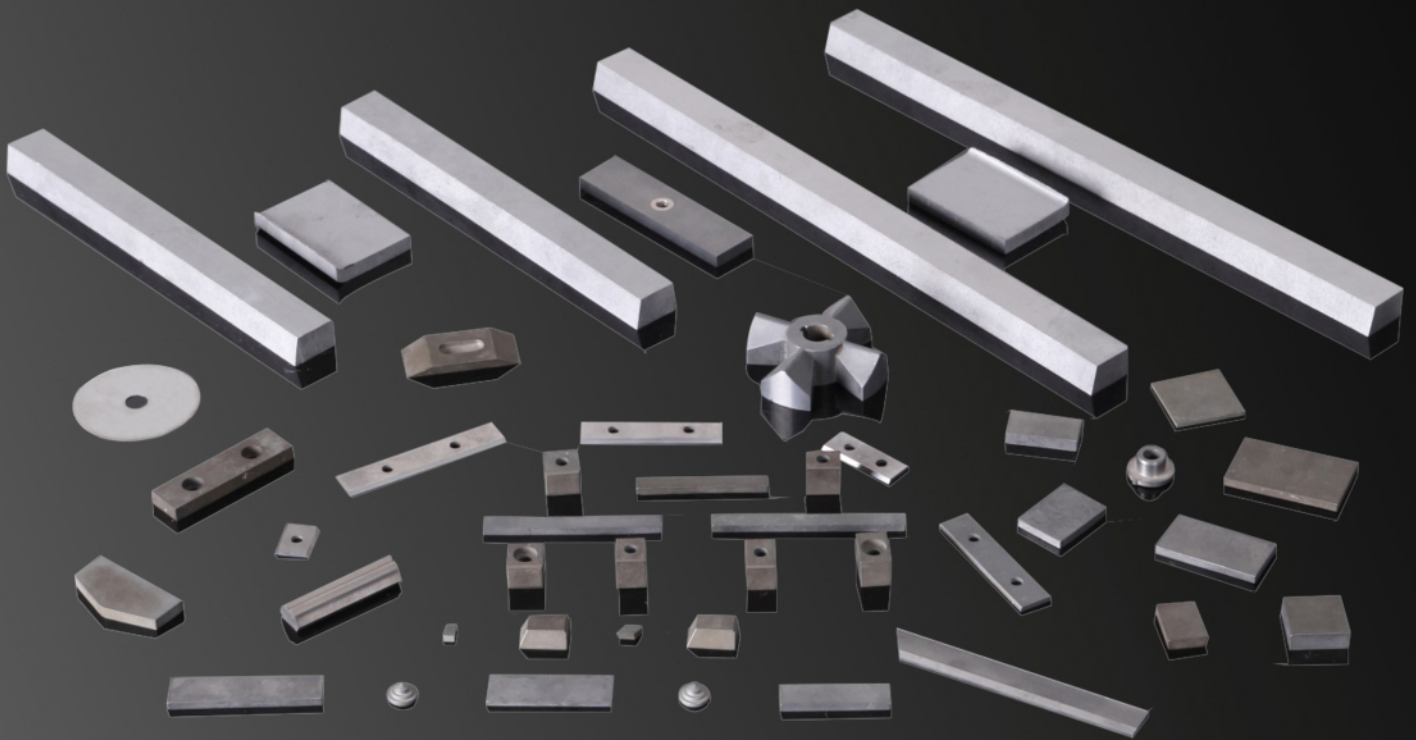


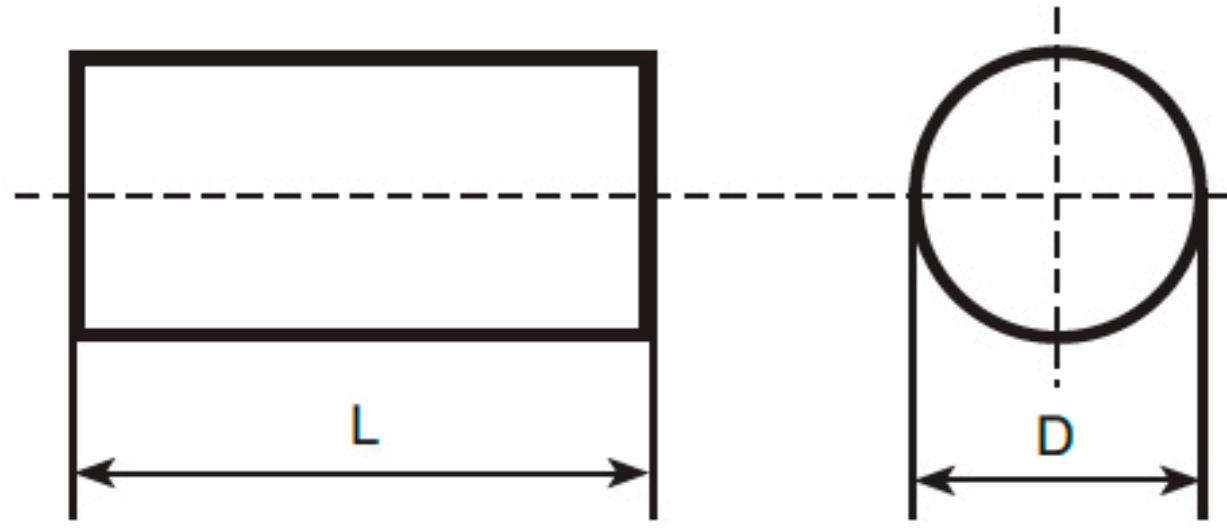
矿山工具、硬质合金刀片用 硬质合金牌号、性能及应用范围

Tungsten Carbide Material Grades, Performances
and usages for Mining Tools and Tips



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

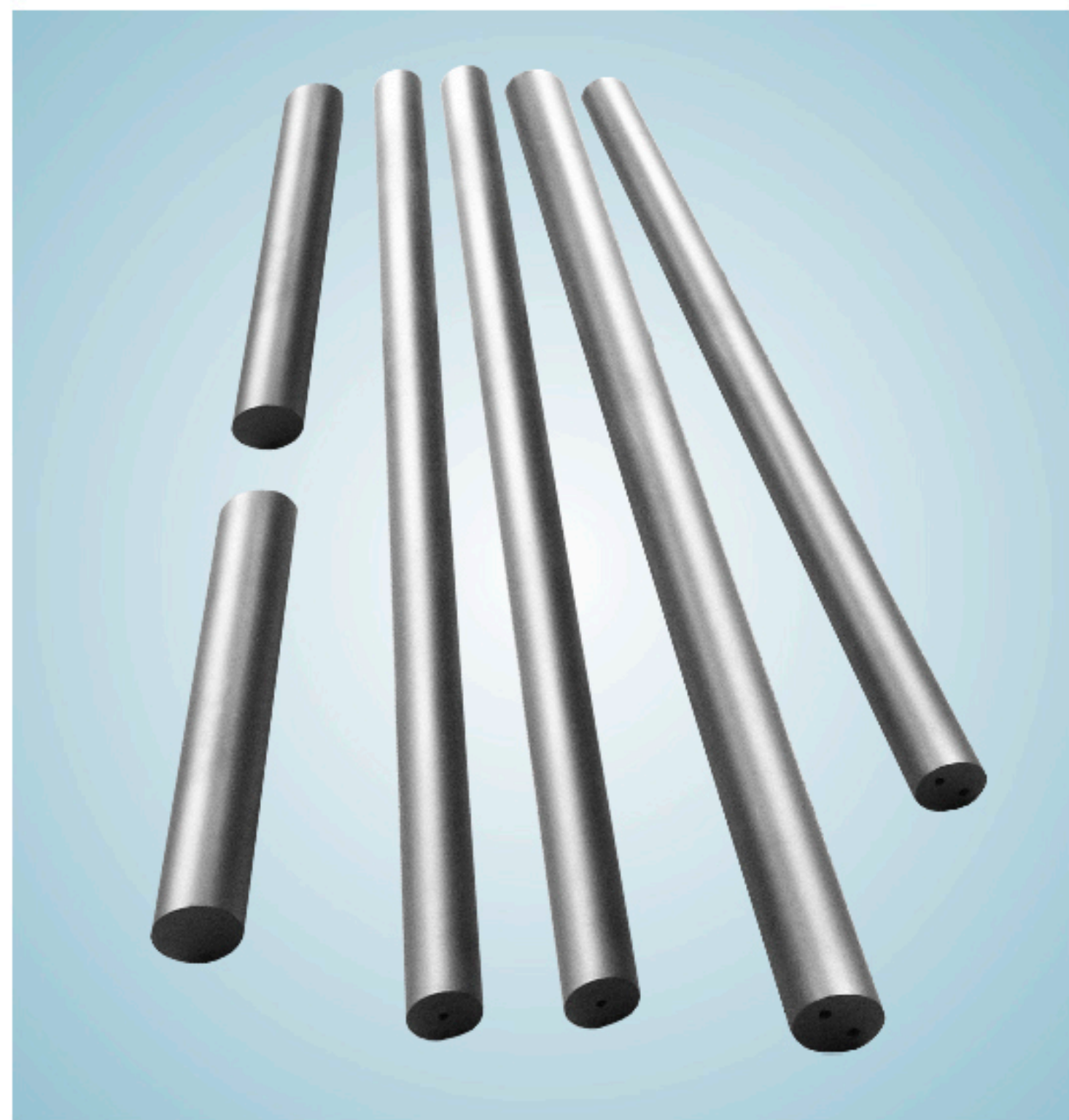
型号 Type	外径公差 Tolerance of diameter(mm)	长度公差 Tolerance of length(mm)
$\phi 9.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 9.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 10.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 10.5 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 11.0 \times 330$	+0.20/+0.45	-0/+5.0
$\phi 11.5 \times 330$	+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

