



中国驰名商标  
CHINA'S RENOWNED BRAND



Cemented carbide rods & bars

**硬质合金型材**



**株洲硬质合金集团有限公司**  
ZHUSHOU CEMENTED CARBIDE GROUP CORP. LTD.

# Introduction 简介

株洲硬质合金集团有限公司是1954年筹建的国家“一五”期间156项重点工程之一，是中国最大的硬质合金生产、科研、经营和出口基地，也是行业大型骨干企业。主要产品有“钻石牌”硬质合金、钨钼制品、钽铌制品等三大系列。广泛应用于冶金、机械、矿山、石化、电子、轻纺、军工及家具制造等行业，产品畅销74个国家和地区。

集团公司建立了规范的现代化管理体系：1996年通过了ISO9001质量管理体系认证，2004年通过了ISO14001环境体系认证和OHSAS18001职业健康安全管理体系认证。公司“钻石牌”商标1999年被认定为中国驰名商标，并先后在美国、加拿大、德国和日本等47个国家和地区注册，受“马德里协定”保护。“钻石牌”硬质合金2004年被评为“中国名牌”。

株硬集团秉承“世界工具，财富利器”的经营理念，持守“精诚创造价值”的核心价值观，坚持管理“以心为本”的管理理念，遵从“精以敬业，诚以待人”的行为基准，大力弘扬“追求过硬，进取无限”的企业精神，始终把“重科技，严管理，质量第一，钻石牌产品全力满足顾客需求”作为质量方针，追求“打造国际知名品牌，跻身世界硬质合金强势企业”的目标。ZCC拥有子公司株洲硬质合金进出口有限责任公司经营它的进出口业务，后者全权销售ZCC生产的所有产品。

Zhuzhou Cemented Carbide Group Corporation Ltd (ZCC) was one of the 156 major projects that China constructed in 1954 in its "First Five-Year Plan". It is China's biggest base in the production, scientific research, sales and export of cemented carbide as well as a large backbone enterprise in the industry. Its main products fall into 3 major categories- "Diamond Brand" cemented carbide, tungsten and molybdenum products and tantalum and niobium products. They are widely used in industries of metallurgy, machinery, mining, petroleum-chemistry, electronics, textiles, national defense and furniture, etc., and the products are selling well to 74 countries and regions.

ZCC has set up a standardized modern management system. It was awarded Quality Control System Certificate ISO9001 in 1996, Environmental Protection Management System Certificate ISO14001 and Occupational Health and Safety Management System Certificate OHSAS 18001 in 2004. ZCC's "Diamond Brand" trademark was named as China's renowned trademark in 1999, and has been registered in 47 countries and regions, such as USA, Canada, Germany, and Japan etc., and it is protected by the Madrid Agreement. "Diamond Brand" cemented carbide was named as "China's Famous Brand" in 2004.

ZCC adheres to the management philosophy of "World's Tools, Sharp Tools for Wealth", upholds the core value concept of "Good Faith Creates Value", sticks to the administration philosophy of "Human Beings as the Core", abides by the criterion for act of "Loving one's Cause with a Perfect Mastery and Treating People with Sincerity", advocates an enterprise spirit of "Pursuing a Perfect Mastery and Making Constant Progress", takes as the quality principle "Stress on Science and Technology, Strict Administration, Quality First, Diamond Brand Products Fully Meeting the Requirements of Customers" and aims at the objective of "Forging a Famous World Brand and Squeezing its Way into the Ranks of Strong World Enterprises". ZCC possesses a subsidiary, Zhuzhou Cemented Carbide Works Imp.& Exp. Company, to deal with its import and export business. The latter has the full right to sell all the products produced by ZCC.



