A

Comparison of Machined Surfaces in Continuous Facing (Steel)

Surface finish quality/surface roughness are equivalent to or better than conventional grade



Machined surface
($v_c = 100\text{m/min}$ or below)

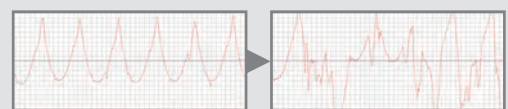


At machining start $R_a = 1.6$ $R_z = 6.9$ After wear progresses $R_a = 2.5$ $R_z = 15.8$

T2100Z



Machined surface
($v_c = 100\text{m/min}$ or below)



At machining start $R_a = 1.9$ $R_z = 8.2$ After wear progresses $R_a = 2.5$ $R_z = 14.1$

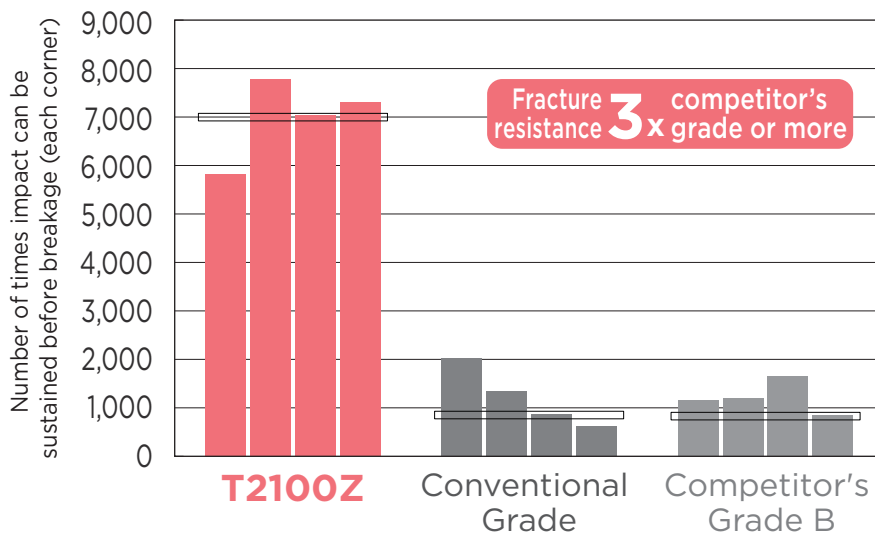
Conventional Grade

Work Material: SCM415 Continuous facing Insert: CNMG120408 Cutting Conditions: $v_c = 0-100\text{m/min}$ (constant spindle speed) $f = 0.2\text{mm/rev}$ $a_p = 1.0\text{mm}$ Wet

T2100Z

■ Fracture Resistance Through Interrupted External Turning (Steel)

Significantly improved fracture resistance compared to conventional grades and competitors' grades



