

ND3000/ND2100

Diamond coating grade for Non-ferrous steel

- Good wear resistance with high quality diamond coating technology
- The optimal new grade for Graphite and Ceramic



Diamond coating grade for Non-ferrous steel

ND3000/ND2100

The diamond is a carbon crystal consisting with only pure carbon. Each carbon atom combining with 4 different atoms has a tetrahedron structure. This combining structure has higher hardness than the other substances. The diamond has relatively low thermal expansion coefficient and friction coefficient. In addition, it is stable in acid and alkaline materials and it is suitable for machining of Non-ferrous materials.

ND3000 and **ND2100** are diamond coating grades developed by coating system for mass production. KORLOY provides differentiated qualified diamond coated tool by controlling crystallinity, orientation and structure.

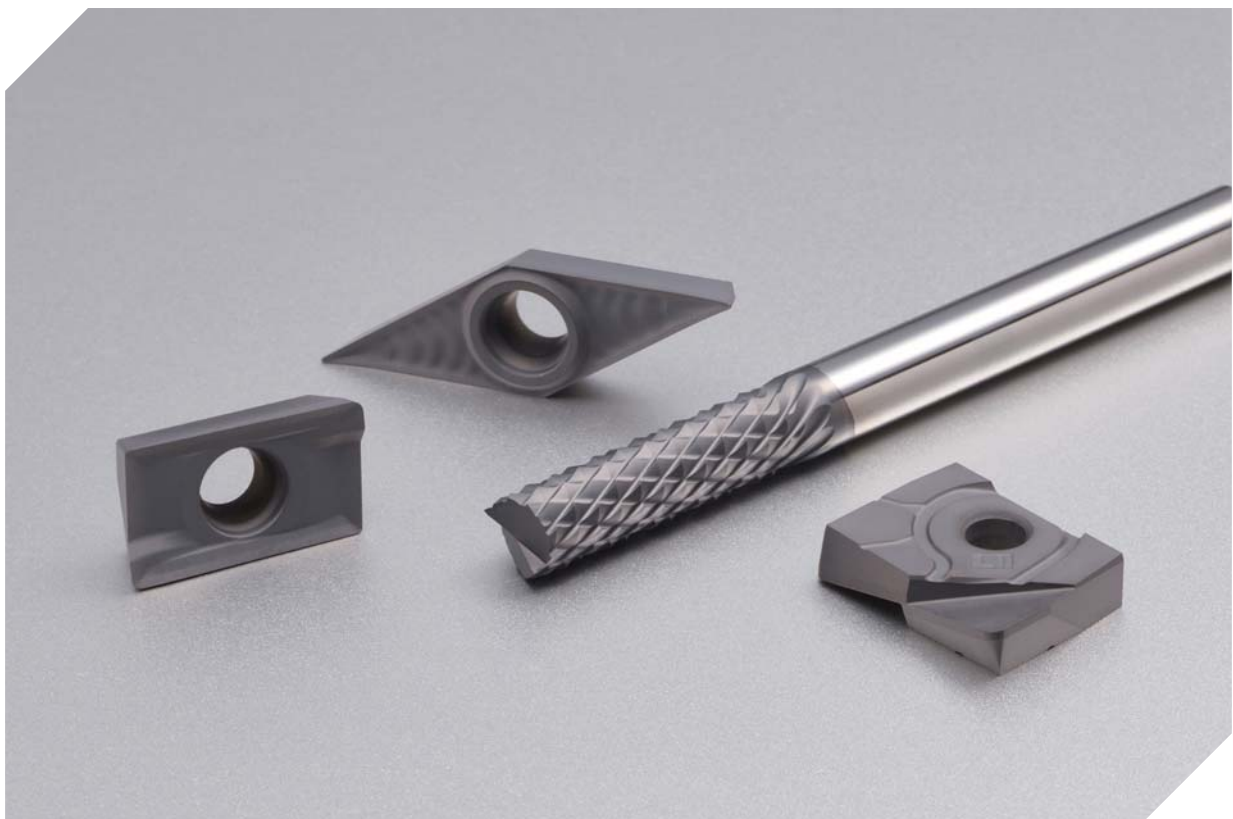
.....

- » **Good wear resistance and lubrication**
 - Applying micro and multi coating technology

- » **Excellent performance in Graphite and Ceramic machining**
 - ND3000

- » **Stable tool life**
 - High adherence between diamond coating and the exclusive substrate

- » **Perfect performance in CFRP machining**
 - ND2100



Features

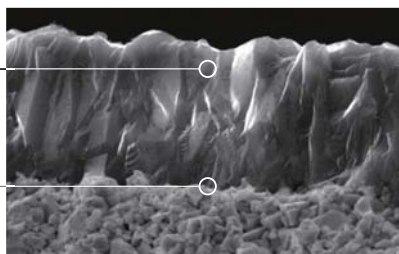
ND3000

- Good wear resistance with micro diamond coating technology
- Applying the exclusive cemented carbide substrate for diamond coating
- Enhanced adherence between coating and substrate from the special pretreatment technology
- Perfect cutting performance in high hardness brittle materials as Graphite and Ceramic



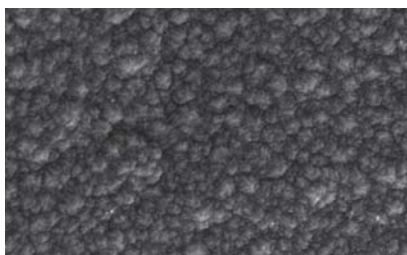
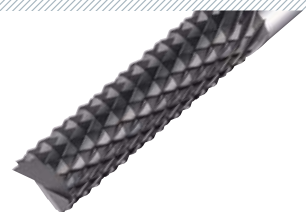
Micro diamond coating technology

High adherence coating technology



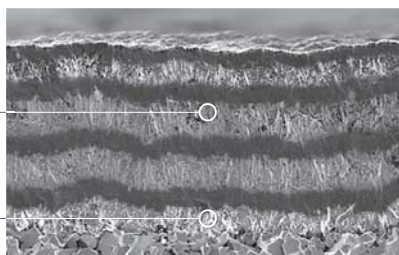
ND2100

- Excellent wear resistance and lubrication by applying multi-layer coating technology interchangeably piling up nano-diamond particles and micro diamond particles
- Enhanced adherence between coating and substrate from the special pretreatment technology
- Perfect cutting performance in CFRP cutting

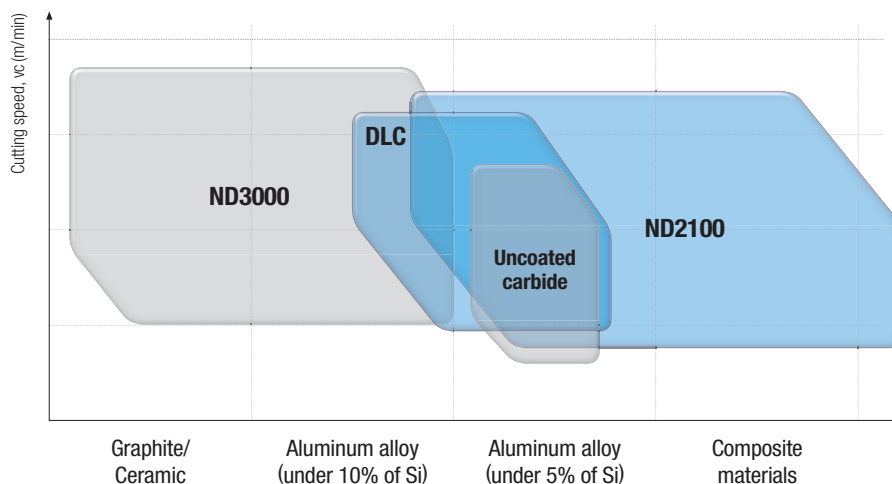


Multi-layer coating technology

High adherence coating technology



Application range by workpieces



✓ Recommended cutting conditions

[Turning]

Workpiece		Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	Recommended cutting condition			
ISO	Workpiece material				vc (m/min)	fn (mm/rev)	ap (mm)	
N	Aluminum	Si < 8%	600	75	ND3000	600	0.40	0.1 ~ 4.0
						1000	0.20	
						1450	0.03	
	Aluminum	Si > 8%	700	130	ND3000	400	0.40	0.1 ~ 4.0
						650	0.20	
						950	0.03	
	Graphite	Graphite	-	380	ND3000	150	0.40	0.1 ~ 4.0
						250	0.20	
						350	0.03	

