

CARBIDE ROUND ROD

硬质合金圆棒



株洲拓辉硬质合金工具有限公司
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About Us

Founded in 2013, we are a professional manufacturer and global supplier of cemented carbide solutions. With over a decade of continuous development, we specialize in high-performance cemented carbide products applied in precision machining, metal cutting, mining, and wear-resistant applications.

Why Choose Us



Advanced Manufacturing

Integrated production platform for powder preparation, forming, sintering & grinding.



Premium Raw Materials

High-grade tungsten carbide sourced from top global suppliers.



Strict Quality Control

ISO 9001 certified, rigorous inspection & consistent quality.

Qualification documents



Global Reach & Vision

Today, our products serve partners in over **30** countries worldwide.

Committed to creating long-term value.
We build our organization, our processes,
and every decision around one core focus:
delivering what truly matters to our customers.



2013
Founded In



9001
Certified Quality



30+
Export Countries

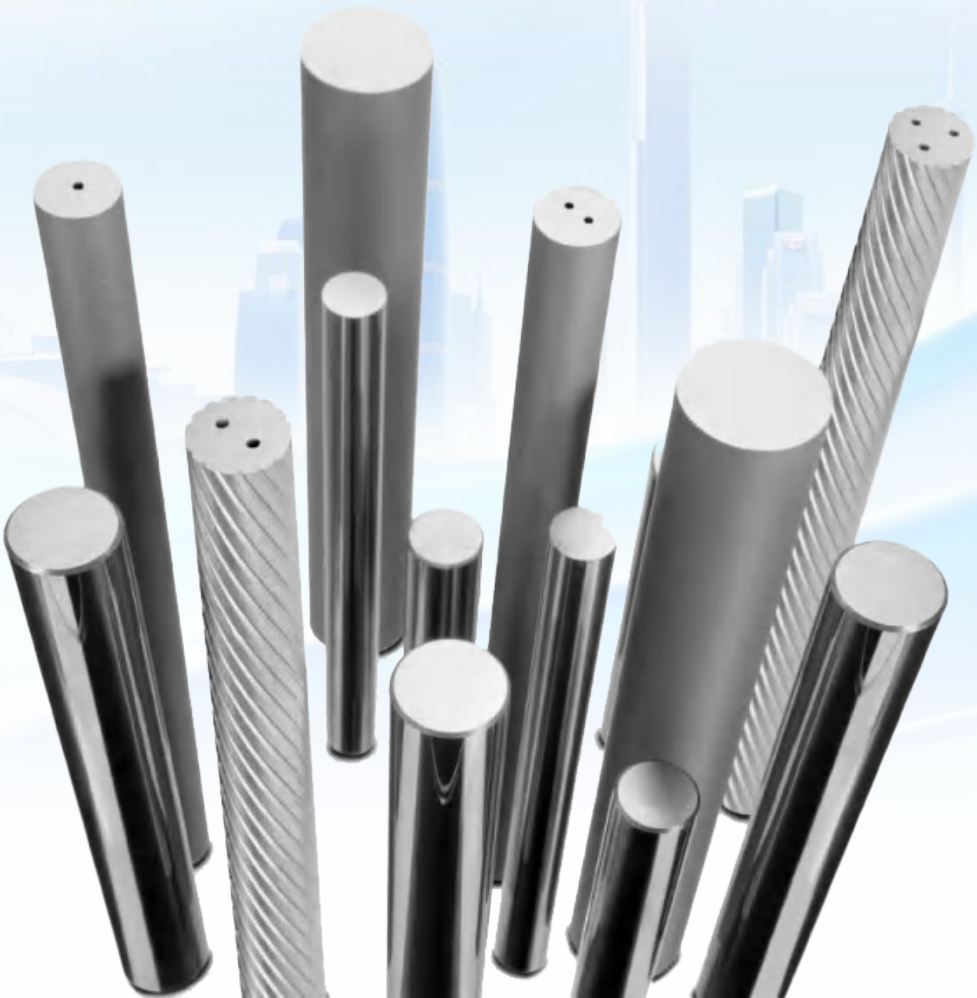


100%
Batch-to-Batch Consistency



CARBIDE ROUND ROD

硬质合金圆棒



牌号
Grade

Grade						
牌号 Grade	WC (%)	CO (%)	WC晶粒度 Grain size (um)	比重 Density (g/cm³) ±0.1	硬度 Hardness (HRA) ±0.5	抗折力 TRS (kgf/mm²)
T-06	94	6	0.4	14.85	94	3800
T-08	92	8	0.4	14.65	93.6	4000
T-09	91	9	0.2	14.45	94	4200
T-10.2	90	10	0.6	14.4	92	4100
T-10	90	10	0.7	14.45	91.8	3800
T-12	88	12	0.4	14.25	92.5	4200
T-15	85	15	0.7	14	89	4500

用途推荐 Applications	
材质名称 Grade	用途推荐 Applications
T-06	超细晶粒, 具有较好的耐磨性适用于加工镁铝合金、玻璃纤维、碳纤维、木材、硬塑料等材料; 推荐用于制作小直径铣钻刀具。 Ultra-fine grain size, with good wear resistant, Suitable for manching aluminum-magnesium alloys,glass fiber,carbon fiber,wood,harden plastic.etc. For making micro tools and drills.
T-08	适用于加工树脂材料、木材、钛合金、不锈钢、铜铝合金及复合材料; 推荐用于制作高速钻头、铣刀雕刻刀、Φ0.8mm以下的PCB微钻。 Suitable for manufacturing resin,wood,titanium alloy, stainless steel,copper-aluminum alloy,composite material.For making high speed drill, endmill,graver and micro-drill with diameter less than 0.8mm uerd for machining for PCB
T-09	精选优质0.2um的超细微碳化钨粉末, 具有极高的耐磨性和韧性, 可用于淬火钢的精加工、石墨、塑料玻纤强化材料及不锈钢、铝合金的高精度高镜面加工, 适用于制作0..25mm的铣刀、钻头、镗刀。 Selected high-quality 0.2um ultra-fine tungsten carbide power,with high wear resiatance and toughness,suitable for finishing of hardened steel,high-precision and high mirror processing of graphite,platic,glass fiber reinforced materials,stainless steel and aluminum alloy,Suitable for making 0.25mm endmill,drills,boring tools.
T-10.2	适用于普通模具钢、灰口铸铁、奥氏体不锈钢和耐热合金的通用粗加工, 半精加工及精加工; 推荐用于制作通用加工用钻头, 立铣刀。 Suitable for rough finishing,semifinishing and finishing of die steel,gray castiron,austenitic stainless steel and heat-resis-tant alloy. For making normal drill and endmill.
T-10	适用于普通钢材、铸铁、不锈钢的通用粗加工, 半精加工; 推荐用于制作通用加工用钻头, 立铣刀。 Suitable for rough finishing or semifinishing of normal steel,castiron and stainless steel. For making normal dril and endmill.
T-12	超细微碳化物颗粒, 兼容了良好的耐磨性和韧性, 适用于不锈钢、模具钢、普通钛合金等的半精加工及精加工, 推荐用于高速加工用立铣刀、铰刀、雕刻刀。 Ultra-fine grain size, with good wear resistant and toughness,Suitable for semifinishing or finishing of stainless steel,die steel and normal titanium alloy ,etc.For making all types of high speed endmills,reamers and gravers
T-15	亚细微碳化钨颗粒, 具有较好的耐磨性和极佳的韧性, 适用于制作冲压整体模具, 抗震刀杆等。 Sub-fine grain size,with good wear resistant and toughness,suitable for making punching of mould anti-vibration boring bar etc.

硬质合金圆棒

Carbide Round Rod



制造工艺

Manufacturing Process

01

Grade Design

TOPHIGH grades are designed upon application. Our process start with power mixing. Raw materials includes WC, Co and other elements



02

RTP Ball Milling

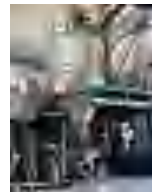
Wide variety of TOPHIGH designed grades from superfine to coarse grain size are available. Grades with different grain size are ball-milled, sieved, granulated in separated systems to avoid grain contamination.



03

Spray Drying

Spray drying process makes the powder into superior homogeneous particle sizes with good flowability and as a result, the dimension variation on sintered blank is much smaller.

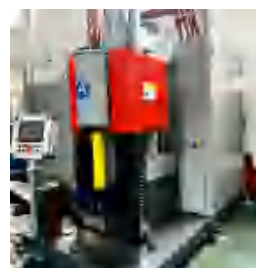


04

Advanced Forming Technologies

We utilize state-of-the-art forming techniques to ensure optimal material integrity and precise dimensions.

- Precision Extrusion
Our automatic extrusion systems deliver highly consistent geometries for various profiles.
Profiles: Solid rods / Straight & Helical hole rods / Gun drill blanks / Tubes & Strips.
- Dry-Bag Cold Isostatic Pressing
Applying highly uniform pressure from all directions, our enclosed CIP technology provides an optimal solution for large blanks and high-performance tools.
Uniform Density: Ensures excellent stress distribution and consistent material density throughout the blank.
Enhanced Integrity: Effectively minimizes the risk of internal cracks and delamination commonly found in traditional pressing.



05.1

Preforming

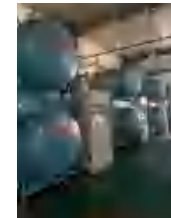
Turning, milling, drilling, cutting can be applied on green blanks in order to pre-form the part to net shape according to customer's drawing, which can greatly enhance customer's productivity for special and complicated tools



05.2

Drying Process

This process removes the plasticizer in the rod blanks using a vacuum drying furnace.



