



## What is Cubic Boron Nitride (CBN)

### CBN: Cubic Boron Nitride

It is a new type of synthetic superhard material, which is formed by high-pressure and high-temperature synthesis.

It has the same crystal structure as diamond, but its chemical stability is much higher than diamond, especially in oxidizing atmosphere.

Compared with diamond, CBN has a higher thermal conductivity, higher thermal stability, and higher chemical stability, especially in oxidizing atmosphere.

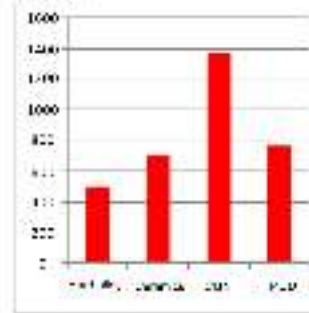
Compared with diamond, CBN has a higher thermal conductivity, higher thermal stability, and higher chemical stability, especially in oxidizing atmosphere.

It is a new type of synthetic superhard material, which is formed by high-pressure and high-temperature synthesis.



## The red hardness contrast of main tool material

Temperature



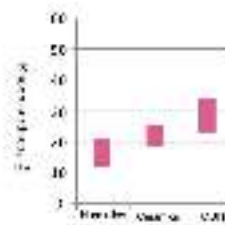
The red hardness of CBN can reach 1200°C, which is much higher than that of diamond. The hardness of CBN is higher than that of diamond in oxidizing atmosphere. CBN cutting tools can be used in high-temperature and high-speed cutting.

## Features of Polycrystalline Cubic Boron Nitride (PCBN)

- 1. It has a high thermal conductivity and high thermal stability, especially in oxidizing atmosphere.
- 2. It has a high thermal conductivity and high thermal stability, especially in oxidizing atmosphere.
- 3. It has a high thermal conductivity and high thermal stability, especially in oxidizing atmosphere.



## The hardness and wear resistance contrast of main tool material



Wear Resistance

HSS, Cemented Carbide, CBN, PCBN

## The grades and application industries of Funik innovated CBN superhard cutting tools

Grades	Working Mode	Work Material	Features/Direction	Application Industry
FCN100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.	Vertical direction	Automotive, machinery, etc.
FCN100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		
FCN100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		
FCN100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		

## The grades and application industry of Funik innovated FBK superhard cutting tools

Grades	Working Mode	Work Material	Features/Direction	Application Industry
FCB100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.	Vertical direction	Automotive, machinery, etc.
FCB100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		
FCB100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		
FCB100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		
FCB100	Grinding	High-speed steel, alloy steel, cast steel, cast iron, etc.		

## The grades and application industry of Funik innovated CBN superhard milling cutting tools

Grades	Working Mode	Application Fields	Application Industry
FCM100	Milling	High-speed steel, alloy steel, cast steel, cast iron, etc.	Automotive, machinery, etc.
FCM100	Milling	High-speed steel, alloy steel, cast steel, cast iron, etc.	
FCM100	Milling	High-speed steel, alloy steel, cast steel, cast iron, etc.	

## The main types of Funik innovated CBN superhard cutting tools

- Funik innovated solid CBN tools**
  - High-speed grinding
  - High-speed grinding
- Funik innovated grinding CBN tools**
  - High-speed grinding
  - High-speed grinding
- Funik innovated grinding CBN tools**
  - High-speed grinding
  - High-speed grinding
- Funik innovated grinding CBN tools**
  - High-speed grinding
  - High-speed grinding

## Common cutting edge types of Funik innovated CBN cutting tools

- S** Single-point cutting edge: Used for grinding hard materials.
- T** Tool cutting edge: Used for grinding hard materials.
- C** Corner cutting edge: Used for grinding hard materials.
- F** Flat cutting edge: Used for grinding hard materials.



The superiority contrast of Funik innovated CBN superhard cutting tools



Funik innovated CBN superhard cutting tools are made of high quality CBN and diamond particles, which are bonded with a special resin matrix, making them have a high hardness, high wear resistance, and high thermal stability. Funik innovated CBN superhard cutting tools are made of high quality CBN and diamond particles, which are bonded with a special resin matrix, making them have a high hardness, high wear resistance, and high thermal stability.