※ Applying insert : VCGT160404-AK

[Milling]

Workpiece		Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	Recommended cutting condition			
ISO	Workpiece material				vc (m/min)	fz (mm/t)	ap (mm)	
N	Aluminum	Si < 8%	600	75	ND3000	650	0.4	0.5 ~ 9.0
						850	0.3	
						1100	0.2	
	Aluminum	Si > 8%	700	130	ND3000	450	0.4	0.5 ~ 9.0
						550	0.3	
						750	0.2	
Graphite	Graphite	-	380	ND3000	150	0.4	0.5 ~ 9.0	
					250	0.3		
					350	0.2		

※ Applying insert : APMT0903PDFR-MA

[Endmill]

Workpiece		Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	vc (m/min)	Recommended cutting condition			
ISO	Workpiece material					fz (mm/t)			
						Ø1.0 ~ Ø4.0	Ø4.1 ~ Ø8.0	Ø8.1 ~ Ø12.0	
N	Aluminum	Si < 8%	600	75	ND3000	125	0.05	0.13	0.19
						210	0.03	0.09	0.16
						300	0.01	0.05	0.12
	Aluminum	Si > 8%	700	130	ND3000	125	0.04	0.10	0.15
						180	0.03	0.07	0.13
						240	0.01	0.04	0.10
	Graphite	Graphite	-	380	ND3000	50	0.19	0.35	0.47
						230	0.11	0.24	0.35
						400	0.03	0.13	0.23
	Ceramic	Zirconia	-	(903Hv)	ND3000	120	0.07	-	-
						170	0.05	-	-
						220	0.02	-	-
Composite material	CFRP	-	-	ND2100	100	-	0.34	0.65	
					150	-	0.20	0.39	
					200	-	0.06	0.12	

※ Depth of cut : 0.5D

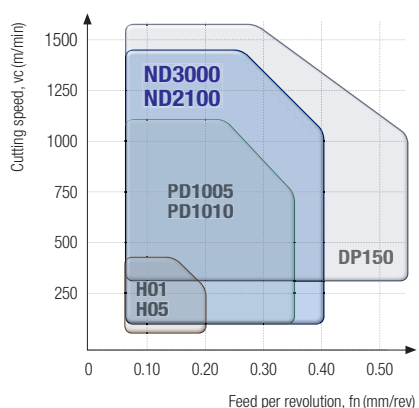
[Drill]

Workpiece		Specific cutting force (N/mm ²)	Brinell hardness (HB)	Grade	vc (m/min)	Recommended cutting condition			
ISO	Workpiece material					fn (mm/rev)			
						Ø2.5 ~ Ø4.0	Ø4.1 ~ Ø8.0	Ø8.1 ~ Ø12.0	
N	Composite material	CFRP	-	-	ND2100	100	0.07	0.07	0.07
						125	0.05	0.05	0.05
						150	0.03	0.03	0.03

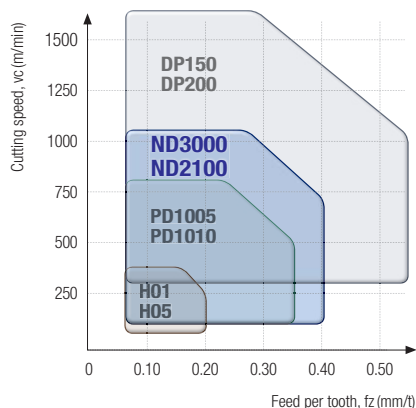
※ Applying insert : MSDP-C

Application range by grades

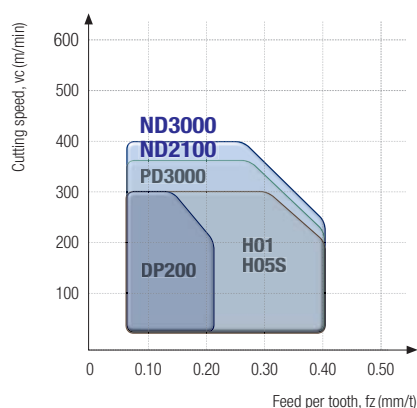
[Turning]



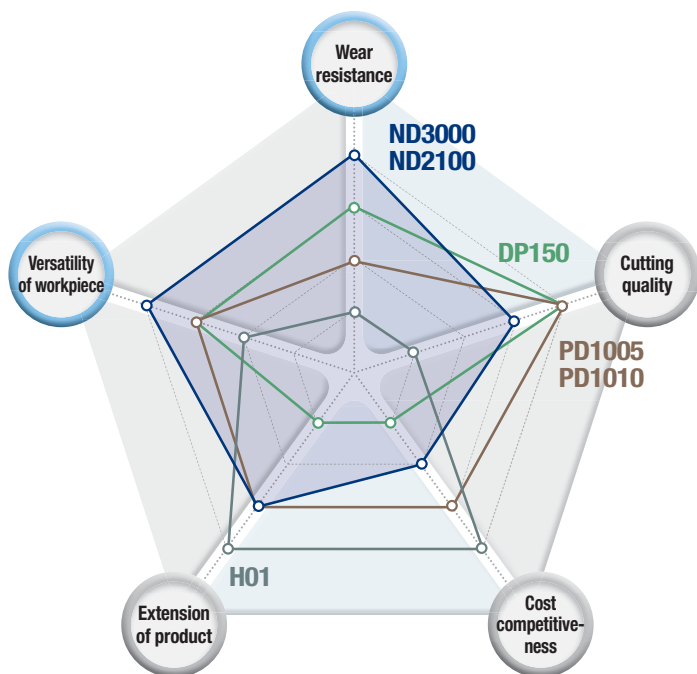
[Milling]



[Endmill]



Grade selection guide



ND3000/ND2100 (Diamond coated) New

- Layer width about 6~16 μm
- Hardness 7,000~10,000 Hv
- Friction coefficient > 0.15
- Able to coat various complicated shapes



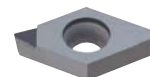
PD1005/PD1010 (DLC coated)

- Layer width about 0.2~0.5 μm
- Hardness 3,000~7,000 Hv
- Friction coefficient 0.04~0.1
- No limit for the complicated shape manufacturing



DP150 (PCD)

- Layer width about 0.5~1.0 mm
- Hardness 7,000~10,000 Hv
- Hard to manufacture a complicated shape tool



H01 (Uncoated carbide)

- Hardness 1,700~2,100 Hv
- Friction coefficient > 0.6
- No limit for the complicated shape manufacturing

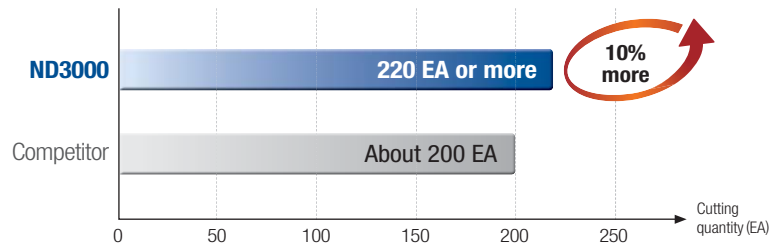
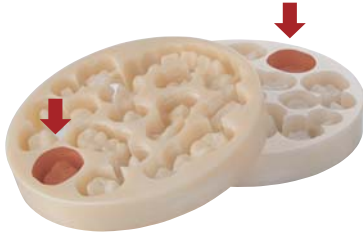


Grade	Wear resistance	Cutting quality	Cost competitiveness	Extension of product	Versatility of workpiece
ND3000/ND2100 (Diamond coated) New	★★★★	★★★	★★	★★★	★★★★★
PD1005/PD1010 (DLC coated)	★★	★★★★★	★★★	★★★	★★★
DP150 (PCD)	★★★	★★★★★	★	★	★★★
H01 (Uncoated carbide)	★	★	★★★★★	★★★★★	★★

Application examples

Ceramic (Zirconia)

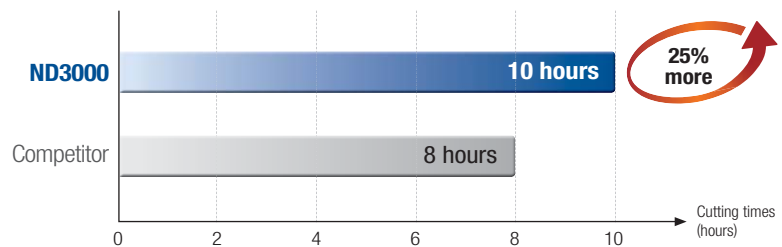
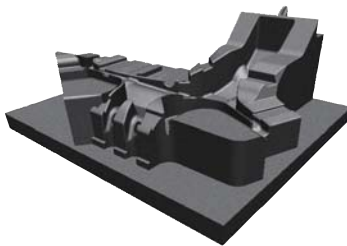
Workpiece use	Implant crown
Cutting condition	$vc(m/min) = 140$, $fz(mm/t) = 0.05$, $ap(mm) = 0.1$, $ae(mm) = 0.6$, dry
Tool	TZBE2020-044-N200S03 (DOF) (ND3000)