(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

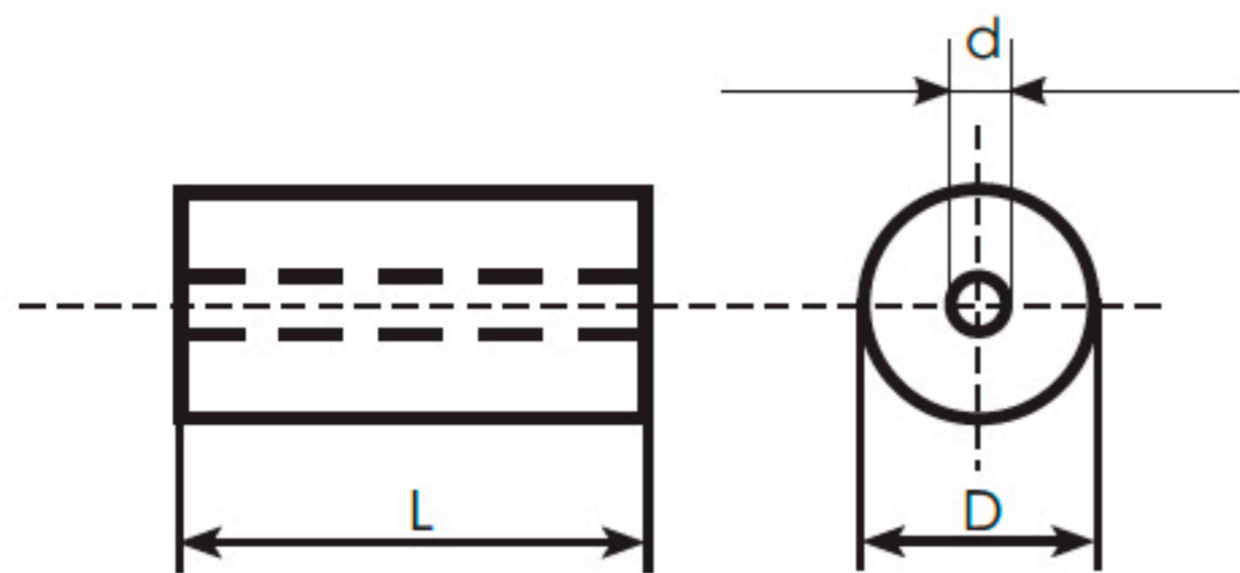


可按客户要求提供长度L≤700mm的毛坯棒材。

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: $\phi D \times \phi d \times L$