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### ★牌号成分及性能★ Grades, composition and properties

牌号 Grade	国际分类号 ISO code	晶粒度 Grain size μm	钴含量 Cobalt content (wt.-%)	密度 Density g/cm <sup>3</sup>	硬度 Hardness		抗弯强度 TRS (ISO3327) C试样 Sample C	
					HV30	HRA	N/mm <sup>2</sup>	KPSI
YU06A	K05-K10	0.4	6.0	14.75	2100	94.7	3800	551.0
YU06	K05-K10	0.4	6.0	14.75	2050	94.3	3000	435.0
YF06	K05-K10	0.5	6.0	14.90	1850	93.1	3800	551.0
YH6F	K05-K10	0.5	6.0	14.80	1900	93.5	4000	580.0
YU08E	K10-K20	0.4	8.0	14.60	1950	94.0	4100	594.5
YL10.2	K20-K30	0.8	10.0	14.42	1600	91.5	4000	580.0
YL10A	K10-K20	0.8	8.0	14.65	1780	92.8	4200	609.0
YL10D	K30-K40	0.7	12.0	14.15	1680	92.0	4000	580.0
YU12	K30-K40	0.4	12.0	14.05	1750	92.5	4000	580.0
XF30	K30-K40	0.6	12.0	14.10	1700	92.3	4000	580.0
YL50	K30-K40	1.3	15.0	14.00	1110	87.0	4000	580.0
YL15	P20-P30	1.0	8.5	12.80	1600	91.5	3000	435.0
YC40T	P30-P40	0.8	13.0	13.60	1470	90.1	3500	507.5

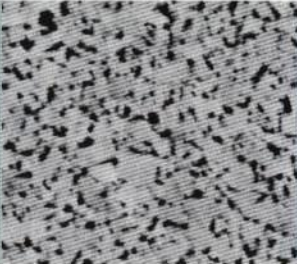
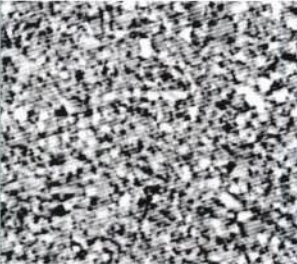
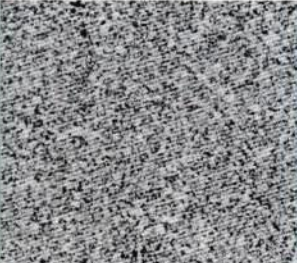
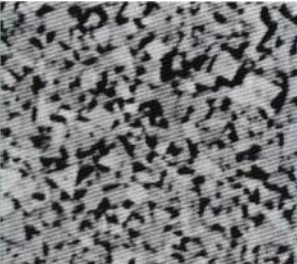
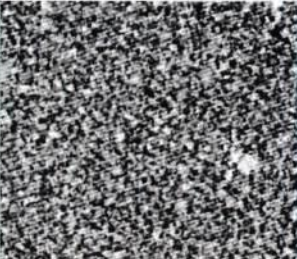
- 注：1. 材质牌号所标明的参数及图片均为典型值。  
2. 本样本的解释权在株洲硬质合金集团有限公司。

Note: 1. All the data above are typical.

2. The right to construe this catalogue belongs to Zhuzhou Cemented carbide group corp. Ltd.

★牌号用途推荐★ Recommended applications for the grades

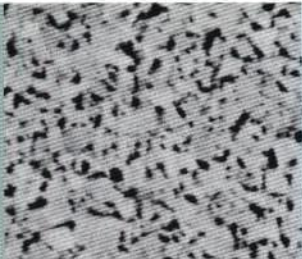
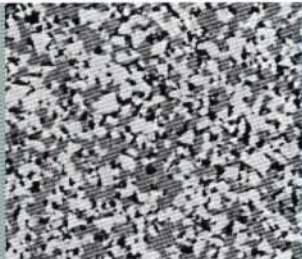
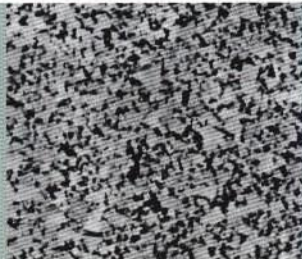
PCB工具用牌号 Grades for PCB tools