Funik innovated CBN superhard cutting tools  
**Turning**



Funik CBN superhard cutting tools  
Nomination Standard

Material	Grade	Grade	Grade
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
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17	17	17	17
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45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50

**C N G A**

Material	Grade	Grade	Grade
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
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44	44	44	44
45	45	45	45
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47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50

Funik CBN superhard cutting tools  
Nomination Standard

Material	Grade	Grade	Grade
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
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50	50	50	50

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Material	Grade	Grade	Grade
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
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6	6	6	6
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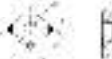




**Funik FBM series long cutting edge soldering cutting tools**



Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBM1001	10	10	10	0.2	AlTiN	●	●	●	●
FBM1002	10	10	10	0.2	AlTiN	●	●	●	●
FBM1003	10	10	10	0.2	AlTiN	●	●	●	●
FBM1004	10	10	10	0.2	AlTiN	●	●	●	●



Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBM1001	10	10	10	0.2	AlTiN	●	●	●	●
FBM1002	10	10	10	0.2	AlTiN	●	●	●	●
FBM1003	10	10	10	0.2	AlTiN	●	●	●	●
FBM1004	10	10	10	0.2	AlTiN	●	●	●	●

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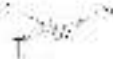
**Funik FBM series long cutting edge soldering cutting tools**

Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBM1001	10	10	10	0.2	AlTiN	●	●	●	●
FBM1002	10	10	10	0.2	AlTiN	●	●	●	●
FBM1003	10	10	10	0.2	AlTiN	●	●	●	●
FBM1004	10	10	10	0.2	AlTiN	●	●	●	●



Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBM1001	10	10	10	0.2	AlTiN	●	●	●	●
FBM1002	10	10	10	0.2	AlTiN	●	●	●	●
FBM1003	10	10	10	0.2	AlTiN	●	●	●	●
FBM1004	10	10	10	0.2	AlTiN	●	●	●	●


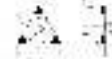
Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBM1001	10	10	10	0.2	AlTiN	●	●	●	●
FBM1002	10	10	10	0.2	AlTiN	●	●	●	●
FBM1003	10	10	10	0.2	AlTiN	●	●	●	●
FBM1004	10	10	10	0.2	AlTiN	●	●	●	●

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**Funik FBK series super finishing Cutting Tools**

Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBK1001	10	10	10	0.2	AlTiN	●	●	●	●
FBK1002	10	10	10	0.2	AlTiN	●	●	●	●
FBK1003	10	10	10	0.2	AlTiN	●	●	●	●
FBK1004	10	10	10	0.2	AlTiN	●	●	●	●

Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBK1001	10	10	10	0.2	AlTiN	●	●	●	●
FBK1002	10	10	10	0.2	AlTiN	●	●	●	●
FBK1003	10	10	10	0.2	AlTiN	●	●	●	●
FBK1004	10	10	10	0.2	AlTiN	●	●	●	●

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**Funik FBK series super finishing Cutting Tools**




Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBK1001	10	10	10	0.2	AlTiN	●	●	●	●
FBK1002	10	10	10	0.2	AlTiN	●	●	●	●
FBK1003	10	10	10	0.2	AlTiN	●	●	●	●
FBK1004	10	10	10	0.2	AlTiN	●	●	●	●


  




Tool	Dimensions (mm)				Material	Coatings			
	L	W	H	R		AlTiN	AlTiCrN	AlCrN	AlN
FBK1001	10	10	10	0.2	AlTiN	●	●	●	●
FBK1002	10	10	10	0.2	AlTiN	●	●	●	●
FBK1003	10	10	10	0.2	AlTiN	●	●	●	●
FBK1004	10	10	10	0.2	AlTiN	●	●	●	●

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### Funik FBK series super finishing Cutting Tools




Tool	External diameter	Length	Height	Material		Grade					
				CBN	AlN	11-12-4	11-12-5	11-12-6	11-12-7	11-12-8	
JUN10214	10	10	4	1	1	●	●	●	●	●	●
JUN10215	15	15	4	1	1	●	●	●	●	●	●
JUN10216	20	20	4	1	1	●	●	●	●	●	●
JUN10217	25	25	4	1	1	●	●	●	●	●	●
JUN10218	30	30	4	1	1	●	●	●	●	●	●




