



**HARDMETAL SPECIALIST**

**METALWORKING APPLICATIONS**



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**CY CARBIDE MFG.CO.,LTD.**



HARDMETAL SPECIALIST



ISO9001:2015



QUALITY  
CONSISTENCY  
EXPERTISE



## About Us

**CY CARBIDE MFG. CO., LTD.**, Established in 2002, is a professional manufacturer and exporter of high performance tungsten carbide products, RTP powders and CERMET materials. CYC delivers globally a high performance standard and special products offering, that meet the most challenging demands from industry sectors including...metalworking, mining, construction, oil & gas, die & mold, and woodworking.

**CYC** has two production sites which located in Kunshan city , 50 km away from Shanghai, together with the Jiangxi raw material production, consist of production, laboratories and R&D facilities. 500+ skilled employees, including tooling and material grade design engineering on site.

**CYC** High performance products are guaranteed by a strong process management system, resulting in consistent quality for every batch and product. Strict control of our raw material supply chains and 100% traceability for every product batch throughout the entire manufacturing process. A philosophy of continuous improvements within every process is a core principle in our ways of working. CYC is a ISO 9001:2015(TUV) certified business.

**CYC** Adheres to responsible and sustainable business practices, including conflict free raw material sourcing, proactive health management for our employees, and continuous concern about the environmental impacts of our business. Our open and transparent business philosophy allows our customers, employees, and external suppliers, to have confidence in our business, ways of working, and our products.



Plant # 1 13000m<sup>2</sup>



Plant # 2 33000m<sup>2</sup>



Plant # 3 54667m<sup>2</sup>

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## Manufacturing Process

### 1. Grade Design

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



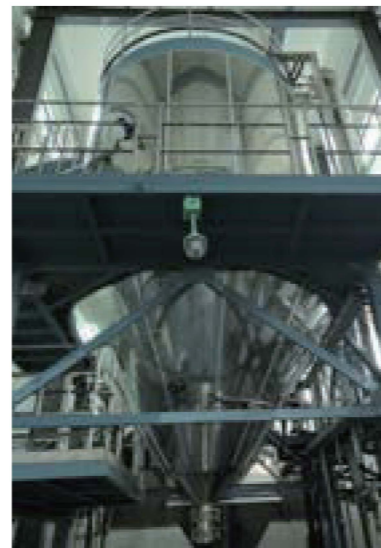
### 2. RTP Ball milling

Wide variety of CYC 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.



### 3. 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.



### 4. Extrusion

The rods with or without axial holes, including helical types, are formed by extrusion pressing. Our automatic extrusion systems and technical know-how helps to achieve consistent geometries.



### 5.1. 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.



### 5.2. Drying Process

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



### 6. Sintering

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



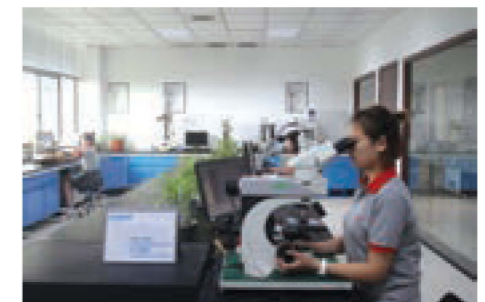
### 7. Machining

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



### 8. 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.





# QUALITY

Carbide consistent quality has to be the top priority.

Our manufacturing process is operating fully in compliance with **ISO9001:2015 (TUV)**. **Consistency and traceability** is the promise we keep to our customers .



# EXPERTISE

Near 20 years of experience doing R&D and manufacturing carbide, CYC has built a dedicated team consisting global experts in technical and commercial areas who always stand behind our customers.

