WE CREATE YOUR TOMORROW!

Optimal grade for high precision machining

CN1500

The leading Cermet series for next generation

- High wear resistance even in high speed machining
- Equalized substrate improves chipping resistance.
- Application of the grade to an optimal cutting edge increases surface roughness.

KORLOY

CN1500

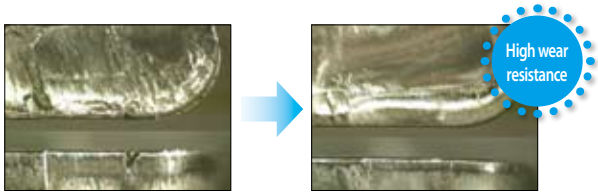
The leading Cermet series for next generation

CN1500

- High wear resistance + High chipping resistance + Excellent surface finish

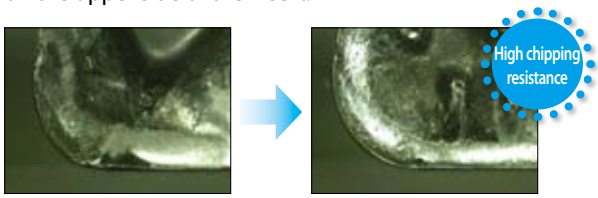
Features

- High wear resistance in high speed machining over vc 250m/min.



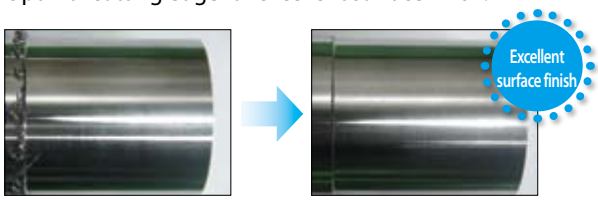
[Competitor A's] [CN1500]

- Equalized substrate, TiCN prevents chipping on the upper side of the insert.



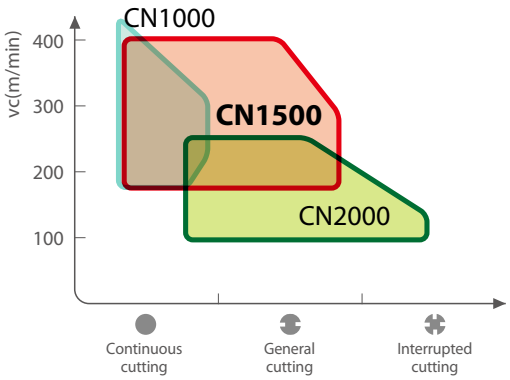
[Competitor A's] [CN1500]

- Optimal cutting edge for excellent surface finish.



[Competitor A's] [CN1500]

Grade line-up



Comparison of cermet grades

* 1st recommended grade

KORLOY	Competitor A	Competitor B	Competitor C	Competitor D
* **CN1500** **CN2000**	CT3000	TN60 TN6020	NS530 NS540	T1500A

Application guideline for cermet grade

- In continuous machining, CN1500 is recommended.
- In general machining, CN1500 and the CN2000 is recommended for higher toughness.
- In interrupted machining, CN2000 is recommended.

