



硬质合金棒材

CEMENTED CARBIDE RODS



济南市冶金科学研究所有限责任公司

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企业简介 CORPORATE PROFILE

济南冶科所是一家集科、工、贸于一体的国家级高新技术企业，具有50多年硬质合金产品研制、生产历史，技术力量雄厚，工艺装备先进，检测设备完善，产品质量过硬，现有职工500余人，其中工程技术人员100余人，高级工程师30余人，拥有各类具有国际一流、国内领先水平的生产、检测设备300余台。

公司产品种类齐全，部分产品技术性能已达到国内领先、国际先进水平。产品性能优良，品质卓越，远销美国、加拿大、日本、欧洲、亚洲、非洲、南美洲等几十个国家和地区，在国内外市场享有很高盛誉。

公司先后获得国家“高新技术企业”荣誉称号，“AAA”级信誉企业，济南市高性能硬质合金工程实验室，省级企业技术中心，专精特新企业，并荣获国家级“专精特新小巨人”荣誉称号。

公司通过了ISO9001、ISO14001及OHSAS18001三体系认证，以雄厚的科技创新能力，精细的生产和质量管理，突出的经营业绩备受行业关注，现为中国钨业协会理事单位、硬质合金协会常务理事单位。

Jinan Institute of Metallurgical Science Co., Ltd. is a national-level high-tech enterprise integrating science, industry, and trade. It has a history of over 50 years in the research, development, and production of cemented carbide products. It boasts strong technical force, advanced process equipment, and complete testing facilities, and its product quality is excellent. Currently, it has more than 500 employees, including over 100 engineering and technical personnel and more than 30 senior engineers. It has more than 300 sets of production and testing equipment of various types, which are first-class internationally and leading domestically.

The company has a complete range of products. The technical performance of some products has reached the leading domestic and advanced international levels. With excellent performance and superior quality, its products are exported to dozens of countries and regions such as the United States, Canada, Japan, Europe, Asia, Africa, and South America, enjoying a high reputation in both domestic and international markets.

The company has successively won the honorary title of National High-Tech Enterprise, "AAA"-level Credit Enterprise, Jinan High-performance Cemented Carbide Engineering Laboratory, Provincial-level Enterprise Technology Center, Specialized and Sophisticated Enterprise, and has also won the National-level honorary title of Specialized and Sophisticated Little Giant.

The company has passed the ISO9001, ISO14001, and OHSAS18001 three-system certifications. With its strong scientific and technological innovation ability, meticulous production and quality management, and outstanding business performance, it has attracted the attention of the industry. Currently, it is a council member unit of the China Tungsten Industry Association and an executive director unit of the Cemented Carbide Association.

Table of Contents **目录**

棒材牌号介绍及用途推荐.....	01
Grade Introduction and Recommended Application	
实心圆棒.....	03
Solid Rods	
● 毛坯长棒 / Unground Rods --03	
● 毛坯短棒 / Unground Rods --04	
● 精磨短棒 / Ground Rods --05	
● 精磨倒角短棒 / Ground Rods with Chamfer --06	
带内冷孔棒材.....	07
Rods with Coolant Holes	
● 30°双螺旋孔棒材 / Rods with 2 Helical Coolant Holes 30° --07	
● 30°三螺旋孔棒材 / Rods with 3 Helical Coolant Holes 30° --08	
● 40°双螺旋孔棒材 / Rods with 2 Helical Coolant Holes 40° --09	
● 单直孔棒材 / Rods with Central Coolant Hole --10	
● 双直孔棒材 / Rods with Two Straight Coolant Holes --11	
板条及切削刀具.....	12
Bars and Cutting Tools	
工艺流程.....	13
Technological Process	
质量保证.....	14
Quality Assurance	
公差等级.....	15
Tolerance	
企业荣誉.....	17
Enterprise Honors	
应用领域.....	18
Application Fields	
营销网络.....	19
Marketing network	



棒材牌号介绍及用途推荐

GRADE INTRODUCTION AND RECOMMENDED APPLICATION

牌 号 Grade	ISO牌号 ISO Grade	碳化钨 WC (%)	钴 Co (%)	晶粒度 Grain Size (μm)	硬度 Hardness (HRA)	密 度 Density (g/cm^3)	抗弯强度 T.R.S (N/mm^2)
JU06	K05-K10	94	6	0.5	94	14.75	3600
YG10X	K20-K30	90	10	0.8	91.5	14.35	3600
JF15	K20-K30	90	10	0.8	92.2	14.35	3900
JF20	K20-K30	90	10	0.6	92.3	14.40	4000
JF25	K30-K40	88	12	0.6	92.5	14.10	4000
JF25UF	K30-K40	88	12	0.4	92.8	14.05	4200

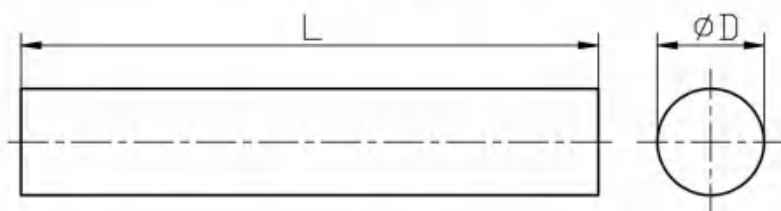
- 1、以上牌号标明的参数均为典型值；
 All the above data are typical values.
 2、保留技术指标修改权利。
 Technical modifications right are reserved.

