

**ISO
Turning
Grade**

New leader of steel turning

New

NC3010

Features

- NC3010 is newly innovated grade for steel turning at high speed operation(P10).
- Thanks to high tensile strength substrate & new CVD coated technology, NC3010 performs stable operation at high speed.
- Superb wear resistance and toughness of NC3010 guarantee better tool life comparing conventional NC3010.

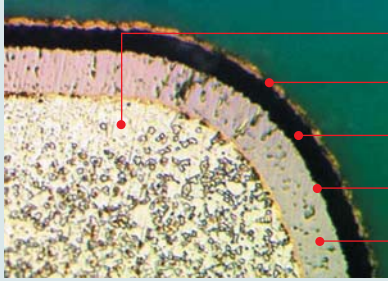




NC3010 ^{New}

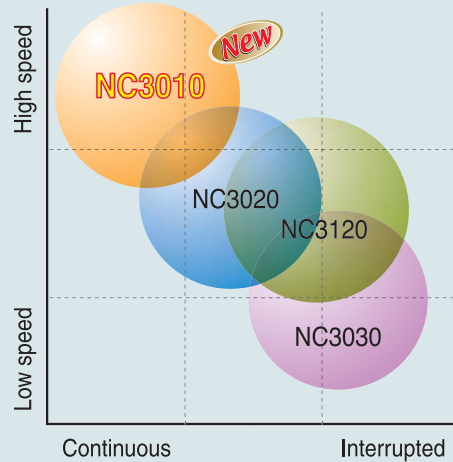
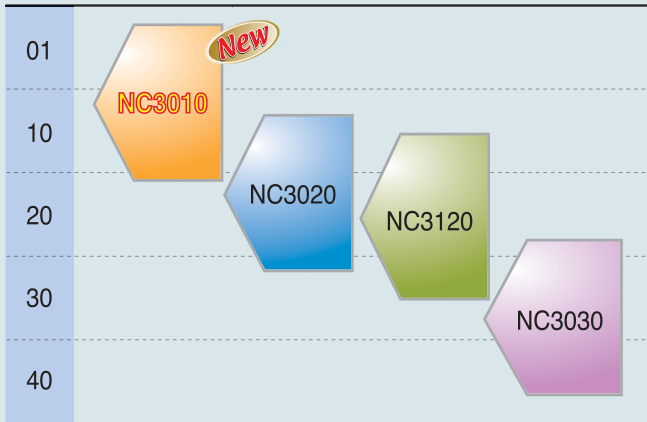
NC 3010^{New} Gold coated | NC3000 series | Recommended cutting condition

NC 3010^{New} Gold coated



- High tensile substrate with reinforced layer mechanism
- Applied TiN layer with fine surface, lubrication and clearly visible wear on cutting edge
- New Al₂O₃ film shows oxidation resistance in high speed turning
- Excellent bonding power of film is achieved
- Columnar MT-CVD film with improved wear resistance and toughness

NC3000 series



Recommended cutting condition

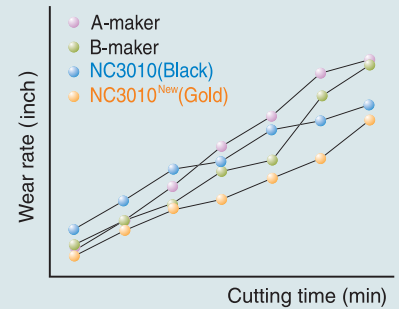
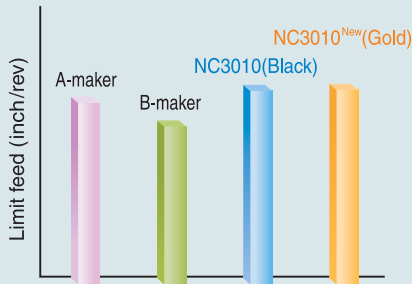
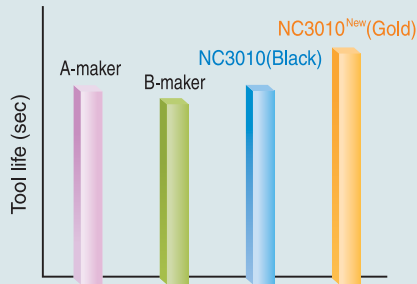
Condition \ Grade	Cutting speed (ft/min)					Feed (in/rev)					Depth of cut (inch)				
	100 ~ 300	300 ~ 600	600 ~ 1000	1000 ~ 1300	1300 ~	0.001 ~ 0.004	0.004 ~ 0.008	0.008 ~ 0.01	0.01 ~ 0.015	0.015 ~	0.004 ~ 0.04	0.04 ~ 0.08	0.08 ~ 0.12	0.12 ~ 0.16	0.16 ~
NC3010 ^{New}															