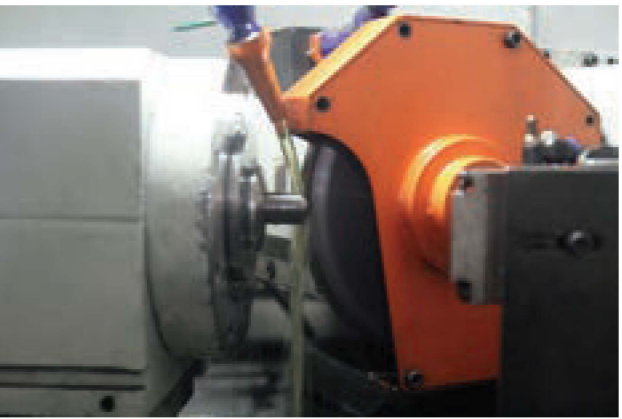
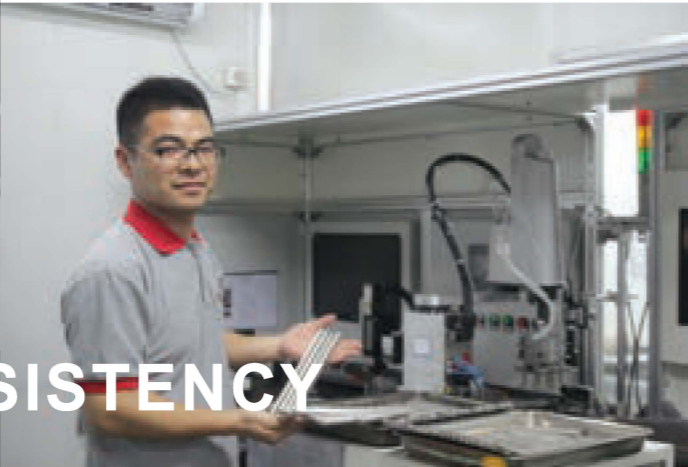
## Our Capabilities

The mission of meeting and exceeding customer's expectations is ongoing. CYC has a wide range of capabilities to provide more high value services.

1. Grade design for specific applications
2. Geometry design for specific jobs
3. Prototypes for any quantity
4. Issuing of 2D/3D drawings
5. Hard machining service includes
  - Centerless Grinding
  - Length Cutting
  - Chamfer Grinding
  - Internal Grinding
  - CNC Cylindrical Grinding
  - Plain Surface Grinding
  - Wire EDM/ Laser Marking



# CONSISTENCY



## Grade Chart Of Carbide Rods

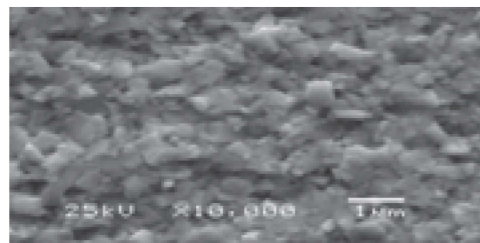
Grades	Binder %	Hardness		T.R.S N/mm <sup>2</sup>	Density g/cm <sup>3</sup>	Grain Size	ISO Code
		HRA	HV10				
MH10F	10.0	91.8	1600	3800	14.45	Submicron	K30  An excellent general purpose grade to cover most of the cutting applications for materials of ISO P, M, K, N. Suitable for drilling, milling and reaming.
	8.0	93.2	1860	3300	14.6	Ultrafine	
UH8	12.0	92.2	1660	4000	14.15	Ultrafine	K20  Ultrafine grain size offers excellent sharpness for machining hardened materials up to 60 HRC, and extremely high performance machining of non-ferrous metals like Aluminum. Suitable for finish and semi-finish milling, gear hobbing.
	8.0	93.2	1860	3300	14.6	Ultrafine	
UH12	10.0	91.8	1600	3800	14.45	Submicron	K40  Gives high impact strength while maintaining excellent wear resistance. A universal grade for cutting Stainless Steel, Titanium Alloys, Nickel base alloy and other difficult to machine materials. Suitable for milling, drilling.
	8.0	93.2	1860	3300	14.6	Ultrafine	

• Above data are typical parameters.