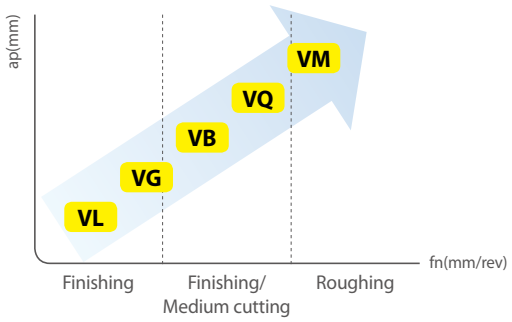
Cutting conditions

* Based on application to the CNMG120408-VQ

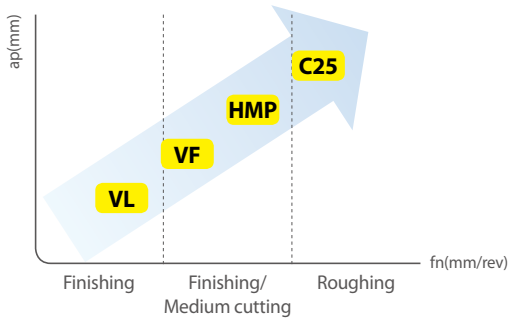
Workpiece	Grade	Nose R	Recommended cutting speed	Max. ap	Max. fn
C10	CN1500	08	150 < 270 < 400	1.5	0.3
	CN2000	08	130 < 240 < 350	1.5	0.3
C45	CN1500	08	150 < 250 < 350	1.5	0.25
	CN2000	08	130 < 220 < 300	1.5	0.25
42CrMo4 Sintered metal(Sintered Fe)	CN1500	08	120 < 220 < 300	1.5	0.22
	CN2000	08	100 < 200 < 250	1.5	0.22

Chip breaker line-up

- **Negative type**



- **Positive type**



Comparison of chip breakers

Type	Machining types	Application range	Chip breaker				
			KORLOY	Competitor A	Competitor B	Competitor C	Competitor D
Negative type	Continuous cutting	For continuous machining, Excellent chip control	VL	FA	GP	TF	FA
	Continuous cutting	For continuous machining Higher cutting edge strength than VL	VG	FG	XP	TSF	LU
	Low interrupted cutting	For low interrupted machining Higher cutting edge strength than VG	VB	FG	CQ	TS	SE
	Low interrupted cutting	Optimal for low interrupted medium roughing	VQ	MC	HQ	AS, ZM	SU
	High interrupted cutting	Optimal for high interrupted medium roughing	VM	MT	HS	TM	GU
Positive type	Continuous cutting	Optimal for mild steel machining, Excellent chip control	VL	FA	GP	PF	FP
	Continuous cutting	Superior chip control in internal machining Higher cutting edge strength than VL	VF	FG-PC	HQ	PS	LU
	Low interrupted cutting	Optimal for low interrupted finishing to medium cutting	HMP	FG	HQ	PM	SU
	High interrupted cutting	Optimal for high interrupted roughing to medium cutting	C25	MT	GK	24	SC

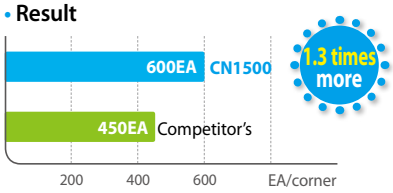
CN1500

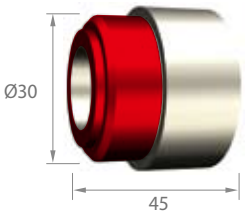
Cutting performance

P Carbon steel (C45)

- **Cutting conditions** vc(m/min) = 200
  n(rpm) = 1,800
  fn(mm/rev) = 0.1
  ap(mm) = 0.3
  wet
- **Tools** Insert CCMT09T304-HMP
  Holder SCLCR2020-K09

- **Result**

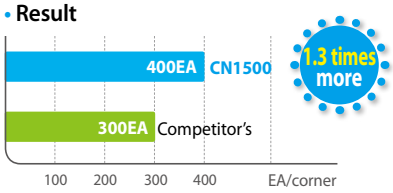


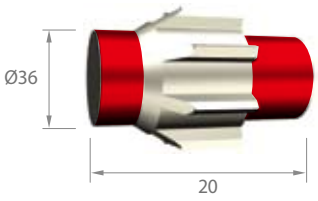


P Carbon steel (C45)

- **Cutting conditions** vc(m/min) = 300
  n(rpm) = 2,200
  fn(mm/rev) = 0.15
  ap(mm) = 0.2
  wet
- **Tools** Insert TPMT110304-VQ
  Holder S10M-STFPR-11