06

Sintering

Green blanks are sintered at temperature around 1400 °C (cobalt melting) to become super hard and tough. TOPHIGH utilizes HIP (hot isostatic pressure) sintering furnace which gives carbide maximum toughness to meet the most critical working applications.



07

Machining

Most of the rod blanks need to be centerless ground, to achieve precision tolerances h5/h6. In addition, length cutting, chamfer, slot, cylindrical grinding service can be offered upon customer request.



08

Inspection

The key properties are monitored from raw material, RTP and raw sintered parts in our laboratory for quality and performance guarantee. Diameter, roundness, run-out, roughness, pitch, TK, concentricity, inspection will be done before the parts are shipped to the customer.



硬质合金圆棒材料性能表征

Properties Characterization of Cemented Carbide Round Rod Material

硬度 (ISO 3788 及 ISO3878)

Hardness (ISO 3788 and ISO3878)

材料抵抗局部塑性变形的能力。硬质合金常用硬度测量方法为洛氏硬度或维氏硬度测量法, 单位为HRA和HV。需注意由于二者测量方法不相同, 两种硬度值的转换应根据测量材料的参照表进行换算。

Hardness is the capability of the material resisting the localized plastic deformation. The hardness of cemented carbide unusually is measured by Rockwell and Vickers. It is important to note that the two methods are different, The converting from one system to other should be take care.

断裂韧性

Fracture toughness

断裂韧性是指材料抵抗内部裂纹失稳扩张的能力。其大小取决于材料的成分、组织等内在因素, 表征材料综合性能。

Fracture toughness is the capability of the material resisting the unstable propagation of crack. The value depends on the material composition, microstructure. It is the representations of the combination properties of combination properties of the materials.

抗弯强度 (ISO 3327)

Transverse rupture strength (ISO 3327)

抗弯强度是指材料抵抗弯曲不断裂的能力。其值为在一个标准的三点弯曲试验中在材料的破断点测得的应力。此试验应用于硬质合金时, 使用一个标准夹具及试样 (Φ3.25mm x 38.7mm)。TRS使用几个测量值的平均值作为测量值。随试样几何形状、表面状态及实验设备的不同。此值可以变化很大。特别要指出的是, 此结果对表面光洁度、表面残留应力、表面腐蚀及材料内部的缺陷很敏感。必须注意, 不能只用TRS值作为牌号选择的标准。

Transverse rupture stress is the ability of the bending and cracking resistance of the materials. It is the stress measured at the ruptured point of a material in the standard three-point bending test. When the test is applied to cemented carbide, a standard loaded fixture and a sample (Φ3.25mm x 38.7mm) is used. The average of several measured values is taken as the measured value. The value can vary much with the surface finishing, surface residual stress, surface corrosion and the internal defects of the material. It should be noted that TRS could not be taken as the only standard for selection of a grade.

密度 (ISO3369)

Density (ISO 3369)

密度是材料的质量与体积的比率, 通常使用液体置换法进行测定。密度在硬质合金工业中通常用于确定一个牌号成分的准确性。与通常的理解不同的是, 现代硬质合金的孔隙度水平不能用测量密度的方法来确定。碳化钨 (WC) 的密度是15.7g/cm³, 钴 (Co) 的密度是8.9g/cm³。因此对于WC-Co牌号来说, 随钴含量的增加, 密度减小。

The density (specific gravity) of a material is the relation mass to volume. It is determined by the water displacement method (Archimedeian Principle). Density is usually used to determine whether the composition of a grade is correct. What differs from common understanding is that the porosity of cemented carbide can not be determined by the measurement of the density. The density of tungsten carbide (WC) is 15.7g/cm³ and density of cobalt is 8.9g/cm³. As regards WC-Co grade, The density will decrease with the increase of cobalt content.

硬质合金圆棒

Carbide Round Rod

硬质合金圆棒材料性能表征

Properties Characterization of Cemented Carbide Round Rod Material

直线度

Straightness

5

直线度是表示零件上的直线要素实际形状保持理想直线的状况。也就是通常所说的平直程度。

直线度公差是实际线对理想直线所允许的最大变动量。也就是在图样上所给定的,用以限制实际线加工误差所允许的变动范围。

Straightness is the shape of the actual linear elements on the said parts keeping ideal straight line.General it is know the flatness,

The straightness tolerance is the measure of the change of the actual line compared to an ideal straight line.The annotation is given on the drawing,To limit the change of the actual line machining error scope.

圆度

Circularity

6

圆度是表示零件上圆的要素实际形状,与其中心保持等距的情况。即通常所说的圆整程度。

圆度公差是在同一截面上,实际圆对理想圆所允许的最大变动量。也就是图样上给定的,用以限制实际圆的加工误差所允许的变动范围。

Circularity is the shape of the round elements on the actual part,Which expressed the distance between the point on the shape of the round to the center.General it is know as the roundness.

Circularity tolerance is the measure of the change of the actual round compared to an ideal round in the considered cross-section.The annotation is given on the drawing,to limit the change of the actual round machining error scope.

同心度

Concentricity

7

同心度是表示零件上被测元素圆心相对于基准圆心,保持在同一点上的状况。

同心度公差是:被测实际圆心相对于基准圆心所允许的变动量。也就是图样上给出的,用以限制被测实际圆心偏离由基准圆心所确定的理想位置所允许的变动范围。

Concentricity tolerance zone controls the median points of a feature of size . Concentricity tolerance is a condition in which the elements of a feature's surface are common to the center of a datum feature.

A concentricity tolerance specifies a circle tolerance zone whose centre of a circle coincides with a datum centre of a circle.The tolerance zone is equally disposed about the datum centre for concentricity. The concentricity requires that the median points of the controlled feature,regardless of its size,to be within the tolerance zone.

圆跳动

Circular Runout

8

圆跳动是表示零件上的回转表面在限定的测量面内,相对于基准轴线保持固定位置的状况。

圆跳动误差是:被测实际要素绕基准轴线,无轴向移动地旋转一整圈时,在限定的范围内,所允许的最大变动量。

Circular Runout zone is limited in the measuring plane perpendicular to the axis by two concentric circles,The common centre of which lies on the datum axis.Also it is can be defined as two-dimensional geometric tolerance that controls the from,orientation,and location of multiple cross sections of a cylindrical part as it rotates.For circular runout,The tolerance zone for each circular element on a surface constructed at right angle to the datum axis.The circular element through a surface point conforms to the circular runout tolerance for a given mating surface if all points of the circular element lie down within some circular runout tolerance zone.Circular run out controls the cumulative variation of circularity (roundness) and coaxiality for features constructed around a datum axis and circular elements of a surface constructed and angle not parallel to the datum axis.The tolerance zone is an annular surface of revolution about the center axis of the circle and perpendicular to the feature surface.

01 Solid Carbide Rod

实心硬质合金圆棒






公差等级

Tolerance Grade

公差等级Tolerance Grade			
直径 Diameter	公差Tolerance		
	h5	h6	h7
0--3.0 mm	0.004 mm	0.006 mm	0.010 mm
0--0.11811 in	0.00015 in	0.00024 in	0.00039 in
3.001--6.0 mm	0.005 mm	0.008 mm	0.012 mm
0.11812--0.23622 in	0.00020 in	0.00031 in	0.00047 in
6.001--10.0 mm	0.006 mm	0.009 mm	0.015 mm
0.23623--0.39370 in	0.00024 in	0.00035 in	0.00059 in
10.001--18.0 mm	0.008 mm	0.011 mm	0.018 mm
0.39371--0.70866 in	0.00031 in	0.00043 in	0.00071 in
18.001--30.0 mm	0.009 mm	0.013 mm	0.021 mm
0.90867--1.18110 in	0.00035 in	0.00051 in	0.00083 in
30.001--50.0 mm	0.011 mm	0.016 mm	0.025 mm
1.8111--1.96850 in	0.00043 in	0.00063 in	0.00098 in

英寸实心精磨短棒

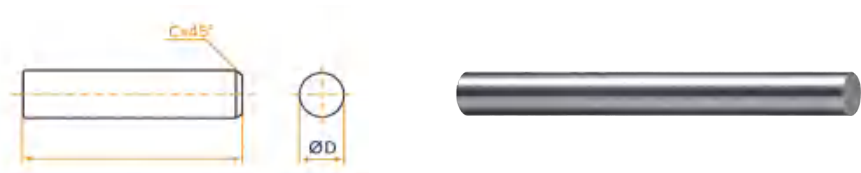
Inch Solid Finish Short Rods



h6 ground chamfered on one end (一端倒角)												
Item No.	Dia	OAL	Dia mm	OAL mm	tolerances	Grade	Grade	Grade	Grade	Grade	Grade	Grade
TOP-10	1/8"	1 1/2"	3.175	38.1	h5/h6	T-06	T-08	T-09	T-10.2	T-10	T-12	T-15
TOP-10	1/8"	2"	3.175	50.8								
TOP-10	1/8"	3"	3.175	76.2								
TOP-10	1/8"	4"	3.175	101.6								
TOP-10	3/16"	1 1/2"	4.7625	38.1								
TOP-10	3/16"	2"	4.7625	50.8								
TOP-10	3/16"	2 1/2"	4.7625	63.5								
TOP-10	3/16"	3"	4.7625	76.2								
TOP-10	1/4"	1 1/2"	6.35	38.1								
TOP-10	1/4"	2"	6.35	50.8								
TOP-10	1/4"	2 1/2"	6.35	63.5								
TOP-10	1/4"	3"	6.35	76.2								
TOP-10	1/4"	3 1/4"	6.35	82.55								
TOP-10	1/4"	4"	6.35	101.6								
TOP-10	5/16"	2"	7.9375	50.8								
TOP-10	5/16"	2 1/2"	7.9375	63.5								
TOP-10	5/16"	3"	7.9375	76.2								
TOP-10	5/16"	3 1/2"	7.9375	88.9								
TOP-10	5/16"	4"	7.9375	101.6								
TOP-10	7/16"	2 1/2"	11.1125	63.5								