牌 号 Grade	对应ISO牌号 ISO Grade	用 途 推 荐 Recommended application
JU06	K05-K10	适用于加工镁铝合金，石墨，塑料和复合材料等 Suitable for machining aluminium magnesium alloy, graphite, plastic and composite material, etc.
YG10X	K20-K30	适用于加工普通钢，有色金属，铸铁等材料 Suitable for machining materials such as common steel, non-ferrous metals, and cast iron, etc.
JF15	K20-K30	适用于加工普通钢，铸铁，不锈钢，耐热钢，镍基及钛合金等材料 Suitable for machining common steel, cast iron, stainless steel, heat-resistant steel, nickel base alloy and titanium alloy, etc.
JF20	K20-K30	适用于加工不锈钢，耐热合金，铸铁，镍基及钛合金等材料 Suitable for machining stainless steel, heat-resistant steel, cast iron, nickel base alloy and titanium alloy, etc.
JF25	K30-K40	适用于加工合金钢，钛合金，铸铁，铝合金等材料 Suitable for machining alloy steel, titanium alloy, cast iron, aluminium alloy, etc.
JF25UF	K30-K40	适用于精加工以及加工合金钢，不锈钢，铝合金、钛合金等材料 Suitable for machining alloy steel, stainless steel, aluminium alloy and titanium alloy, etc.

实心圆棒

SOLID RODS
UNGROUND RODS

毛坯长棒

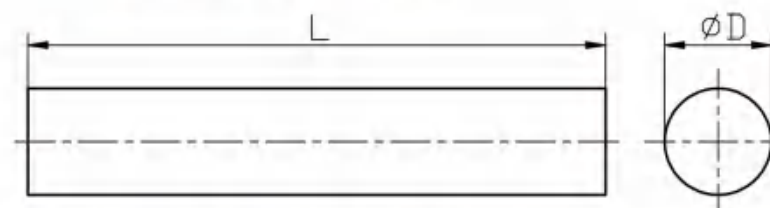


规格 Type	直径 Diameter (mm)		长度 Length (mm)	
	φ D	公差 Tol.	L	公差 Tol.
Bφ3×330	3	+0.3,+0.4	330	0,+4
Bφ4×330	4	+0.3,+0.5	330	0,+4
Bφ6×330	6	+0.3,+0.5	330	0,+4
Bφ8×330	8	+0.3,+0.5	330	0,+4
Bφ10×330	10	+0.3,+0.5	330	0,+4
Bφ12×330	12	+0.4,+0.7	330	0,+4
Bφ14×330	14	+0.4,+0.7	330	0,+4
Bφ16×330	16	+0.4,+0.7	330	0,+4
Bφ18×330	18	+0.4,+0.7	330	0,+4
Bφ20×330	20	+0.4,+0.7	330	0,+4
Bφ22×330	22	+0.5,+0.8	330	0,+4
Bφ24×330	24	+0.5,+0.8	330	0,+4
Bφ25×330	25	+0.5,+0.8	330	0,+4
Bφ26×330	26	+0.5,+0.8	330	0,+4
Bφ28×330	28	+0.5,+0.8	330	0,+4
Bφ30×330	30	+0.5,+0.8	330	0,+4
Bφ32×330	32	+0.6,+0.9	330	0,+4

其它型号可定制
Other Size available request

毛坯短棒

UNGROUND RODS



公制毛坯短棒 (Unground Rods-Metric)

规格 Type	直径 Diameter (mm)		长度 Length (mm)	
	φ D	公差 Tol.	L	公差 Tol.
Bφ3.20×38.5	3.2	+0.05,+0.1	38.5	+0.2,+1.0
Bφ4×50	4	+0.3,+0.5	50	+0.2,+1.0
Bφ6×50	6	+0.3,+0.5	50	+0.2,+1.0
Bφ8×60	8	+0.3,+0.5	60	+0.2,+1.0
Bφ8×100	8	+0.3,+0.5	100	+0.2,+1.0
Bφ10×75	10	+0.3,+0.5	75	+0.2,+1.0
Bφ10×100	10	+0.3,+0.5	100	+0.2,+1.0
Bφ12×75	12	+0.4,+0.7	75	+0.2,+1.0
Bφ12×100	12	+0.4,+0.7	100	+0.2,+1.0
Bφ14×100	14	+0.4,+0.7	100	+0.2,+1.0
Bφ16×100	16	+0.4,+0.7	100	+0.2,+1.0
Bφ18×100	18	+0.4,+0.7	100	+0.2,+1.0
Bφ20×100	20	+0.4,+0.7	100	+0.2,+1.0