- **Result**

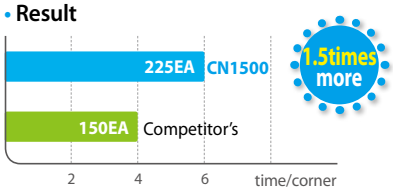


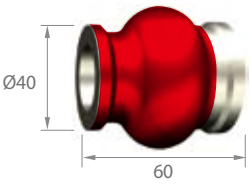


P Carbon steel (C45)

- **Cutting conditions** vc(m/min) = 250
  n(rpm) = 2,500
  fn(mm/rev) = 0.14
  ap(mm) = 1.0
  wet
- **Tools** Insert VBMT160404-VQ
  Holder SVABL2020-K16

- **Result**

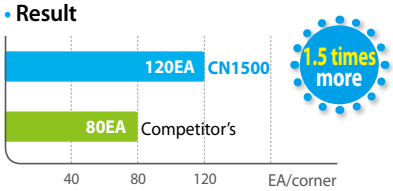


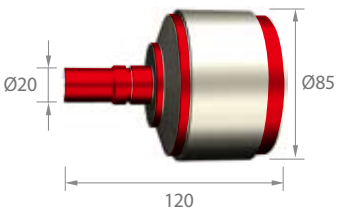


P Carbon steel (C55)

- **Cutting conditions** vc(m/min) = 270
  n(rpm) = 1,500
  fn(mm/rev) = 0.2
  ap(mm) = 0.6
  wet
- **Tools** Insert DNMG150408-VM
  Holder MDJNR2525-M15

- **Result**

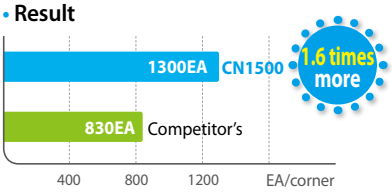


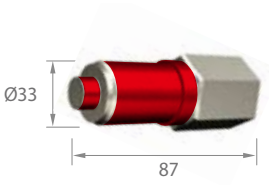


P Alloy steel (34CrMo4)

- **Cutting conditions** vc(m/min) = 230
  n(rpm) = 2,000
  fn(mm/rev) = 0.12
  ap(mm) = 0.8
- **Tools** Insert TNMG160404-VQ
  Holder DTGNR3232-P16

- **Result**

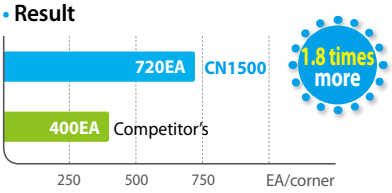


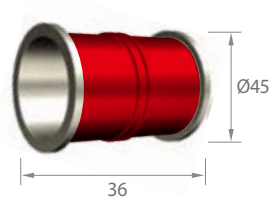


P Alloy steel (42CrMo4)

- **Cutting conditions** vc(m/min) = 223
  n(rpm) = 2,100
  fn(mm/rev) = 0.16
  ap(mm) = 0.5
- **Tools** Insert WNMG080408-VL
  Holder PWLNR2525-M08

- **Result**

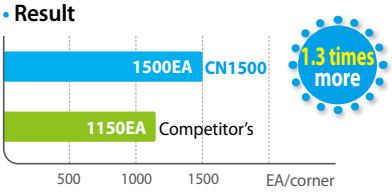


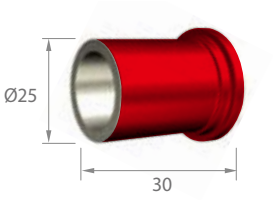


P Bearing steel (B1)

- **Cutting conditions** vc(m/min) = 200
  n(rpm) = 2,500
  fn(mm/rev) = 0.1
  ap(mm) = 0.3
- **Tools** Insert DCMT11T302-VF
  Holder SDJCR2525-M11

- **Result**

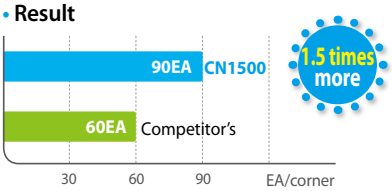


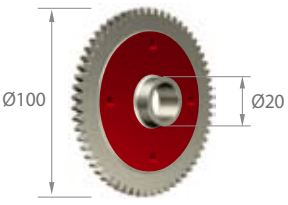


P Sintered Metal (Sintered Fe)