英寸实心精磨短棒

Inch Solid Finish Short Rods



h6 ground chamfered on one end (一端倒角)					tolerances	Grade	Grade	Grade	Grade	Grade	Grade	Grade
Item No.	Dia	OAL	Dia mm	OAL mm								
TOP-10	7/16"	2 3/4"	11.1125	69.85	h5/h6	T-06	T-08	T-09	T-10.2	T-10	T-12	T-15
TOP-10	7/16"	4"	11.1125	101.6								
TOP-10	7/16"	4 1/2"	11.1125	114.3								
TOP-10	7/16"	5"	11.1125	127								
TOP-10	7/16"	6"	11.1125	152.4								
TOP-10	1/2"	2 1/2"	12.7	63.5								
TOP-10	1/2"	3"	12.7	76.2								
TOP-10	1/2"	3 1/2"	12.7	88.9								
TOP-10	1/2"	3 1/8"	12.7	79.375								
TOP-10	1/2"	4"	12.7	101.6								
TOP-10	1/2"	4 1/2"	12.7	114.3								
TOP-10	1/2"	5"	12.7	127								
TOP-10	1/2"	6"	12.7	152.4								
TOP-10	1/2"	8"	12.7	203.2								
TOP-10	9/16"	3"	14.2875	76.2								
TOP-10	9/16"	3 1/2"	14.2875	88.9								
TOP-10	5/8"	2"	15.875	50.8								
TOP-10	5/8"	2 1/2"	15.875	63.5								
TOP-10	5/8"	3"	15.875	76.2								
TOP-10	5/8"	3 1/2"	15.875	88.9								
TOP-10	5/8"	3 1/4"	15.875	82.55								
TOP-10	5/8"	3 3/4"	15.875	95.25								
TOP-10	5/8"	4"	15.875	101.6								
TOP-10	5/8"	4 1/8"	15.875	104.775								
TOP-10	5/8"	5"	15.875	127								
TOP-10	5/8"	6"	15.875	152.4								
TOP-10	3/4"	3"	19.05	76.2								
TOP-10	3/4"	3 1/2"	19.05	88.9								
TOP-10	3/4"	4"	19.05	101.6								
TOP-10	3/4"	5"	19.05	127								
TOP-10	3/4"	6"	19.05	152.4								
TOP-10	3/4"	6 1/2"	19.05	165.1								
TOP-10	7/8"	4"	22.225	101.6								
TOP-10	7/8"	6"	22.225	152.4								
TOP-10	1"	3"	25.4	76.2								
TOP-10	1"	4"	25.4	101.6								
TOP-10	1"	5"	25.4	127								
TOP-10	1"	6"	25.4	152.4								
TOP-10	1"	7"	25.4	177.8								
TOP-10	1 1/4"	4"	31.75	101.6								
TOP-10	1 1/4"	6"	31.75	152.4								
TOP-10	1 1/4"	7 1/2"	31.75	190.5								

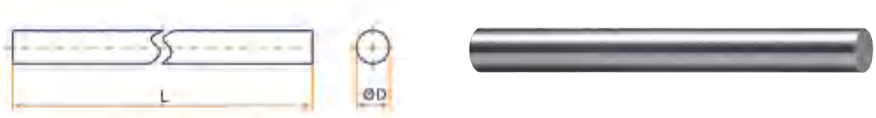
CARBIDE ROUND ROD

硬质合金圆棒

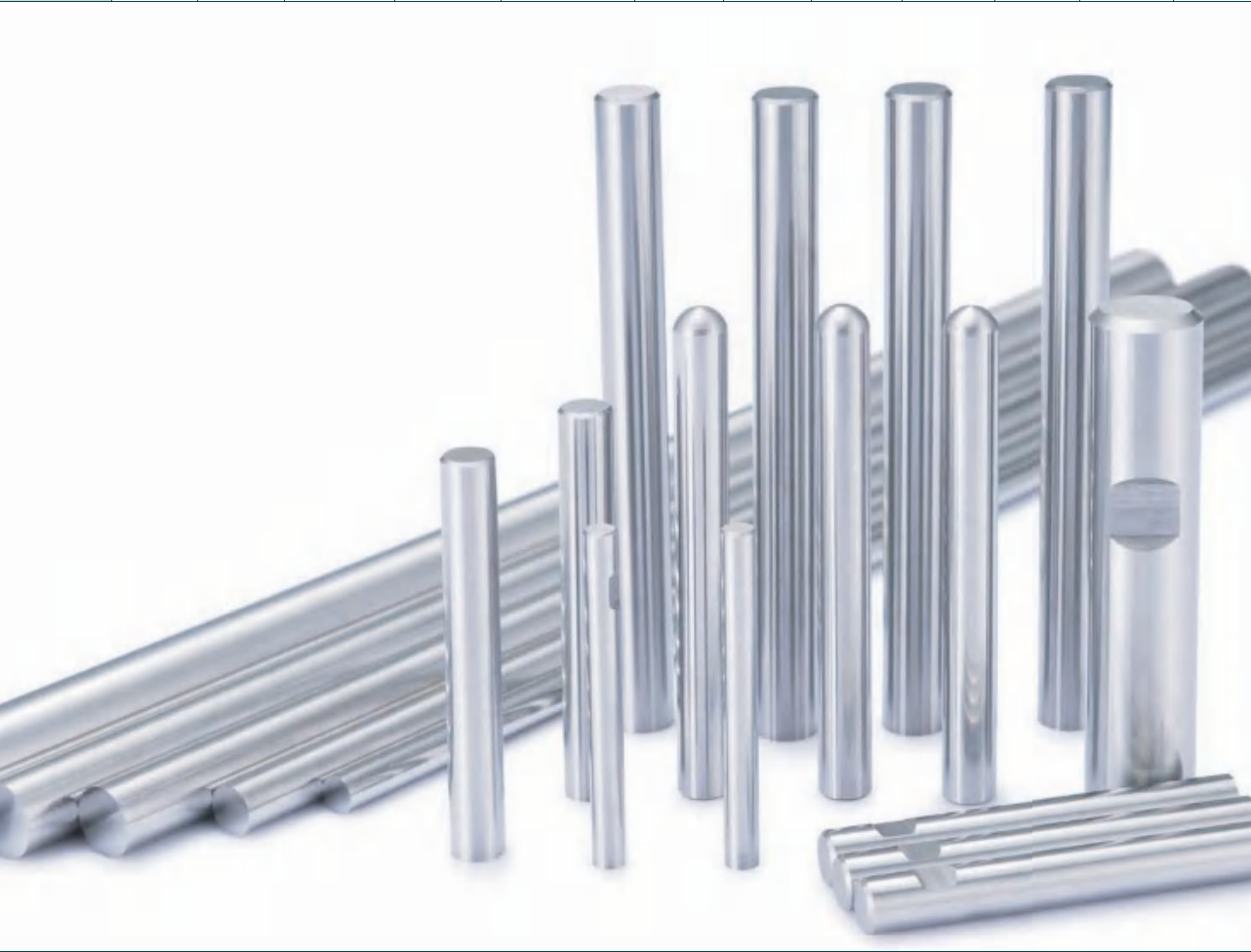
Carbide Round Rod

英寸实心精磨圆棒

solid carbide ground -Inch

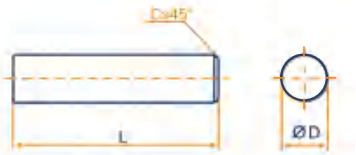


solid carbide ground -Inch												
Item No.	Dia	OAL	Dia mm	OAL mm	tolerances	Grade	Grade	Grade	Grade	Grade	Grade	Grade
TOP-210	1/8"	-	3.175	310/330	h5/h6	T-06	T-08	T-09	T-10.2	T-10	T-12	T-15
TOP-210	3/16"	-	4.7625	310/330								
TOP-210	1/4"	-	6.35	310/330								
TOP-210	5/16"	-	7.9375	310/330								
TOP-210	7/16"	-	11.1125	310/330								
TOP-210	1/2"	-	12.7	310/330								
TOP-210	9/16"	-	14.2875	310/330								
TOP-210	5/8"	-	15.875	310/330								
TOP-210	3/4"	-	19.05	310/330								
TOP-210	7/8"	-	22.225	310/330								
TOP-210	1"	-	25.4	310/330								
TOP-210	1 1/4"	-	31.75	310/330								