Tool	External diameter	Length	Height	Material		Grade					
				CBN	AlN	11-12-4	11-12-5	11-12-6	11-12-7	11-12-8	
JUN10219	10	10	4	1	1	●	●	●	●	●	●
JUN10220	15	15	4	1	1	●	●	●	●	●	●
JUN10221	20	20	4	1	1	●	●	●	●	●	●
JUN10222	25	25	4	1	1	●	●	●	●	●	●
JUN10223	30	30	4	1	1	●	●	●	●	●	●

Funik FBK series super finishing Cutting Tools


### Funik FBK series super finishing Cutting Tools



Tool	External diameter	Length	Height	Material		Grade					
				CBN	AlN	11-12-4	11-12-5	11-12-6	11-12-7	11-12-8	
JUN10214	10	10	4	1	1	●	●	●	●	●	●
JUN10215	15	15	4	1	1	●	●	●	●	●	●
JUN10216	20	20	4	1	1	●	●	●	●	●	●
JUN10217	25	25	4	1	1	●	●	●	●	●	●
JUN10218	30	30	4	1	1	●	●	●	●	●	●



Tool	External diameter	Length	Height	Material		Grade					
				CBN	AlN	11-12-4	11-12-5	11-12-6	11-12-7	11-12-8	
JUN10219	10	10	4	1	1	●	●	●	●	●	●
JUN10220	15	15	4	1	1	●	●	●	●	●	●
JUN10221	20	20	4	1	1	●	●	●	●	●	●
JUN10222	25	25	4	1	1	●	●	●	●	●	●
JUN10223	30	30	4	1	1	●	●	●	●	●	●




Tool	External diameter	Length	Height	Material		Grade					
				CBN	AlN	11-12-4	11-12-5	11-12-6	11-12-7	11-12-8	
JUN10214	10	10	4	1	1	●	●	●	●	●	●
JUN10215	15	15	4	1	1	●	●	●	●	●	●
JUN10216	20	20	4	1	1	●	●	●	●	●	●
JUN10217	25	25	4	1	1	●	●	●	●	●	●
JUN10218	30	30	4	1	1	●	●	●	●	●	●

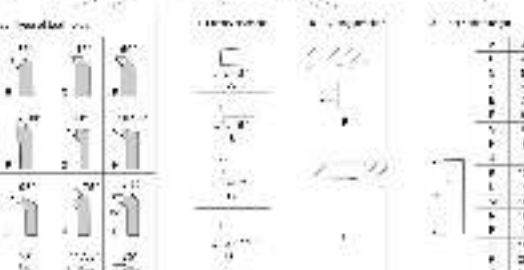
Funik FBK series super finishing Cutting Tools

### ISO Code expression of Indexable external turning tool holder

ISO Code expression of Indexable external turning tool holder




ISO Code	Tool Holder	Material	Grade
WJ162014	WJ162014	CBN	11-12-4
WJ162015	WJ162015	AlN	11-12-5
WJ162016	WJ162016	CBN	11-12-6
WJ162017	WJ162017	AlN	11-12-7
WJ162018	WJ162018	CBN	11-12-8



ISO Code	Tool Holder	Material	Grade
WJ162019	WJ162019	CBN	11-12-4
WJ162020	WJ162020	AlN	11-12-5
WJ162021	WJ162021	CBN	11-12-6
WJ162022	WJ162022	AlN	11-12-7
WJ162023	WJ162023	CBN	11-12-8

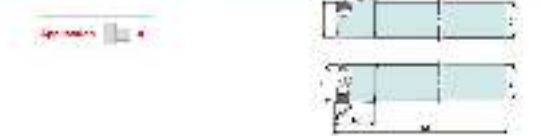
### Funik Innovated CBN superhard cutting tools Tool Holder Series

#### 25° Tool Holder



Typical Series	Tool Holder	Material	Grade
WJ162014	WJ162014	CBN	11-12-4
WJ162015	WJ162015	AlN	11-12-5
WJ162016	WJ162016	CBN	11-12-6
WJ162017	WJ162017	AlN	11-12-7
WJ162018	WJ162018	CBN	11-12-8
WJ162019	WJ162019	CBN	11-12-4
WJ162020	WJ162020	AlN	11-12-5
WJ162021	WJ162021	CBN	11-12-6
WJ162022	WJ162022	AlN	11-12-7
WJ162023	WJ162023	CBN	11-12-8