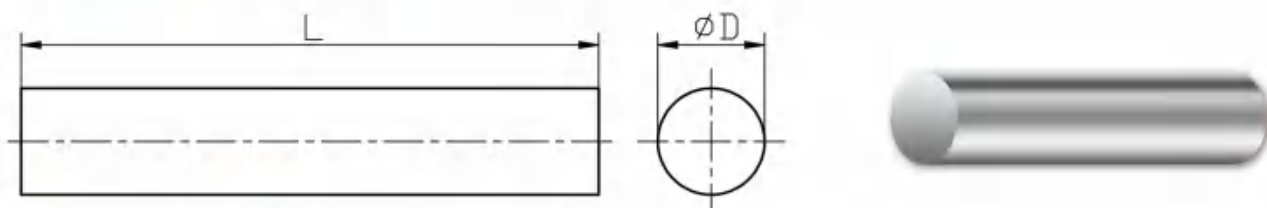
英制毛坯短棒 (Unground Rods-Inch)

规格 Type	直径 Diameter (mm)		长度 Length (mm)	
	φ D	公差 Tol.	L	公差 Tol.
Bφ1/8*1-1/2	3.175	+0.2,+0.3	38.1	+0.2,+1.0
Bφ3/16*2	4.7625	+0.3,+0.5	50.8	+0.2,+1.0
Bφ1/4*2	6.35	+0.3,+0.5	50.8	+0.2,+1.0
Bφ1/4*2-1/2	6.35	+0.3,+0.5	63.5	+0.2,+1.0
Bφ3/8*2	9.525	+0.3,+0.5	50.8	+0.2,+1.0
Bφ1/2*4	12.7	+0.4,+0.7	101.6	+0.2,+1.0
Bφ3/4*4	19.05	+0.4,+0.7	101.6	+0.2,+1.0
Bφ1*4	25.4	+0.5,+0.8	101.6	+0.2,+1.0

其它型号可定制
Other Size available request

精磨短棒

GROUND RODS



公制精磨短棒 (Ground Rods-Metric)

规格 Type	直径 Diameter (mm)		长度 Length (mm)	
	ϕD	公差 Tol.	L	公差 Tol.
$\phi 3.2 \times 38.5$	3.175	h6	38.5	0,+0.5
$\phi 4 \times 50$	4	h6	50	0,+0.5
$\phi 6 \times 50$	6	h6	50	0,+0.5
$\phi 8 \times 60$	8	h6	60	0,+0.5
$\phi 8 \times 100$	8	h6	100	0,+0.5
$\phi 10 \times 75$	10	h6	75	0,+0.5
$\phi 10 \times 100$	10	h6	100	0,+0.5
$\phi 12 \times 75$	12	h6	75	0,+0.5
$\phi 12 \times 100$	12	h6	100	0,+0.5
$\phi 14 \times 100$	14	h6	100	0,+0.5
$\phi 16 \times 100$	16	h6	100	0,+0.5
$\phi 18 \times 100$	18	h6	100	0,+0.5
$\phi 20 \times 100$	20	h6	100	0,+0.5

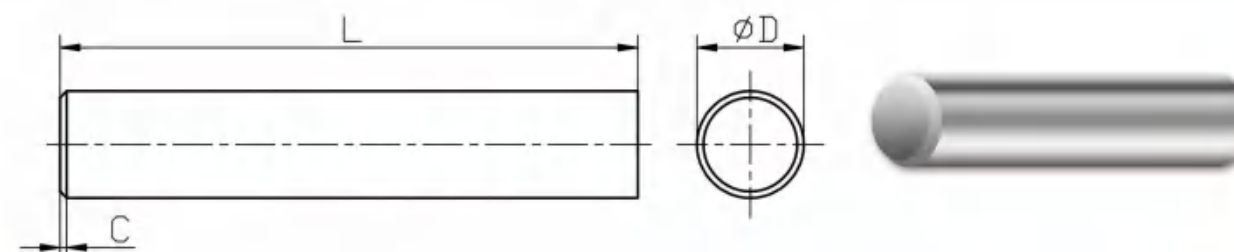
英制精磨短棒 (Ground Rods-Inch)

规格 Type	直径 Diameter (mm)		长度 Length (mm)	
	ϕD	公差 Tol.	L	公差 Tol.
$\phi 1/8 \times 1-1/2$	3.175	h6	38.1	0,+0.5
$\phi 3/16 \times 2$	4.7625	h6	50.8	0,+0.5
$\phi 1/4 \times 2$	6.35	h6	50.8	0,+0.5
$\phi 1/4 \times 2-1/2$	6.35	h6	63.5	0,+0.5
$\phi 3/8 \times 2$	9.525	h6	50.8	0,+0.5
$\phi 1/2 \times 4$	12.7	h6	101.6	0,+0.5
$\phi 3/4 \times 4$	19.05	h6	101.6	0,+0.5
$\phi 1 \times 4$	25.4	h6	101.6	0,+0.5