Work Material: SCM435

Continuous

External

Turning

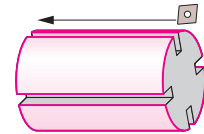
Insert: CNMG120408

Cutting Conditions: $v_c = 250\text{m/min}$

$f = 0.25\text{mm/rev}$

$a_p = 1.5\text{mm}$

Wet



T2100Z

80° Diamond type Negative Inserts / M-class

Shape	Cat. No.	Stock	Dimensions (mm)			
		T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	CNMG 120402N-FB	●				0.2
	120404N-FB	●	12.7	4.76	5.16	0.4
	120408N-FB	●				0.8
	CNMG 120402N-FA	●				0.2
	120404N-FA	●	12.7	4.76	5.16	0.4
	120408N-FA	●				0.8
	CNMG 120404N-FL	●	12.7	4.76	5.16	0.4
	120408N-FL	●				0.8
	CNMG 090304N-FE	●	9.525	3.18	3.81	0.4
	090308N-FE	●				0.8
	CNMG 090408N-FE	●	9.525	4.76	3.81	0.8
	CNMG 120402N-FE	●				0.2
	120404N-FE	●	12.7	4.76	5.16	0.4
	120408N-FE	●				0.8
	CNMG 090304N-LU	●	9.525	3.18	3.81	0.4
	090308N-LU	●				0.8
	CNMG 120402N-LU	●				0.2
	120404N-LU	●	12.7	4.76	5.16	0.4
	120408N-LU	●				0.8
	120412N-LU	●				1.2
	CNMG 120404N-LUW	●				0.4
	120408N-LUW	●	12.7	4.76	5.16	0.8
	120412N-LUW	●				1.2
	CNMG 090408N-SU	●	9.525	4.76	3.81	0.8
	CNMG 120402N-SU	●				0.2
	120404N-SU	●	12.7	4.76	5.16	0.4
	120408N-SU	●				0.8
	120412N-SU	●				1.2
	CNMG 120404N-SE	●	12.7	4.76	5.16	0.4
	120408N-SE	●				0.8
	CNMG 120404N-SEW	●	12.7	4.76	5.16	0.4
	120408N-SEW	●				0.8
	CNMG 120404N-EF	●	12.7	4.76	5.16	0.4
	120408N-EF	●				0.8
	CNMG 120404N-SX	●	12.7	4.76	5.16	0.4
	120408N-SX	●				0.8
	CNMG 090408N-GU	●	9.525	4.76	3.81	0.8
	CNMG 120404N-GU	●	12.7	4.76	5.16	0.4
	120408N-GU	●				0.8

55° Diamond type Negative Inserts / M-class

Shape	Cat. No.	Stock	Dimensions (mm)			
		T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	DNMG 110404N-FB	●				0.4
	110408N-FB	●	9.525	4.76	3.81	0.8
	DNMG 150404N-FB	●	12.7	4.76	5.16	0.4
	150408N-FB	●				0.8
	DNMG 150604N-FB	●	12.7	6.35	5.16	0.4
	150608N-FB	●				0.8
	DNMG 150404N-FA	●	12.7	4.76	5.16	0.4
	150408N-FA	●				0.8
	DNMG 150604N-FA	●	12.7	6.35	5.16	0.4
	150608N-FA	●				0.8
	DNMG 150404N-FL	●	12.7	4.76	5.16	0.4
	150408N-FL	●				0.8
	DNMG 110404N-FE	●	9.525	4.76	3.81	0.4
	110408N-FE	●				0.8
	DNMG 150402N-FE	●				0.2
	150404N-FE	●	12.7	4.76	5.16	0.4
	150408N-FE	●				0.8
	150412N-FE	●				1.2
	DNMG 150602N-FE	●				0.2
	150604N-FE	●	12.7	6.35	5.16	0.4
	150608N-FE	●				0.8
	150612N-FE	●				1.2
	DNMG 110404N-LU	●	9.525	4.76	3.81	0.4
	110408N-LU	●				0.8
	DNMG 150402N-LU	●				0.2
	150404N-LU	●	12.7	4.76	5.16	0.4
	150408N-LU	●				0.8
	150412N-LU	●				1.2
	DNMG 110404N-SU	●	9.525	4.76	3.81	0.4
	110408N-SU	●				0.8
	DNMG 150402N-SU	●				0.2
	150404N-SU	●	12.7	4.76	5.16	0.4
	150408N-SU	●				0.8
	150412N-SU	●				1.2
	DNMG 150604N-SU	●	12.7	6.35	5.16	0.4
	150608N-SU	●				0.8
	DNMG 150404N-SE	●	12.7	4.76	5.16	0.4
	150408N-SE	●				0.8
	150412N-SE	●				1.2
	DNMX 150404N-SEW	●	12.7	4.76	5.16	0.4
	150408N-SEW	●				0.8
	DNMG 150404N-EF	●	12.7	4.76	5.16	0.4
	150408N-EF	●				0.8
	DNMG 150604N-EF	●	12.7	6.35	5.16	0.4
	150608N-EF	●				0.8
	DNMG 150404N-SX	●	12.7	4.76	5.16	0.4
	150408N-SX	●				0.8
	DNMG 150604N-SX	●	12.7	6.35	5.16	0.4
	150608N-SX	●				0.8
	DNMG 150404N-GU	●				0.4
	150408N-GU	●	12.7	4.76	5.16	0.8
	150412N-GU	●				1.2
	DNMG 150404R-UM	●				0.4
	150404L-UM	●	12.7	4.76	5.16	0.4
	150408R-UM	●				0.8
	150408L-UM	●				0.8