» Machining 10% more crowns than competitor's tool

Graphite

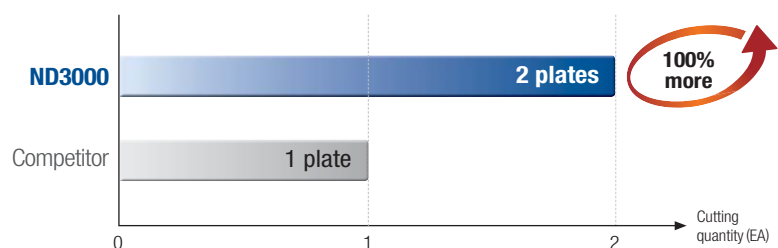
Workpiece use	Graphite mold
Cutting condition	$vc(m/min) = 180$, $fz(mm/t) = 0.1$, $ap(mm) = 0.2$, dry
Tool	DBE2060-110-N250S06 (ND3000)



» Machining 25% longer than competitor's tool

Graphite

Workpiece use	Graphite mold
Cutting condition	$vc(m/min) = 220$, $fz(mm/t) = 0.05$, $ap(mm) = 0.06$, dry
Tool	DBE2040-058-V6.0S06 (ND3000)

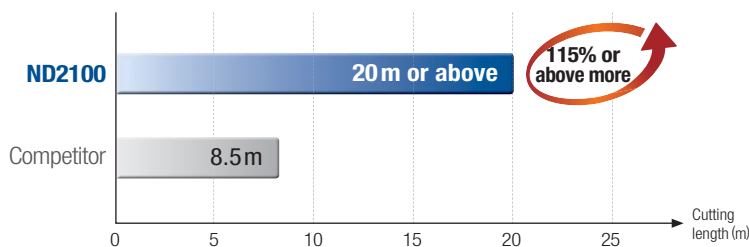


» Machining 100% more than competitor's tool

Application examples

Composite material (CFRP)

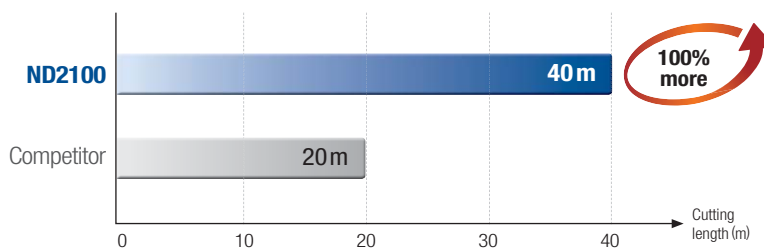
Workpiece use	CFRP Beam
Cutting condition	$vc(m/min) = 200$, $fz(mm/t) = 0.05$, $ap(mm) = 6$, $ae(mm) = 2$, dry
Tool	CCR2080-075 (ND2100)



» Machining longer than 115% or above competitor's tool

Composite material (CFRP)

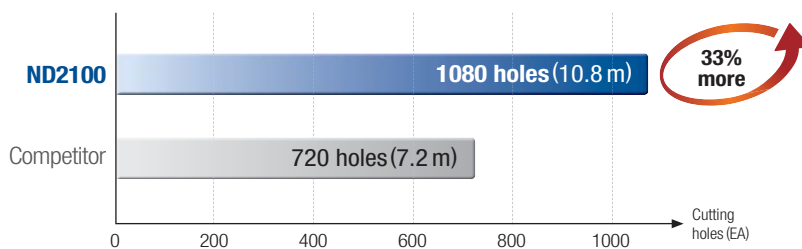
Workpiece use	CFRP Plate
Cutting condition	$vc(m/min) = 200$, $fz(mm/t) = 0.08$, $ap(mm) = 20$, $ae(mm) = 0.3$, dry
Tool	CCRR805000 (ND2100)



» Machining longer than 100% or above competitor's tool

Composite material (CFRP)

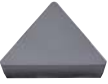
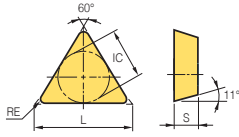

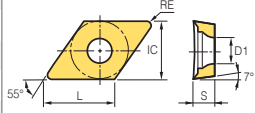

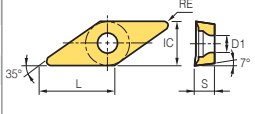
Workpiece use	Wing tail
Cutting condition	$vc(m/min) = 100$, $fz(mm/t) = 0.05$, $ap(mm) = 10$, air
Tool	MSDP060-5C (ND2100)



» Machining 33% longer than competitor's tool


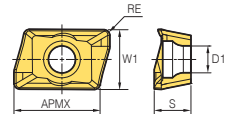

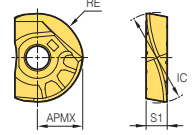

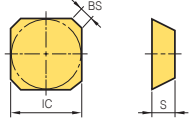

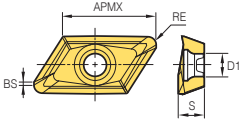
Stock items

[Turning inserts]

Insert	Designation	Coated	Dimension (mm)					Cutting condition		Geometrie	
		ND3000	L	IC	S	RE	D1	fn (mm/rev)	ap (mm)		
For medium to finishing		TPUN	110304	11.0	6.35	3.18	0.4	-	0.10~0.30	1.00~3.00	
			110308	11.0	6.35	3.18	0.8	-	0.15~0.40	1.00~3.00	
			160304	16.5	9.525	3.18	0.4	-	0.10~0.30	1.00~5.00	
			160308	16.5	9.525	3.18	0.8	-	0.15~0.40	1.00~5.00	
			160312	16.5	9.525	3.18	1.2	-	0.20~0.50	1.50~5.00	
			220404	22.0	12.7	4.76	0.4	-	0.10~0.30	1.50~7.00	
			220408	22.0	12.7	4.76	0.8	-	0.15~0.40	1.50~7.00	
220412	22.0	12.7	4.76	1.2	-	0.20~0.50	1.50~7.00				
For aluminum cutting		DCGT	070202-AK	7.8	6.35	2.38	0.2	2.8	0.01~0.20	0.05~3.00	
			070204-AK	7.8	6.35	2.38	0.4	2.8	0.02~0.30	0.10~4.00	
			070208-AK	7.8	6.35	2.38	0.8	2.8	0.03~0.40	0.10~4.00	
			11T302-AK	11.6	9.525	3.97	0.2	4.4	0.02~0.30	0.05~4.00	
			11T304-AK	11.6	9.525	3.97	0.4	4.4	0.03~0.50	0.10~5.00	
			11T308-AK	11.6	9.525	3.97	0.8	4.4	0.03~0.50	0.10~5.00	
	11T312-AK	11.6	9.525	3.97	1.2	4.4	0.04~0.60	0.15~5.00			
		VCGT	110301-AK	11.1	6.35	3.18	0.1	2.8	0.02~0.15	0.05~3.00	
			110302-AK	11.1	6.35	3.18	0.2	2.8	0.02~0.20	0.05~3.00	
			110304-AK	11.1	6.35	3.18	0.4	2.8	0.02~0.25	0.10~4.00	
			110308-AK	11.1	6.35	3.18	0.8	2.8	0.03~0.30	0.10~5.00	
160402-AK			16.6	9.525	4.76	0.2	4.4	0.02~0.30	0.05~5.00		
160404-AK	16.6	9.525	4.76	0.4	4.4	0.03~0.40	0.10~5.00				
160408-AK	16.6	9.525	4.76	0.8	4.4	0.03~0.50	0.10~5.00				
160412-AK	16.6	9.525	4.76	1.2	4.4	0.03~0.50	0.10~5.00				

●: Stock item

[Milling inserts]