公制实心精磨短棒

Metric Solid Finish Short Rods



h6 ground chamfered on one end (一端倒角)												
Item No.	Dia mm	OAL mm	tolerances	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade
TOP-20	3	38.3	h5/h6	T-06	T-08	T-09	T-10.2	T-10	T-12	T-15		
TOP-20	3	39.5										
TOP-20	3	47.3										
TOP-20	3	52.3										
TOP-20	3	76.2										
TOP-20	4	32.5										
TOP-20	4	40.5										
TOP-20	4	51.0										
TOP-20	4	59.3										
TOP-20	4	63.5										
TOP-20	4	67.5										
TOP-20	4	76.2										
TOP-20	4.5	51.2										
TOP-20	5	51.2										
TOP-20	5	76.2										
TOP-20	6	50										
TOP-20	6	55										
TOP-20	6	60										
TOP-20	6	73.2										
TOP-20	6	75										
TOP-20	6	80										
TOP-20	6	100										
TOP-20	6	150										
TOP-20	6	200										
TOP-20	8	60										
TOP-20	8	100										
TOP-20	8	120										
TOP-20	8	150										
TOP-20	8	200										
TOP-20	10	72										
TOP-20	10	75										
TOP-20	10	100										
TOP-20	10	120										
TOP-20	10	150										
TOP-20	10	200										
TOP-20	12	75										
TOP-20	12	83										
TOP-20	12	100										
TOP-20	12	150										
TOP-20	12	200										
TOP-20	14	83										
TOP-20	14	100										
TOP-20	14	150										
TOP-20	14	200										
TOP-20	16	92										
TOP-20	16	100										
TOP-20	16	150										
TOP-20	16	200										
TOP-20	18	93										
TOP-20	18	100										
TOP-20	18	150										
TOP-20	18	200										
TOP-20	20	100										
TOP-20	20	105										
TOP-20	20	150										
TOP-20	20	200										
TOP-20	25	125										
TOP-20	25	150										
TOP-20	25	200										

CARBIDE ROUND ROD

硬质合金圆棒

Carbide Round Rod



公制实心精磨圆棒

Metric Solid Fine Ground Round Rod



h6 ground chamfered on one end (一端倒角)										
Item No.	Dia mm	OAL mm	tolerances	Grade	Grade	Grade	Grade	Grade	Grade	Grade
TOP-30	0.3	310/330	h5/h6	T-06	T-08	T-09	T-10.2	T-10	T-12	T-15
TOP-30	0.4	310/330								
TOP-30	0.5	310/330								
TOP-30	0.6	310/330								
TOP-30	0.7	310/330								
TOP-30	0.8	310/330								
TOP-30	0.9	310/330								
TOP-30	1	310/330								
TOP-30	1.2	310/330								
TOP-30	1.5	310/330								
TOP-30	2	310/330								
TOP-30	2.5	310/330								
TOP-30	3	310/330								
TOP-30	4	310/330								
TOP-30	5	310/330								
TOP-30	6	310/330								
TOP-30	7	310/330								
TOP-30	8	310/330								
TOP-30	9	310/330								
TOP-30	10	310/330								
TOP-30	11	310/330								
TOP-30	12	310/330								
TOP-30	13	310/330								
TOP-30	14	310/330								
TOP-30	15	310/330								
TOP-30	16	310/330								
TOP-30	17	310/330								
TOP-30	18	310/330								
TOP-30	19	310/330								
TOP-30	20	310/330								
TOP-30	21	310/330								
TOP-30	22	310/330								
TOP-30	23	310/330								
TOP-30	24	310/330								
TOP-30	25	310/330								
TOP-30	26	310/330								
TOP-30	27	310/330								
TOP-30	28	310/330								
TOP-30	29	310/330								
TOP-30	30	310/330								
TOP-30	31	310/330								
TOP-30	32	310/330								
TOP-30	33	310/330								
TOP-30	34	310/330								
TOP-30	35	310/330								
TOP-30	36	310/330								
TOP-30	37	310/330								
TOP-30	38	310/330								
TOP-30	39	310/330								
TOP-30	40	310/330								

公制实心毛坯圆棒

Metric Solid Blank Round Bar



solid carbide unground										
Item No.	Dia mm	OAL mm	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade
TOP-40	0.3	310/330	T-06	T-08	T-09	T-10.2	T-10	T-12	T-15	
TOP-40	0.4	310/330								
TOP-40	0.5	310/330								
TOP-40	0.6	310/330								
TOP-40	0.7	310/330								
TOP-40	0.8	310/330								
TOP-40	0.9	310/330								
TOP-40	1	310/330								
TOP-40	1.2	310/330								
TOP-40	1.5	310/330								
TOP-40	2	310/330								
TOP-40	2.5	310/330								
TOP-40	3	310/330								
TOP-40	4	310/330								
TOP-40	5	310/330								
TOP-40	6	310/330								
TOP-40	7	310/330								
TOP-40	8	310/330								
TOP-40	9	310/330								
TOP-40	10	310/330								
TOP-40	11	310/330								
TOP-40	12	310/330								
TOP-40	13	310/330								
TOP-40	14	310/330								
TOP-40	15	310/330								
TOP-40	16	310/330								
TOP-40	17	310/330								
TOP-40	18	310/330								
TOP-40	19	310/330								
TOP-40	20	310/330								
TOP-40	21	310/330								
TOP-40	22	310/330								
TOP-40	23	310/330								
TOP-40	24	310/330								
TOP-40	25	310/330								
TOP-40	26	310/330								
TOP-40	27	310/330								
TOP-40	28	310/330								
TOP-40	29	310/330								
TOP-40	30	310/330								
TOP-40	31	310/330								
TOP-40	32	310/330								
TOP-40	33	310/330								
TOP-40	34	310/330								
TOP-40	35	310/330								
TOP-40	36	310/330								
TOP-40	37	310/330								
TOP-40	38	310/330								
TOP-40	39	310/330								
TOP-40	40	310/330								

CARBIDE ROUND ROD

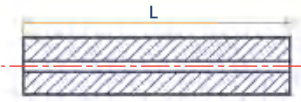
02 Single Coolant Hole Carbide Rod

单孔硬质合金圆棒



公制单孔精磨圆棒

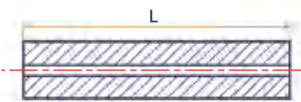
Precision Ground Rod, 1 Straight Hole Centered



Precision Ground Rod, 1 Straight Hole Centered							
Item No.	Grade	OD mm	Tol. mm	L. mm	Tol mm	d mm	Tol mm
TOP-50	T-10.2	4.0	0/-0.008	330	0/+5	0.6	±0.15
TOP-50	T-10.2	6.0	0/-0.008	330	0/+5	1	±0.15
TOP-50	T-10.2	8.0	0/-0.009	330	0/+5	1.3	±0.15
TOP-50	T-10.2	10.0	0/-0.009	330	0/+5	2	±0.20
TOP-50	T-10.2	12.0	0/-0.011	330	0/+5	2	±0.20
TOP-50	T-10.2	14.0	0/-0.011	330	0/+5	2	±0.20
TOP-50	T-10.2	16.0	0/-0.011	330	0/+5	2	±0.20
TOP-50	T-10.2	18.0	0/-0.011	330	0/+5	3	±0.20
TOP-50	T-10.2	20.0	0/-0.013	330	0/+5	3	±0.20
TOP-50	T-10.2	22.0	0/-0.013	330	0/+5	3	±0.20
TOP-50	T-10.2	24.0	0/-0.013	330	0/+5	4	±0.30
TOP-50	T-10.2	25.0	0/-0.013	330	0/+5	4	±0.30

公制单孔毛坯圆棒

Unground Rod, 1 Straight Hole Centered



Unground Rod, 1 Straight Hole Centered							
Item No.	Grade	OD mm	Tol mm	L. mm	Tol mm	d mm	Tol mm
TOP-60	T-10.2	4.3	0/+0.3	330	0/+5	0.6	±0.15
TOP-60	T-10.2	6.3	0/+0.3	330	0/+5	1	±0.15
TOP-60	T-10.2	8.3	0/+0.3	330	0/+5	1.3	±0.15
TOP-60	T-10.2	10.3	0/+0.3	330	0/+5	2	±0.20
TOP-60	T-10.2	12.3	0/+0.4	330	0/+5	2	±0.20
TOP-60	T-10.2	14.3	0/+0.4	330	0/+5	2	±0.20
TOP-60	T-10.2	16.3	0/+0.4	330	0/+5	2	±0.20
TOP-60	T-10.2	18.3	0/+0.5	330	0/+5	3	±0.20
TOP-60	T-10.2	20.3	0/+0.5	330	0/+5	3	±0.20
TOP-60	T-10.2	22.3	0/+0.5	330	0/+5	3	±0.20
TOP-60	T-10.2	24.3	0/+0.5	330	0/+5	4	±0.30
TOP-60	T-10.2	25.3	0/+0.5	330	0/+5	4	±0.30



03 Double Straight Coolant Hole Carbide Rod

双直孔硬质合金圆棒



标准双直孔精磨圆棒
Precision Ground Rod,
2 Straight Hole Standard BC



Precision Ground Rod, 1 Straight Hole Centered									
Item No.	Grade	OD mm	Tol.h6 mm	L mm	Tol mm	TK mm	Tol mm	d mm	Tol mm
TOP-70	T-10.2	6.0	0/-0.008	330	0/+5	3	0/-0.2	1	±0.15
TOP-70	T-10.2	7.0	0/-0.009	330	0/+5	3.5	0/-0.2	1	±0.15
TOP-70	T-10.2	8.0	0/-0.009	330	0/+5	4	0/-0.3	1	±0.15
TOP-70	T-10.2	9.0	0/-0.009	330	0/+5	4	0/-0.3	1.4	±0.15
TOP-70	T-10.2	10.0	0/-0.009	330	0/+5	5	0/-0.3	1.4	±0.15
TOP-70	T-10.2	11.0	0/-0.011	330	0/+5	5	0/-0.3	1.4	±0.15
TOP-70	T-10.2	12.0	0/-0.011	330	0/+5	6	0/-0.3	1.75	±0.15
TOP-70	T-10.2	13.0	0/-0.011	330	0/+5	6	0/-0.3	1.75	±0.15
TOP-70	T-10.2	14.0	0/-0.011	330	0/+5	7	0/-0.3	1.75	±0.15
TOP-70	T-10.2	15.0	0/-0.011	330	0/+5	7	0/-0.3	2	±0.20
TOP-70	T-10.2	16.0	0/-0.011	330	0/+5	8	0/-0.3	2	±0.20
TOP-70	T-10.2	17.0	0/-0.011	330	0/+5	8	0/-0.3	2	±0.20
TOP-70	T-10.2	18.0	0/-0.011	330	0/+5	9	0/-0.3	2	±0.20
TOP-70	T-10.2	19.0	0/-0.013	330	0/+5	9	0/-0.3	2	±0.20
TOP-70	T-10.2	20.0	0/-0.013	330	0/+5	10	0/-0.4	2.5	±0.30