#### 83° Tool Holder



Typical Series	Tool Holder	Material	Grade
WJ162014	WJ162014	CBN	11-12-4
WJ162015	WJ162015	AlN	11-12-5
WJ162016	WJ162016	CBN	11-12-6
WJ162017	WJ162017	AlN	11-12-7
WJ162018	WJ162018	CBN	11-12-8
WJ162019	WJ162019	CBN	11-12-4
WJ162020	WJ162020	AlN	11-12-5
WJ162021	WJ162021	CBN	11-12-6
WJ162022	WJ162022	AlN	11-12-7
WJ162023	WJ162023	CBN	11-12-8



**Funik Innovated CBN superhard cutting tools Tool Holder Series**



**45° Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-45-01010	10	20	15	25	25	15	10	10	10
Funik-45-02010	10	20	20	30	30	15	10	10	10
Funik-45-03010	10	20	20	30	30	20	10	10	10
Funik-45-04010	4	14	10	10	10	10	10	10	10
Funik-45-05010	4	14	10	10	10	10	10	10	10
Funik-45-06010	4	14	10	10	10	10	10	10	10
Funik-45-07010	4	14	10	10	10	10	10	10	10
Funik-45-08010	4	14	10	10	10	10	10	10	10
Funik-45-09010	4	14	10	10	10	10	10	10	10

**Middle Laying 45° Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-45-10010	21	21	10	10	10	10	10	10	10
Funik-45-11010	47	47	10	10	10	10	10	10	10
Funik-45-12010	57	57	10	10	10	10	10	10	10

**Funik Innovated CBN superhard cutting tools Tool Holder Series**

**Arc Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-Arc-01010	10	10	15	15	15	15	15	15	15
Funik-Arc-02010	10	10	15	15	15	15	15	15	15
Funik-Arc-03010	15	15	18	18	18	18	18	18	18
Funik-Arc-04010	15	15	18	18	18	18	18	18	18
Funik-Arc-05010	15	15	18	18	18	18	18	18	18
Funik-Arc-06010	15	15	18	18	18	18	18	18	18

**Middle Laying Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-ML-01010	10	10	15	15	15	15	15	15	15
Funik-ML-02010	10	10	15	15	15	15	15	15	15
Funik-ML-03010	15	15	18	18	18	18	18	18	18
Funik-ML-04010	15	15	18	18	18	18	18	18	18
Funik-ML-05010	15	15	18	18	18	18	18	18	18
Funik-ML-06010	15	15	18	18	18	18	18	18	18

**Funik Innovated CBN superhard cutting tools Tool Holder Series**



**Front 75° Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-75-01010	10	10	15	15	15	15	15	15	15
Funik-75-02010	10	10	15	15	15	15	15	15	15
Funik-75-03010	15	15	18	18	18	18	18	18	18
Funik-75-04010	15	15	18	18	18	18	18	18	18
Funik-75-05010	15	15	18	18	18	18	18	18	18
Funik-75-06010	15	15	18	18	18	18	18	18	18

**75° Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-75-07010	10	10	15	15	15	15	15	15	15
Funik-75-08010	10	10	15	15	15	15	15	15	15
Funik-75-09010	15	15	18	18	18	18	18	18	18

**Funik Innovated CBN superhard cutting tools Tool Holder Series**

**90° Tool Holder**

Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-90-01010	10	10	15	15	15	15	15	15	15
Funik-90-02010	10	10	15	15	15	15	15	15	15
Funik-90-03010	15	15	18	18	18	18	18	18	18

**95° Tool Holder**

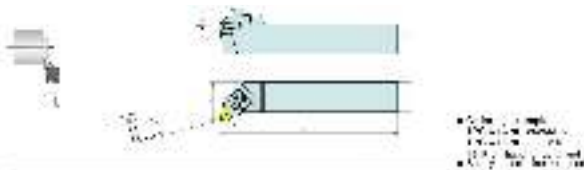
Typical Tool No.	1-2	3	4	5	6	7	8	9	10
Funik-95-01010	10	10	15	15	15	15	15	15	15
Funik-95-02010	10	10	15	15	15	15	15	15	15
Funik-95-03010	15	15	18	18	18	18	18	18	18