牌号 Grade	金相 Microstructure	推荐用途 Applications recommended
YF06		<p>适用于加工铝镁合金、塑料、塑料王以及碳纤维、铁基合金等复合材料。 推荐用于制作 <math>\phi 3.2\sim 6.3\text{mm}</math> PCB大直径钻头、<math>\phi 0.8\sim 3.2\text{mm}</math> PCB微钻、微铣刀和铰刀等硬质合金工具。</p> <p>It is suitable for machining composite materials, such as aluminum-magnesium alloys, plastics, reinforced plastics and carbon fiber, iron-based alloys, etc. It is recommended for making big PCB drills of <math>\phi 3.2\sim 6.3\text{mm}</math>, micro drills of <math>\phi 0.8\sim 3.2\text{mm}</math>, micro milling tools and reamers, etc.</p>
YU06		<p>适用于玻璃纤维、木材、塑料、铝镁合金等材料的加工。 推荐用于制作各种硬质合金整体工具和PCB微钻、微铣刀,是制作加工PCB微铣刀的首选。</p> <p>It is suitable for machining glass fiber, wood, plastics, aluminum-magnesium alloys, etc. It is recommended for making various solid carbide tools and PCB micro drills, micro milling tools &amp; it is an optimal grade for PCB micro drills &amp; micro milling tools.</p>
YU06A		<p>适用于玻璃纤维、木材、塑料、铝镁合金等材料的加工。 推荐用于制作钻径<math>\geq 0.5\text{mm}</math>的PCB微型铣刀。</p> <p>It is suitable for machining glass fiber, wood, plastics, aluminum-magnesium alloys, etc. It is recommended for making PCB micro milling tools with drilling diameter <math>\geq 0.5\text{mm}</math>.</p>
YH6F (新) New		<p>采用纳米复合粉研制,具有更为均匀的晶粒度,更高的强度、硬度和韧性等综合性能。特别适合于制作<math>\phi 0.30\sim 0.50\text{mm}</math> PCB微钻。</p> <p>It is developed with Nano meter composite powder with comprehensive properties of even grain size, higher strength, hardness and toughness etc. It is especially suitable for making PCB micro drills of <math>\phi 0.3\sim 0.5\text{mm}</math>.</p>
YU08E (新) New		<p>适用于加工玻璃纤维制品、木材、塑料、纸、黄铜等材料。 推荐用于制作<math>\phi 0.3\sim 0.5\text{mm}</math> PCB用微钻。</p> <p>It is suitable for making glass fiber, wood, plastics, paper, brass, etc. It is recommended for making PCB drills of <math>0.3\sim 0.5\text{mm}</math>.</p>

### PCB工具用牌号 Grades for PCB tools

牌号 Grade	金相 Microstructure	推荐用途 Applications recommended
XF30 (新) New		<p>适用于加工钛合金、耐热合金、不锈钢、硬化钢、灰口铸铁、玻璃纤维增强塑料、复合材料等。 用于制作钻头、铣刀等。</p> <p>It is suitable for machining titanium alloy, heat-resistant alloys, stainless steel, hardened steel, grey cast iron, glass-fiber reinforced plastics, composite materials, etc. It is recommended to make drills and milling tools, etc.</p>

### 整体刀具用牌号 Grades for solid tools

牌号 Grade	金相 Microstructure	推荐用途 Applications recommended
YF06		<p>适用于加工铝镁合金、塑料、塑料王以及碳纤维、铁基合金等复合材料。推荐用于制作加工铝镁合金的钻头。</p> <p>It is suitable for machining composite materials, such as aluminum-magnesium alloys, plastics, reinforced plastics, carbon fiber, iron-based alloys, etc. It is recommended to make drills for machining aluminum-magnesium alloys.</p>
YL15		<p>适合制作螺旋铣刀片等硬质合金工具，具有高的红硬性、冲击韧性。推荐用于普通碳钢的粗加工。</p> <p>It is suitable for making carbide tools, such as helical milling tools with high hot hardness and impact toughness. It is recommended for the roughing of common carbon steel.</p>
YL10A		<p>适用于铸铁、铝合金等材料的加工，也可用于普钢的加工。推荐用于铸铁、铝合金的钻削加工。</p> <p>It is suitable for machining cast iron, aluminium alloys, etc. also for machining common steels. Recommended for the drilling of cast iron and aluminium alloys.</p>