- **Cutting conditions** vc(m/min) = 160
  n(rpm) = 1,200
  fn(mm/rev) = 0.17
  ap(mm) = 0.2
- **Tools** Insert SNMG120408-VM
  Holder MSRNR2525-M12

- **Result**

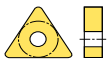


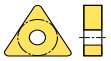


CN1500

Stock status

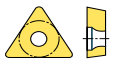
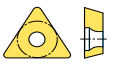
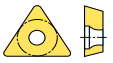
• Negative type

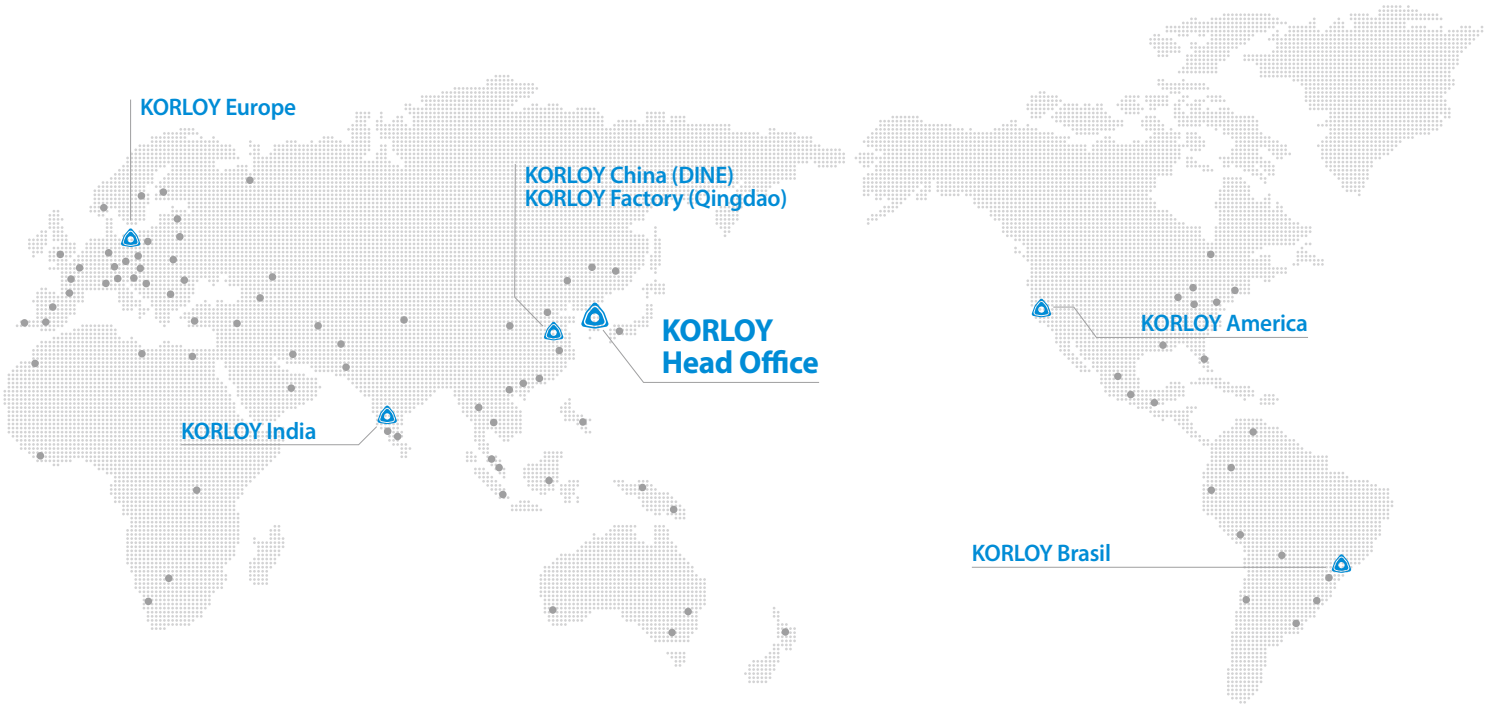
Inserts	Designation		Application	Stock CN1500
CNMG-□□	CNMG	120408-VB	Finishing	●
		120404-VG		●
		120408-VG		●
		120404-VL		●
		120408-VL		●
		120404-VQ	Medium cutting	●
		120408-VQ		●
		120408-GM	Roughing	●
		120404-VM		●
		120408-VM		●
DNMG-□□	DNMG	150408-VB	Finishing	●
		150608-VB		●
		150604-VG		●
		150608-VG		●
		150604-VL		●
		150608-VL		●
		110404-VQ	Medium cutting	●
		150404-VQ		●
		150408-VQ		●
		150604-VQ		●
		150608-VQ		●
		150408-GM	Roughing	●
		150404-VM		●
		150408-VM		●
		150604-VM		●
		150608-VM		●
SNMG-□□	SNMG	120404-VQ	Medium cutting	●
		120408-VQ		●
		120408-GM	Roughing	●
		120404-VM		●
		120408-VM		●
	TNGG	160404L	Medium to finishing	●
		160404R		●