双直缩孔精磨圆棒
Precision Ground Rod,
2 Straight Hole Reduced BC

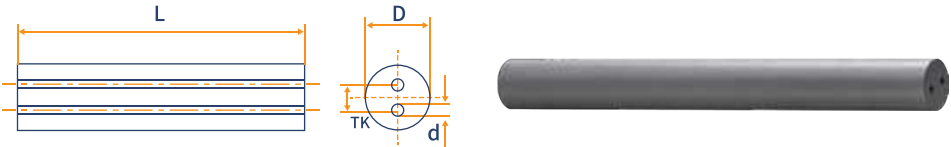


Precision Ground Rod, 1 Straight Hole Centered									
Item No.	Grade	OD mm	Tol.h6 mm	L mm	Tol mm	TK mm	Tol mm	d mm	Tol mm
TOP-80	T-10.2	6.0	0/-0.008	330	0/+5	1.5	0/-0.2	0.8	±0.15
TOP-80	T-10.2	7.0	0/-0.009	330	0/+5	1.5	0/-0.2	0.8	±0.15
TOP-80	T-10.2	8.0	0/-0.009	330	0/+5	2.6	0/-0.3	1	±0.15
TOP-80	T-10.2	9.0	0/-0.009	330	0/+5	2.6	0/-0.3	1	±0.15
TOP-80	T-10.2	10.0	0/-0.009	330	0/+5	2.6	0/-0.3	1	±0.15
TOP-80	T-10.2	11.0	0/-0.011	330	0/+5	3.5	0/-0.3	1.2	±0.15
TOP-80	T-10.2	12.0	0/-0.011	330	0/+5	3.5	0/-0.3	1.2	±0.15
TOP-80	T-10.2	13.0	0/-0.011	330	0/+5	3.5	0/-0.3	1.2	±0.15
TOP-80	T-10.2	14.0	0/-0.011	330	0/+5	5	0/-0.3	1.5	±0.15
TOP-80	T-10.2	15.0	0/-0.011	330	0/+5	5	0/-0.3	1.5	±0.15
TOP-80	T-10.2	16.0	0/-0.011	330	0/+5	5	0/-0.3	1.5	±0.20
TOP-80	T-10.2	17.0	0/-0.011	330	0/+5	6.2	0/-0.3	2	±0.20
TOP-80	T-10.2	18.0	0/-0.011	330	0/+5	6.2	0/-0.3	2	±0.20
TOP-80	T-10.2	19.0	0/-0.013	330	0/+5	6.2	0/-0.3	2	±0.20
TOP-80	T-10.2	20.0	0/-0.013	330	0/+5	6.2	0/-0.4	2	±0.30

硬质合金圆棒

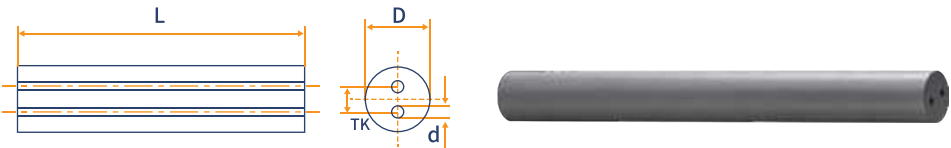
Carbide Round Rod

标准双直孔毛坯圆棒
Unground Rod,
2 Straight Hole Standard BC



Unground Rod, 2 Straight Hole Standard BC									
Item No.	Grade	OD mm	Tol mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm
TOP-90	T-10.2	6.3	0/+0.3	330	0/+5	3	0/-0.2	1	±0.15
TOP-90	T-10.2	7.3	0/+0.3	330	0/+5	3.5	0/-0.2	1	±0.15
TOP-90	T-10.2	8.3	0/+0.3	330	0/+5	4	0/-0.3	1	±0.15
TOP-90	T-10.2	9.3	0/+0.3	330	0/+5	4	0/-0.3	1.4	±0.15
TOP-90	T-10.2	10.3	0/+0.3	330	0/+5	5	0/-0.3	1.4	±0.15
TOP-90	T-10.2	11.3	0/+0.4	330	0/+5	5	0/-0.3	1.4	±0.15
TOP-90	T-10.2	12.3	0/+0.4	330	0/+5	6	0/-0.3	1.75	±0.15
TOP-90	T-10.2	13.3	0/+0.4	330	0/+5	6	0/-0.3	1.75	±0.15
TOP-90	T-10.2	14.3	0/+0.4	330	0/+5	7	0/-0.3	1.75	±0.15
TOP-90	T-10.2	15.3	0/+0.4	330	0/+5	7	0/-0.3	2	±0.20
TOP-90	T-10.2	16.3	0/+0.4	330	0/+5	8	0/-0.3	2	±0.20
TOP-90	T-10.2	17.3	0/+0.5	330	0/+5	8	0/-0.3	2	±0.20
TOP-90	T-10.2	18.3	0/+0.5	330	0/+5	9	0/-0.3	2	±0.20
TOP-90	T-10.2	19.3	0/+0.5	330	0/+5	9	0/-0.3	2	±0.20
TOP-90	T-10.2	20.3	0/+0.5	330	0/+5	10	0/-0.4	2.5	±0.30

双直缩孔毛坯圆棒
Unground Rod,
2 Straight Hole Reduced BC



Unground Rod, 2 Straight Hole Reduced BC									
Item No.	Grade	OD mm	Tol mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm
TOP-100	T-10.2	6.3	0/+0.3	330	0/+5	1.5	0/-0.2	0.8	±0.15
TOP-100	T-10.2	7.3	0/+0.3	330	0/+5	1.5	0/-0.2	0.8	±0.15
TOP-100	T-10.2	8.3	0/+0.3	330	0/+5	2.6	0/-0.3	1	±0.15
TOP-100	T-10.2	9.3	0/+0.3	330	0/+5	2.6	0/-0.3	1	±0.15
TOP-100	T-10.2	10.3	0/+0.3	330	0/+5	2.6	0/-0.3	1	±0.15
TOP-100	T-10.2	11.3	0/+0.4	330	0/+5	3.5	0/-0.3	1.2	±0.15
TOP-100	T-10.2	12.3	0/+0.4	330	0/+5	3.5	0/-0.3	1.2	±0.15
TOP-100	T-10.2	13.3	0/+0.4	330	0/+5	3.5	0/-0.3	1.2	±0.15
TOP-100	T-10.2	14.3	0/+0.4	330	0/+5	5	0/-0.3	1.5	±0.15
TOP-100	T-10.2	15.3	0/+0.4	330	0/+5	5	0/-0.3	1.5	±0.15
TOP-100	T-10.2	16.3	0/+0.4	330	0/+5	5	0/-0.3	1.5	±0.20
TOP-100	T-10.2	17.3	0/+0.5	330	0/+5	6.2	0/-0.3	2	±0.20
TOP-100	T-10.2	18.3	0/+0.5	330	0/+5	6.2	0/-0.3	2	±0.20
TOP-100	T-10.2	19.3	0/+0.5	330	0/+5	6.2	0/-0.3	2	±0.20
TOP-100	T-10.2	20.3	0/+0.5	330	0/+5	6.2	0/-0.4	2	±0.30