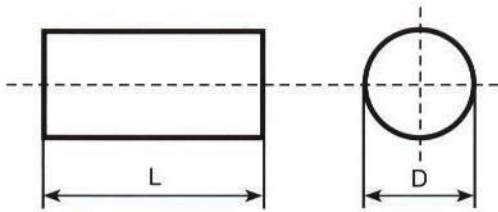


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牌号 Grade	金相 Microstructure	推荐用途 Applications recommended
YL10.2		<p>适用于普钢、铸铁、不锈钢、耐热钢、镍基及钛合金等材料的加工。推荐用于麻花钻头、立铣刀、丝锥、枪钻等通用工具材料。</p> <p>It is suitable for machining common steel, cast iron, stainless steel, heat-resistant steel, nickel based alloys and titanium alloys, etc. It is recommended for making conventional tools, such as twist drills, end mills, screw taps, gun drills, etc.</p>
YL10D		<p>适用于钛合金、耐热合金、不锈钢、淬硬钢、灰口铸铁、玻璃纤维增强塑料等材料的加工。推荐用于涂层刀具铣削淬硬钢、模具钢等。</p> <p>It is suitable for machining titanium alloys, heat-resistant alloys, stainless steel, hardened steel, grey cast iron, glass-fiber reinforced plastics, etc. It is recommended for making coated cutting tools to mill hardened steel and die steel, etc.</p>
YU12		<p>适用于钛合金、耐热合金、不锈钢、淬硬钢、灰口铸铁、玻璃纤维增强塑料等材料的加工。推荐用于制作各种规格的立铣刀、球头铣刀等硬质合金工具，具有比YL10.2更高的硬度和强度。</p> <p>It is suitable for machining titanium alloys, heat-resistant alloys, stainless steel, hardened steel, grey cast iron, glass-fiber reinforced plastics, etc. It is recommended for making end mills and ball nose mills of various specifications with hardness and strength higher than YL10.2.</p>
YC40T		<p>具有较好的耐磨性、高的抗弯强度及良好韧性和抗冲击能力。适用于不锈钢尤其是奥氏体不锈钢的粗加工和半精加工。适用于低速条件下切削耐热合金钢。</p> <p>This grade offers good wear resistance, high transverse rupture strength, good toughness and impact resistance. It is suitable for machining stainless steel, especially for the roughing and semi-finishing operations of austenitic stainless steel. Also suitable for machining heat-resistant alloy steel at low speed.</p>
YL50		<p>适合制作冲压用整体模具和工具。</p> <p>It is suitable for making solid dies and tools for punching operations.</p>