NC3010 ^{New}

Cutting performance | Machining examples

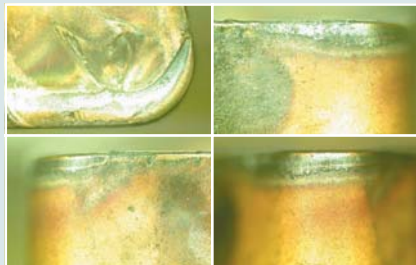
NC3010^{New} Cutting performance



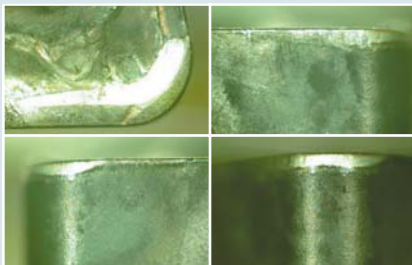
• Impact resistance, Dry
4140-4G, sfm=750, fn=0.01, ap=0.08

• Limit feed (inch/rev), Dry
4140-4G, sfm=100, ap=0.08

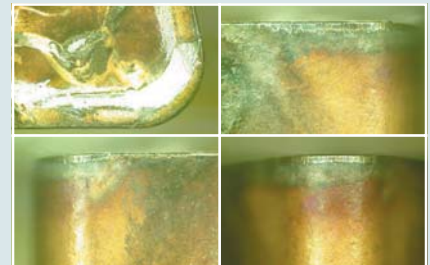
• Wear resistance (inch), Wet
4140, sfm=300, fn=0.01, ap=0.08



B-maker



NC3010(Black)



NC3010^{New}(Gold)

NC3010^{New} Machining examples

Insert	DNMG442-VM	
Workpiece	Gear(4147)	
sfm	800ft/min	
fn	0.006~0.01in/rev	
ap	0.08inch	
Coolant	Wet	

Insert	CNMG432-VM	
Workpiece	Automobile part (1045)	
sfm	850ft/min	
fn	0.01in/rev	
ap	0.1inch	
Coolant	Wet	

Insert	DNMG442-VM	
Workpiece	Automobile part (Forged steel)	
sfm	650~1000ft/min	
fn	0.009in/rev	
ap	0.4inch	
Coolant	Wet	

Insert	DNMG442-VM	
Workpiece	Automobile part (1045)	
sfm	1200~1400ft/min	
fn	0.01in/rev	
ap	0.08inch	
Coolant	Wet	