其它型号可定制
Other Size available request

精磨倒角短棒

GROUND RODS WITH CHAMFER

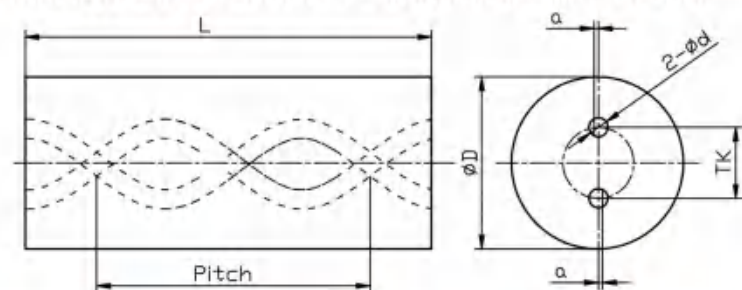


规格 Type	直径D(mm) (公差Tol.h6)	长度L(mm) (公差Tol./0,+0.5mm)	倒角尺寸C(mm) (公差Tol./ ± 0.1 mm)	倒角角度 Angle of Chamfer (公差Tol./ $\pm 3^\circ$)
$\phi 3.25 \times 38.5$	3.175	38.5	0.4	45°
$\phi 4 \times 50$	4	50	0.4	45°
$\phi 6 \times 50$	6	50	0.5	45°
$\phi 8 \times 60$	8	60	0.6	45°
$\phi 8 \times 100$	8	100	0.6	45°
$\phi 10 \times 75$	10	75	0.6	45°
$\phi 10 \times 100$	10	100	0.6	45°
$\phi 12 \times 75$	12	75	0.8	45°
$\phi 12 \times 100$	12	100	0.8	45°
$\phi 14 \times 100$	14	100	0.8	45°
$\phi 16 \times 100$	16	100	0.8	45°
$\phi 18 \times 100$	18	100	0.8	45°
$\phi 20 \times 100$	20	100	1.0	45°

其它型号可定制
Other Size available request

带内冷孔棒材

RODS WITH COOLANT HOLES
RODS WITH 2 HELICAL COOLANT HOLES 30°



30°双螺旋孔棒材

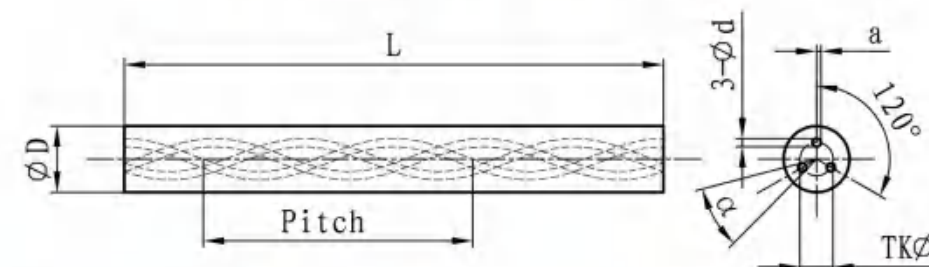


规格 Type	直径 D		长度 L (公差 Tol./0,+4)	孔径 d		孔间距 TK		孔中心 偏离 a	螺距 Pitch	
	φ (mm)	公差 Tol.(mm)		d(mm)	公差 Tol.(mm)	TK(mm)	公差 Tol.(mm)		P(mm)	公差 Tol.(mm)
Bφ3x2+0.4x17x330H30	3	+0.6/+1.0	330	0.4	±0.10	1.70	0,-0.4	0.10	16.32	+0.33,-0.32
Bφ4x2+0.6x22x330H30	4	+0.6/+1.0	330	0.6	±0.10	2.20	0,-0.4	0.10	21.77	+0.45,-0.43
Bφ5x2+0.7x23x330H30	5	+0.6/+1.0	330	0.7	±0.10	2.30	0,-0.4	0.10	27.21	+0.56,-0.54
Bφ6x2+0.7x26x330H30	6	+0.7/+1.3	330	0.7	±0.10	2.60	0,-0.4	0.15	32.65	+0.67,-0.65
Bφ7x2+1.0x37x330H30	7	+0.7/+1.3	330	1.0	±0.10	3.70	0,-0.4	0.15	38.09	+0.78,-0.76
Bφ8x2+1.0x40x330H30	8	+0.7/+1.3	330	1.0	±0.15	4.00	0,-0.6	0.15	43.53	+0.89,-0.86
Bφ9x2+1.4x48x330H30	9	+0.7/+1.3	330	1.4	±0.15	4.80	0,-0.6	0.20	48.97	+1.00,-0.97
Bφ10x2+1.4x48x330H30	10	+0.7/+1.3	330	1.4	±0.15	4.80	0,-0.6	0.20	54.41	+1.11,-1.08
Bφ12x2+1.4x62.5x330H30	12	+0.7/+1.3	330	1.4	±0.15	6.25	0,-0.8	0.30	65.3	+1.34,-1.30
Bφ14x2+1.75x71x330H30	14	+0.7/+1.3	330	1.75	±0.20	7.10	0,-0.8	0.40	76.18	+1.56,-1.51
Bφ16x2+1.75x83x330H30	16	+0.7/+1.3	330	1.75	±0.20	8.30	0,-0.8	0.40	87.06	+1.78,-1.83
Bφ18x2+2.0x95.5x330H30	18	+0.7/+1.3	330	2.0	±0.25	9.55	0,-0.8	0.50	97.95	+2.00,-1.94
Bφ20x2+2.0x104x330H30	20	+0.7/+1.3	330	2.0	±0.25	10.40	0,-1.0	0.50	108.83	+2.23,-2.16
Bφ22x2+2.0x116x330H30	22	+0.7/+1.3	330	2.0	±0.25	11.60	0,-1.0	0.50	119.71	+2.45,-2.38
Bφ25x2+2.0x133x330H30	25	+0.8/+1.5	330	2.0	±0.25	13.30	0,-1.0	0.50	136.03	+2.78,-2.70