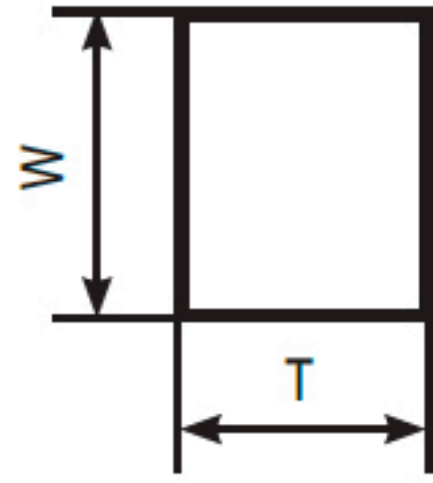
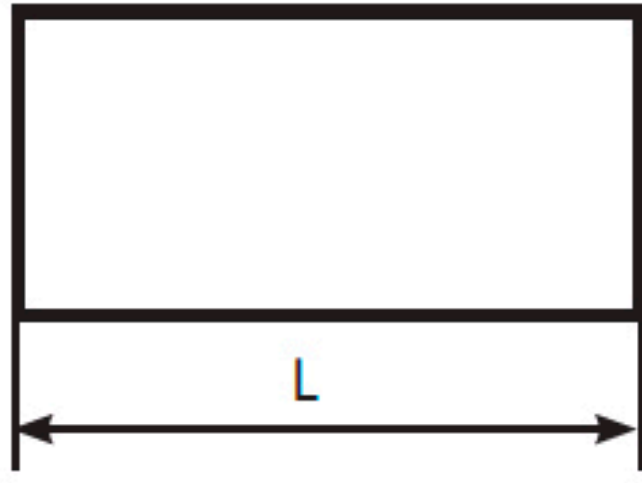
外径 D (mm)	外径公差 Tolerance of diameter (mm)	孔尺寸 d (mm)	孔公差 Tol. of d (mm)	同心度 max. Concentricity	长度 L (mm)	公差 Tolerance of length	
$\phi 2.5$	+0.20~+0.50	0.3	± 0.10	0.20	330	-0/+5.0	
$\phi 4.0$		1.0	± 0.15		330	-0/+5.0	
$\phi 6.0$		1.5			330	-0/+5.0	
$\phi 8.0$					330	-0/+5.0	
$\phi 10.0$	+0.30~+0.60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

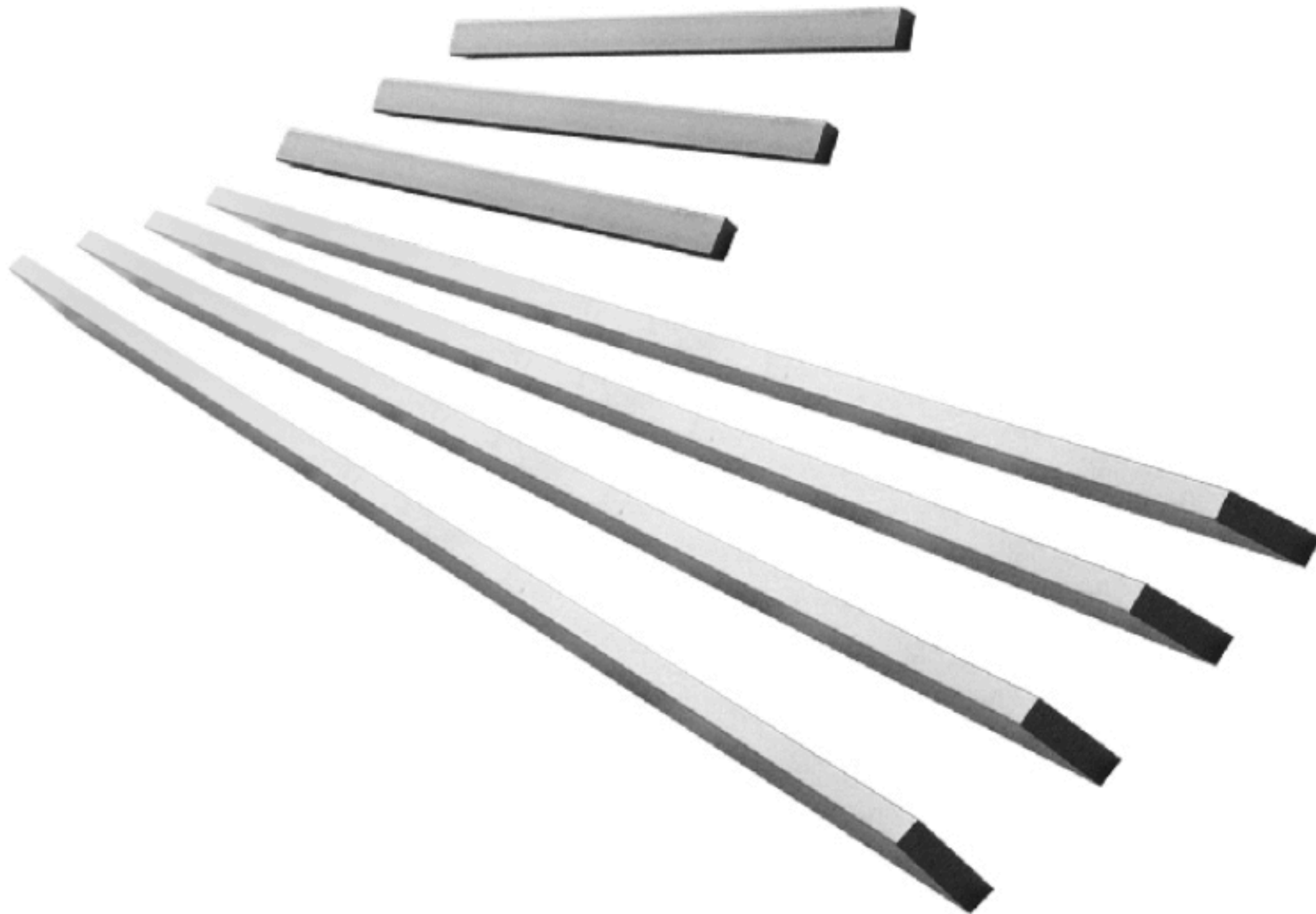
Rods of various diameter and hole size combinations can be supplied at customers' requests.