NC3010^{New} Stock items

Old inserts(NC310, NC3015) covered by NC3010 ^{New} (Gold)				NC3010 ^{New} (Gold) Insert	
Designation	Grade	Designation	Grade	Designation	Grade
CCMT21.50.5-HMP	NC3015			CCMT21.50.5-HMP	NC3010
CCMT21.51-C25	NC3015	CCMT21.51-C25	NC310	CCMT21.51-C25	NC3010
CCMT21.51-HMP	NC3015	CCMT21.51-HMP	NC310	CCMT21.51-HMP	NC3010
CCMT21.52-HMP	NC3015			CCMT21.52-HMP	NC3010
CCMT32.50.5-HMP	NC3015			CCMT32.50.5-HMP	NC3010
CCMT32.51-C25	NC3015	CCMT32.51-C25	NC310	CCMT32.51-C25	NC3010
CCMT32.51-HMP	NC3015	CCMT32.51-HMP	NC310	CCMT32.51-HMP	NC3010
		CCMT32.52-C25	NC310	CCMT32.52-C25	NC3010
CCMT32.52-HMP	NC3015	CCMT32.52-HMP	NC310	CCMT32.52-HMP	NC3010
CCMT431-C25	NC3015			CCMT431-C25	NC3010
CCMT431-HMP	NC3015			CCMT431-HMP	NC3010
CCMT432-C25	NC3015			CCMT432-C25	NC3010
CCMT432-HMP	NC3015	CCMT432-HMP	NC310	CCMT432-HMP	NC3010
		CNMA432	NC310	CNMA432	NC3010
		CNMA433	NC310	CNMA433	NC3010
		CNMA543	NC310	CNMA543	NC3010
CNMG321-HF	NC3015			CNMG321-VF	NC3010
CNMG321-HM	NC3015			CNMG321-VM	NC3010
CNMG322-HM	NC3015			CNMG322-VM	NC3010
CNMG431-B25	NC3015	CNMG431-B25	NC310	CNMG431-B25	NC3010
CNMG431-HC	NC3015			CNMG431-HC	NC3010
		CNMG431-HF	NC310	CNMG431-VF	NC3010
CNMG431-HM	NC3015	CNMG431-HM	NC310	CNMG431-VM	NC3010
CNMG431-HW	NC3015			CNMG431-VW	NC3010
CNMG432-B25	NC3015	CNMG432-B25	NC310	CNMG432-B25	NC3010
CNMG432-B25K	NC3015			CNMG432-B25K	NC3010
CNMG432-GM	NC3015	CNMG432-GM	NC310	CNMG432-GM	NC3010
CNMG432-GR	NC3015	CNMG432-GR	NC310	CNMG432-GR	NC3010
CNMG432-HC	NC3015	CNMG432-HC	NC310	CNMG432-HC	NC3010
CNMG432-HM	NC3015	CNMG432-HM	NC310	CNMG432-VM	NC3010
CNMG432-HR	NC3015			CNMG432-HR	NC3010
CNMG432-HW	NC3015			CNMG432-LW, VW	NC3010
				CNMG432-VF	NC3010
CNMG433-B25	NC3015			CNMG433-B25	NC3010
		CNMG433-GM	NC310	CNMG433-GM	NC3010
		CNMG433-GR	NC310	CNMG433-GR	NC3010
CNMG433-HM	NC3015			CNMG433-VM	NC3010
CNMG433-HR	NC3015			CNMG433-HR	NC3010
CNMG433-HW	NC3015			CNMG433-LW	NC3010
CNMG542-B25	NC3015			CNMG542-B25	NC3010
		CNMG542-GR	NC310	CNMG542-GR	NC3010
CNMG542-HM	NC3015			CNMG542-VM	NC3010
CNMG542-HR	NC3015			CNMG542-HR	NC3010
CNMG543-GR	NC3015	CNMG543-GR	NC310	CNMG543-GR	NC3010
CNMG543-HR	NC3015			CNMG543-HR	NC3010
CNMG544-HR	NC3015			CNMG544-HR	NC3010
CNMG641-B25	NC3015			CNMG641-B25	NC3010