其它型号可定制
Other Size available request

30°三螺旋孔棒材

RODS WITH 3 HELICAL COOLANT HOLES 30°

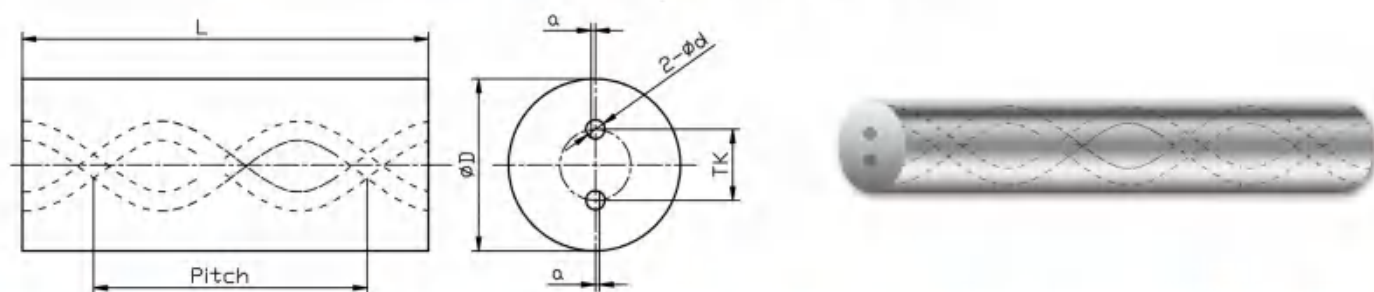


规格 Type	直径 D		长度 L (公差 Tol./0,+4)	孔径 d		孔间距 TK		孔中心 偏离 a		螺距 Pitch
	φ (mm)	公差 Tol.(mm)		d(mm)	公差 Tol.(mm)	TK(mm)	公差 Tol.(mm)	a	α	
Bφ6x3+0.5x29x330H30	6	+0.7/+1.3	330	0.5	±0.10	2.9	0,-0.4	0.15	±4°	32.65
Bφ8x3+0.7x40x330H30	8	+0.7/+1.3	330	0.7	±0.15	4.0	0,-0.4	0.15	±4°	43.53
Bφ10x3+0.9x51x330H30	10	+0.7/+1.3	330	0.9	±0.15	5.1	0,-0.6	0.20	±4°	54.41
Bφ12x3+1.1x63x330H30	12	+0.7/+1.3	330	1.1	±0.15	6.3	0,-0.8	0.30	±4°	65.3
Bφ14x3+1.4x73x330H30	14	+0.7/+1.3	330	1.4	±0.15	7.3	0,-0.8	0.40	±4°	76.18
Bφ16x3+1.6x83x330H30	16	+0.7/+1.3	330	1.6	±0.15	8.3	0,-0.8	0.40	±4°	87.06
Bφ18x3+1.7x95x330H30	18	+0.7/+1.3	330	1.7	±0.15	9.5	0,-0.8	0.50	±4°	97.95
Bφ20x3+1.9x102x330H30	20	+0.7/+1.3	330	1.9	±0.20	10.2	0,-1.0	0.50	±4°	108.83