 Square type Negative Inserts / M-class

Shape	Cat. No.	Stock	Dimensions (mm)			
		T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FB	SNMG 120404N-FB	●	12.7	4.76	5.16	0.4
	120408N-FB	●				0.8
 FL	SNMG 120408N-FL	●	12.7	4.76	5.16	0.8
 FE	SNMG 120404N-FE	●	12.7	4.76	5.16	0.4
	120408N-FE	●				0.8
	120412N-FE	●				1.2
 LU	SNMG 120408N-LU	●	12.7	4.76	5.16	0.8
	120412N-LU	●				1.2
 SU	SNMG 120408N-SU	●	12.7	4.76	5.16	0.8
 EF	SNMG 120404N-EF	●	12.7	4.76	5.16	0.4
	120408N-EF	●				0.8
 SJ	SNMG 090304N-SJ	●	9.525	3.18	3.81	0.4
	SNMG 120404N-SJ	●	12.7	4.76	5.16	0.4
 SX	SNMG 120404N-SX	●	12.7	4.76	5.16	0.4
	120408N-SX	●				0.8
 GU	SNMG 090308N-GU	●	9.525	3.18	3.81	0.8
	SNMG 120404N-GU	●	12.7	4.76	5.16	0.4
	120408N-GU	●				0.8
 UM	SNMG 120404R-UM	●				0.4
	120404L-UM	●				0.4
	120408R-UM	●				0.8
	120408L-UM	●				0.8
	120412R-UM	●				1.2
	120412L-UM	●				1.2

 35° Diamond type Negative Inserts / M-class

Shape	Cat. No.	Stock	Dimensions (mm)			
		T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FB	VNMG 160404N-FB	●	9.525	4.76	3.81	0.4
	160408N-FB	●				0.8
 FA	VNMG 160404N-FA	●	9.525	4.76	3.81	0.4
	160408N-FA	●				0.8
 FL	VNMG 160404N-FL	●	9.525	4.76	3.81	0.4
	160408N-FL	●				0.8
 FE	VNMG 160402N-FE	●	9.525	4.76	3.81	0.2
	160404N-FE	●				0.4
	160408N-FE	●				0.8
	160412N-FE	●				1.2
 LU	VNMG 160402N-LU	●	9.525	4.76	3.81	0.2
	160404N-LU	●				0.4
	160408N-LU	●				0.8
 SU	VNMG 160402N-SU	●	9.525	4.76	3.81	0.2
	160404N-SU	●				0.4
	160408N-SU	●				0.8
 SE	VNMG 160404N-SE	●	9.525	4.76	3.81	0.4
	160408N-SE	●				0.8
 EF	VNMG 160402N-EF	●	9.525	4.76	3.81	0.2
	160404N-EF	●				0.4
	160408N-EF	●				0.8
 SX	VNMG 160404N-SX	●	9.525	4.76	3.81	0.4
	160408N-SX	●				0.8
 GU	VNMG 160404N-GU	●	9.525	4.76	3.81	0.4
	160408N-GU	●				0.8