**Funik innovated CBN superhard cutting tools**  
Common inner bore turning tool holder series

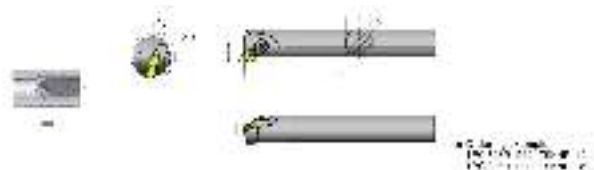
**10° WCLNR/L**



Type	Dimensions		C	R	E	F	K	M	N	S	T	W	X	Y	Z	
	mm	inch														
FWCLNR10-1	10	0.3937	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWCLNR10-2	15	0.5905	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWCLNR10-3	20	0.7874	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWCLNR10-4	25	0.9843	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWCLNR10-5	30	1.1812	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125

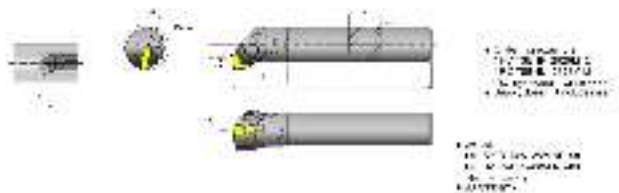
**Funik innovated CBN superhard cutting tools**  
Common inner bore turning tool holder series

**15° TS4ND1**



Type	Dimensions		C	R	E	F	K	M	N	S	T	W	X	Y	Z	
	mm	inch														
FTS4ND1-1	10	0.3937	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTS4ND1-2	15	0.5905	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTS4ND1-3	20	0.7874	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTS4ND1-4	25	0.9843	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTS4ND1-5	30	1.1812	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125

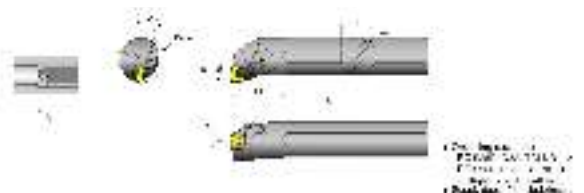
**95° WWLNR/L**



Type	Dimensions		C	R	E	F	K	M	N	S	T	W	X	Y	Z	
	mm	inch														
FWWLNR95-1	10	0.3937	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWWLNR95-2	15	0.5905	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWWLNR95-3	20	0.7874	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWWLNR95-4	25	0.9843	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWWLNR95-5	30	1.1812	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125

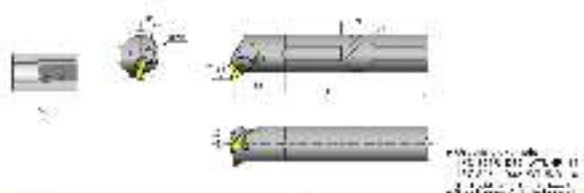
**Funik innovated CBN superhard cutting tools**  
Common inner bore turning tool holder series

**95° TCLNR/L**



Type	Dimensions		C	R	E	F	K	M	N	S	T	W	X	Y	Z	
	mm	inch														
FTCLNR95-1	10	0.3937	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTCLNR95-2	15	0.5905	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTCLNR95-3	20	0.7874	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTCLNR95-4	25	0.9843	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FTCLNR95-5	30	1.1812	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125

**95° WUNRL**



Type	Dimensions		C	R	E	F	K	M	N	S	T	W	X	Y	Z	
	mm	inch														
FWUNRL95-1	10	0.3937	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWUNRL95-2	15	0.5905	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWUNRL95-3	20	0.7874	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWUNRL95-4	25	0.9843	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125
FWUNRL95-5	30	1.1812	0	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125	0.125

**Funik Innovated CBN Superhard Cutting Tools**  
**Milling**



Compared with cobalt carbide and ceramic cutting tools, using Funik CBN superhard cutting tools for milling cast iron and hardened steel has the following obvious advantages:

- Higher material removal rate
- Longer life of tools
- Lower comprehensive cost per working parts

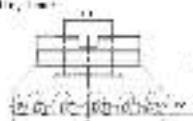




## Funik Innovated CBN Superhard Cutting Tools

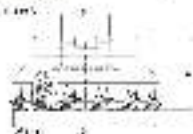
### Surface Milling Cutter Series

Model: 400-410-420-430-440



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
400-410-420-430-440	4	50	20°		
400-410-420-430-440	4	80	20°		
400-410-420-430-440	12	100	20°	18000-18000	18000-18000
400-410-420-430-440	16	100	20°		
400-410-420-430-440	16	100	20°		
400-410-420-430-440	16	100	20°		
400-410-420-430-440	16	100	20°		
400-410-420-430-440	16	100	20°		