04 Spiral Coolant Hole Carbide Rod

螺旋孔硬质合金圆棒



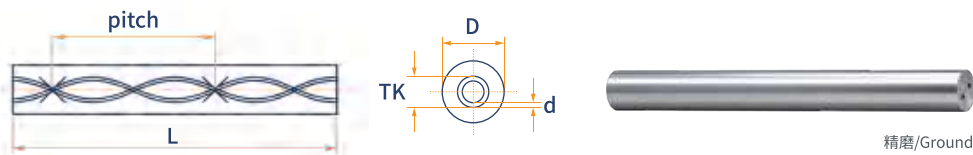
CARBIDE ROUND ROD

硬质合金圆棒

Carbide Round Rod

双螺旋30° 精磨圆棒

Precision Ground Rod,
2 Helical Hole 30 degree



Precision Ground Rod, 2 Helical Hole 30 degree										
Item No.	Grade	OD mm	Tol.h6 mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-110	T-10.2	3.0	0/-0.006	330	0/+5	1.6	±0.1	0.4	±0.10	16.32
TOP-110	T-10.2	4.0	0/-0.008	330	0/+5	2.1	±0.1	0.6	±0.10	21.77
TOP-110	T-10.2	5.0	0/-0.008	330	0/+5	2.1	±0.2	0.7	±0.10	27.21
TOP-110	T-10.2	6.0	0/-0.008	330	0/+5	2.4	±0.2	0.7	±0.10	32.65
TOP-110	T-10.2	7.0	0/-0.009	330	0/+5	3.5	±0.2	1	±0.15	38.09
TOP-110	T-10.2	8.0	0/-0.009	330	0/+5	3.8	±0.2	1	±0.15	43.53
TOP-110	T-10.2	9.0	0/-0.009	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
TOP-110	T-10.2	10.0	0/-0.009	330	0/+5	4.5	±0.3	1.4	±0.15	54.41
TOP-110	T-10.2	11.0	0/-0.011	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
TOP-110	T-10.2	12.0	0/-0.011	330	0/+5	5.85	±0.4	1.4	±0.15	65.3
TOP-110	T-10.2	13.0	0/-0.011	330	0/+5	6.1	±0.4	1.75	±0.20	70.74
TOP-110	T-10.2	14.0	0/-0.011	330	0/+5	6.7	±0.4	1.75	±0.20	76.18
TOP-110	T-10.2	15.0	0/-0.011	330	0/+5	7.3	±0.4	1.75	±0.20	81.62
TOP-110	T-10.2	16.0	0/-0.011	330	0/+5	7.9	±0.4	1.75	±0.20	87.06
TOP-110	T-10.2	17.0	0/-0.011	330	0/+5	8.5	±0.4	1.75	±0.20	92.5
TOP-110	T-10.2	18.0	0/-0.011	330	0/+5	9.15	±0.4	2	±0.25	97.95
TOP-110	T-10.2	19.0	0/-0.013	330	0/+5	9.7	±0.4	2	±0.25	103.39
TOP-110	T-10.2	20.0	0/-0.013	330	0/+5	9.9	±0.5	2	±0.25	108.83
TOP-110	T-10.2	22.0	0/-0.013	330	0/+5	11.1	±0.5	2	±0.25	119.71
TOP-110	T-10.2	25.0	0/-0.013	330	0/+5	12.8	±0.5	2	±0.25	136.03
TOP-110	T-10.2	6.0	0/-0.008	330	0/+5	2.7	±0.2	0.8	±0.10	32.65
TOP-110	T-10.2	7.0	0/-0.009	330	0/+5	3.5	±0.2	1	±0.15	38.09
TOP-110	T-10.2	8.0	0/-0.009	330	0/+5	3.4	±0.2	1	±0.15	43.53
TOP-110	T-10.2	9.0	0/-0.009	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
TOP-110	T-10.2	10.0	0/-0.009	330	0/+5	4.8	±0.3	1.3	±0.15	54.41
TOP-110	T-10.2	11.0	0/-0.011	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
TOP-110	T-10.2	12.0	0/-0.011	330	0/+5	6.3	±0.4	1.7	±0.20	65.3
TOP-110	T-10.2	13.0	0/-0.011	330	0/+5	6.1	±0.4	1.75	±0.20	70.74
TOP-110	T-10.2	14.0	0/-0.011	330	0/+5	6.7	±0.4	1.8	±0.20	76.18
TOP-110	T-10.2	15.0	0/-0.011	330	0/+5	7.3	±0.4	1.75	±0.20	81.62
TOP-110	T-10.2	16.0	0/-0.011	330	0/+5	8	±0.4	2	±0.20	87.06
TOP-110	T-10.2	17.0	0/-0.011	330	0/+5	8.5	±0.4	1.75	±0.20	92.5
TOP-110	T-10.2	18.0	0/-0.011	330	0/+5	9	±0.4	2.3	±0.20	97.95
TOP-110	T-10.2	19.0	0/-0.013	330	0/+5	9.7	±0.4	2	±0.25	103.39
TOP-110	T-10.2	20.0	0/-0.013	330	0/+5	10	±0.5	2.5	±0.25	108.83

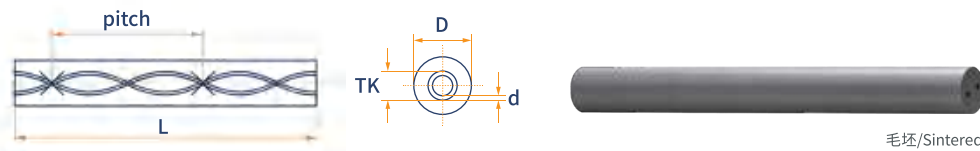
直径 øD	公差 TOL.			孔径 ød	公差 TOL.	孔距 TKø	公差 TOL.	导程 Lead	长度 Length	材质 Grade	备注 Materia
D(mm)	毛坯 Sintered	粗磨 Rough Grind	精磨 Ground	d(mm)	TOL.	TK(mm)	TOL.	PITCH	L(+5mm)	T-10.2	
26.3	+0.8/+1.4	+0.35/+0.65	φ26(h6)	2.00	±0.20	13.30	±0.50	141.48	330	●	
28.3	+0.8/+1.4	+0.35/+0.65	φ28(h6)	2.00	±0.20	9.15	±0.40	152.36	330		
28.3	+0.8/+1.4	+0.35/+0.65	φ28(h6)	2.50	±0.30	13.00	±0.50	152.36	330	●	
28.3	+0.8/+1.4	+0.35/+0.65	φ28(h6)	2.50	±0.30	14.20	±0.50	152.36	330	●	
30.3	+0.8/+1.4	+0.35/+0.65	φ30(h6)	2.50	±0.30	15.40	±0.50	163.24	330	●	
32.3	+0.8/+1.4	+0.35/+0.65	φ32(h6)	3.00	±0.30	16.60	±0.50	174.12	330	●	

提供切断服务
We offer cut-to-length services

●=标准库存
●=Standard Stock

双螺旋30°毛坯圆棒

Unground Rod,
2 Helical Hole 30 degree



Unground Rod, 2 Helical Hole 30 degree										
Item No.	Grade	OD mm	Tol mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-120	T-10.2	3.3	+0.3/+0.7	330	0/+5	1.6	±0.1	0.4	±0.10	16.32
TOP-120	T-10.2	4.3	+0.3/+0.7	330	0/+5	2.1	±0.1	0.6	±0.10	21.77
TOP-120	T-10.2	5.3	+0.3/+0.7	330	0/+5	2.1	±0.2	0.7	±0.10	27.21
TOP-120	T-10.2	6.3	+0.3/+0.7	330	0/+5	2.4	±0.2	0.7	±0.10	32.65
TOP-120	T-10.2	7.3	+0.3/+0.7	330	0/+5	3.5	±0.2	1	±0.15	38.09
TOP-120	T-10.2	8.3	+0.3/+0.7	330	0/+5	3.8	±0.2	1	±0.15	43.53
TOP-120	T-10.2	9.3	+0.3/+0.7	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
TOP-120	T-10.2	10.3	+0.3/+0.7	330	0/+5	4.5	±0.3	1.4	±0.15	54.41
TOP-120	T-10.2	11.3	+0.4/+0.9	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
TOP-120	T-10.2	12.3	+0.4/+0.9	330	0/+5	5.85	±0.4	1.4	±0.15	65.3
TOP-120	T-10.2	13.3	+0.4/+0.9	330	0/+5	6.1	±0.4	1.75	±0.20	70.74
TOP-120	T-10.2	14.3	+0.4/+0.9	330	0/+5	6.7	±0.4	1.75	±0.20	76.18
TOP-120	T-10.2	15.3	+0.4/+0.9	330	0/+5	7.3	±0.4	1.75	±0.20	81.62
TOP-120	T-10.2	16.3	+0.4/+0.9	330	0/+5	7.9	±0.4	1.75	±0.20	87.06
TOP-120	T-10.2	17.3	+0.4/+1.0	330	0/+5	8.5	±0.4	1.75	±0.20	92.5
TOP-120	T-10.2	18.3	+0.4/+1.0	330	0/+5	9.15	±0.4	2	±0.25	97.95
TOP-120	T-10.2	19.3	+0.4/+1.0	330	0/+5	9.7	±0.4	2	±0.25	103.39
TOP-120	T-10.2	20.3	+0.4/+1.0	330	0/+5	9.9	±0.5	2	±0.25	108.83
TOP-120	T-10.2	22.3	+0.4/+1.0	330	0/+5	11.1	±0.5	2	±0.25	119.71
TOP-120	T-10.2	25.3	+0.4/+1.0	330	0/+5	12.8	±0.5	2	±0.25	136.03
TOP-120	T-10.2	6.3	+0.3/+0.7	330	0/+5	2.7	±0.2	0.8	±0.10	32.65
TOP-120	T-10.2	7.3	+0.3/+0.7	330	0/+5	3.5	±0.2	1	±0.15	38.09
TOP-120	T-10.2	8.3	+0.3/+0.7	330	0/+5	3.4	±0.2	1	±0.15	43.53
TOP-120	T-10.2	9.3	+0.3/+0.7	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
TOP-120	T-10.2	10.3	+0.3/+0.7	330	0/+5	4.8	±0.3	1.3	±0.15	54.41
TOP-120	T-10.2	11.3	+0.4/+0.9	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
TOP-120	T-10.2	12.3	+0.4/+0.9	330	0/+5	6.3	±0.4	1.7	±0.20	65.3
TOP-120	T-10.2	13.3	+0.4/+0.9	330	0/+5	6.1	±0.4	1.75	±0.20	70.74
TOP-120	T-10.2	14.3	+0.4/+0.9	330	0/+5	6.7	±0.4	1.8	±0.20	76.18
TOP-120	T-10.2	15.3	+0.4/+0.9	330	0/+5	7.3	±0.4	1.75	±0.20	81.62
TOP-120	T-10.2	16.3	+0.4/+0.9	330	0/+5	8	±0.4	2	±0.20	87.06
TOP-120	T-10.2	17.3	+0.4/+1.0	330	0/+5	8.5	±0.4	1.75	±0.20	92.5
TOP-120	T-10.2	18.3	+0.4/+1.0	330	0/+5	9	±0.4	2.3	±0.20	97.95
TOP-120	T-10.2	19.3	+0.4/+1.0	330	0/+5	9.7	±0.4	2	±0.25	103.39
TOP-120	T-10.2	20.3	+0.4/+1.0	330	0/+5	10	±0.5	2.5	±0.25	108.83