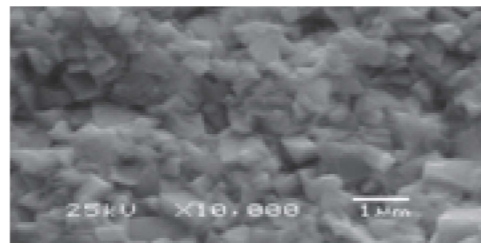
Grades	Binder %	Hardness		T.R.S N/mm <sup>2</sup>	Density g/cm <sup>3</sup>	Grain Size	ISO Code
		HRA	HV10				
MH7	6.5	93.1	1840	2800	14.85	Submicron	K10  A harder grade for machining aluminum alloys, graphite, composite materials. Suitable for milling, reaming and diamond coating.
	3.0	93.2	1860	1800	15.25	Fine	
CH03D	9.0	94.0	2040	4000	14.45	Superfine	K05  Best choice for Diamond Coated Tools. Strongest adhesion and extended tool wear life. Suitable for high performance milling and Drilling of Composites, CFRP, Graphite.
	10.0	92.6	1740	3900	14.45	Ultrafine	
SH904	10.0	92.6	1740	3900	14.45	Ultrafine	K30  Made of superfine grain size 0.2 ~ 0.4 um, high wear resistance and impact strength for meeting the most critical cutting challenges in composite materials including CFRP, graphite and hardened steels > 60 HRC.
	10.0	92.6	1740	3900	14.45	Ultrafine	
UH10	10.0	92.6	1740	3900	14.45	Ultrafine	K30  Good wear resistance and toughness gives high performance for cutting stainless steel, heat resistant alloy, cast iron, suitable for high performance milling and drilling.
	10.0	92.6	1740	3900	14.45	Ultrafine	

• Above data are typical parameters.

Microstructure SEM 10,000 X

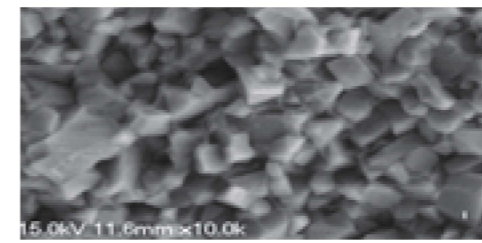


Superfine 0.2~0.4 micron

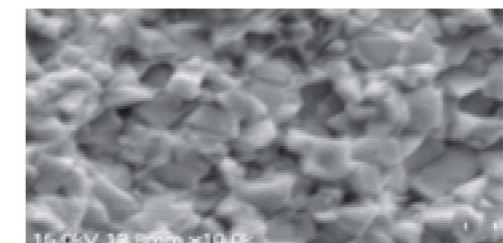


Ultrafine 0.4~0.6 micron

Microstructure SEM 10,000 X



Submicron 0.6~0.8 micron



Fine 1.0 micron

## Application Recommendation

Cutting Style		MH10F	UH8
Milling	Drilling	√	
	Roughing	√	√
	Finishing	√	√
	Reaming	√	
	Hobbing	√	√

ISO Workpiece Material	Typical Materials	MH10F	UH8
P	Carbon Steel	★	
	Common Alloy Steel	★	
	High Alloy Steel HRC<45	★	
M	Ferritic Stainless Steel	★	
	Austenitic Stainless Steel		
	Martensitic Stainless Steel	☆	
K	Cast Iron	★	
S	Titanium Alloy	☆	
	Nickel Base Alloy	☆	
H	Hardened Steel 50-60 HRC		★
	Hardened Steel >60 HRC		
N	Aluminum Alloys	★	★
	Copper and Copper Alloys	★	★
Composite Materials	Graphite		★
	Carbon Fiber		★
	Acrylic		★
Diamond Coating			

● Grade application recommendation data is for reference only.  
★ First Choice ☆ Second Choice

D: Diamond coating needed

UH10	UH12	MH7	CH03D	SH904
√	√		√D	√
			√D	
√	√		√D	√
		√	√D	
	√			

UH10	UH12	MH7	CH03D	SH904
	☆			
	☆			
	★			
★	★			
★	★			
★	★			
☆	☆			
☆	★			
☆	★			
	☆			★
				★
		★		
		★	★	★
		★	★	★
			★	
		☆	★	