硬质合金片材 Cemented carbide strips

型号表示: T×W×L Type specifications: T x W x L-α

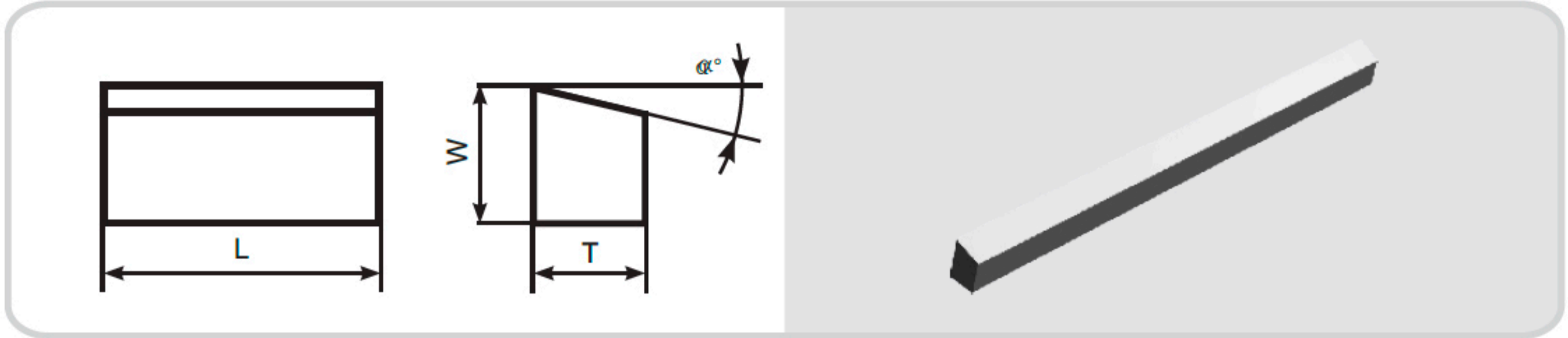


型号 (T×W×L) Type (mm)	厚度公差 Tol. of T (mm)	宽度公差 Tol. of W (mm)	长度公差 Tol. of L (mm)
1× (2~5) ×L	$T \leq 7.0 \quad T +0.5$ $\quad \quad \quad +0.2$ $T > 7.0 \quad T +0.6$ $\quad \quad \quad +0.2$	$W \leq 30 \quad W +0.6$ $\quad \quad \quad +0.2$ $W > 30 \quad W +0.8$ $\quad \quad \quad +0.2$	$L < 100 \quad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