### PCB工具用硬质合金棒材 Cemented carbide rods for PCB tools

型号表示: B $\phi$ D $\times$ L    Type specifications: B $\phi$ D $\times$ L

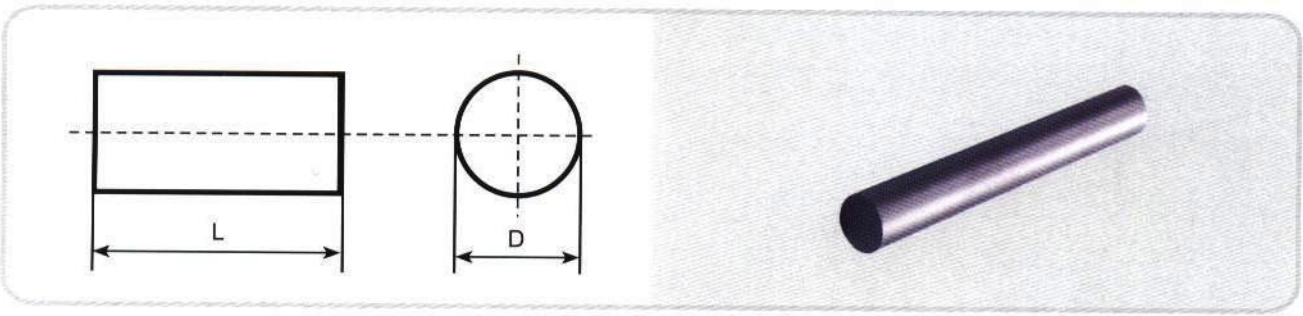


型号 Type	直径公差 Tolerance of diameter(mm)	长度公差 Tolerance of length(mm)	
B $\phi$ 3.25 $\times$ 38.5	-0/+0.05	-0.20/+0.20	
B $\phi$ 3.5 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 4.0 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 4.5 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 5.0 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 5.5 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 6.0 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 6.5 $\times$ 38.5	-0/+0.05	-0.20/+0.20	+0.05/+0.25
B $\phi$ 3.25 $\times$ 38.7	-0/+0.05	-0.20/+0.30	
B $\phi$ 3.5 $\times$ 12.8	+0.20/+0.50	-0.10/+0.10	-0.10/+0.20
B $\phi$ 4.0 $\times$ 12.8	+0.20/+0.50	-0.10/+0.10	-0.10/+0.20
B $\phi$ 4.5 $\times$ 12.8	+0.20/+0.50	-0.10/+0.10	-0.10/+0.20
B $\phi$ 5.0 $\times$ 12.8	+0.20/+0.40	-0.10/+0.10	-0.10/+0.20
B $\phi$ 5.5 $\times$ 12.8	+0.20/+0.40	-0.10/+0.10	-0.10/+0.20
B $\phi$ 6.0 $\times$ 12.8	+0.20/+0.40	-0.10/+0.10	-0.10/+0.20
B $\phi$ 6.5 $\times$ 12.8	+0.20/+0.40	-0.10/+0.10	-0.10/+0.20
B $\phi$ 6.85 $\times$ 12.8	+0.20/+0.40	-0.10/+0.10	-0.10/+0.20



**实心硬质合金棒材毛坯 Solid cemented carbide rod blanks**

型号表示:  $\phi D \times L$  Type specifications:  $\phi D \times L$



(公制) the metric system

型号 Type	外径公差 Tolerance of diameter(mm)	长度公差 Tolerance of length(mm)
$\phi 0.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 1.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 1.2 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 1.6 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 1.8 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 2.3 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 2.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 3.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 3.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 4.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 4.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 5.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 5.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 6.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 6.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 7.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 7.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 8.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 8.5 \times 330$	+0.20/+0.45	-0/+5.0

型号 Type	外径公差 Tolerance of diameter(mm)	长度公差 Tolerance of length(mm)
$\phi 9.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 9.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 10.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 10.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 11.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 11.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 12.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 12.5 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 13.0 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 13.5 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 14.0 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 14.5 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 15.0 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 15.5 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 16.0 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 16.5 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 17.0 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 17.5 \times 330$	+0.20/+0.60	-0/+5.0
$\phi 18.0 \times 330$	+0.20/+0.60	-0/+5.0

# Cemented carbide rods & bars

## 硬质合金型材

(公制) the metric system

型号 Type	外径公差 Tolerance of diameter(mm)	长度公差 Tolerance of length(mm)
φ 18.5×330	+0.20/+0.60	-0/+5.0
φ 19.0×330	+0.20/+0.60	-0/+5.0
φ 19.5×330	+0.20/+0.60	-0/+5.0
φ 20.0×330	+0.20/+0.60	-0/+5.0
φ 21.0×330	+0.20/+0.80	-0/+5.0
φ 22.0×330	+0.20/+0.80	-0/+5.0
φ 23.0×330	+0.20/+0.80	-0/+5.0
φ 24.0×330	+0.20/+0.80	-0/+5.0
φ 25.0×330	+0.20/+0.80	-0/+5.0
φ 26.0×330	+0.20/+0.80	-0/+5.0
φ 27.0×330	+0.20/+0.80	-0/+5.0
φ 28.0×330	+0.20/+0.80	-0/+5.0
φ 29.0×330	+0.20/+0.80	-0/+5.0
φ 30.0×330	+0.20/+0.80	-0/+5.0
φ 31.0×330	+0.20/+0.80	-0/+5.0
φ 32.0×330	+0.20/+0.80	-0/+5.0
φ 33.0×330	+0.20/+0.80	-0/+5.0
φ 34.0×330	+0.20/+0.80	-0/+5.0
φ 35.0×330	+0.20/+0.80	-0/+5.0