其它型号可定制
Other Size available request

40° 双螺旋孔棒材

RODS WITH 2 HELICAL COOLANT HOLES 40°

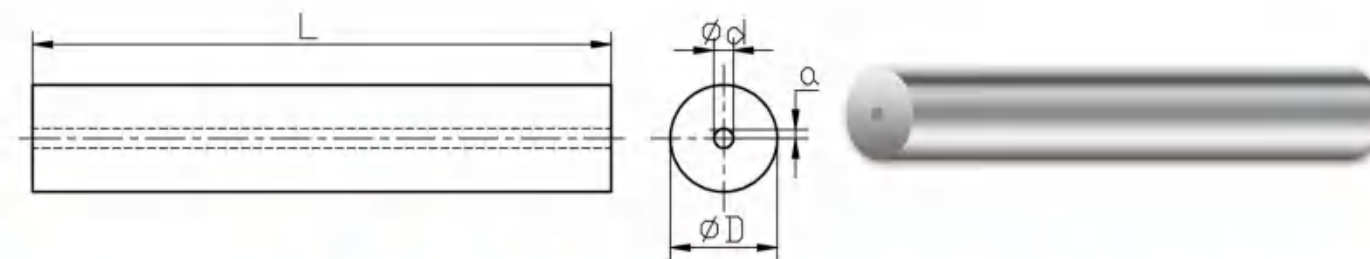


规格 Type	直径 D		长度 L (公差 Tol./0,+4)	孔径 d		孔间距 TK		孔中心 偏离 a	螺距 Pitch	
	φ (mm)	公差 Tol.(mm)		d(mm)	公差 Tol.(mm)	TK(mm)	公差 Tol.(mm)		P(mm)	公差 Tol.(mm)
B φ 6x2 φ 0.5x2.2x330H40	6	+0.7/+1.3	330	0.50	±0.10	2.20	0,-0.4	0.15	22.46	+0.40,-0.39
B φ 8x2 φ 0.65x2.7x330H40	8	+0.7/+1.3	330	0.65	±0.15	2.70	0,-0.6	0.15	29.95	+0.54,-0.53
B φ 10x2 φ 0.8x3.5x330H40	10	+0.7/+1.3	330	0.80	±0.15	3.50	0,-0.8	0.20	37.44	+0.67,-0.66
B φ 12x2 φ 0.9x4.2x330H40	12	+0.7/+1.3	330	0.90	±0.15	4.20	0,-0.8	0.30	44.93	+0.80,-0.79
B φ 14x2 φ 1.0x4.7x330H40	14	+0.7/+1.3	330	1.00	±0.20	4.70	0,-0.8	0.40	52.42	+0.94,-0.92
B φ 16x2 φ 1.2x5.5x330H40	16	+0.7/+1.3	330	1.20	±0.20	5.50	0,-0.8	0.40	59.90	+1.07,-1.05
B φ 18x2 φ 1.4x6.3x330H40	18	+0.7/+1.3	330	1.40	±0.25	6.30	0,-0.8	0.50	67.39	+1.21,-1.18
B φ 20x2 φ 1.5x7.1x330H40	20	+0.7/+1.3	330	1.50	±0.25	7.10	0,-1.0	0.50	74.88	+1.34,-1.31

其它型号可定制
Other Size available request

单直孔棒材

RODS WITH CENTRAL COOLANT HOLE

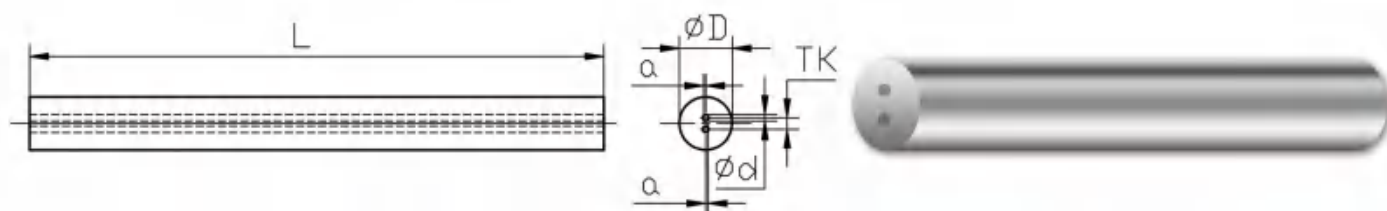


规格 Type	直径 D		长度 L (公差 Tol./0,+4)	孔径 d		孔中心 偏离 a
	φ (mm)	公差 Tol.(mm)		d(mm)	公差 Tol.(mm)	
B φ 6x φ 1x330	6	+0.30/+0.60	330	1.00	±0.15	0.15
B φ 7x φ 1x330	7	+0.30/+0.60	330	1.00	±0.15	0.15
B φ 8x φ 1x330	8	+0.30/+0.60	330	1.00	±0.15	0.15
B φ 9x φ 1.4x330	9	+0.30/+0.70	330	1.40	±0.15	0.20
B φ 10x φ 1.4x330	10	+0.30/+0.70	330	1.40	±0.15	0.20
B φ 11x φ 1.4x330	11	+0.30/+0.70	330	1.40	±0.15	0.30
B φ 12x φ 1.75x330	12	+0.30/+0.80	330	1.75	±0.15	0.30
B φ 13x φ 1.75x330	13	+0.30/+0.80	330	1.75	±0.15	0.40
B φ 14x φ 1.75x330	14	+0.30/+0.80	330	1.75	±0.15	0.40
B φ 15x φ 2x330	15	+0.40/+0.80	330	2.00	±0.20	0.40
B φ 16x φ 2x330	16	+0.40/+0.80	330	2.00	±0.20	0.40
B φ 17x φ 2x330	17	+0.40/+0.80	330	2.00	±0.20	0.50
B φ 18x φ 2x330	18	+0.40/+0.80	330	2.00	±0.20	0.50
B φ 19x φ 2x330	19	+0.40/+0.80	330	2.00	±0.20	0.50
B φ 20x φ 2.5x330	20	+0.40/+0.80	330	2.50	±0.25	0.50