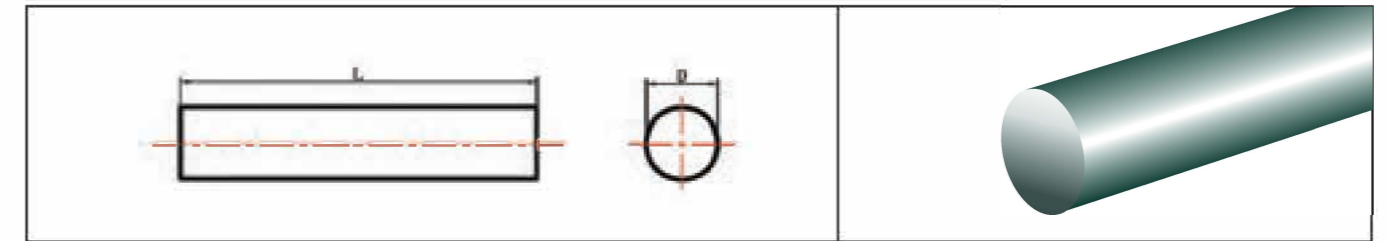
● Cutting Tool geometries, Tool coatings, and Machining factors, will also influence Tool performance.  
★ First Choice ☆ Second Choice



# Engineered Solutions for Demanding Applications



## Precision Ground Rod, Random Lengths



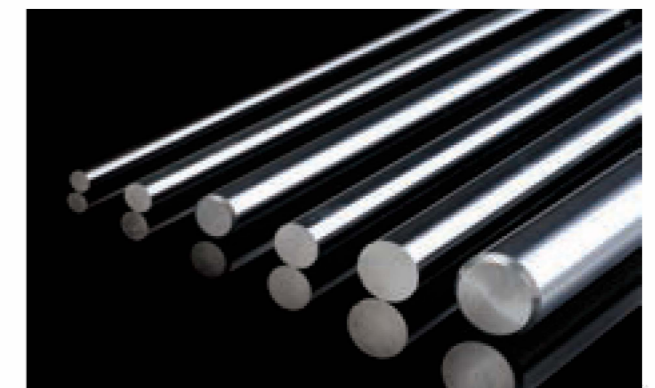
Type: RSI      Grade: MH10F  
 Inch Sizes 1/8" to 1-1/4" Diameter  
 h6 tolerance

Item No.	OD		Tol. h6	L	Tol.
	(inch)				
RSI-01250-1300DG	0.125	1/8	0/-0.00031	13	0/+0.25
RSI-01406-1300DG	0.140625	9/64	0/-0.00031	13	0/+0.25
RSI-01563-1300DG	0.15625	5/32	0/-0.00031	13	0/+0.25
RSI-01719-1300DG	0.171875	11/64	0/-0.00031	13	0/+0.25
RSI-01875-1300DG	0.1875	3/16	0/-0.00031	13	0/+0.25
RSI-02031-1300DG	0.203125	13/64	0/-0.00031	13	0/+0.25
RSI-02188-1300DG	0.21875	7/32	0/-0.00031	13	0/+0.25
RSI-02500-1300DG	0.25	1/4	0/-0.00035	13	0/+0.25
RSI-03125-1300DG	0.3125	5/16	0/-0.00035	13	0/+0.25
RSI-03750-1300DG	0.375	3/8	0/-0.00035	13	0/+0.25
RSI-04375-1300DG	0.4375	7/16	0/-0.00043	13	0/+0.25
RSI-04688-1300DG	0.46875	15/32	0/-0.00043	13	0/+0.25
RSI-05000-1300DG	0.5	1/2	0/-0.00043	13	0/+0.25
RSI-05625-1300DG	0.5625	9/16	0/-0.00043	13	0/+0.25
RSI-06250-1300DG	0.625	5/8	0/-0.00043	13	0/+0.25
RSI-07500-1300DG	0.75	3/4	0/-0.00051	13	0/+0.25
RSI-08750-1300DG	0.875	7/8	0/-0.00051	13	0/+0.25
RSI-10000-1300DG	1	1	0/-0.00051	13	0/+0.25
RSI-11250-1300DG	1.125	1 1/8	0/-0.00051	13	0/+0.25
RSI-12500-1300DG	1.25	1 1/4	0/-0.00063	13	0/+0.25