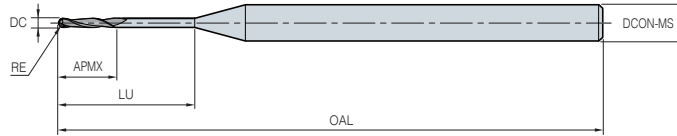
Insert	Designation	Coated	Dimension (mm)						Geometrie		
		ND3000	APMX / INSL	IC / W1	S / S1	RE	D1	BS			
Alpha Mill		APMT	0602PDFR-MA	6	4.24	2.6	0.4	2.0	-		
			060208PDFR-MA	6	4.24	2.6	0.8	2.0	-		
			0903PDFR-MA	9.4	6.21	3.6	0.4	2.8	-		
			090308PDFR-MA	9.4	6.21	3.6	0.8	2.8	-		
Laser Mill		LBH	080-KF	7.0	8	2.4	4.0	-	-		
			100-KF	8.5	10	2.6	5.0	-	-		
			120-KF	10.0	12	3.0	6.0	-	-		
			160-KF	12.0	16	4.0	8.0	-	-		
			200-KF	15.0	20	5.0	10.0	-	-		
			250-KF	18.5	25	6.0	12.5	-	-		
			320-KF	23.5	32	7.0	16.0	-	-		
ISO		SECN	1203AFSN	●	-	12.7	3.18	-	-	2.36	
Pro-X Mill		XEKT	19M504FR-MA	18	-	5	0.4	4.4	1.4		
			19M508FR-MA	18	-	5	0.8	4.4	1.0		
			19M512FR-MA	18	-	5	1.2	4.4	0.6		
			19M516FR-MA	17.5	-	5	1.6	4.4	0.5		
			19M518FR-MA	17.5	-	5	1.8	4.4	0.5		
			19M520FR-MA	17.5	-	5	2.0	4.4	0.5		
			19M530FR-MA	17	-	5	3.0	4.4	0.7		
			19M532FR-MA	17	-	5	3.2	4.4	0.5		
			19M540FR-MA	16.5	-	5	4.0	4.4	0.5		
			19M550FR-MA	16	-	5	5.0	4.4	0.4		

●: Stock item

TZBE2000 (Ball endmill for machining Zirconia)



ØD	Tolerance
~ Ø1.0	0.000 ~ -0.015 mm
Ø1.0 ~ Ø3.0	0.000 ~ -0.020 mm



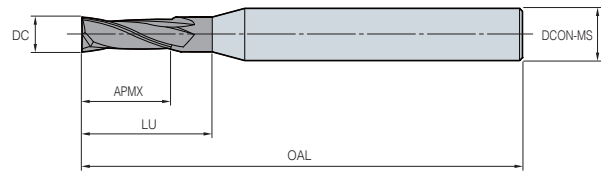
Shape	Machine type	Designation	Coated	Dimension (mm)					
			ND3000	RE	DC	DCON-MS	APMX	LU	OAL
	ZIRKONZAHN	TZBE 2005-050-N095S06(ZIRKONZAHN)		0.25	0.5	6	3	9.5	50
		2005-057-N095S03(ZIRKONZAHN)		0.25	0.5	3	3	9.5	57
		2010-050-N120S06(ZIRKONZAHN)		0.5	1	6	6	12	50
		2010-057-N120S03(ZIRKONZAHN)		0.5	1	3	6	12	57
		2020-050-N180S06(ZIRKONZAHN)		1.0	2	6	10	18	50
		2020-057-N180S03(ZIRKONZAHN)		1.0	2	3	10	18	57
	SIRONA	TZBE 2005-042-N090S03(SIRONA)		0.25	0.5	3	1.5	9	42
		2010-043-N170S03(SIRONA)		0.5	1	3	3.5	17	43
		2025-044-N240S03(SIRONA)		1.25	2.5	3	4	24	44
	ROLAND	TZBE 2006-050-N120S04(ROLAND)		0.3	0.6	4	1.5	12	50
		2010-050-N160S04(ROLAND)		0.5	1	4	2	16	50
		2020-050-N200S04(ROLAND)		1.0	2	4	3	20	50
		2030-050-N200S04(ROLAND)		1.5	3	4	6	20	50
	Z-MATCH	TZBE 2005-055-N080S06(Z-MATCH)		0.25	0.5	6	1.5	8	55
		2010-055-N160S06(Z-MATCH)		0.5	1	6	3	16	55
		2020-055-N200S06(Z-MATCH)		1.0	2	6	6	20	55
	CERACUBE TRION-Z	TZBE 2005-050-N030S04(TRION-Z)		0.25	0.5	4	2	23	50
		2010-050-N180S04(TRION-Z)		0.5	1	4	3	18	50
		2020-050-N200S04(TRION-Z)		1.0	2	4	7	20	50
	DATRON	TZBE 2006-050-N100S06(DATRON)		0.3	0.6	6	2.5	10	50
		2010-050-N160S06(DATRON)		0.5	1	6	4	16	50
		2020-050-N200S06(DATRON)		1.0	2	6	4.5	20	50
	CHARLY	TZBE 2005-0385-N090S03(CHARLY)		0.25	0.5	3	1.5	9	38.5
		2010-0385-N110S03(CHARLY)		0.5	1	3	2	11	38.5
		2015-0385-N110S03(CHARLY)		0.75	1.5	3	3	11	38.5
	CHARLY	TZFE 2030-0385-N060S03(CHARLY)		-	3	3	6	-	38.5
	YENA	TZBE 2006-045-N070S04(YENA)		0.3	0.6	4	2	7	45
		2010-045-N160S04(YENA)		0.5	1	4	3	16	45
		2020-045-N160S04(YENA)		1.0	2	4	10	16	45

● : Stock item

DFE2000 (Flat)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



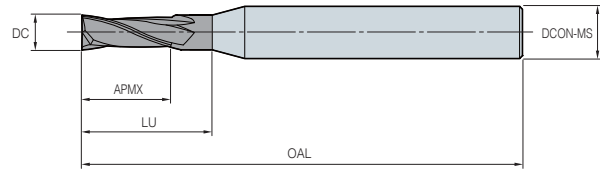
Designation	Coated	Dimension (mm)				
	ND3000	DC	DCON-MS	APMX	LU	OAL
DFE						
2002-045-N004S04	●	0.2	4	0.4	-	45
2003-045-N006S04	●	0.3	4	0.6	-	45
2004-045-N008S04	●	0.4	4	0.8	-	45
2005-045-N010S04	●	0.5	4	1	-	45
2006-045-N012S04	●	0.6	4	1.2	-	45
2007-045-N015S04	●	0.7	4	1.5	-	45
2008-045-N020S04	●	0.8	4	2	-	45
2009-045-N025S04	●	0.9	4	2.5	-	45
2010-045-N030S04	●	1	4	3	-	45
2010-045-N050S04	●	1	4	3	5	45
2010-060-N050S04	●	1	4	3	5	60
2010-060-N100S04	●	1	4	3	10	60
2010-060-N150S04	●	1	4	3	15	60
2010-060-N200S04	●	1	4	3	20	60
2010-060-N250S04	●	1	4	3	25	60
2015-060-N050S04	●	1.5	4	4	5	60
2015-060-N060S04	●	1.5	4	4	6	60
2015-060-N100S04	●	1.5	4	4	10	60
2015-060-N150S04	●	1.5	4	4	15	60
2015-060-N200S04	●	1.5	4	4	20	60
2015-060-N250S04	●	1.5	4	4	25	60
2020-045-N060S04	●	2	4	6	-	45
2020-045-N080S04	●	2	4	6	8	45
2020-080-N080S04	●	2	4	6	8	80
2020-080-N100S04	●	2	4	6	10	80
2020-080-N120S04	●	2	4	6	12	80
2020-080-N150S04	●	2	4	6	15	80
2020-080-N200S04	●	2	4	6	20	80
2020-080-N250S04	●	2	4	6	25	80
2020-080-N300S04	●	2	4	6	30	80
2020-080-N400S04	●	2	4	6	40	80
2030-050-N100S06	●	3	6	9	10	50
2030-080-N100S04	●	3	4	9	10	80
2030-080-N120S04	●	3	4	9	12	80
2030-080-N200S04	●	3	4	9	20	80
2030-080-N250S04	●	3	4	9	25	80
2030-080-N300S04	●	3	4	9	30	80
2030-080-N400S04	●	3	4	9	40	80