 Triangular type Negative Inserts / M-class

Shape	Cat. No.	Stock	Dimensions (mm)			
		T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FB	TNMG 160402N-FB	●	9.525	4.76	3.81	0.2
	160404N-FB	●				0.4
	160408N-FB	●				0.8
 FA	TNMG 160402N-FA	●	9.525	4.76	3.81	0.2
	160404N-FA	●				0.4
	160408N-FA	●				0.8
 FL	TNMG 160404N-FL	●	9.525	4.76	3.81	0.4
	160408N-FL	●				0.8
 FE	TNMG 160402N-FE	●	9.525	4.76	3.81	0.2
	160404N-FE	●				0.4
	160408N-FE	●				0.8
	160412N-FE	●				1.2
 LU	TNMG 160402N-LU	●	9.525	4.76	3.81	0.2
	160404N-LU	●				0.4
	160408N-LU	●				0.8
	160412N-LU	●				1.2
 SU	TNMG 160402N-SU	●	9.525	4.76	3.81	0.2
	160404N-SU	●				0.4
	160408N-SU	●				0.8
	160412N-SU	●				1.2
 SE	TNMG 160404N-SE	●	9.525	4.76	3.81	0.4
	160408N-SE	●				0.8
 EF	TNMG 160404N-EF	●	9.525	4.76	3.81	0.4
	160408N-EF	●				0.8
 SX	TNMG 160404N-SX	●	9.525	4.76	3.81	0.4
	160408N-SX	●				0.8
 GU	TNMG 160404N-GU	●	9.525	4.76	3.81	0.4
	160408N-GU	●				0.8
 UM	TNMG 160404R-UM	●	9.525	4.76	3.81	0.4
	160404L-UM	●				0.4
	160408R-UM	●				0.8
	160408L-UM	●				0.8

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Trigon type Negative Inserts / M-class

Shape	Cat. No.	Stock	Dimensions (mm)			
		T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FB	WNMG 060408N-FB	●	9.525	4.76	3.81	0.8
	WNMG 080402N-FB	●				0.2
	080404N-FB	●	12.7	4.76	5.16	0.4
	080408N-FB	●				0.8
 FA	WNMG 080402N-FA	●				0.2
	080404N-FA	●	12.7	4.76	5.16	0.4
	080408N-FA	●				0.8
		●				0.8
 FL	WNMG 080404N-FL	●	12.7	4.76	5.16	0.4
	080408N-FL	●				0.8
		●				0.8
		●				0.8
 FE	WNMG 060404N-FE	●	9.525	4.76	3.81	0.4
	060408N-FE	●				0.8
	WNMG 080402N-FE	●				0.2
	080404N-FE	●	12.7	4.76	5.16	0.4
 LU	080408N-FE	●				0.8
	080412N-FE	●				1.2
	WNMG 060404N-LU	●	9.525	4.76	3.81	0.4
	060408N-LU	●				0.8
 LUW	WNMG 080404N-LU	●	12.7	4.76	5.16	0.4
	080408N-LU	●				0.8
	080412N-LU	●				1.2
		●				0.8
 SU	WNMG 060404N-LUW	●	9.525	4.76	3.81	0.4
	060408N-LUW	●				0.8
	WNMG 080404N-LUW	●	12.7	4.76	5.16	0.4
	080408N-LUW	●				0.8
 SE	080412N-LUW	●				1.2
	WNMG 060404N-SU	●	9.525	4.76	3.81	0.4
	060408N-SU	●				0.8
	WNMG 080404N-SU	●	12.7	4.76	5.16	0.4
 SEW	080408N-SU	●				0.8
	080412N-SU	●				1.2
	WNMG 080404N-SE	●	12.7	4.76	5.16	0.4
	080408N-SE	●				0.8
 EF	WNMG 080404N-SEW	●	12.7	4.76	5.16	0.4
	080408N-SEW	●				0.8
	WNMG 060404N-EF	●	9.525	4.76	3.81	0.4
	060408N-EF	●				0.8
 SX	WNMG 080404N-EF	●	12.7	4.76	5.16	0.4
	080408N-EF	●				0.8
	WNMG 080404N-SX	●	12.7	4.76	5.16	0.4
	080408N-SX	●				0.8
 GU	WNMG 060408N-GU	●	9.525	4.76	3.81	0.8
	WNMG 080404N-GU	●	12.7	4.76	5.16	0.4
	080408N-GU	●				0.8
		●				0.8