NC3010 ^{New}

NC3010^{New} Stock items

Old inserts(NC310, NC3015) covered by NC3010 ^{New} (Gold)				NC3010 ^{New} (Gold) Insert	
Designation	Grade	Designation	Grade	Designation	Grade
CNMG642-B25	NC3015			CNMG642-B25	NC3010
CNMG642-HR	NC3015			CNMG642-HR	NC3010
CNMG643-B25	NC3015			CNMG643-B25	NC3010
CNMG643-GR	NC3015	CNMG643-GR	NC310	CNMG643-GR	NC3010
CNMG643-HR	NC3015			CNMG643-HR	NC3010
CNMG644-B25	NC3015			CNMG644-B25	NC3010
		CNMG644-GR	NC310	CNMG644-GR	NC3010
CNMG644-HR	NC3015			CNMG644-HR	NC3010
CNMM643-GH	NC3015	CNMM643-GH	NC310	CNMM643-GH	NC3010
DCGT32.52-HFP	NC3015			DCGT32.52-HFP	NC3010
DCMT21.50.5-HMP	NC3015			DCMT21.50.5-HMP	NC3010
DCMT21.51-HMP	NC3015			DCMT21.51-HMP	NC3010
DCMT21.52-HMP	NC3015			DCMT21.52-HMP	NC3010
DCMT32.50.5-HMP	NC3015			DCMT32.50.5-HMP	NC3010
DCMT32.51-C25	NC3015	DCMT32.51-C25	NC310	DCMT32.51-C25	NC3010
DCMT32.51-HMP	NC3015	DCMT32.51-HMP	NC310	DCMT32.51-HMP	NC3010
DCMT32.52-C25	NC3015	DCMT32.52-C25	NC310	DCMT32.52-C25	NC3010
DCMT32.52-HMP	NC3015			DCMT32.52-HMP	NC3010
		DNMA442	NC310	DNMA442	NC3010
DNMG331-HM	NC3015			DNMG331-VM	NC3010
	NC3015	DNMG332-GM	NC310	DNMG332-GM	NC3010
DNMG332-HM	NC3015			DNMG332-VM	NC3010
DNMG431-HC	NC3015			DNMG431-HC	NC3010
		DNMG431-HF	NC310	DNMG431-VF	NC3010
DNMG431-HM	NC3015			DNMG431-VM	NC3010
DNMG432-HC	NC3015			DNMG432-HC	NC3010
DNMG432-HM	NC3015			DNMG432-VM	NC3010
DNMG441-B25	NC3015			DNMG441-B25	NC3010
DNMG441-HC	NC3015			DNMG441-HC	NC3010
DNMG441-HF	NC3015			DNMG441-VF	NC3010
DNMG441-HM	NC3015	DNMG441-HM	NC310	DNMG441-VM	NC3010
DNMG442-B25	NC3015	DNMG442-B25	NC310	DNMG442-B25	NC3010
DNMG442-GM	NC3015	DNMG442-GM	NC310	DNMG442-GM	NC3010
		DNMG442-GR	NC310	DNMG442-GR	NC3010
DNMG442-HC	NC3015			DNMG442-HC	NC3010
DNMG442-HF	NC3015			DNMG442-VF	NC3010
DNMG442-HM	NC3015	DNMG442-HM	NC310	DNMG442-VM	NC3010
DNMG442-HR	NC3015			DNMG442-HR	NC3010
DNMG443-GM	NC3015			DNMG443-GM	NC3010
		DNMG443-HF	NC310	DNMG443-VF	NC3010
DNMG443-HM	NC3015			DNMG443-VM	NC3010
DNMG443-HR	NC3015			DNMG443-HR	NC3010
KNUX160405-L11	NC3015	KNUX160405-L11	NC310	KNUX160405-L11	NC3010
KNUX160405-R11	NC3015	KNUX160405-R11	NC310	KNUX160405-R11	NC3010
KNUX160405-R12	NC3015			KNUX160405-R12	NC3010
KNUX160410-L11	NC3015			KNUX160410-L11	NC3010



