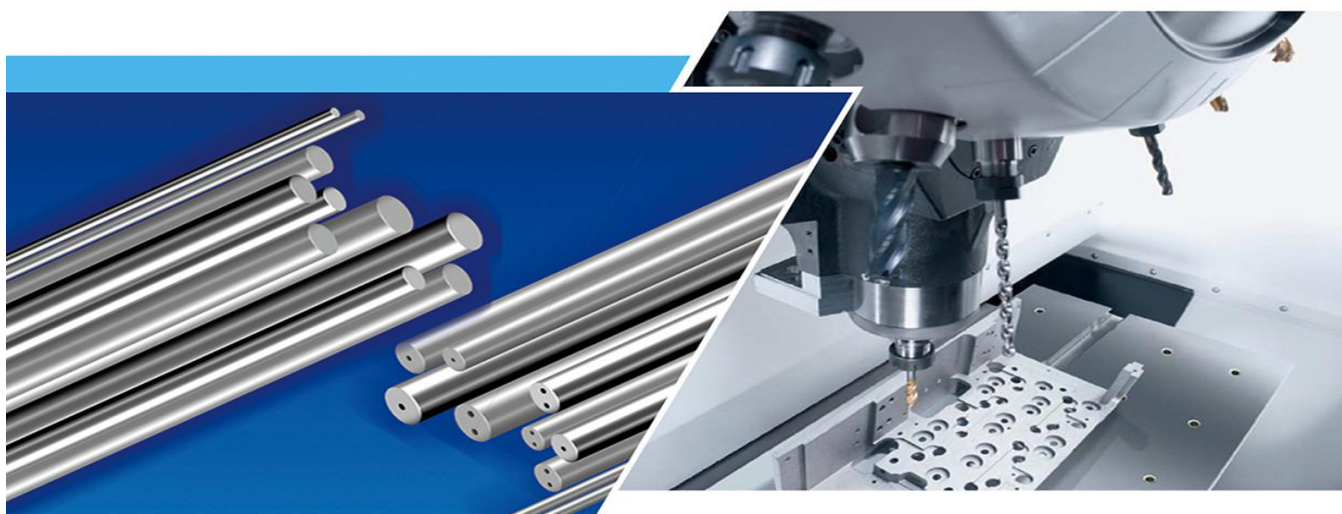




CEMENTED CARBIDE RODS



Jinan Institute of Metallurgical Science Co.,Ltd.



CEMENTED
CARBIDE RODS



CORPORATE PROFILE ►

INTEGRITY

COOPERATION

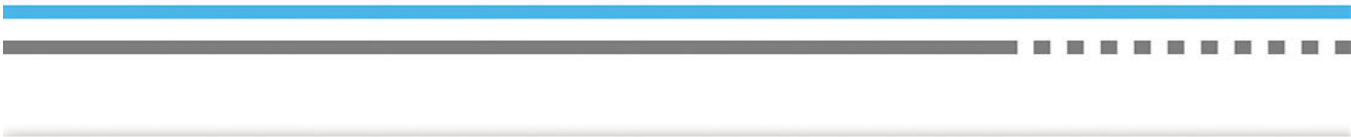
WIN-WIN

VIRTUOUS

DEDICATED

INNOVATION



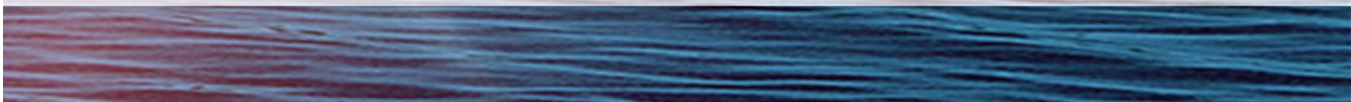


Jinan Institute of Metallurgical Science Co.,Ltd. (JIMS) is located in ShengJing Science and Technology Industrial Zone of Zhangqiu,Jinan, certificated as a high-tech enterprise by Shandong Province.JIMS is a specialized base of cemented carbide with scientific research,trade and manufacturing industry in a whole and with self-managing import-export power by the state of China, which assert sufficient ability of R&D, advanced equipment for production for more than 50 years development. The "QILU" brand cemented carbide and the related products,which widely used in machinery, metallurgy, petroleum, mining, construction, electronics, aerospace and other fields, have excellent performance and high quality. JIMS products enjoy great famous both at domestic and foreign market, selling well in countries and areas like America, Canada, Italy, Germany, Japan, Korea and Taiwan etc. The annual foreign exchange we earn is more than 10 million U.S. D.JIMS has passed ISO9001 standard of the Quality Manage System Certificate of Conformity and be appraised the first class of the Enterprise Credit Certificate AAA.