80° Diamond type Positive Inserts / G-class

Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FC	7°	CCGT 060201MN-FC	●				< 0.1
		060202MN-FC	●	6.35	2.38	2.8	< 0.2
		060204MN-FC	●				< 0.4
		CCGT 09T301MN-FC	●				< 0.1
 SI	7°	09T302MN-FC	●	9.525	3.97	4.4	< 0.2
		09T304MN-FC	●				< 0.4
		CCGT 09T301MN-SI	●				< 0.1
		09T302MN-SI	●	9.525	3.97	4.4	< 0.2
		09T304MN-SI	●				< 0.4

80° Diamond type Positive Inserts / M-class

Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FB	7°	CCMT 060202N-FB	●	6.35	2.38	2.8	0.2
		060204N-FB	●				0.4
 FB	7°	CCMT 09T302N-FB	●				0.2
		09T304N-FB	●	9.525	3.97	4.4	0.4
 FB	7°	09T308N-FB	●				0.8
		CCMT 060202N-LU	●	6.35	2.38	2.8	0.2
 LU	7°	060204N-LU	●				0.4
		CCMT 09T304N-LU	●	9.525	3.97	4.4	0.4
 LU	7°	09T308N-LU	●				0.8
		CCMT 09T304N-LUW	●	9.525	3.97	4.4	0.4
 LUW	7°	09T308N-LUW	●				0.8
		CCMT 060202N-FP	●	6.35	2.38	2.8	0.2
 FP	7°	060208N-FP	●				0.8
		CCMT 09T302N-FP	●	9.525	3.97	4.4	0.2
 FP	7°	09T304N-FP	●				0.4
		CCMT 120404N-FP	●	12.7	4.76	5.5	0.4
 FP	7°	120408N-FP	●				0.8
		CCMT 060202N-LB	●	6.35	2.38	2.8	0.2
 LB	7°	060204N-LB	●				0.4
		060208N-LB	●				0.8
 LB	7°	CCMT 09T302N-LB	●	9.525	3.97	4.4	0.2
		09T304N-LB	●				0.4
 LB	7°	09T308N-LB	●				0.8
		CCMT 060202N-SU	●	6.35	2.38	2.8	0.2
 SU	7°	060204N-SU	●				0.4
		060208N-SU	●				0.8
 SU	7°	CCMT 09T302N-SU	●	9.525	3.97	4.4	0.2
		09T304N-SU	●				0.4
 SU	7°	09T308N-SU	●				0.8
		CCMT 060204N-GU	●	6.35	2.38	2.8	0.4
 GU	7°	060208N-GU	●				0.8
		CCMT 09T304N-GU	●	9.525	3.97	4.4	0.4
 GU	7°	09T308N-GU	●				0.8
		CPMT 080204N-FB	●	7.94	2.38	3.4	0.4
FB	11°	CPMT 090304N-FB	●	9.525	3.18	4.4	0.4
		090308N-FB	●				0.8
LU	11°	CPMT 080204N-LU	●	7.94	2.38	3.4	0.4
		CPMT 090304N-LU	●	9.525	3.18	4.4	0.4
LU	11°	090308N-LU	●				0.8
		CPMT 090304N-LUW	●	9.525	3.18	4.4	0.4
LUW	11°	090308N-LUW	●				0.8
		CPMT 080204N-LB	●	7.94	2.38	3.4	0.4
LB	11°	CPMT 090304N-LB	●	9.525	3.18	4.4	0.4
		090308N-LB	●				0.8
SU	11°	CPMT 080204N-SU	●	7.94	2.38	3.4	0.4
		CPMT 090304N-SU	●	9.525	3.18	4.4	0.4
SU	11°	090308N-SU	●				0.8
		CPMT 090304N-GU	●	9.525	3.18	4.4	0.4
GU	11°	090308N-GU	●				0.8
			●				