NC3010 ^{New}

NC3010^{New} Stock items

Old inserts(NC310, NC3015) covered by NC3010 ^{New} (Gold)				NC3010 ^{New} (Gold) Insert	
Designation	Grade	Designation	Grade	Designation	Grade
MGMN300-M	NC3015			MGMN300-M	NC3010
RCMX2006M0	NC3015			RCMX2006M0	NC3010
				SCGT32.51-HFP	NC3010
				SCMT32.51-HFP	NC3010
SCMT32.52-C25	NC3015	SCMT32.52-C25	NC310	SCMT32.52-C25	NC3010
SCMT32.52-HMP	NC3015			SCMT32.52-HMP	NC3010
SCMT431-HMP	NC3015			SCMT431-HMP	NC3010
		SCMT432-C25	NC310	SCMT432-C25	NC3010
SCMT432-HMP	NC3015			SCMT432-HMP	NC3010
		SNMA432	NC310	SNMA432	NC3010
		SNMA433	NC310	SNMA433	NC3010
				SNMA856T	NC3010
SNMG321-HM	NC3015			SNMG321-VM	NC3010
SNMG322-HM	NC3015			SNMG322-VM	NC3010
SNMG431-B25	NC3015			SNMG431-B25	NC3010
SNMG431-HC	NC3015			SNMG431-HC	NC3010
SNMG431-HF	NC3015			SNMG431-VF	NC3010
SNMG431-HM	NC3015			SNMG431-VM	NC3010
SNMG432-B25	NC3015	SNMG432-B25	NC310	SNMG432-B25	NC3010
		SNMG432-GM	NC310	SNMG432-GM	NC3010
		SNMG432-GR	NC310	SNMG432-GR	NC3010
SNMG432-HC	NC3015			SNMG432-HC	NC3010
		SNMG432-HF	NC310	SNMG432-VF	NC3010
SNMG432-HM	NC3015	SNMG432-HM	NC310	SNMG432-VM	NC3010
SNMG433-HM	NC3015			SNMG433-VM	NC3010
SNMG433-HR	NC3015			SNMG433-HR	NC3010
SNMG542-HR	NC3015			SNMG542-HR	NC3010
SNMG543-GR	NC3015			SNMG543-GR	NC3010
SNMG543-HR	NC3015			SNMG543-HR	NC3010
SNMG642-B25	NC3015			SNMG642-B25	NC3010
SNMG642-HR	NC3015			SNMG642-HR	NC3010
SNMG643-B25	NC3015			SNMG643-B25	NC3010
SNMG643-HR	NC3015			SNMG643-HR	NC3010
SNMG644-B25	NC3015			SNMG644-B25	NC3010
SNMG644-HR	NC3015			SNMG644-HR	NC3010
				SNMG854-B25	NC3010
		SNMM644-GH	NC310	SNMM644-GH	NC3010
		SPGN422	NC310	SPGN422	NC3010
SPMR321-F	NC3015			SPMR321-F	NC3010
SPMR322-M	NC3015			SPMR322-M	NC3010
SPMR421-F	NC3015			SPMR421-F	NC3010
SPMR422-M	NC3015	SPMR422-M	NC310	SPMR422-M	NC3010
TCMT1.81.51-C25	NC3015	TCMT1.81.51-C25	NC310	TCMT1.81.51-C25	NC3010
TCMT1.81.52-C25	NC3015			TCMT1.81.52-C25	NC3010
TCMT21.51-C25	NC3015	TCMT21.51-C25	NC310	TCMT21.51-C25	NC3010
TCMT21.51-HMP	NC3015	TCMT21.51-HMP	NC310	TCMT21.51-HMP	NC3010
		TCMT21.52-C25	NC310	TCMT21.52-C25	NC3010