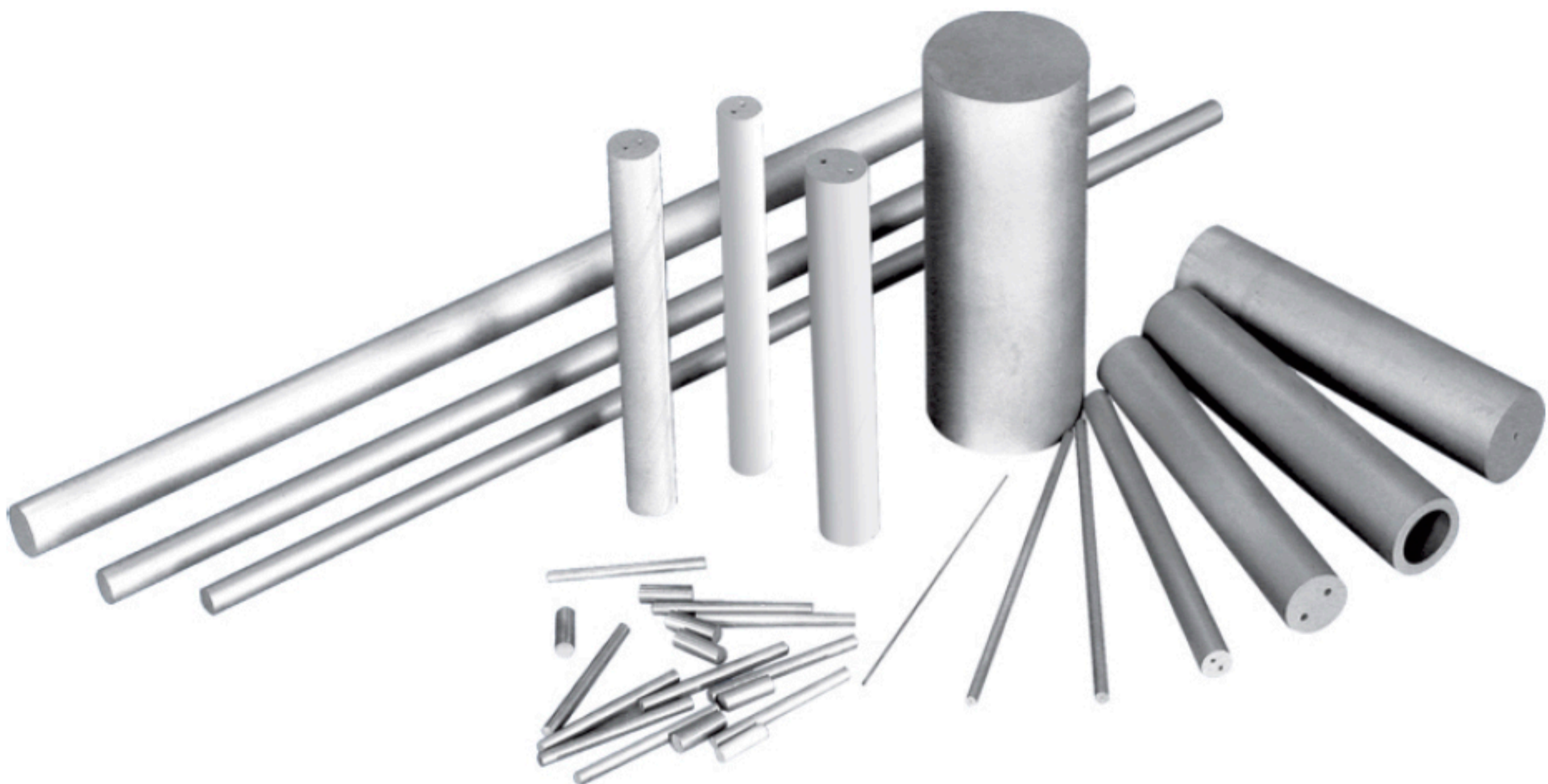


带角度硬质合金片材 Cemented carbide strips with angles

型号表示: T×W×L Type specifications: T x W x L-α



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 ₀ ;
1.5× (2~10) ×L				L ≥ 100 (330mm excl.) ,L +2.0 ₀ ;
2.0× (3.5~15) ×L				L = 330 L +5.0 ₀ ;
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.