T2100Z

 55° Diamond type Positive Inserts / G-class

Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	7°	DCGT 070201MN-FC	●	6.35	2.38	2.8	< 0.1
		070202MN-FC	●				< 0.2
		070204MN-FC	●				< 0.4
	7°	DCGT 11T301MN-FC	●	9.525	3.97	4.4	< 0.1
		11T302MN-FC	●				< 0.2
		11T304MN-FC	●				< 0.4
	7°	DCGT 070201MN-SI	●	6.35	2.38	2.8	< 0.1
		070202MN-SI	●				< 0.2
		070204MN-SI	●				< 0.4
	7°	DCGT 11T301MN-SI	●	9.525	3.97	4.4	< 0.1
		11T302MN-SI	●				< 0.2
		11T304MN-SI	●				< 0.4
	7°	11T308MN-SI	●				< 0.8

 55° Diamond type Positive Inserts / M-class

Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	7°	DCMT 070202N-FB	●	6.35	2.38	2.8	0.2
		070204N-FB	●				0.4
		070208N-FB	●				0.8
	7°	DCMT 11T302N-FB	●	9.525	3.97	4.4	0.2
		11T304N-FB	●				0.4
		11T308N-FB	●				0.8
	7°	DCMT 070202N-LU	●	6.35	2.38	2.8	0.2
		070204N-LU	●				0.4
	7°	DCMT 11T302N-LU	●	9.525	3.97	4.4	0.2
		11T304N-LU	●				0.4
		11T308N-LU	●				0.8
	7°	DCMT 070202N-FP	●	6.35	2.38	2.8	0.2
		070204N-FP	●				0.4
	7°	DCMT 11T308N-FP	●	9.525	3.97	4.4	0.8
	7°	DCMT 070202N-LB	●	6.35	2.38	2.8	0.2
		070204N-LB	●				0.4
		070208N-LB	●				0.8
	7°	DCMT 11T302N-LB	●	9.525	3.97	4.4	0.2
		11T304N-LB	●				0.4
		11T308N-LB	●				0.8
	7°	DCMT 070202N-SU	●	6.35	2.38	2.8	0.2
		070204N-SU	●				0.4
		070208N-SU	●				0.8
	7°	DCMT 11T302N-SU	●	9.525	3.97	4.4	0.2
		11T304N-SU	●				0.4
		11T308N-SU	●				0.8
	7°	DCMT 070204N-GU	●	6.35	2.38	2.8	0.4
		070208N-GU	●				0.8
	7°	DCMT 11T302N-GU	●	9.525	3.97	4.4	0.2
		11T304N-GU	●				0.4
		11T308N-GU	●				0.8

 Square type Positive Inserts / M-class

Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
	7°	SCMT 09T304N-FB	●	9.525	3.97	4.4	0.4
		09T308N-FB	●				0.8
	7°	SCMT 09T304N-LU	●	9.525	3.97	4.4	0.4
		09T308N-LU	●				0.8
	7°	SCMT 09T304N-FP	●	9.525	3.97	4.4	0.4
		09T308N-FP	●				0.8
	7°	SCMT 120404N-FP	●	12.7	4.76	5.5	0.4
		120408N-FP	●				0.8
	7°	SCMT 09T304N-LB	●	9.525	3.97	4.4	0.4
		09T308N-LB	●				0.8
	11°	SPMT 090304N-FB	●	9.525	3.18	3.4	0.4
		090308N-FB	●				0.8
	11°	SPMT 090304N-LU	●	9.525	3.18	3.4	0.4
		090308N-LU	●				0.8
	11°	SPMT 090304N-LB	●	9.525	3.18	3.4	0.4
		090308N-LB	●				0.8

T2100Z

Square type Positive Inserts / M-class (Without Hole)