JIMS have a complete variety and could supply the following cemented carbide products:

- Solid cemented carbide rods and bars.
- Cemented carbide anvil for the diamond industry.
- Button bits, inserts and tips for mining, coal-cutting tools for coal-excavating.
- Geological carbide for earth cutting tools.
- Indexable inserts.mechanically clamped tips.
- Other wear resistant products .

We could supply the products according to the standard of ISO and the domestic;moreover, we could work according to the drawings from customers.





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GRADE **INTRODUCTION**

Grade	ISO Grade	WC (%)	Co (%)	Grain Size (μm)	Hardness (HRA)	Density (g/cm ³)	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. All the above data are typical values.
2. Technical modifications right are reserved.



CEMENTED
CARBIDE RODS

RECOMMENDED APPLICATION

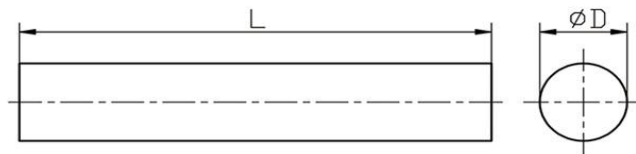
Grade	ISO Grade	Recommended Application
JU06	K05-K10	Suitable for machining aluminium magnesium alloy, graphite, plastic and composite material, etc.
YG10X	K20-K30	Suitable for machining materials such as common steel, non-ferrous metals, and cast iron, etc.
JF15	K20-K30	Suitable for machining common steel, cast iron, stainless steel, heat-resistant steel, nickel base alloy and titanium alloy, etc.
JF20	K20-K30	Suitable for machining stainless steel, heat-resistant steel, cast iron, nickel base alloy and titanium alloy, etc.
JF25	K30-K40	Suitable for machining alloy steel, titanium alloy, cast iron, aluminium alloy, etc.
JF25UF	K30-K40	Suitable for machining alloy steel, stainless steel, aluminium alloy and titanium alloy, etc.



SOLID RODS



UNGROUND RODS



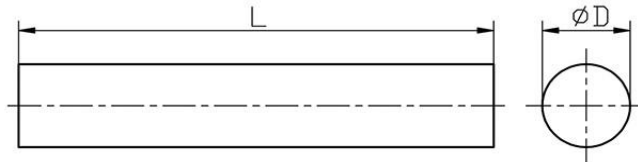
Type	Diameter (mm)		Length (mm)	
	ϕD	Tol.	L	Tol.
B $\phi 3 \times 330$	3	+0.3,+0.4	330	0,+4
B $\phi 4 \times 330$	4	+0.3,+0.5	330	0,+4
B $\phi 6 \times 330$	6	+0.3,+0.5	330	0,+4
B $\phi 8 \times 330$	8	+0.3,+0.5	330	0,+4
B $\phi 10 \times 330$	10	+0.3,+0.5	330	0,+4
B $\phi 12 \times 330$	12	+0.4,+0.7	330	0,+4
B $\phi 14 \times 330$	14	+0.4,+0.7	330	0,+4
B $\phi 16 \times 330$	16	+0.4,+0.7	330	0,+4
B $\phi 18 \times 330$	18	+0.4,+0.7	330	0,+4
B $\phi 20 \times 330$	20	+0.4,+0.7	330	0,+4
B $\phi 22 \times 330$	22	+0.5,+0.8	330	0,+4
B $\phi 24 \times 330$	24	+0.5,+0.8	330	0,+4
B $\phi 25 \times 330$	25	+0.5,+0.8	330	0,+4
B $\phi 26 \times 330$	26	+0.5,+0.8	330	0,+4
B $\phi 28 \times 330$	28	+0.5,+0.8	330	0,+4
B $\phi 30 \times 330$	30	+0.5,+0.8	330	0,+4
B $\phi 32 \times 330$	32	+0.6,+0.9	330	0,+4