其它型号可定制
Other Size available request

双直孔棒材

RODS WITH TWO STRAIGHT COOLANT HOLES

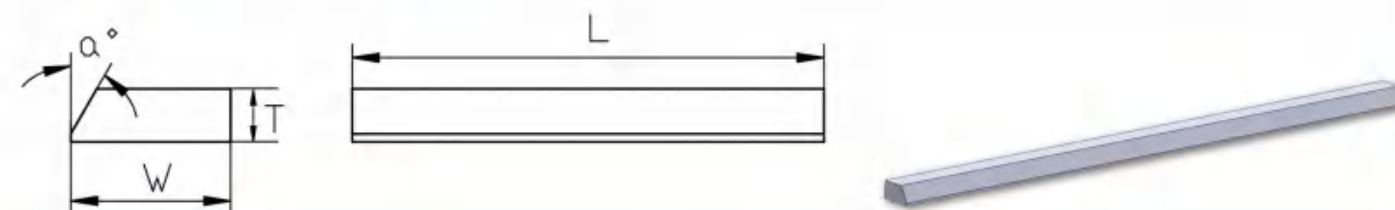


规格 Type	直径 D		长度 L (公差 Tol./0,+4)	孔径 d		孔间距 TK		孔中心 偏离 a
	φ (mm)	公差 Tol.(mm)		d(mm)	公差 Tol.(mm)	TK(mm)	公差 Tol.(mm)	
B φ 6x2 φ 1x3x330	6	+0.30/+0.60	330	1.00	±0.15	3.00	0/-0.2	0.15
B φ 7x2 φ 1x3.5x330	7	+0.30/+0.60	330	1.00	±0.15	3.50	0/-0.2	0.15
B φ 8x2 φ 1x4x330	8	+0.30/+0.60	330	1.00	±0.15	4.00	0/-0.3	0.15
B φ 9x2 φ 1.4x4x330	9	+0.30/+0.70	330	1.40	±0.15	4.00	0/-0.3	0.20
B φ 10x2 φ 1.4x5x330	10	+0.30/+0.70	330	1.40	±0.15	5.00	0/-0.3	0.20
B φ 11x2 φ 1.4x5x330	11	+0.30/+0.70	330	1.40	±0.15	5.00	0/-0.3	0.30
B φ 12x2 φ 1.75x6x330	12	+0.30/+0.80	330	1.75	±0.15	6.00	0/-0.3	0.30
B φ 13x2 φ 1.75x6x330	13	+0.30/+0.80	330	1.75	±0.15	6.00	0/-0.3	0.40
B φ 14x2 φ 1.75x7x330	14	+0.30/+0.80	330	1.75	±0.15	7.00	0/-0.3	0.40
B φ 15x2 φ 2x7x330	15	+0.40/+0.80	330	2.00	±0.20	7.00	0/-0.3	0.40
B φ 16x2 φ 2x8x330	16	+0.40/+0.80	330	2.00	±0.20	8.00	0/-0.3	0.40
B φ 17x2 φ 2x8x330	17	+0.40/+0.80	330	2.00	±0.20	8.00	0/-0.3	0.50
B φ 18x2 φ 2x9x330	18	+0.40/+0.80	330	2.00	±0.20	9.00	0/-0.3	0.50
B φ 19x2 φ 2x9x330	19	+0.40/+0.80	330	2.00	±0.20	9.00	0/-0.3	0.50
B φ 20x2 φ 2.5x10x330	20	+0.40/+0.80	330	2.50	±0.25	10.00	0/-0.4	0.50

其它型号可定制
Other Size available request

板条

BARS



尺寸 Size	尺寸范围 Size range	公差 (Tol.)
厚度 T (mm)	2 ≤ T ≤ 16	+0.2/+0.8
宽度 W(mm)	2 ≤ W ≤ 32	+0.2/+1.0
长度 L(mm)	70 ≤ L ≤ 330	0/+5
角度 α(°)	0~35°	±2°

其它型号可定制
Other Size available request

切削刀具

CUTTING TOOLS



工艺流程

TECHNOLOGICAL PROCESS



质量保证

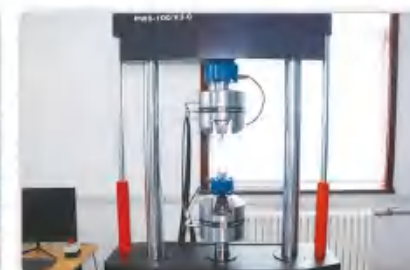
QUALITY ASSURANCE



力可碳硫分析仪/Carbon sulfur analyzer



力可氧氮分析仪/Oxygen nitrogen analyzer



万能试验机/Universal testing machine



电感藕荷等离子体发射光谱仪/
Inductive coupled plasma emission spectrometer



微波消解仪/Microwave digester



倒置金相显微镜/
Inverted metallographic microscope



矫顽磁力计/Coercimeter



3D扫描仪/3D scanner



全自动分段检测钴磁测量仪/
Automatic subsection detection cobalt magnetic measuring instrument

公差等级 TOLERANCE

精磨外径公差 (Tol.of Ground Rods' Diameter)

直径D (mm)	h5	h6	h7
0-3.0mm	0/-0.004mm	0/-0.006mm	0/-0.010mm
3.001-6.0mm	0/-0.005mm	0/-0.008mm	0/-0.012mm
6.001-10.0mm	0/-0.006mm	0/-0.009mm	0/-0.015mm
10.001-18.0mm	0/-0.008mm	0/-0.011mm	0/-0.018mm
18.001-30.0mm	0/-0.009mm	0/-0.013mm	0/-0.021mm

棒材表面粗糙度 (Surface Roughness of Rods)

类型 Type	精度 Accuracy
镜面棒材 Polished Rods	0.00-0.05 μ m
精磨棒材 Ground Rods	0.05-0.10 μ m

直线度公差 (Straightness)

直径D(mm)	L<300 (mm)	L=300/310/320/330 (mm)
2.0-3.0	L/10000	0.04*
4.0-7.0	L/10000	0.06
7.0-18.0	L/10000	0.05
18.0-32.0	L/10000	0.04

*注:直径小于等于3mm棒材直线度测量距离为100mm。
*Note: Rods D $\leq$ 3mm are measured with distance of 100mm.