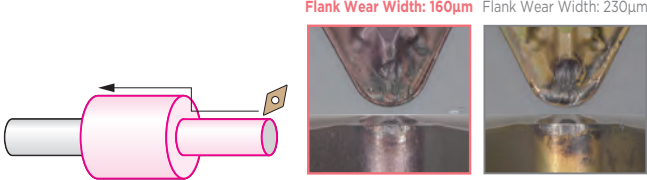
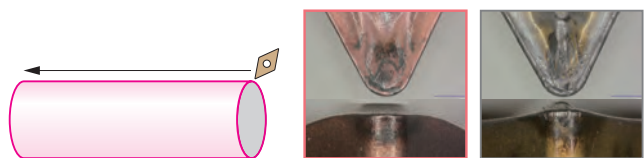
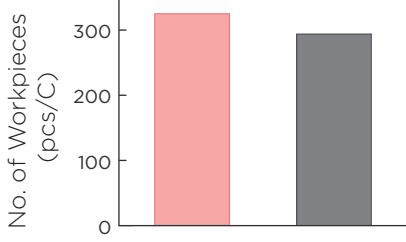
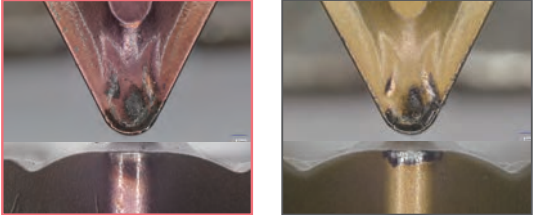
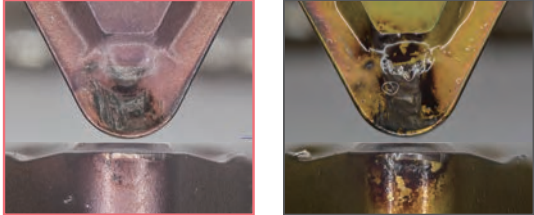
Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FK	11°	SPMR 090304N-FK	●	9.525	3.18	-	0.4
		090308N-FK	●				0.8
	11°	SPMR 120304N-FK	●	12.7	3.18	-	0.4
		120308N-FK	●				0.8

Triangular type Positive Inserts / M-class (Without Hole)

Shape	Relief Angle	Cat. No.	Stock	Dimensions (mm)			
			T2100Z	Inscribed Circle	Thickness	Hole Dia.	Corner Radius
 FK	11°	TPMR 090204N-FK	●	5.56	2.38	-	0.4
		TPMR 110302N-FK	●				0.2
	11°	110304N-FK	●	6.35	3.18	-	0.4
		110308N-FK	●				0.8
	11°	TPMR 160304N-FK	●	9.525	3.18	-	0.4
		160308N-FK	●				0.8
		160312N-FK	●				1.2