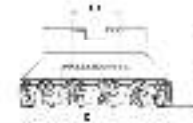
Model: 450-460-470-480-490



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
450-460-470-480-490	4	50	20°		
450-460-470-480-490	4	80	20°		
450-460-470-480-490	12	100	20°	18000-18000	18000-18000
450-460-470-480-490	16	100	20°		
450-460-470-480-490	16	100	20°		
450-460-470-480-490	16	100	20°		
450-460-470-480-490	16	100	20°		
450-460-470-480-490	16	100	20°		

## Funik Innovated CBN Superhard Cutting Tools

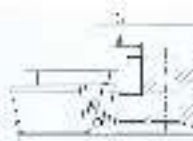
Model: 410-420-430-440-450



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
410-420-430-440-450	4	50	20°		
410-420-430-440-450	4	80	20°		
410-420-430-440-450	12	100	20°	18000-18000	18000-18000
410-420-430-440-450	16	100	20°		
410-420-430-440-450	16	100	20°		
410-420-430-440-450	16	100	20°		
410-420-430-440-450	16	100	20°		
410-420-430-440-450	16	100	20°		

### Surface Milling Cutter Series

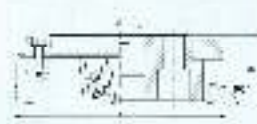
Model: 460-470-480-490-500



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
460-470-480-490-500	4	50	20°		
460-470-480-490-500	4	80	20°		
460-470-480-490-500	12	100	20°	18000-18000	18000-18000
460-470-480-490-500	16	100	20°		
460-470-480-490-500	16	100	20°		
460-470-480-490-500	16	100	20°		
460-470-480-490-500	16	100	20°		
460-470-480-490-500	16	100	20°		

## Funik Innovated CBN Superhard Cutting Tools

Model: 510-520-530-540-550



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
510-520-530-540-550	4	50	20°		
510-520-530-540-550	4	80	20°		
510-520-530-540-550	12	100	20°	18000-18000	18000-18000
510-520-530-540-550	16	100	20°		
510-520-530-540-550	16	100	20°		
510-520-530-540-550	16	100	20°		
510-520-530-540-550	16	100	20°		
510-520-530-540-550	16	100	20°		

### Surface Milling Cutter Series

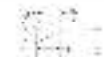
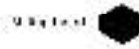
Model: 560-570-580-590-600



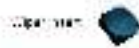
Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
560-570-580-590-600	4	50	20°		
560-570-580-590-600	4	80	20°		
560-570-580-590-600	12	100	20°	18000-18000	18000-18000
560-570-580-590-600	16	100	20°		
560-570-580-590-600	16	100	20°		
560-570-580-590-600	16	100	20°		
560-570-580-590-600	16	100	20°		
560-570-580-590-600	16	100	20°		

## Funik Innovated CBN Superhard Milling Cutting Tools

Model: 610-620-630-640-650



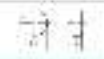
Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
610-620-630-640-650	4	50	20°		
610-620-630-640-650	4	80	20°		
610-620-630-640-650	12	100	20°	18000-18000	18000-18000
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
610-620-630-640-650	4	50	20°		
610-620-630-640-650	4	80	20°		
610-620-630-640-650	12	100	20°	18000-18000	18000-18000
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
610-620-630-640-650	4	50	20°		
610-620-630-640-650	4	80	20°		
610-620-630-640-650	12	100	20°	18000-18000	18000-18000
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		



Typical options	Flute number	Flute length	Flute form	Wedge	Surface profile
610-620-630-640-650	4	50	20°		
610-620-630-640-650	4	80	20°		
610-620-630-640-650	12	100	20°	18000-18000	18000-18000
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		
610-620-630-640-650	16	100	20°		

### Funik Innovated CBN Superhard Milling Cutting Tools

High Quality CBN Superhard Milling Cutting Tools for High Speed Milling and High Precision Machining.