Other Size available request



CEMENTED
CARBIDE RODS

► UNGROUND RODS



Unground Rods-Metric

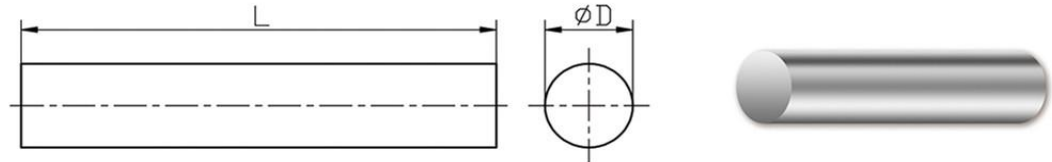
Type	Diameter (mm)		Length (mm)	
	φ D	Tol.	L	Tol.
Bφ3.20×38.5	3.2	+0.05,+0.1	38.5	+0.2,+1.0
Bφ4×50	4	+0.3,+0.5	50	+0.2,+1.0
Bφ6×50	6	+0.3,+0.5	50	+0.2,+1.0
Bφ8×60	8	+0.3,+0.5	60	+0.2,+1.0
Bφ8×100	8	+0.3,+0.5	100	+0.2,+1.0
Bφ10×75	10	+0.3,+0.5	75	+0.2,+1.0
Bφ10×100	10	+0.3,+0.5	100	+0.2,+1.0
Bφ12×75	12	+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

Unground Rods-Inch

Type	Diameter (mm)		Length (mm)	
	φ D	Tol.	L	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

Other Size available request

► GROUND RODS



Ground Rods-Metric

Type	Diameter (mm)		Length (mm)	
	φ D	Tol.	L	Tol.
φ3.2×38.5	3.175	h6	38.5	0, +0.5
φ4×50	4	h6	50	0, +0.5
φ6×50	6	h6	50	0, +0.5
φ8×60	8	h6	60	0, +0.5
φ8×100	8	h6	100	0, +0.5
φ10×75	10	h6	75	0, +0.5
φ10×100	10	h6	100	0, +0.5
φ12×75	12	h6	75	0, +0.5
φ12×100	12	h6	100	0, +0.5
φ14×100	14	h6	100	0, +0.5
φ16×100	16	h6	100	0, +0.5
φ18×100	18	h6	100	0, +0.5
φ20×100	20	h6	100	0, +0.5

Ground Rods-Inch

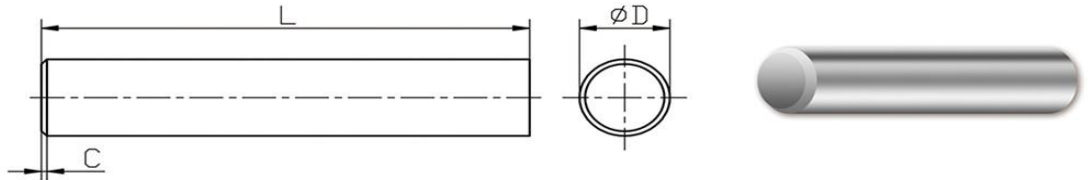
Type	Diameter (mm)		Length (mm)	
	φ D	Tol.	L	Tol.
φ1/8*1-1/2	3.175	h6	38.1	0, +0.5
φ3/16*2	4.7625	h6	50.8	0, +0.5
φ1/4*2	6.35	h6	50.8	0, +0.5
φ1/4*2-1/2	6.35	h6	63.5	0, +0.5
φ3/8*2	9.525	h6	50.8	0, +0.5
φ1/2*4	12.7	h6	101.6	0, +0.5
φ3/4*4	19.05	h6	101.6	0, +0.5
φ1*4	25.4	h6	101.6	0, +0.5