T2100Z

Application Examples

SCM420H Shaft P Fracture suppressed for stable machining compared to competitor's coated cermet  T2100Z+FE (400 pcs/C) Competitor's Grade A (P20 CVD cermet) (200 pcs/C) Tool: DNMG150408N-FE (T2100Z) Continuous turning Cutting Conditions: $v_c = 350\text{m/min}$ $f = 0.2\text{--}0.5\text{mm/rev}$ $a_p = 0.2\text{--}0.8\text{mm}$ Wet	SCM420H Shaft P Flank wear suppressed compared to conventional coated cermet  Flank Wear Width: 160µm Flank Wear Width: 230µm T2100Z+FE (400 pcs/C) Conventional Grade (P20 PVD cermet) (400 pcs/C) Tool: DNMG150408N-FE (T2100Z) Continuous turning Cutting Conditions: $v_c = 350\text{m/min}$ $f = 0.2\text{--}0.3\text{mm/rev}$ $a_p = 0.2\text{--}1.0\text{mm}$ Wet
SCM420H Automotive Component P Flank wear suppressed compared to competitor's coated cermet  Flank Wear Width: 60µm Flank Wear Width: 140µm T2100Z+SE (100 pcs/C) Competitor's Grade B (P20 CVD cermet) (100 pcs/C) Tool: DNMG150408N-SE (T2100Z) Continuous turning Cutting Conditions: $v_c = 260\text{m/min}$ $f = 0.1\text{--}0.2\text{mm/rev}$ $a_p = 0.33\text{mm}$ Wet	S53C Hub P Stable and 1.1x longer tool life compared to conventional coated cermet (P30)  No. of Workpieces (pcs/C) T2100Z+FL (325 pcs/C) Conventional Grade (P30 PVD cermet) (300 pcs/C) Tool: DNMG150408N-FL (T2100Z) Continuous turning Cutting Conditions: $v_c = 300\text{m/min}$ $f = 0.3\text{mm/rev}$ $a_p = 0.15\text{mm}$ Wet
SPHD Frame P Stable machining and flank wear suppressed compared to coated carbide (P20)  T2100Z+SE (120 pcs/C) Conventional Grade (P20 CVD carbide) (120 pcs/C) Tool: DNMG150404N-SE (T2100Z) Continuous turning Cutting Conditions: $v_c = 350\text{m/min}$ $f = 0.1\text{--}0.2\text{mm/rev}$ $a_p = 1.0\text{mm}$ Wet	SPHD Frame P Flank wear suppressed compared to conventional coated cermet  T2100Z+LU (50 pcs/C) Conventional Grade (P20 PVD cermet) (50 pcs/C) Tool: DNMG150408N-LU (T2100Z) Continuous turning Cutting Conditions: $v_c = 300\text{m/min}$ $f = 0.1\text{--}0.3\text{mm/rev}$ $a_p = 0.3\text{mm}$ Wet

T2100Z

■ Recommended Cutting Conditions

Work Material	Application	Grade	Cutting Conditions			Min. - Optimum - Max.
			Depth of Cut ap (mm)	Feed Rate f (mm/rev)	Cutting Speed vc (m/min)	
Mild Steel (SS400, etc.)	Continuous to General-purpose	T2100Z	0.2 - 1.0 - 2.5	0.05 - 0.15 - 0.25	50 - 250 - 400	
	Interrupted	T2100Z	0.2 - 1.0 - 2.5	0.05 - 0.15 - 0.30	50 - 200 - 350	
	Heavy Interrupted	T2100Z	0.2 - 1.0 - 2.5	0.10 - 0.15 - 0.35	50 - 200 - 300	
Low Carbon Steel Low-alloy Steel (S10C, SCM415, etc.)	Continuous to General-purpose	T2100Z	0.2 - 1.0 - 2.5	0.05 - 0.15 - 0.25	50 - 200 - 350	
	Interrupted	T2100Z	0.2 - 1.0 - 2.5	0.05 - 0.15 - 0.30	50 - 180 - 300	
	Heavy Interrupted	T2100Z	0.2 - 1.0 - 2.5	0.10 - 0.15 - 0.35	50 - 180 - 280	
High Carbon Steel High-alloy Steel (S45C, SCM440H, etc.)	Continuous to General-purpose	T2100Z	0.2 - 1.0 - 2.5	0.05 - 0.15 - 0.25	50 - 180 - 300	
	Interrupted	T2100Z	0.2 - 1.0 - 2.5	0.05 - 0.15 - 0.30	50 - 150 - 280	
	Heavy Interrupted	T2100Z	0.2 - 1.0 - 2.5	0.10 - 0.15 - 0.35	50 - 150 - 250	

■ Characteristic Values

Work Material	Grade	Hardness (HRA)	TRS (GPa)	Coating type	Coating Thickness (μm)	Features
	T2100Z	92.0	2.2	ABSOTECH	3	• Our 1st recommended cermet grade for turning steel • With high stability through the use of a tough new substrate, this general-purpose grade supports various kinds of machining

MEMO

A large rectangular area filled with a uniform grid of small dots, intended for writing or drawing. The grid consists of 20 columns and 30 rows of dots.

MEMO



- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

< SAFETY NOTES >

- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.



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