Inserts	Designation		Application	Stock CN1500
 TNMG-□□	TNMG	110304-VF	Finishing	●
		160404-VF		●
		160404-VG		●
		160408-VG		●
		160404-VL		●
		160408-VL		●
		160404-VM	Medium cutting	●
		160408-VM		●
		160412-VM	Roughing	●
		160404-VQ		●
		160408-VQ		●
VNMG-□□	VNMG	160404-VF	Finishing	●
		160408-VF		●
		160404-VG		●
		160408-VG		●
		160404-VL		●
		160408-VL		●
		160404-VC	Medium cutting	●
		160408-VC		●
		160404-VQ		●
		160408-VQ		●
		160404-GM	Roughing	●
		160408-GM		●
		160404-VM		●
		160408-VM		●
	WNMG	80404-VG	Finishing	●
		80408-VG		●

• Positive type

Inserts	Designation		Application	Stock CN1500
CCMT-□□	CCMT	060204-VL	Finishing	●
		09T304-VL		●
		09T308-VL		●
		09T304-VF		●
		060202-HMP	Medium cutting	●
		060204-HMP		●
		09T304-HMP		●
		09T308-HMP		●
		060202-C25	Roughing	●
		060204-C25		●
		09T304-C25		●
		09T308-C25		●
	CPGT	080204	Medium to finishing	●
		090304		●
DCMT-□□	DCMT	070204-VL	Finishing	●
		11T304-VL		●
		11T308-VL		●
		11T302-VF		●
		11T304-VF		●
		070202-HMP	Medium cutting	●
		070204-HMP		●
		11T304-HMP		●
		11T308-HMP		●
		070204-C25	Roughing	●
		11T302-C25		●
		11T304-C25		●

Inserts	Designation		Application	Stock CN1500
SCMT-□□	SCMT	09T304-VL	Finishing	●
		09T308-VL		●
		09T304-HMP	Medium cutting	●
		09T308-HMP		●
		09T304-C25	Roughing	●
	SPGA	090308T	Medium to finishing	●
 TCMT-□□	TCMT	110204-B25	Roughing	●
		110204-C25		●
		16T304-C25		●
		16T308-C25		●
	TPGH	080204L	Medium to finishing	●
	TPGT	110304L		●
 TPMT-□□	TPMT	110304-VL	Finishing	●
		110304-VQ	Medium cutting	●
		110304-VM	Roughing	●
VBMT-□□	VBMT	160404-VF	Finishing	●
		160408-VF		●
		160404-VL		●
		160408-VL		●
		160404-VB	Medium cutting	●
		160408-VB		●



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• Please refer to stock management of cutters and detail dimensions in the 2014 catalogue

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20140910
TN23-EM-01