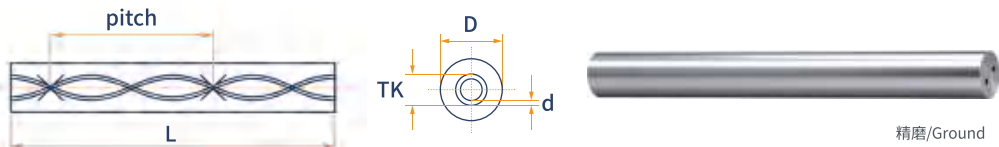
硬质合金圆棒

Carbide Round Rod



双螺旋40°精磨圆棒

Precision Ground Rod,
2 Helical Hole 40 degree

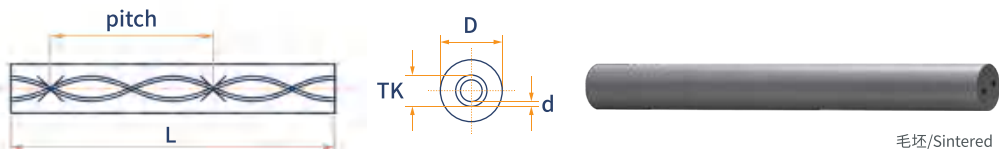


精磨/Ground

Precision Ground Rod, 2 Helical Hole 40 degree										
Item No.	Grade	OD mm	Tol.h6 mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-130	T-10.2	6.0	0/-0.008	330	0/+5	1.9	±0.15	0.7	±0.10	22.46
TOP-130	T-10.2	6.0	0/-0.008	330	0/+5	2	±0.15	0.5	±0.10	22.46
TOP-130	T-10.2	8.0	0/-0.009	330	0/+5	2.4	±0.30	0.65	±0.15	29.95
TOP-130	T-10.2	10.0	0/-0.009	330	0/+5	3.1	±0.40	0.8	±0.15	37.44
TOP-130	T-10.2	12.0	0/-0.011	330	0/+5	3.8	±0.40	0.9	±0.15	44.93
TOP-130	T-10.2	14.0	0/-0.011	330	0/+5	4.3	±0.40	1	±0.20	52.42
TOP-130	T-10.2	16.0	0/-0.011	330	0/+5	5.1	±0.40	1.2	±0.20	59.9
TOP-130	T-10.2	18.0	0/-0.011	330	0/+5	5.9	±0.40	1.4	±0.25	67.39
TOP-130	T-10.2	20.0	0/-0.013	330	0/+5	6.6	±0.50	1.5	±0.25	74.88
TOP-130	T-10.2	22.0	0/-0.013	330	0/+5	7.2	±0.50	1.7	±0.25	82.35
TOP-130	T-10.2	25.0	0/-0.013	330	0/+5	7.6	±0.50	1.75	±0.25	93.58

双螺旋40°毛坯圆棒

Unground Rod,
2 Helical Hole 40 degree



毛坯/Sintered

Unground Rod, 2 Helical Hole 40 degree										
Item No.	Grade	OD mm	Tol mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-140	T-10.2	6.3	+0.3/+0.7	330	0/+5	1.9	±0.15	0.7	±0.10	22.46
TOP-140	T-10.2	6.3	+0.3/+0.7	330	0/+5	2	±0.15	0.5	±0.10	22.46
TOP-140	T-10.2	8.3	+0.3/+0.7	330	0/+5	2.4	±0.30	0.65	±0.15	29.95
TOP-140	T-10.2	10.3	+0.3/+0.7	330	0/+5	3.1	±0.40	0.8	±0.15	37.44
TOP-140	T-10.2	12.3	+0.4/+0.9	330	0/+5	3.8	±0.40	0.9	±0.15	44.93
TOP-140	T-10.2	14.3	+0.4/+0.9	330	0/+5	4.3	±0.40	1	±0.20	52.42
TOP-140	T-10.2	16.3	+0.4/+0.9	330	0/+5	5.1	±0.40	1.2	±0.20	59.9
TOP-140	T-10.2	18.3	+0.4/+1.0	330	0/+5	5.9	±0.40	1.4	±0.25	67.39
TOP-140	T-10.2	20.3	+0.4/+1.0	330	0/+5	6.6	±0.50	1.5	±0.25	74.88
TOP-140	T-10.2	22.3	+0.4/+1.0	330	0/+5	7.2	±0.50	1.7	±0.25	82.35
TOP-140	T-10.2	25.3	+0.4/+1.0	330	0/+5	7.6	±0.50	1.75	±0.25	93.58

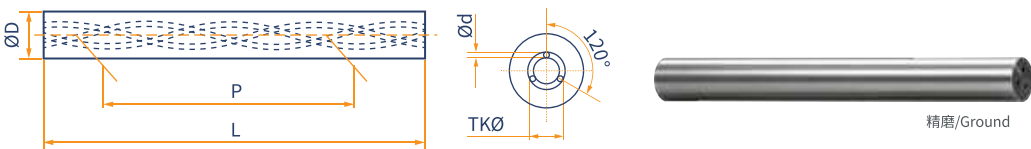
直径 øD	公差 TOL.			孔径 ød	公差 TOL.	孔距 TKø	公差 TOL.	导程 Lead	长度 Length	材质 Grade
D(mm)	毛坯 Sintered	粗磨 Rough Grind	精磨 Ground	d(mm)	TOL.	TK(mm)	TOL.	PITCH	L(+5mm)	T-10.2
28.3	+0.8/+1.4	+0.35/+0.65	φ28(h6)	2.00	±0.20	8.40	±0.40	104.83	330	●
30.3	+0.8/+1.4	+0.35/+0.65	φ30(h6)	2.00	±0.20	8.40	±0.40	112.32	330	●
32.3	+0.8/+1.4	+0.35/+0.65	φ32(h6)	2.00	±0.20	8.40	±0.40	119.81	330	●

提供切断服务
We offer cut-to-length services

●=标准库存
●=Standard Stock

3螺旋孔棒精磨

Precision Ground Rod,
3 Helical Hole 30 degree

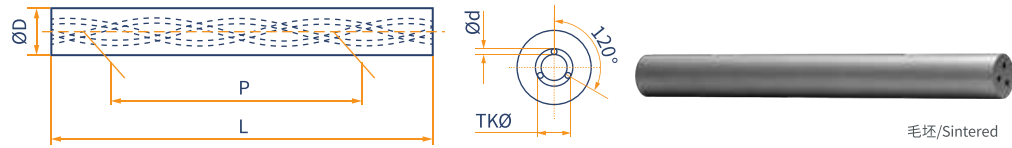


精磨/Ground

Precision Ground Rod, 3 Helical Hole 30 degree										
Item No.	Grade	OD mm	Tol. mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-150	T-10.2	6.0	0/-0.008	330	0/+5	2.75	±0.2	0.5	±0.15	32.65
TOP-150	T-10.2	8.0	0/-0.009	330	0/+5	3.85	±0.2	0.7	±0.15	43.53
TOP-150	T-10.2	10.0	0/-0.009	330	0/+5	4.95	±0.3	0.85	±0.20	54.41
TOP-150	T-10.2	12.0	0/-0.011	330	0/+5	6.05	±0.4	1.1	±0.20	65.3
TOP-150	T-10.2	14.0	0/-0.011	330	0/+5	7.05	±0.4	1.4	±0.20	76.18
TOP-150	T-10.2	16.0	0/-0.011	330	0/+5	8.05	±0.4	1.6	±0.20	87.06
TOP-150	T-10.2	18.0	0/-0.011	330	0/+5	9.25	±0.4	1.7	±0.25	97.95
TOP-150	T-10.2	20.0	0/-0.013	330	0/+5	9.85	±0.5	1.9	±0.25	108.83

3螺旋孔圆棒 毛坯

Unground Rod,
3 Helical Hole 30 degree



毛坯/Sintered

Unground Rod, 3 Helical Hole 30 degree										
Item No.	Grade	OD mm	Tol mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-160	T-10.2	6.3	+0.3/+0.7	330	0/+5	2.75	±0.20	0.5	±0.15	32.65
TOP-160	T-10.2	8.3	+0.3/+0.7	330	0/+5	3.85	±0.20	0.7	±0.15	43.53
TOP-160	T-10.2	10.3	+0.3/+0.7	330	0/+5	4.95	±0.30	0.85	±0.20	54.41
TOP-160	T-10.2	12.3	+0.4/+0.9	330	0/+5	6.05	±0.40	1.1	±0.20	65.3
TOP-160	T-10.2	14.3	+0.4/+0.9	330	0/+5	7.05	±0.40	1.4	±0.20	76.18
TOP-160	T-10.2	16.3	+0.4/+0.9	330	0/+5	8.05	±0.40	1.6	±0.20	87.06
TOP-160	T-10.2	18.3	+0.4/+1.0	330	0/+5	9.25	±0.50	1.7	±0.25	97.95
TOP-160	T-10.2	20.3	+0.4/+1.0	330	0/+5	9.85	±0.50	1.9	±0.25	108.83