● : Stock item

DFE2000 (Flat)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



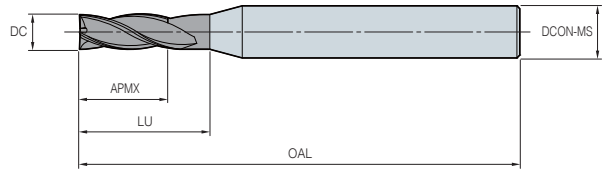
Designation	Coated	Dimension (mm)				
	ND3000	DC	DCON-MS	APMX	LU	OAL
DFE						
2040-050-N120S06	●	4	6	12	-	50
2040-050-N160S06	●	4	6	12	16	50
2040-080-N160S04	●	4	4	12	16	80
2050-060-N150S06	●	5	6	15	-	60
2050-060-N200S06	●	5	6	15	20	60
2050-110-N200S06	●	5	6	15	20	110
2060-060-N180S06	●	6	6	18	-	60
2060-110-N250S06	●	6	6	18	25	110
2060-150-N250S06	●	6	6	18	25	150
2080-070-N250S08	●	8	8	25	-	70
2080-150-N400S08	●	8	8	25	40	150
2100-080-N300S10	●	10	10	30	-	80
2100-150-N500S10	●	10	10	30	50	150
2100-160-N500S10	●	10	10	30	50	160
2120-080-N250S12	●	12	12	25	-	80
2120-080-N350S12	●	12	12	35	-	80
2120-150-N600S12	●	12	12	35	60	150
2120-160-N600S12	●	12	12	35	60	160

●: Stock item

DFE4000 (Flat)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



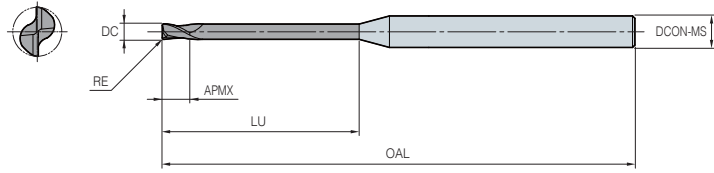
Designation	Coated	Dimension (mm)				
	ND3000	DC	DCON-MS	APMX	LU	OAL
DFE						
4020-045-N060S04	●	2	4	6	8	45
4020-060-N100S04	●	2	4	10	12	60
4030-050-N100S06	●	3	6	10	12	50
4030-060-N150S03	●	3	3	15	-	60
4030-060-N150S04	●	3	4	15	18	60
4040-050-N120S06	●	4	6	12	-	50
4040-050-N150S06	●	4	6	15	18	50
4040-080-N200S04	●	4	4	20	-	80
4060-060-N180S06	●	6	6	18	-	60
4060-110-N300S06	●	6	6	30	-	110
4060-150-N300S06	●	6	6	30	-	150
4080-070-N250S08	●	8	8	25	-	70
4080-110-N400S08	●	8	8	40	-	110
4080-150-N400S08	●	8	8	40	-	150
4100-080-N250S10	●	10	10	25	-	80
4100-110-N400S10	●	10	10	40	-	110
4100-150-N500S10	●	10	10	50	-	150
4120-080-N300S12	●	12	12	30	-	80
4120-110-N400S12	●	12	12	40	-	110
4120-110-N450S12	●	12	12	45	-	110
4120-150-N500S12	●	12	12	50	-	150
4120-150-N550S12	●	12	12	55	-	150

● : Stock item

DRE2000 (Radius)



ØD	Tolerance
~Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



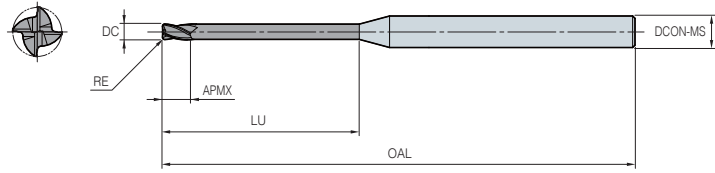
Designation	Coated	Dimension (mm)					
	ND3000	RE	DC	DCON-MS	APMX	LU	OAL
DRE							
2005-060-N050S04-R005		0.05	0.5	4	1	5	60
2005-060-N080S04-R005		0.05	0.5	4	1	8	60
2005-060-N100S04-R005		0.05	0.5	4	1	10	60
2006-060-N060S04-R005		0.05	0.6	4	1.2	6	60
2006-060-N090S04-R005	●	0.05	0.6	4	1.2	9	60
2006-060-N120S04-R005		0.05	0.6	4	1.2	12	60
2008-060-N040S04-R005	●	0.05	0.8	4	1.6	4	60
2008-060-N080S04-R005		0.05	0.8	4	1.6	8	60
2008-060-N100S04-R005		0.05	0.8	4	1.6	10	60
2010-060-N050S04-R005	●	0.05	1	4	2	5	60
2010-060-N100S04-R005	●	0.05	1	4	2	10	60
2010-060-N100S04-R02	●	0.20	1	4	2	10	60
2010-060-N150S04-R02	●	0.20	1	4	2	15	60
2010-060-N200S04-R005	●	0.05	1	4	2	20	60
2010-060-N200S04-R02		0.20	1	4	2	20	60
2015-060-N050S04-R005	●	0.05	1.5	4	3	5	60
2015-060-N100S04-R005	●	0.05	1.5	4	3	10	60
2015-060-N150S04-R005	●	0.05	1.5	4	3	15	60
2015-060-N150S04-R02	●	0.20	1.5	4	3	15	60
2015-060-N200S04-R005	●	0.05	1.5	4	3	20	60
2015-060-N200S04-R02	●	0.20	1.5	4	3	20	60
2020-060-N120S04-R02	●	0.20	2	4	3.5	12	60
2020-060-N120S04-R03	●	0.30	2	4	3.5	12	60
2020-060-N180S04-R03	●	0.30	2	4	3.5	18	60
2020-060-N250S04-R02		0.20	2	4	3.5	25	60
2020-060-N250S04-R03		0.30	2	4	3.5	25	60
2020-060-N300S04-R02		0.20	2	4	3.5	30	60
2020-060-N300S04-R03		0.30	2	4	3.5	30	60
2030-080-N100S04-R02	●	0.20	3	4	4	10	80
2030-080-N200S04-R02	●	0.20	3	4	4	20	80
2030-080-N200S04-R03	●	0.30	3	4	4	20	80
2030-080-N300S04-R02	●	0.20	3	4	4	30	80
2030-080-N400S04-R02	●	0.20	3	4	4	40	80
2030-080-N400S04-R03	●	0.30	3	4	4	40	80

●: Stock item

DRE4000 (Radius)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



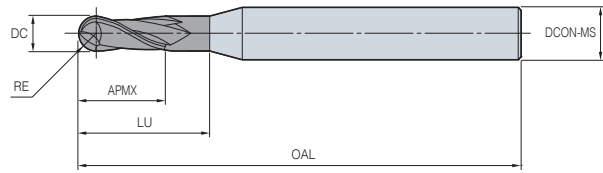
Designation	Coated	Dimension (mm)					
	ND3000	RE	DC	DCON-MS	APMX	LU	OAL
DRE							
4020-060-N120S04-R03	●	0.3	2	4	3.5	12	60
4020-060-N180S04-R02	●	0.2	2	4	3.5	18	60
4020-060-N180S04-R03	●	0.3	2	4	3.5	18	60
4020-060-N250S04-R02	●	0.2	2	4	3.5	25	60
4020-060-N250S04-R03		0.3	2	4	3.5	25	60
4020-060-N300S04-R02		0.2	2	4	3.5	30	60
4020-060-N300S04-R03		0.3	2	4	3.5	30	60
4030-080-N100S04-R05	●	0.5	3	4	4	10	80
4030-080-N200S04-R03	●	0.3	3	4	4	20	80
4030-080-N200S04-R05	●	0.5	3	4	4	20	80
4030-080-N300S04-R03	●	0.3	3	4	4	30	80
4030-080-N300S04-R05	●	0.5	3	4	4	30	80
4030-080-N400S04-R03	●	0.3	3	4	4	40	80
4030-080-N400S04-R05	●	0.5	3	4	4	40	80
4040-100-N200S04-R03	●	0.3	4	4	6	20	100
4060-110-N250S06-R03	●	0.3	6	6	9	25	110
4060-110-N250S06-R05	●	0.5	6	6	9	25	110
4060-150-N300S06-R05	●	0.5	6	6	9	30	150
4080-110-N300S08-R03	●	0.3	8	8	12	30	110
4080-110-N300S08-R05	●	0.5	8	8	12	30	110
4080-150-N400S08-R05	●	0.5	8	8	12	40	150
4100-110-N350S10-R05	●	0.5	10	10	15	35	110
4100-160-N450S10-R05	●	0.5	10	10	15	45	160
4120-110-N400S12-R05	●	0.5	12	12	18	40	110
4120-160-N450S12-R05	●	0.5	12	12	18	45	160