Other Size available request



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► GROUND RODS WITH CHAMFER



Type	D (mm) (Tol.h6)	L (mm) (Tol./0,+0.5mm)	C (mm) (Tol./±0.1mm)	Angle of Chamfer (Tol./±3°)
Φ 3.25×38.5	3.175	38.5	0.4	45°
Φ 4×50	4	50	0.4	45°
Φ 6×50	6	50	0.5	45°
Φ 8×60	8	60	0.6	45°
Φ 8×100	8	100	0.6	45°
Φ 10×75	10	75	0.6	45°
Φ 10×100	10	100	0.6	45°
Φ 12×75	12	75	0.8	45°
Φ 12×100	12	100	0.8	45°
Φ 14×100	14	100	0.8	45°
Φ 16×100	16	100	0.8	45°
Φ 18×100	18	100	0.8	45°
Φ 20×100	20	100	1.0	45°

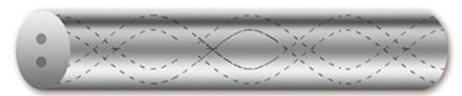
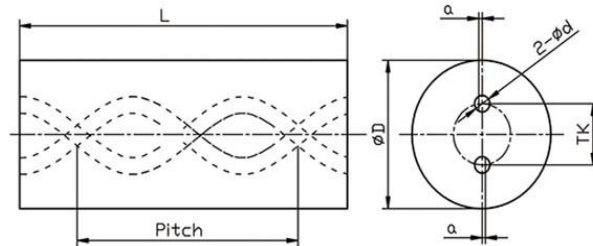
Other Size available request



RODS WITH COOLANT HOLES



RODS WITH 2 HELICAL COOLANT HOLES 30°



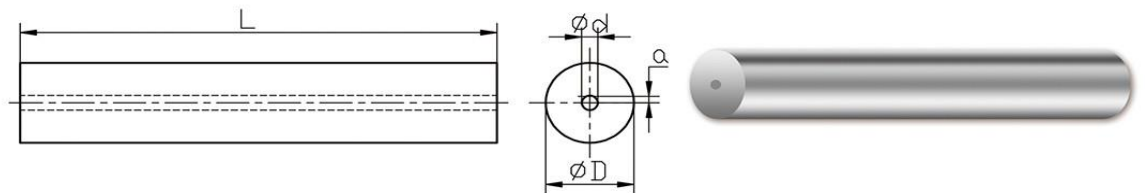
Type	D		L (Tol./0,+4)	d		TK		a	Pitch	
	φ (mm)	Tol.(mm)		d(mm)	Tol.(mm)	TK(mm)	Tol.(mm)		P(mm)	Tol.(mm)
Bφ6x2φ0.7x26x330H30	6	+0.7, +1.3	330	0.70	±0.10	2.60	0, -0.4	0.15	32.65	+0.67,-0.65
Bφ7x2φ1.0x3.7x330H30	7	+0.7, +1.3	330	1.00	±0.15	3.70	0, -0.4	0.15	38.09	+0.78,-0.76
Bφ8x2φ1.0x4.0x330H30	8	+0.7, +1.3	330	1.00	±0.15	4.00	0, -0.4	0.15	43.53	+0.89,-0.86
Bφ9x2φ1.4x4.8x330H30	9	+0.7, +1.3	330	1.40	±0.15	4.80	0, -0.6	0.20	48.97	+1.00,-0.97
Bφ10x2φ1.4x4.8x330H30	10	+0.7, +1.3	330	1.40	±0.15	4.80	0, -0.6	0.20	54.41	+1.11,-1.08
Bφ11x2φ1.4x5.3x330H30	11	+0.7, +1.4	330	1.40	±0.15	5.30	0, -0.8	0.30	59.86	+1.22,-1.19
Bφ12x2φ1.4x6.25x330H30	12	+0.7, +1.4	330	1.40	±0.15	6.25	0, -0.8	0.30	65.3	+1.34,-1.30
Bφ13x2φ1.75x6.5x330H30	13	+0.7, +1.4	330	1.75	±0.20	6.50	0, -0.8	0.37	70.74	+1.45,-1.40
Bφ14x2φ1.75x7.1x330H30	14	+0.7, +1.5	330	1.75	±0.20	7.10	0, -0.8	0.40	76.18	+1.56,-1.51
Bφ15x2φ1.75x7.7x330H30	15	+0.7, +1.5	330	1.75	±0.20	7.70	0, -0.8	0.40	81.62	+1.67,-1.62
Bφ16x2φ1.75x8.3x330H30	16	+0.7, +1.6	330	1.75	±0.20	8.30	0, -0.8	0.40	87.06	+1.78,-1.83
Bφ17x2φ1.75x8.9x330H30	17	+0.7, +1.6	330	1.75	±0.20	8.90	0, -0.8	0.45	92.5	+1.89,-1.84
Bφ18x2φ2.3x9.55x330H30	18	+0.7, +1.7	330	2.30	±0.25	9.55	0, -0.8	0.50	97.95	+2.00,-1.94
Bφ19x2φ2.3x10.1x330H30	19	+0.7, +1.7	330	2.30	±0.25	10.10	0, -0.8	0.50	103.39	+2.12,-2.05
Bφ20x2φ2.5x10.4x330H30	20	+0.7, +1.7	330	2.50	±0.25	10.40	0, -1.0	0.50	108.83	+2.23,-2.16