<b>Funik</b>		
<b>CBN</b>	<b>Material</b>	<b>Grade</b>
CBN-1000	CBN-1000	CBN-1000
<b>Funik</b>		
<b>CBN</b>	<b>Material</b>	<b>Grade</b>
CBN-1000	CBN-1000	CBN-1000
<b>Funik</b>		
<b>CBN</b>	<b>Material</b>	<b>Grade</b>
CBN-1000	CBN-1000	CBN-1000
<b>Funik</b>		
<b>CBN</b>	<b>Material</b>	<b>Grade</b>
CBN-1000	CBN-1000	CBN-1000
<b>Funik</b>		
<b>CBN</b>	<b>Material</b>	<b>Grade</b>
CBN-1000	CBN-1000	CBN-1000

### The application of Funik innovated CBN superhard cutting tool in automotive industry



### The application cases of Funik Innovated CBN superhard cutting tool in automotive industry

	<p>Application of CBN tool in automotive industry</p>		<p>Application of CBN tool in automotive industry</p>
	<p>Application of CBN tool in automotive industry</p>		<p>Application of CBN tool in automotive industry</p>
	<p>Application of CBN tool in automotive industry</p>		<p>Application of CBN tool in automotive industry</p>
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	<p>Application of CBN tool in automotive industry</p>		<p>Application of CBN tool in automotive industry</p>
	<p>Application of CBN tool in automotive industry</p>		<p>Application of CBN tool in automotive industry</p>
	<p>Application of CBN tool in automotive industry</p>		<p>Application of CBN tool in automotive industry</p>

### Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools



### Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools

	<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>		<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>
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	<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>		<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>
	<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>		<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>
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	<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>		<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>
	<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>		<p>Advantages of turning high carbide cast iron by using Funik innovated CBN superhard cutting tools</p>



**Funik Innovated CBN superhard cutting tools**  
The advantages of "turning instead of grinding machine"  
finishing process hardened steel



**The application cases of Funik innovated CBN superhard cutting tools in gear and bearing industry**

**The application cases of Funik innovated CBN superhard cutting tools in air condition compressor industry**

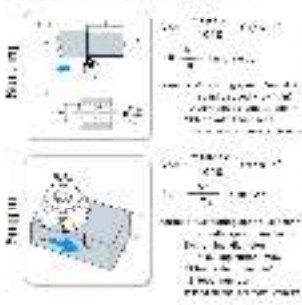


**The application cases of Funik innovated CBN superhard cutting tools in Machine tools, mining and construction machinery industry**

**Precautions of using Funik innovated CBN superhard cutting tools**



**conventional cutting parameter formula**



**Precautions of installation and change insert**

- 1. Check the installation direction of the insert.
- 2. Check the installation direction of the insert.
- 3. Check the installation direction of the insert.
- 4. Check the installation direction of the insert.
- 5. Check the installation direction of the insert.
- 6. Check the installation direction of the insert.
- 7. Check the installation direction of the insert.
- 8. Check the installation direction of the insert.

**Recommended cutting parameters of Funik innovated CBN superhard cutting tools**

Material	Tool	Cutting speed (m/min)	Feed (mm/min)	Depth of cut (mm)	Cutting parameters	
					Spindle speed (rpm)	Feed per tooth (mm/tooth)
S45C	W100	1500	0.15	0.2	1500	0.15
	W150	1500	0.15	0.2	1500	0.15
	W200	1500	0.15	0.2	1500	0.15
	W250	1500	0.15	0.2	1500	0.15
	W300	1500	0.15	0.2	1500	0.15
	W350	1500	0.15	0.2	1500	0.15
S50C	W100	1500	0.15	0.2	1500	0.15
	W150	1500	0.15	0.2	1500	0.15
	W200	1500	0.15	0.2	1500	0.15
	W250	1500	0.15	0.2	1500	0.15
	W300	1500	0.15	0.2	1500	0.15
	W350	1500	0.15	0.2	1500	0.15

**Notes:**  
1. The recommended cutting parameters are for reference only. The actual cutting parameters should be determined according to the actual situation.  
2. The recommended cutting parameters are for reference only. The actual cutting parameters should be determined according to the actual situation.  
3. The recommended cutting parameters are for reference only. The actual cutting parameters should be determined according to the actual situation.  
4. The recommended cutting parameters are for reference only. The actual cutting parameters should be determined according to the actual situation.  
5. The recommended cutting parameters are for reference only. The actual cutting parameters should be determined according to the actual situation.