● : Stock item

DBE2000 (Ball)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



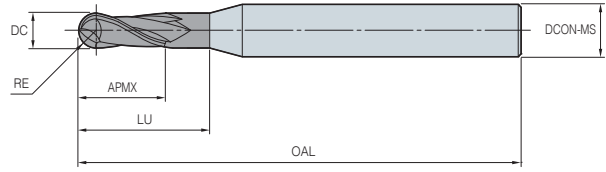
Designation	Coated	Dimension (mm)					
	ND3000	RE	DC	DCON-MS	APMX	LU	OAL
DBE							
2003-045-N012S04	●	0.15	0.3	4	1.2	-	45
2003-045-N020S04	●	0.15	0.3	4	1.2	2	45
2004-045-N015S04	●	0.2	0.4	4	1.5	-	45
2004-045-N020S04	●	0.2	0.4	4	1.5	2	45
2004-045-N030S04	●	0.2	0.4	4	1.5	3	45
2004-045-N040S04	●	0.2	0.4	4	1.5	4	45
2004-045-N050S04	●	0.2	0.4	4	1.5	5	45
2005-045-N020S04	●	0.25	0.5	4	2	-	45
2005-045-N030S04	●	0.25	0.5	4	2	3	45
2005-045-N040S04	●	0.25	0.5	4	2	4	45
2005-045-N050S04	●	0.25	0.5	4	2	5	45
2005-045-N060S04	●	0.25	0.5	4	2	6	45
2006-045-N020S04	●	0.3	0.6	4	2	2	45
2006-045-N030S04	●	0.3	0.6	4	2	3	45
2006-045-N040S04	●	0.3	0.6	4	2	4	45
2006-045-N050S04	●	0.3	0.6	4	2	5	45
2006-045-N060S04	●	0.3	0.6	4	2	6	45
2006-045-N080S04	●	0.3	0.6	4	2	8	45
2006-045-N100S04	●	0.3	0.6	4	2	10	45
2008-045-N030S04	●	0.4	0.8	4	2.5	3	45
2008-045-N040S04	●	0.4	0.8	4	2.5	4	45
2008-045-N050S04	●	0.4	0.8	4	2.5	5	45
2008-045-N060S04	●	0.4	0.8	4	2.5	6	45
2008-045-N080S04	●	0.4	0.8	4	2.5	8	45
2008-045-N100S04	●	0.4	0.8	4	2.5	10	45
2010-060-N030S04	●	0.5	1	4	3	3	60
2010-060-N040S04	●	0.5	1	4	3	4	60
2010-060-N050S04	●	0.5	1	4	3	5	60
2010-060-N060S04	●	0.5	1	4	3	6	60
2010-060-N080S04	●	0.5	1	4	3	8	60
2010-060-N100S04	●	0.5	1	4	3	10	60
2010-060-N120S04	●	0.5	1	4	3	12	60
2010-060-N150S04	●	0.5	1	4	3	15	60
2010-060-N200S04	●	0.5	1	4	3	20	60
2010-080-N250S04	●	0.5	1	4	3	25	80
2010-080-N300S04	●	0.5	1	4	3	30	80
2010-080-N350S04	●	0.5	1	4	3	35	80
2010-080-N400S04	●	0.5	1	4	3	40	80

● : Stock item

DBE2000 (Ball)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



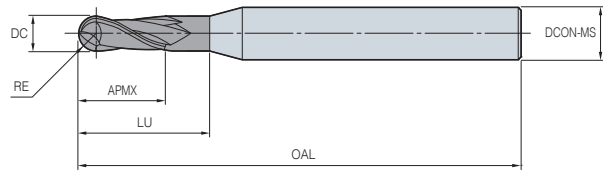
Designation	Coated	Dimension (mm)					
	ND3000	RE	DC	DCON-MS	APMX	LU	OAL
DBE							
2015-060-N050S04	●	0.75	1.5	4	4	5	60
2015-060-N080S04	●	0.75	1.5	4	4	8	60
2015-080-N100S04	●	0.75	1.5	4	4	10	80
2015-080-N120S04	●	0.75	1.5	4	4	12	80
2015-080-N150S04	●	0.75	1.5	4	4	15	80
2015-080-N180S04	●	0.75	1.5	4	4	18	80
2015-080-N200S04	●	0.75	1.5	4	4	20	80
2015-080-N250S04	●	0.75	1.5	4	4	25	80
2015-080-N300S04	●	0.75	1.5	4	4	30	80
2015-080-N350S04	●	0.75	1.5	4	4	35	80
2015-080-N400S04	●	0.75	1.5	4	4	40	80
2020-060-N060S04	●	1	2	4	6	-	60
2020-060-N080S04	●	1	2	4	6	8	60
2020-080-N100S04	●	1	2	4	6	10	80
2020-080-N150S04	●	1	2	4	6	15	80
2020-080-N200S04	●	1	2	4	6	20	80
2020-080-N250S04	●	1	2	4	6	25	80
2020-080-N300S04	●	1	2	4	6	30	80
2020-080-N350S04	●	1	2	4	6	35	80
2020-100-N400S04	●	1	2	4	6	40	100
2020-100-N450S04	●	1	2	4	6	45	100
2020-100-N500S04	●	1	2	4	6	50	100
2020-100-N600S04	●	1	2	4	6	60	100
2030-060-N100S04	●	1.5	3	4	9	10	60
2030-100-N150S04	●	1.5	3	4	9	15	100
2030-100-N150S06	●	1.5	3	6	9	15	100
2030-100-N200S04	●	1.5	3	4	9	20	100
2030-100-N250S04	●	1.5	3	4	9	25	100
2030-100-N300S04	●	1.5	3	4	9	30	100
2030-100-N350S04	●	1.5	3	4	9	35	100
2030-100-N400S04	●	1.5	3	4	9	40	100
2030-100-N500S04	●	1.5	3	4	9	50	100
2030-100-N600S04	●	1.5	3	4	9	60	100
2040-060-N160S04	●	2	4	4	12	16	60
2040-080-N160S04	●	2	4	4	12	16	80
2040-080-N300S04	●	2	4	4	12	30	80
2040-100-N160S04	●	2	4	4	12	16	100
2040-100-N400S04	●	2	4	4	12	40	100

● : Stock item

DBE2000 (Ball)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm



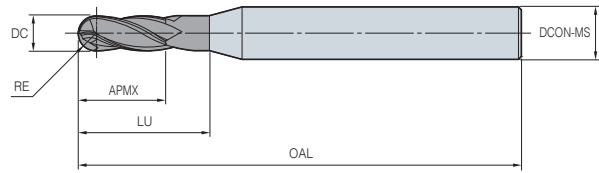
Designation	Coated	Dimension (mm)					
	ND3000	RE	DC	DCON-MS	APMX	LU	OAL
DBE							
2040-130-N160S04	●	2	4	4	12	16	130
2040-130-N400S04	●	2	4	4	12	40	130
2040-150-N160S04	●	2	4	4	12	16	150
2040-150-N500S04	●	2	4	4	12	50	150
2050-110-N200S06	●	2.5	5	6	15	20	110
2060-080-N250S06	●	3	6	6	20	25	80
2060-110-N250S06	●	3	6	6	20	25	110
2060-110-N400S06	●	3	6	6	20	40	110
2060-150-N300S06	●	3	6	6	20	30	150
2060-150-N500S06	●	3	6	6	20	50	150
2080-080-N300S08	●	4	8	8	25	30	80
2080-110-N300S08	●	4	8	8	25	30	110
2080-110-N400S08	●	4	8	8	25	40	110
2080-150-N500S08	●	4	8	8	25	50	150
2080-200-N400S08	●	4	8	8	25	40	200
2100-080-N400S10	●	5	10	10	30	40	80
2100-110-N400S10	●	5	10	10	30	40	110
2100-110-N500S10	●	5	10	10	30	50	110
2100-150-N600S10	●	5	10	10	30	60	150
2100-160-N600S10	●	5	10	10	30	60	160
2100-200-N500S10	●	5	10	10	30	50	200
2120-110-N500S12	●	6	12	12	35	50	110
2120-150-N500S12	●	6	12	12	35	50	150
2120-160-N500S12	●	6	12	12	35	50	160
2120-200-N600S12	●	6	12	12	35	60	200

● : Stock item

DBE4000 (Ball)