⊖ 矿山工具、硬质合金刀片用硬质合金牌号、性能及应用范围 Tungsten Carbide Material Grades, Performances and usages for Mining Tools and Tips

牌号 Grade	化学成分 Chemical Composition		物理机械性能 Physical mechanism performance			应用范围 Application scope
	WC	Co	密度 Density	硬度 Hardness	抗弯强度 Bending strength	
	%	%	g/cm ³	≥HRA	≥N/mm ²	
YG3X	97	3	15.0~15.3	91.5	1300	适用于应力不大条件下的拉丝模、喷嘴 Apply to wortle and nozzle under the circumstance of light stress.
YG6X	94	6	14.6~15.0	91	1500	适用于刀具、喷嘴 Apply to cutter and nozzle.
YG6	94	6	14.6~15.0	89.5	1550	适用于切削刀体及应力较大条件下拉丝模、合金棒、轴套、喷嘴 YG6, which adopts the pressure sintering, can be mainly used in cutting tools, eorflr, rod, shaft sleeve, and nozzle
YG6C	94	6	14.8~15.0	89	2700	采用加压烧结的YG6主要用于冲击和潜孔钻头球齿, 凿进中等耐磨性、中等冲击韧性岩层 YG6, which adopts the pressure sintering, can be mainly used in impact, down-hole drill button, and petrographical formation of medium abrasion resistance and impact toughness.
YG8	92	8	14.5~14.9	89	1050	适用于钢、有色金属的加工、合金棒、轴套 Apply to steel, non-ferrous metal, alloy bar and shaft sleeve
YG8C	92	8	14.5~14.9	87.5	1815	适用镶制冲击回转凿岩和旋转冲击凿岩, 钎头, 钻头, 截煤机齿, 油井钻头 Apply to make rotary percussive drill, rotary-percussive drill, drill bit, aigulles, cutter and oil well bit..
YG10	90	10	14.4~14.6	88.5	2850	采用加压烧结的YG10主要用于牙轮钻头球齿及矿山钎片, 凿进中硬及硬岩层 YG10, which adopts pressure sintering, mainly applies to roller bit button, mineral brazing sheet, chiseling into medium hard and hard rock layer.
YG11C	89	11	14.3~14.6	86.5	2200	适用镶制重型凿岩冲击回转, 冲击凿岩机用的钻头石油钻头用喷嘴, 也适用于镶制建筑安装工程用的石壁, 混凝土钻孔钻头 Apply to the drill bit which is used to make heavy-duty rotary-percussion hammer drill also apply to stonewall in the installation work of the building and concrete drill hole and drill bit
YG13	87	13	14.1~14.3	87	2900	采用加压烧结的YG13主要用于牙轮钻头球齿和金刚石复合基片 YG13, which adapts pressure sintering, mainly applies to roller bit button and diamond compounded uropatagia.
YG15	85	15	13.9~14.2	87	2400	适用于高压压缩下钢棒和钢管拉伸, 较大应力工作的顶锻, 穿孔及冲压工具 Apply to steel rod and steel tube stretch under high compensation, and upse forging, perforate and stamping tool under high stress working.
YG16	84	16	13.9~14.1	86	2950	采用加压烧结的YG16主要用于牙轮钻头球齿和复合片基体 YG16, which adopts pressure sintering, mainly applies to roller bit button and PDC matrix
YG20	80	20	13.4~13.7	85	2550	适用于制作压力较大条件下的冲压模具, 钻头喷嘴 Apply to press tool and bit nozzle under the high operation stress
YG20C	80	20	13.4~13.7	82	2156	适用于制作标准杆, 轴套, 工具等行业用的冷锻, 冷冲, 冷压模具, 弹头对弹壳的冲击工具 Apply to the ceation of cold forging, cold punching and cold rolls in fields of standard bar, shaft sleeve and instrument and the percussion tools for the warhead to cartridge case