圆跳动公差 (Circular Run-out)

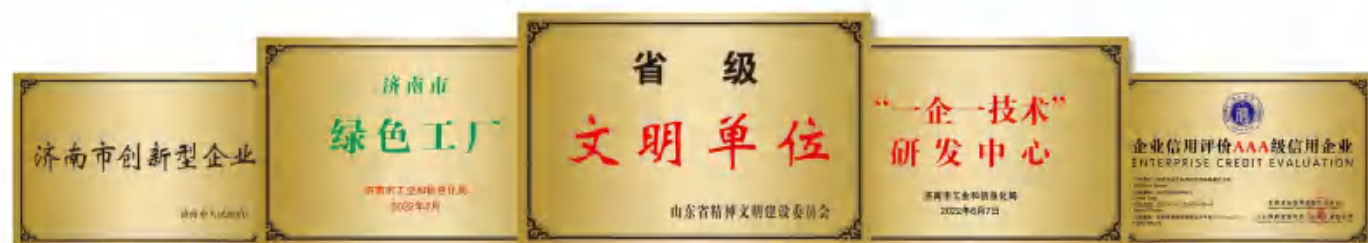
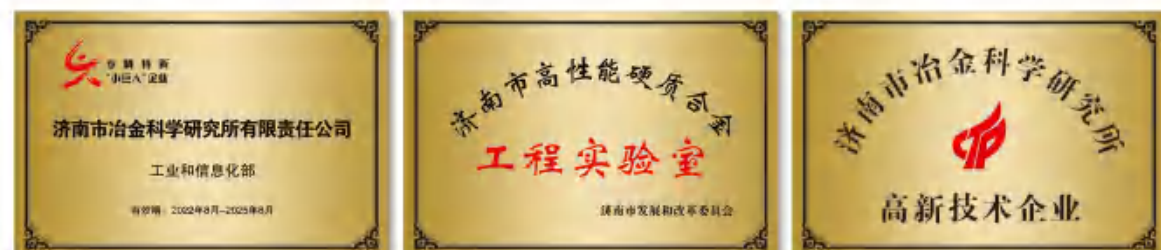
直径D(mm)	L (mm)			
	<60	>60-100	>100-160	>160-300
2.4-4.0	0.008	0.015	0.020	0.040
4.0-6.0	0.008	0.015	0.020	0.040
6.0-12.0	0.004	0.008	0.010	0.020
12.0-20.0	0.004	0.008	0.010	0.020
20.0-32.0	0.003	0.005	0.010	0.020

圆度 (Roundness)

直径D(mm)	圆度Roundness(mm)
2.0-4.0	0.002
4.0-7.0	0.003
7.0-18.0	0.004
18.0-32.0	0.005

企业荣誉

ENTERPRISE HONORS



应用领域

APPLICATION FIELDS

硬质合金棒材具有高硬度、高耐磨性、高强度、抗弯曲、刀具寿命长等一系列优良性能。硬质合金棒材是制作钻头和刀具的坯料，目前主要采用粉末挤压成型的工艺生产。

公司棒材产品牌号种类丰富、规格齐全，可制作各种钻头，整体立铣刀，整体铰刀，雕刻刀等等，通过长期的技术积累和近年的装备优化，具备年产1000吨实心圆棒、单/双直孔圆棒、螺旋圆棒的生产能力，可提供直径2mm到50mm各种标准规格的烧结棒材和研磨棒材。

硬质合金棒材用于制作各种钻头、整体立铣刀、整体铰刀、雕刻刀等刀具，同时也可制作硬质合金冲头、芯棒、顶尖及穿孔工具等。可以广泛应用于机械、化工、石油、冶金、汽车、电子和国防工业等领域。

The cemented carbide rods have a series of excellent properties such as high hardness, high wear resistance, high strength, resistance to bending, and long tool life. Cemented carbide rods are the blanks for making drills and cutting tools. At present, the powder extrusion process is mainly used for producing the carbide rods.

Our carbide rods' products have a rich variety of grades and complete specifications. They can be used to make various drills, solid end mills, solid reamers, engraving cutters, etc. Through long-term technical accumulation and equipment optimization in recent years, our company has the production capacity of 1000 tons of solid carbide rods, single hole rods and two straight hole rods, and helix hole rods per year. We can provide unground rods and ground rods of various standard specifications with diameters ranging from 2mm to 50mm.

Cemented carbide rods are used to make various cutting tools such as drills, solid end mills, solid reamers, and engraving cutters. At the same time, they can also be used to make cemented carbide punches, mandrels, centers, and piercing tools. They can be widely applied in fields such as machinery, chemical industry, petroleum, metallurgy, automotive, electronics, and national defense industry.