ØD	Tolerance
~ Ø5.9	0.00 ~ -0.02 mm
Ø6.0 ~	0.00 ~ -0.03 mm

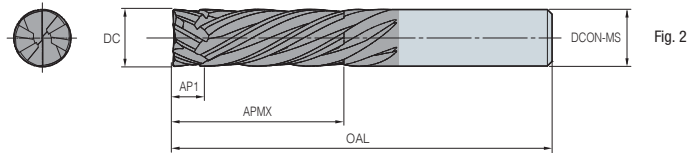
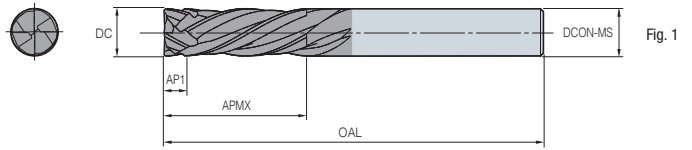


Designation	Coated	Dimension (mm)					
	ND3000	RE	DC	DCON-MS	APMX	LU	OAL
DBE							
4010-060-N030S04	●	0.5	1	4	3	-	60
4010-060-N050S04	●	0.5	1	4	3	5	60
4010-060-N100S04	●	0.5	1	4	3	10	60
4010-060-N150S04	●	0.5	1	4	3	15	60
4010-060-N200S04	●	0.5	1	4	3	20	60
4010-060-N250S04	●	0.5	1	4	3	25	60
4015-045-N040S04	●	0.75	1.5	4	4	-	45
4015-050-N040S04	●	0.75	1.5	4	4	-	50
4015-060-N100S04	●	0.75	1.5	4	4	10	60
4015-060-N150S04	●	0.75	1.5	4	4	15	60
4015-060-N200S04	●	0.75	1.5	4	4	20	60
4015-060-N250S04	●	0.75	1.5	4	4	25	60
4020-060-N080S04	●	1	2	4	6	8	60
4020-080-N100S04	●	1	2	4	6	10	80
4020-080-N200S04	●	1	2	4	6	20	80
4020-080-N300S04	●	1	2	4	6	30	80
4020-080-N400S04	●	1	2	4	6	40	80
4030-060-N100S04	●	1.5	3	4	9	10	60
4030-100-N150S04	●	1.5	3	4	9	15	100
4030-100-N200S04	●	1.5	3	4	9	20	100
4030-100-N300S04	●	1.5	3	4	9	30	100
4030-100-N400S04	●	1.5	3	4	9	40	100
4030-100-N500S04	●	1.5	3	4	9	50	100
4040-060-N160S04	●	2	4	4	12	16	60
4040-080-N160S04	●	2	4	4	12	16	80
4040-100-N160S04	●	2	4	4	12	16	100
4040-130-N160S04	●	2	4	4	12	16	130
4060-080-N250S06	●	3	6	6	20	25	80
4060-110-N250S06	●	3	6	6	20	25	110
4060-150-N300S06	●	3	6	6	20	30	150
4080-080-N300S08	●	4	8	8	25	30	80
4080-110-N300S08	●	4	8	8	25	30	110
4080-150-N350S08	●	4	8	8	25	35	150
4080-200-N400S08	●	4	8	8	25	40	200
4100-080-N350S10	●	5	10	10	30	35	80
4100-110-N350S10	●	5	10	10	30	35	110
4100-150-N400S10	●	5	10	10	30	40	150
4100-160-N400S10	●	5	10	10	30	40	160
4100-200-N500S10	●	5	10	10	30	50	200
4120-110-N500S12	●	6	12	12	35	50	110
4120-150-N500S12	●	6	12	12	35	50	150
4120-200-N600S12	●	6	12	12	35	60	200

● : Stock item

CCDR4000/6000 (Flat)

					ØD	Tolerance
					Ø6 ~ Ø12	0.00 ~ -0.03 mm



	Designation	Coated	Dimension (mm)					Fig.
		ND2100	DC	DCON-MS	AP1	APMX	OAL	
	4060-065		6	6	3	18	65	1
	4080-075		8	8	4	24	75	1
	6100-085		10	10	5	30	85	2
	6120-100		12	12	6	36	100	2

● : Stock item

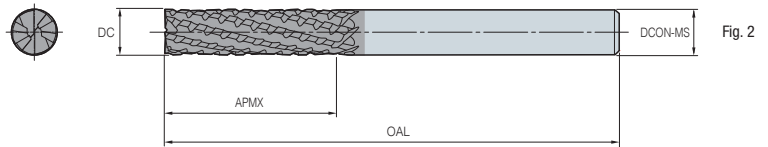
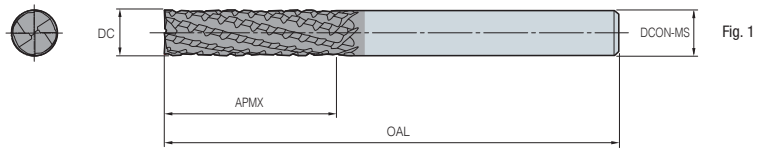
					ØD	Tolerance
					Ø0.250 ~ Ø0.500	0.0000 ~ -0.0012 inch

	Designation	Coated	Dimension (inch)					Fig.
		ND2100	DC	DCON-MS	AP1	APMX	OAL	
	402500		1/4 0.250	0.250	0.125	0.750	2.500	1
	402500L		1/4 0.250	0.250	0.125	1.500	4.000	1
	603750		3/8 0.375	0.375	0.125	1.000	3.250	2
	603750L		3/8 0.375	0.375	0.125	1.500	4.000	2
	605000		1/2 0.500	0.500	0.125	1.000	3.250	2
	605000L		1/2 0.500	0.500	0.125	1.500	4.000	2

● : Stock item

CCHR4000/6000 (Flat)

				Grade ND2100	ØD Ø6 ~ Ø12	Tolerance 0.00 ~ -0.05 mm
--	--	--	--	------------------------	----------------	------------------------------



	Designation	Coated	Dimension (mm)				Fig.
		ND2100	DC	DCON-MS	APMX	OAL	
	CCHR 4060-065		6	6	18	65	1
	4080-075		8	8	24	75	1
	CCHR 6100-085		10	10	30	85	2
	6120-100		12	12	36	100	2

● : Stock item

				Grade ND2100	ØD Ø0.250 ~ Ø0.500	Tolerance 0.0000 ~ -0.0020 inch
--	--	--	--	------------------------	-----------------------	------------------------------------

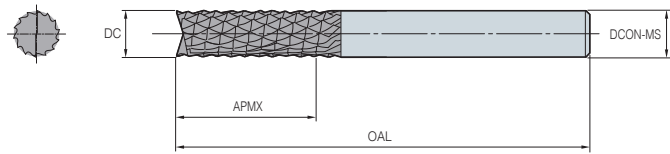
	Designation	Coated	Dimension (inch)				Fig.
		ND2100	DC	DCON-MS	APMX	OAL	
	CCHR 402500		1/4 0.250	0.250	0.750	2.500	1
	402500L		1/4 0.250	0.250	1.500	4.000	1
	CCHR 603750		3/8 0.375	0.375	1.000	3.250	2
	603750L		3/8 0.375	0.375	1.500	4.000	2
	605000		1/2 0.500	0.500	1.000	3.250	2
	605000L		1/2 0.500	0.500	1.500	4.000	2

● : Stock item

CCR2000 (Flat)



ØD	Tolerance
Ø4 ~ Ø12	-0.02 ~ -0.08 mm



Designation	Coated	Dimension (mm)			
	ND2100	DC	DCON-MS	APMX	OAL
CCR 2	2040-050	4	4	12	50
	2050-050	5	5	15	50
	2060-065	6	6	18	65
	2080-075	8	8	24	75
	2100-085	10	10	30	85
	2120-100	12	12	36	100

● : Stock item



ØD	Tolerance
Ø0.250 ~ Ø0.500	-0.0008 ~ -0.0032 inch

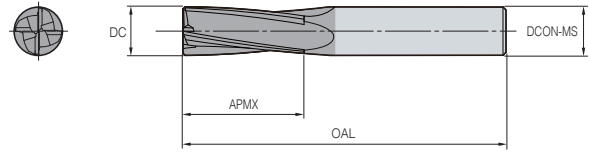
Designation	Coated	Dimension (inch)			
	ND2100	DC	DCON-MS	APMX	OAL
CCR 2	202500	1/4 0.250	0.250	0.750	2.500
	202500L	1/4 0.250	0.250	1.500	4.000
	203750	3/8 0.375	0.375	1.000	3.250
	203750L	3/8 0.375	0.375	1.500	4.000
	205000	1/2 0.500	0.500	1.000	3.250
	205000L	1/2 0.500	0.500	1.500	4.000