Other Size available request



**CEMENTED
CARBIDE RODS**

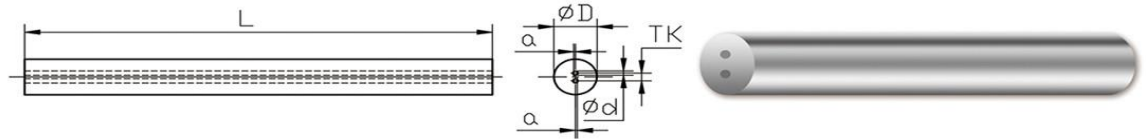
➤ RODS WITH CENTRAL COOLANT HOLE



Type	D		L (Tol./0,+4)	d		a
	φ (mm)	Tol.(mm)		d(mm)	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

Other Size available request

➤ RODS WITH TWO STRAIGHT COOLANT HOLES



Type	D		L (Tol./0,+4)	d		TK		a
	φ (mm)	Tol.(mm)		d(mm)	Tol.(mm)	TK(mm)	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

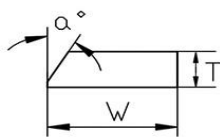
Other Size available request



CEMENTED
CARBIDE RODS



BARS ►

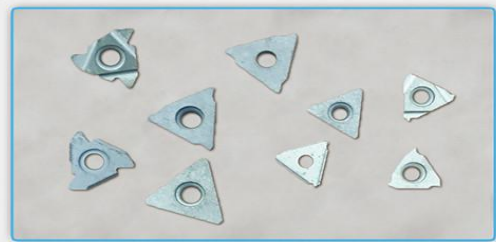
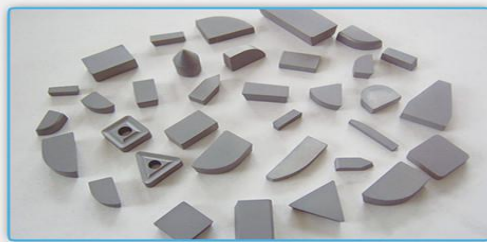


Size	Size range	Tol.
T (mm)	$2 \leq T \leq 16$	+0.2/+0.8
W(mm)	$2 \leq W \leq 32$	+0.2/+1.0
L(mm)	$70 \leq L \leq 330$	0/+5
$\alpha(^{\circ})$	0~35°	$\pm 2^{\circ}$

Other Size available request



CUTTING TOOLS ►



TECHNOLOGICAL PROCESS ➤



QUALITY ASSURANCE ➤



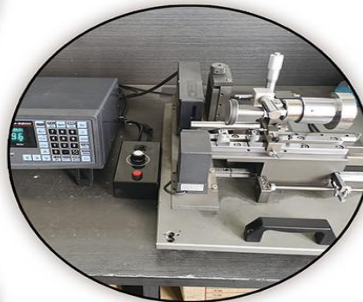
Quality management system



Environmental management system



Occupational health and safety management system



TOLERANCE ➤

Tol.of Ground Rods' Diameter

D (mm)	h5	h6	h7
0–3.0mm	0/–0.004mm	0/–0.006mm	0/–0.01mm
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

Surface Roughness of Rods

Type	Accuracy
Polished Rods	0.00–0.05 μ m
Ground Rods	0.05–0.10 μ m



TOLERANCE ➤

Straightness

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

*Note: Rods $D \leq 3\text{mm}$ are measured with distance of 100mm.

Circular Run-out

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

Roundness

D(mm)	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



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