NC3010 New

NC3010^{New} Stock items

Old inserts(NC310, NC3015) covered by NC3010 ^{New} (Gold)				NC3010 ^{New} (Gold) Insert	
Designation	Grade	Designation	Grade	Designation	Grade
TCMT21.52-HMP	NC3015			TCMT21.52-HMP	NC3010
TCMT32.51-C25	NC3015	TCMT32.51-C25	NC310	TCMT32.51-C25	NC3010
TCMT32.51-HMP	NC3015	TCMT32.51-HMP	NC310	TCMT32.51-HMP	NC3010
TCMT32.52-C25	NC3015	TCMT32.52-C25	NC310	TCMT32.52-C25	NC3010
TCMT32.52-HMP	NC3015	TCMT32.52-HMP	NC310	TCMT32.52-HMP	NC3010
				TCMX432EN-X156	NC3010
		TNMA332	NC310	TNMA332	NC3010
		TNMA432	NC310	TNMA432	NC3010
		TNMA433	NC310	TNMA433	NC3010
TNMG222-HM	NC3015			TNMG222-VM	NC3010
TNMG331-B25	NC3015			TNMG331-B25	NC3010
		TNMG331-GM	NC310	TNMG331-GM	NC3010
TNMG331-HC	NC3015	TNMG331-HC	NC310	TNMG331-HC	NC3010
TNMG331-HF	NC3015	TNMG331-HF	NC310	TNMG331-VF	NC3010
TNMG331-HM	NC3015	TNMG331-HM	NC310	TNMG331-VM	NC3010
TNMG332-B25	NC3015	TNMG332-B25	NC310	TNMG332-B25	NC3010
		TNMG332-GM	NC310	TNMG332-GM	NC3010
		TNMG332-GR	NC310	TNMG332-GR	NC3010
TNMG332-HC	NC3015	TNMG332-HC	NC310	TNMG332-HC	NC3010
TNMG332-HM	NC3015	TNMG332-HM	NC310	TNMG332-VM	NC3010
TNMG332-HR	NC3015			TNMG332-HR	NC3010
				TNMG332-VF	NC3010
TNMG333-HM	NC3015			TNMG333-VM	NC3010
TNMG431-B25	NC3015			TNMG431-B25	NC3010
TNMG431-HM	NC3015			TNMG431-VM	NC3010
TNMG432-B25	NC3015	TNMG432-B25	NC310	TNMG432-B25	NC3010
		TNMG432-GM	NC310	TNMG432-GM	NC3010
TNMG432-HC	NC3015			TNMG432-HC	NC3010
TNMG432-HM	NC3015			TNMG432-VM	NC3010
TNMG432-HR	NC3015			TNMG432-HR	NC3010
TNMG433-HM	NC3015			TNMG433-VM	NC3010
TNMG433-HR	NC3015			TNMG433-HR	NC3010
		TNMM434-GH	NC310	TNMM434-GH	NC3010
		TPGN322	NC310	TPGN322	NC3010
TPMR221-F	NC3015	TPMR221-F	NC310	TPMR221-F	NC3010
TPMR222-M	NC3015	TPMR222-M	NC310	TPMR222-M	NC3010
TPMR321-F	NC3015	TPMR321-F	NC310	TPMR321-F	NC3010
TPMR322-M	NC3015	TPMR322-M	NC310	TPMR322-M	NC3010
		TPUN321	NC310	TPUN321	NC3010
VBMT221-HMP	NC3015			VBMT221-HMP	NC3010
VBMT331	NC3015	VBMT331	NC310	VBMT331	NC3010
VBMT331-HMP	NC3015			VBMT331-HMP	NC3010
VBMT332	NC3015	VBMT332	NC310	VBMT332	NC3010
VBMT332-HMP	NC3015			VBMT332-HMP	NC3010
VCMT331-HMP	NC3015			VCMT331-HMP	NC3010
VCMT332-X50	NC3015			VCMT332-X50	NC3010
		VNMG331-HF	NC310	VNMG331-VF	NC3010



NC3010 ^{New}

NC3010^{New} Stock items

Old inserts(NC310, NC3015) covered by NC3010 ^{New} (Gold)				NC3010 ^{New} (Gold) Insert	
Designation	Grade	Designation	Grade	Designation	Grade
VNMG331-HM	NC3015			VNMG331-VM	NC3010
VNMG332-HM	NC3015			VNMG332-VM	NC3010
		WNMA432	NC310	WNMA432	NC3010
		WNMG331-GM	NC310	WNMG331-GM	NC3010
WNMG331-HC	NC3015			WNMG331-HC	NC3010
		WNMG331-HF	NC310	WNMG331-VF	NC3010
WNMG331-HM	NC3015			WNMG331-VM	NC3010
		WNMG332-GM	NC310	WNMG332-GM	NC3010
WNMG332-HF	NC3015			WNMG332-VF	NC3010
WNMG332-HM	NC3015	WNMG332-HM	NC310	WNMG332-VM	NC3010
		WNMG431-HF	NC310	WNMG431-VF	NC3010
WNMG431-HM	NC3015			WNMG431-VM	NC3010
				WNMG431-VW	NC3010
		WNMG432-GM	NC310	WNMG432-GM	NC3010
WNMG432-GR	NC3015	WNMG432-GR	NC310	WNMG432-GR	NC3010
WNMG432-HC	NC3015			WNMG432-HC	NC3010
WNMG432-HM	NC3015	WNMG432-HM	NC310	WNMG432-VM	NC3010
WNMG432-HR	NC3015			WNMG432-HR	NC3010
WNMG432-HW	NC3015			WNMG432-LW, VW	NC3010
		WNMG433-GM	NC310	WNMG433-GM	NC3010
		WNMG433-GR	NC310	WNMG433-GR	NC3010
WNMG433-HM	NC3015	WNMG433-HM	NC310	WNMG433-VM	NC3010
WNMG433-HR	NC3015			WNMG433-HR	NC3010
				WNMG434-GR	NC3010

● Order-made items are available



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