● : Stock item

CCLR4000 (Flat)



ØD	Tolerance
Ø4 ~ Ø12	0.00 ~ -0.03 mm



Designation	Coated	Dimension (mm)			
	ND2100	DC	DCON-MS	APMX	OAL
CCLR 	4040-050	4	4	12	50
	4050-050	5	5	15	50
	4060-065	6	6	18	65
	4080-075	8	8	24	75
	4100-085	10	10	30	85
	4120-100	12	12	36	100

● : Stock item



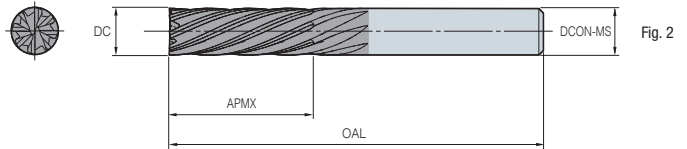
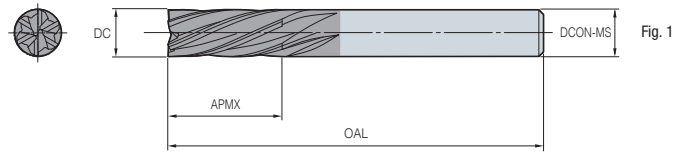
ØD	Tolerance
Ø0.250 ~ Ø0.500	0.0000 ~ -0.0012 inch

Designation	Coated	Dimension (inch)			
	ND2100	DC	DCON-MS	APMX	OAL
CCLR 	402500	1/4 0.250	0.250	0.750	2.500
	402500L	1/4 0.250	0.250	1.500	4.000
	403750	3/8 0.375	0.375	1.000	3.250
	403750L	3/8 0.375	0.375	1.500	4.000
	405000	1/2 0.500	0.500	1.000	3.250
	405000L	1/2 0.500	0.500	1.500	4.000

● : Stock item

CCRR6000/8000 (Flat)

				Grade ND2100	ØD Ø6 ~ Ø12	Tolerance 0.00 ~ -0.03 mm
--	--	--	--	------------------------	----------------	------------------------------



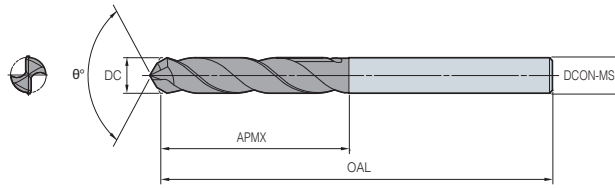
	Designation	Coated	Dimension (mm)				Fig.
		ND2100	DC	DCON-MS	APMX	OAL	
CCRR 	6060-065		6	6	18	65	1
	6080-075		8	8	24	75	1
CCRR 	8100-085		10	10	30	85	2
	8120-100		12	12	36	100	2

● : Stock item

				Grade ND2100	ØD Ø0.250 ~ Ø0.500	Tolerance 0.0000 ~ -0.0012 inch
--	--	--	--	------------------------	-----------------------	------------------------------------

	Designation	Coated	Dimension (inch)				Fig.
		ND2100	DC	DCON-MS	APMX	OAL	
CCRR 	602500		1/4 0.250	0.250	0.750	2.500	1
	602500L		1/4 0.250	0.250	1.500	4.000	1
CCRR 	803750		3/8 0.375	0.375	1.000	3.250	2
	803750L		3/8 0.375	0.375	1.500	4.000	2
	805000		1/2 0.500	0.500	1.000	3.250	2
	805000L		1/2 0.500	0.500	1.500	4.000	2

● : Stock item

MSDP (5C)

Specification	C
Grade	ND2100
Tolerance (Drill dia.)	m7
Tolerance (Shank dia.)	h6
Point angle (θ°)	118°
Twist angle	30°
Thinning	X type
Coolant	External

CFRP

(mm)

Designation	Coated	DC		DCON-MS	5C	
	ND2100	mm	inch		APMX	OAL
MSDP 030-5C		3	-	6	28	66
040-5C		4	-	6	36	74
0476-5C		4.76	3/16	6	44	82
050-5C		5	-	6	44	82
060-5C		6	-	6	44	82
0635-5C		6.35	1/4	8	53	91
070-5C		7	-	8	53	91
0794-5C		7.94	5/16	8	53	91
080-5C		8	-	8	53	91
090-5C		9	-	10	61	103
0952-5C		9.52	3/8	10	61	103
100-5C		10	-	10	61	103
110-5C		11	-	12	71	118
1111-5C		11.11	7/16	12	71	118
120-5C		12	-	12	71	118
127-5C		12.7	1/2	14	71	124

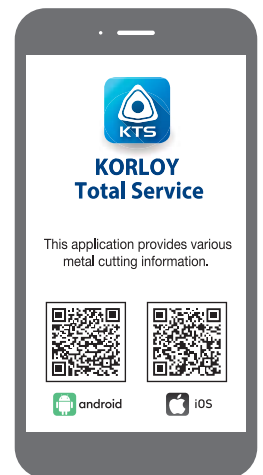
●: Stock item

For the safe metalcutting

- Use safety supplies such as protective gloves to prevent possible injury while touching the edge of tools.
- Use safety glasses or safety cover to hedge possible dangers. Inappropriate usage or excessive cutting condition may lead tool's breakage or even the fragment's scattering.
- Clamp the workpiece tightly enough to prevent its movement while its machining.
- Properly manage the tool change phase because the inordinately used tool can be easily broken under the excessive cutting load or severe wear, and it may threat the operator's safety.
- Use safety cover because chips evacuated during cutting are hot and sharp and may cause burns and cuts. To remove chips safely, stop machining, put on protective gloves, and use a hook or other tools.
- Prepare for fire prevention measures as the use of the non-water soluble cutting oil may cause fire.
- Use safety cover and other safety supplies because the spare parts or the inserts can be pulled out due to centrifugal force while high speed machining.



Head Office: Holystar B/D, 326, Seocho-daero, Seocho-gu, Seoul, 06633, Republic of Korea
Tel: +82-2-522-3181 Fax: +82-2-522-3184, +82-2-3474-4744 Web: www.korloy.com E-mail: sales.khq@korloy.com



KORLOY AMERICA

620 Maple Avenue, Torrance, CA 90503, USA
Tel: +1-310-782-3800 Toll Free: +1-888-711-0001 Fax: +1-310-782-3885
E-mail: sales.kai@korloy.com

KORLOY INDIA

Plot No. 415, Sector 8, IMT Manesar, Gurgaon 122051, Haryana, India
Tel: +91-124-439-1790 Fax: +91-124-405-0032
E-mail: sales.kip@korloy.com

KORLOY TURKIYE

Serifali Mahallesi, Burhan Sokak NO: 34
Dudullu OSB/Umraniye/Istanbul, 34775, Turkiye
Tel: +90-216-415-8874 E-mail: sales.ktl@korloy.com

KORLOY RUSSIA

Krasivy Dom office No. 305, Bld. 5, Novovladykinskiy proezd 8, 127106,
Moscow, Russia
Tel: +7-495-280-1486 Fax: +7-495-280-1459 E-mail: sales.krc@korloy.com

KORLOY FACTORY INDIA

Plot No. 415, Sector 8, IMT Manesar, Gurgaon 122051, Haryana, India
Tel: +91-124-439-1818 Fax: +91-124-405-0032
E-mail: pro.kim@korloy.com

KORLOY EUROPE

Gablonzer Str. 25-27, 61440 Oberursel, Germany
Tel: +49-6171-27783-0 Fax: +49-6171-27783-59
E-mail: sales.keg@korloy.com

KORLOY BRASIL

Av. Aruana 280, conj.12, WLC, Alphaville, Barueri, CEP06460-010, SP, Brasil
Tel: +55-114-193-3810 Fax: +55-114-193-5837
E-mail: sales.kbl@korloy.com

KORLOY CHILE

Av. Providencia 1650, Office 1009, 7500027
Providencia-Santiago, Chile
Tel: +56-229-295-490 E-mail: sales.kcs@korloy.com

KORLOY MEXICO

Calle R. M. Clemencia Borja Taboada 522, Jurica Acueducto,
76230 Juriquilla, Qro., Mexico
Tel: +52-442-673-73-88 E-mail: sales.kml@korloy.com