(英制) the British system

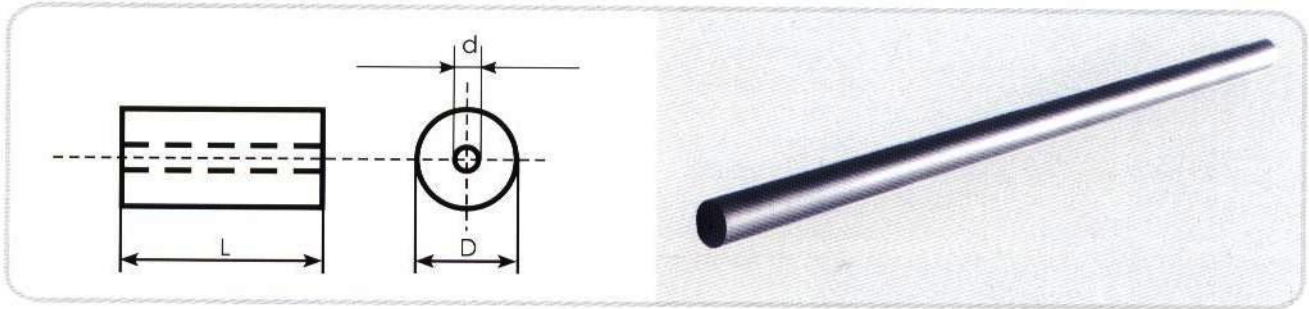
型号 Type	外径公差 Tolerance of diameter(mm)	长度公差 Tolerance of length(mm)
φ 1/8 × 13	+0.006/+0.018	-0/+0.197
φ 5/32 × 13	+0.006/+0.018	-0/+0.197
φ 3/16 × 13	+0.006/+0.018	-0/+0.197
φ 1/4 × 13	+0.006/+0.018	-0/+0.197
φ 3/8 × 13	+0.006/+0.018	-0/+0.197
φ 1/2 × 13	+0.006/+0.018	-0/+0.197
φ 5/16 × 13	+0.006/+0.018	-0/+0.197



可按客户要求提供长度L≤700mm的毛坯棒材。  
Rod blanks of L≤700mm can be supplied at customers' requests.

## 单直孔硬质合金棒材 Cemented carbide rods with one straight coolant hole

型号表示:  $\phi D \times \phi d \times L$  Type specifications:  $\phi D \times \phi d \times L$



外径 D (mm)	外径公差 Tolerance of diameter (mm)	孔尺寸 d (mm)	孔公差 Tol. of d (mm)	同心度 max. Concentricity	长度 L (mm)	公差 Tolerance of length
$\phi 2.5$	+0.20~+0.50	0.3	$\pm 0.10$	0.20	330	-0/+5.0
$\phi 4.0$		1.0	$\pm 0.15$		330	-0/+5.0
$\phi 6.0$		1.5			330	-0/+5.0
$\phi 8.0$					330	-0/+5.0
$\phi 10.0$					330	-0/+5.0
$\phi 12.0$	+0.30~+0.60	2.0	$\pm 0.20$	0.25	330	-0/+5.0
$\phi 14.0$					330	-0/+5.0
$\phi 16.0$					330	-0/+5.0
$\phi 18.0$					330	-0/+5.0
$\phi 20.0$	+0.40~+0.80	3.0	$\pm 0.25$	0.30	330	-0/+5.0
$\phi 22.0$		4.0	$\pm 0.30$		330	-0/+5.0
$\phi 24.0$					330	-0/+5.0
$\phi 26.0$					330	-0/+5.0
$\phi 28.0$		5.0	$\pm 0.35$		330	-0/+5.0
$\phi 30.0$					330	-0/+5.0

可根据用户需求提供不同规格的直径和孔径的配合。  
Rods of various diameter and hole size combinations can be supplied at customers' requests.