直径 øD	公差 TOL.			孔径 ød	公差 TOL.	孔距 TKø	公差 TOL.	导程 Lead	长度 Length	材质 Grade
D(mm)	毛坯 Sintered	粗磨 Rough Grind	精磨 Ground	小孔/大孔 d(mm)	TOL.	TK(mm)	TOL.	PITCH	L(+5mm)	T-10.2
22.3	+0.8/+1.4	+0.35/+0.65	φ22(h6)	1.7/2.0	±0.20	11.15	±0.50	119.71	330	●
24.3	+0.8/+1.4	+0.35/+0.65	φ24(h6)	1.7/2.0	±0.20	11.75	±0.50	130.59	330	●
25.3	+0.8/+1.4	+0.35/+0.65	φ25(h6)	1.7/2.0	±0.20	12.15	±0.50	136.03	330	●
26.3	+0.8/+1.4	+0.35/+0.65	φ26(h6)	1.7/2.0	±0.20	12.75	±0.50	141.48	330	●
28.3	+0.8/+1.4	+0.35/+0.65	φ28(h6)	2.0/2.5	±0.30	13.65	±0.50	152.36	330	●
30.3	+0.8/+1.4	+0.35/+0.65	φ30(h6)	2.0/2.5	±0.30	14.50	±0.50	163.24	330	●
32.3	+0.8/+1.4	+0.35/+0.65	φ32(h6)	2.5/3.0	±0.30	15.50	±0.50	174.12	330	●

备注: 提供两种孔径供选择, 制作阶梯钻等变径较大的钻头, 推荐小孔径棒料

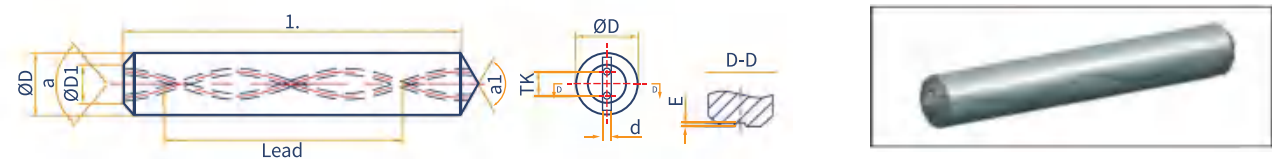
硬质合金圆棒

Carbide Round Rod



3倍直径 精磨

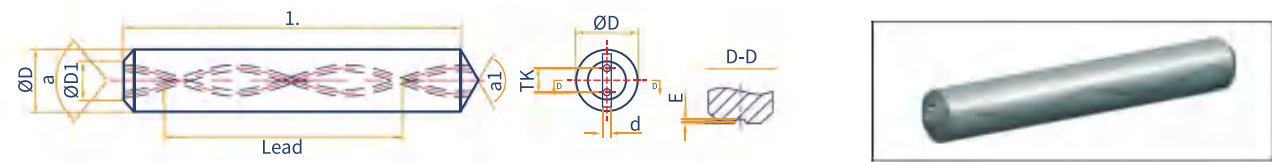
Precision Ground Rod, 3XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot



Precision Ground Rod, 3XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot										
Item No.	Grade	OD mm	Tol.h6 mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-170	T-10.2	6.0	0/-0.008	63	0/+1.5	1.9	±0.15	0.7	±0.10	22.5
TOP-170	T-10.2	6.0	0/-0.008	67	0/+1.5	2.7	±0.20	0.8	±0.10	32.7
TOP-170	T-10.2	8.0	0/-0.009	80.5	0/+1.5	3.4	±0.20	1	±0.15	43.5
TOP-170	T-10.2	10.0	0/-0.009	90.5	0/+1.5	4.8	±0.30	1.3	±0.15	54.4
TOP-170	T-10.2	12.0	0/-0.011	104	0/+1.5	6.3	±0.40	1.7	±0.15	65
TOP-170	T-10.2	14.0	0/-0.011	109	0/+1.5	6.7	±0.40	1.8	±0.20	76.2
TOP-170	T-10.2	16.0	0/-0.011	117.5	0/+1.5	8	±0.40	2	±0.20	87.1
TOP-170	T-10.2	18.0	0/-0.011	125.5	0/+1.5	9	±0.45	2.3	±0.20	98
TOP-170	T-10.2	20.0	0/-0.013	134	0/+1.5	10	±0.50	2.5	±0.20	108.8

5倍直径 精磨

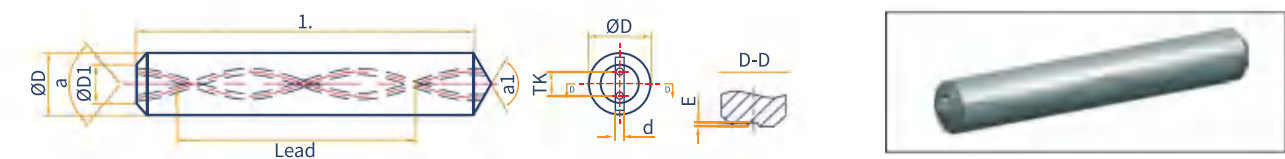
Precision Ground Rod, 5XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot



Precision Ground Rod, 3XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot										
Item No.	Grade	OD mm	Tol.h6 mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-180	T-10.2	6.0	0/-0.008	75	0/+1.5	1.9	±0.15	0.7	±0.10	22.5
TOP-180	T-10.2	6.0	0/-0.008	83	0/+1.5	2.7	±0.20	0.8	±0.10	32.7
TOP-180	T-10.2	8.0	0/-0.009	92.5	0/+1.5	3.4	±0.20	1	±0.15	43.5
TOP-180	T-10.2	10.0	0/-0.009	104.5	0/+1.5	4.8	±0.30	1.3	±0.15	54.4
TOP-180	T-10.2	12.0	0/-0.011	120	0/+1.5	6.3	±0.40	1.7	±0.15	65
TOP-180	T-10.2	14.0	0/-0.011	126.5	0/+1.5	6.7	±0.40	1.8	±0.20	76.2
TOP-180	T-10.2	16.0	0/-0.011	135.5	0/+1.5	8	±0.40	2	±0.20	87.1
TOP-180	T-10.2	18.0	0/-0.011	145.5	0/+1.5	9	±0.45	2.3	±0.20	98
TOP-180	T-10.2	20.0	0/-0.013	156	0/+1.5	10	±0.50	2.5	±0.20	108.8

8倍直径 精磨

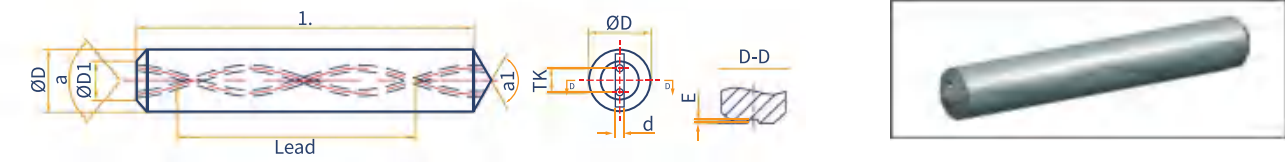
Precision Ground Rod, 8XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot



Precision Ground Rod, 3XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot										
Item No.	Grade	OD mm	Tol.h6 mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-190	T-10.2	6.0	0/-0.008	86	0/+1.5	1.9	±0.15	0.7	±0.10	22.5
TOP-190	T-10.2	6.0	0/-0.008	98	0/+1.5	2.7	±0.20	0.8	±0.05	32.7
TOP-190	T-10.2	8.0	0/-0.009	107.5	0/+1.5	3.4	±0.20	1	±0.05	43.5
TOP-190	T-10.2	8.0	0/-0.009	117.5	0/+1.5	3.4	±0.20	1	±0.05	43.5
TOP-190	T-10.2	10.0	0/-0.009	135.5	0/+1.5	4.8	±0.23	1.3	±0.05	54.4
TOP-190	T-10.2	12.0	0/-0.011	157	0/+1.5	6.3	±0.23	1.7	±0.075	65
TOP-190	T-10.2	14.0	0/-0.011	184.5	0/+1.5	6.7	±0.26	1.8	±0.075	76.2
TOP-190	T-10.2	16.0	0/-0.011	206.5	0/+1.5	8	±0.40	2	±0.075	87.1
TOP-190	T-10.2	18.0	0/-0.011	225.5	0/+1.5	9	±0.45	2.3	±0.075	98
TOP-190	T-10.2	20.0	0/-0.013	247	0/+1.5	10	±0.50	2.5	±0.075	108.8

12倍直径 精磨

Precision Ground Rod, 12XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot



Precision Ground Rod, 12XDiameter Drill, 2 Helical Hole,With Point,Chamfer and Connection Slot										
Item No.	Grade	OD mm	Tol.h6 mm	L. mm	Tol mm	TK mm	Tol mm	d mm	Tol mm	Pitch mm
TOP-200	T-10.2	6.0	0/-0.008	103.5	0/+1.5	1.9	±0.15	0.7	±0.10	22.5
TOP-200	T-10.2	6.0	0/-0.008	122.5	0/+1.5	2.7	±0.20	0.8	±0.05	32.7
TOP-200	T-10.2	8.0	0/-0.009	150	0/+1.5	3.4	±0.20	1	±0.05	43.5
TOP-200	T-10.2	10.0	0/-0.009	183	0/+1.5	4.8	±0.23	1.3	±0.05	54.4
TOP-200	T-10.2	12.0	0/-0.011	208	0/+1.5	6.3	±0.23	1.7	±0.075	65
TOP-200	T-10.2	14.0	0/-0.011	233	0/+1.5	6.7	±0.26	1.8	±0.075	76.2
TOP-200	T-10.2	16.0	0/-0.011	263	0/+1.5	8	±0.40	2	±0.075	87.1
TOP-200	T-10.2	18.0	0/-0.011	288	0/+1.5	9	±0.45	2.3	±0.075	98
TOP-200	T-10.2	20.0	0/-0.013	313.5	0/+1.5	10	±0.50	2.5	±0.075	108.8

CARBIDE ROUND ROD