### 英制实心精磨棒材 Solid cemented carbide rods with british system

英制规格(TYPE)	直径公差(Tolerance of Diameter)	长度公差(Tolerance of Length)
1"X4"	-0.0001"/-0.0004"	As per clients' required
1"X5"	-0.0001"/-0.0004"	As per clients' required
1"X6"	-0.0001"/-0.0004"	As per clients' required
1/2"X2-1/2"	-0.0001"/-0.0004"	As per clients' required
1/2"X3"	-0.0001"/-0.0004"	As per clients' required
1/2"X3-1/2"	-0.0001"/-0.0004"	As per clients' required
1/2"X4"	-0.0001"/-0.0004"	As per clients' required
1/2"X5"	-0.0001"/-0.0004"	As per clients' required
1/2"X6"	-0.0001"/-0.0004"	As per clients' required
1/4"X1-1/2"	-0.0001"/-0.0004"	As per clients' required
1/4"X2"	-0.0001"/-0.0004"	As per clients' required
1/4"X2-1/2"	-0.0001"/-0.0004"	As per clients' required
1/4"X3"	-0.0001"/-0.0004"	As per clients' required
1/4"X3-1/2"	-0.0001"/-0.0004"	As per clients' required
1/4"X4"	-0.0001"/-0.0004"	As per clients' required
1/8"X1-1/2"	-0.0001"/-0.0004"	As per clients' required
1/8"X2"	-0.0001"/-0.0004"	As per clients' required
1/8"X3"	-0.0001"/-0.0004"	As per clients' required
3/16"X1-1/2"	-0.0001"/-0.0004"	As per clients' required
3/16"X2"	-0.0001"/-0.0004"	As per clients' required
3/16"X2-1/2"	-0.0001"/-0.0004"	As per clients' required
3/16"X3"	-0.0001"/-0.0004"	As per clients' required
3/4"X3"	-0.0001"/-0.0004"	As per clients' required
3/4"X4"	-0.0001"/-0.0004"	As per clients' required
3/4"X5"	-0.0001"/-0.0004"	As per clients' required
3/4"X6"	-0.0001"/-0.0004"	As per clients' required
3/8"X2"	-0.0001"/-0.0004"	As per clients' required
3/8"X2-1/2"	-0.0001"/-0.0004"	As per clients' required
3/8"X3"	-0.0001"/-0.0004"	As per clients' required
3/8"X3-1/2"	-0.0001"/-0.0004"	As per clients' required
3/8"X4"	-0.0001"/-0.0004"	As per clients' required
3/8"X6"	-0.0001"/-0.0004"	As per clients' required
5/16"X1-1/4"	-0.0001"/-0.0004"	As per clients' required
5/16"X2"	-0.0001"/-0.0004"	As per clients' required
5/16"X2-1/2"	-0.0001"/-0.0004"	As per clients' required
5/16"X3"	-0.0001"/-0.0004"	As per clients' required
5/16"X4"	-0.0001"/-0.0004"	As per clients' required
5/8"X3"	-0.0001"/-0.0004"	As per clients' required
5/8"X3-1/2"	-0.0001"/-0.0004"	As per clients' required
5/8"X4"	-0.0001"/-0.0004"	As per clients' required
5/8"X5"	-0.0001"/-0.0004"	As per clients' required
5/8"X6"	-0.0001"/-0.0004"	As per clients' required
7/16"X2-1/2"	-0.0001"/-0.0004"	As per clients' required
7/16"X2-3/4"	-0.0001"/-0.0004"	As per clients' required
7/16"X3"	-0.0001"/-0.0004"	As per clients' required
7/16"X4"	-0.0001"/-0.0004"	As per clients' required
7/8"X4"	-0.0001"/-0.0004"	As per clients' required
7/8"X5"	-0.0001"/-0.0004"	As per clients' required

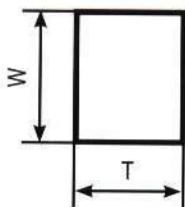
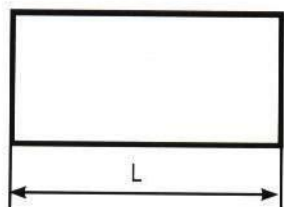
● we can also supply h6 ground rods with chamfer and polished



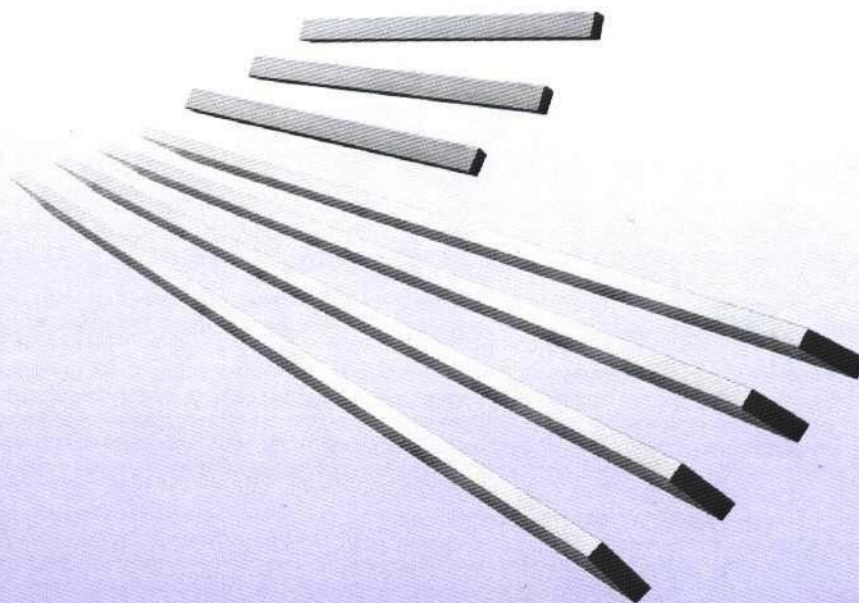
中国驰名商标  
CHINA'S FENOWHED BRAND

## 硬质合金片材 Cemented carbide strips

型号表示:  $T \times W \times L$  Type specifications:  $T \times W \times L - \alpha$



型号 (T×W×L) Type (mm)	厚度公差 Tol. of T (mm)	宽度公差 Tol. of W (mm)	长度公差 Tol. of L (mm)
1× (2~5) ×L	$T \leq 7.0 \quad T + 0.5$ $+0.2$	$W \leq 30 \quad W + 0.6$ $+0.2$	$L < 100 \quad L + 1.0$ $0$ $L \geq 100 \quad (330\text{mm excl.}) \quad L + 2.0$ $0$
1.5× (2~10) ×L			
2.0× (3.5~15) ×L			
2.5× (2.5~20) ×L			
3.0× (3.0~20) ×L	$T > 7.0 \quad T + 0.6$ $+0.2$	$W > 30 \quad W + 0.8$ $+0.2$	$L = 330 \quad L + 5.0$ $0$
3.5× (3.5~25) ×L			
4.0× (4.0~30) ×L			
5.0× (4.0~40) ×L			
6.0× (5.0~40) ×L			
(7~20) × (7~40) ×L			

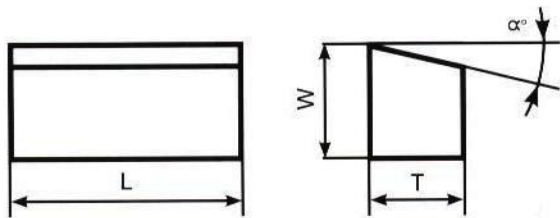


# Cemented carbide rods & bars

硬质合金型材

## 带角度硬质合金片材 Cemented carbide strips with angles

型号表示:  $T \times W \times L$  Type specifications:  $T \times W \times L - \alpha$



型号 (T×W×L) Type (mm)	厚度公差 Tol. of T (mm)	宽度公差 Tol. of W (mm)	宽度公差 Tol. of W (mm)	长度公差 Tol. of L (mm)
1× (2~5) ×L	T +0.5 +0.2	W +0.6 +0.2	± 1°	L < 100 L +1.0 <sub>0</sub> ;
1.5× (2~10) ×L				L ≥ 100 ( 330mm excl. ) ,L +2.0 <sub>0</sub> ;
2.0× (3.5~15) ×L				L =330 L +5.0 <sub>0</sub>
2.5× (2.5~20) ×L				It is +1.0/0 when L is <100mm; It is +2.0/0 when L is ≥ 100mm( 330mm excluded); When L is equal to 330mm, it is +5.0/0 then.





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**DIAMOND**