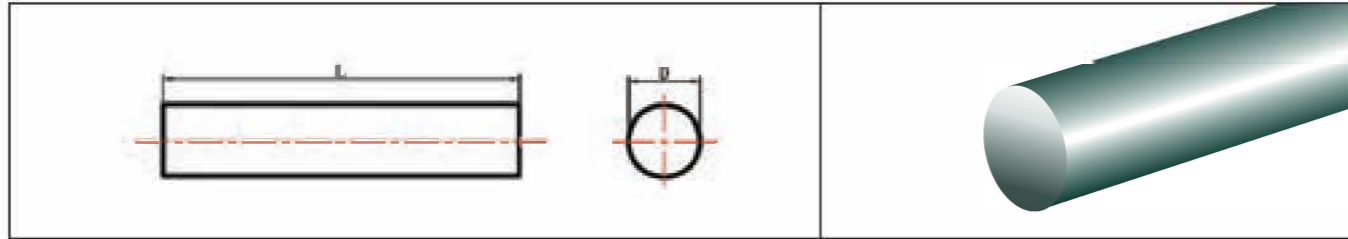
### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
 ■ In Stock    □ Check inventory



## Unground Rod, Random Lengths



Type: RSI Grade: MH10F  
Inch Sizes 1/16" to 11/32" Diameter

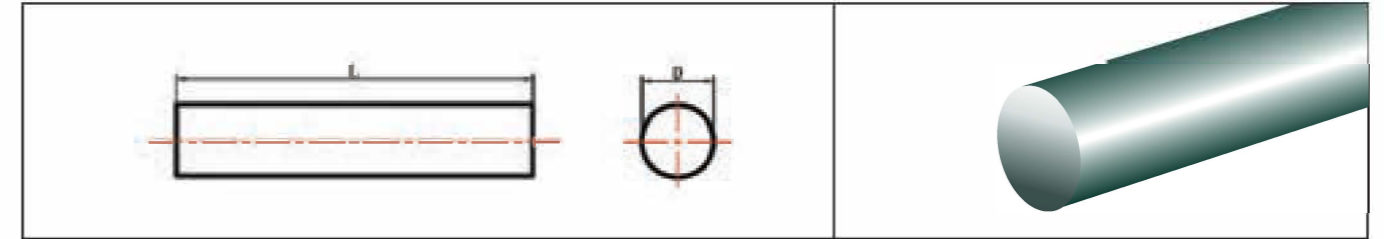
Item No.	OD		Tol.	L	Tol.
	(inch)				
RSI-00625-1300UG	0.0625	1/16	+0.012/+0.02	13	0/+0.25
RSI-00781-1300UG	0.078125	5/64	+0.012/+0.02	13	0/+0.25
RSI-00938-1300UG	0.09375	3/32	+0.012/+0.02	13	0/+0.25
RSI-01094-1300UG	0.109375	7/64	+0.012/+0.02	13	0/+0.25
RSI-01250-1300UG	0.125	1/8	+0.012/+0.02	13	0/+0.25
RSI-01406-1300UG	0.140625	9/64	+0.012/+0.02	13	0/+0.25
RSI-01563-1300UG	0.15625	5/32	+0.012/+0.02	13	0/+0.25
RSI-01719-1300UG	0.171875	11/64	+0.012/+0.02	13	0/+0.25
RSI-01875-1300UG	0.1875	3/16	+0.012/+0.02	13	0/+0.25
RSI-02031-1300UG	0.203125	13/64	+0.012/+0.02	13	0/+0.25
RSI-02188-1300UG	0.21875	7/32	+0.012/+0.02	13	0/+0.25
RSI-02344-1300UG	0.234375	15/64	+0.012/+0.02	13	0/+0.25
RSI-02500-1300UG	0.25	1/4	+0.012/+0.02	13	0/+0.25
RSI-02656-1300UG	0.265625	17/64	+0.012/+0.02	13	0/+0.25
RSI-02813-1300UG	0.28125	9/32	+0.012/+0.02	13	0/+0.25
RSI-02969-1300UG	0.296875	19/64	+0.012/+0.02	13	0/+0.25
RSI-03125-1300UG	0.3125	5/16	+0.012/+0.02	13	0/+0.25
RSI-03281-1300UG	0.328125	21/64	+0.012/+0.02	13	0/+0.25
RSI-03438-1300UG	0.34375	11/32	+0.012/+0.02	13	0/+0.25

### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

## Unground Rod, Random Lengths



Type: RSI Grade: MH10F  
Inch Sizes 23/64" to 1" Diameter

Item No.	OD		Tol.	L	Tol.
	(inch)				
RSI-03594-1300UG	0.359375	23/64	+0.012/+0.02	13	0/+0.25
RSI-03750-1300UG	0.375	3/8	+0.012/+0.02	13	0/+0.25
RSI-03906-1300UG	0.390625	25/64	+0.012/+0.02	13	0/+0.25
RSI-04063-1300UG	0.40625	13/32	+0.012/+0.02	13	0/+0.25
RSI-04219-1300UG	0.421875	27/64	+0.012/+0.02	13	0/+0.25
RSI-04375-1300UG	0.4375	7/16	+0.012/+0.02	13	0/+0.25
RSI-04531-1300UG	0.453125	29/64	+0.012/+0.02	13	0/+0.25
RSI-04688-1300UG	0.46875	15/32	+0.012/+0.02	13	0/+0.25
RSI-04844-1300UG	0.484375	31/64	+0.012/+0.02	13	0/+0.25
RSI-05000-1300UG	0.5	1/2	+0.012/+0.02	13	0/+0.25
RSI-05313-1300UG	0.53125	17/32	+0.012/+0.02	13	0/+0.25
RSI-05625-1300UG	0.5625	9/16	+0.012/+0.02	13	0/+0.25
RSI-06250-1300UG	0.625	5/8	+0.012/+0.02	13	0/+0.25
RSI-06875-1300UG	0.6875	11/16	+0.012/+0.02	13	0/+0.25
RSI-07500-1300UG	0.75	3/4	+0.012/+0.02	13	0/+0.25
RSI-08125-1300UG	0.8125	13/16	+0.012/+0.02	13	0/+0.25
RSI-08750-1300UG	0.875	7/8	+0.012/+0.02	13	0/+0.25
RSI-10000-1300UG	1	1	+0.012/+0.02	13	0/+0.25

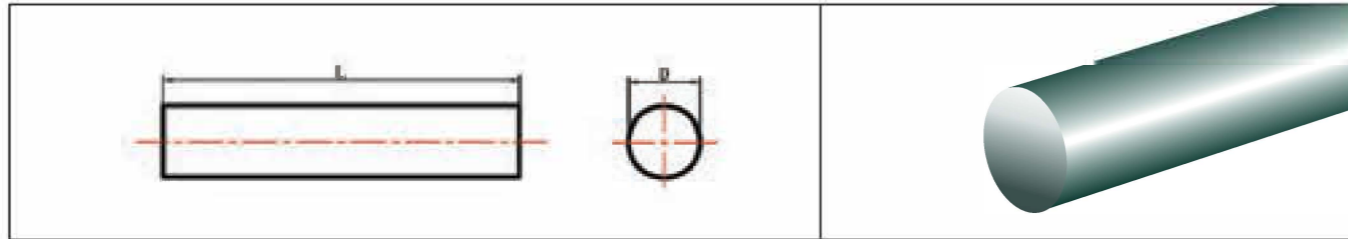
### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory



### Precision Ground Rod, Random Lengths



Type: RSM      Grade: MH10F  
Metric Sizes 2mm to 16mm Diameter  
h6 tolerance

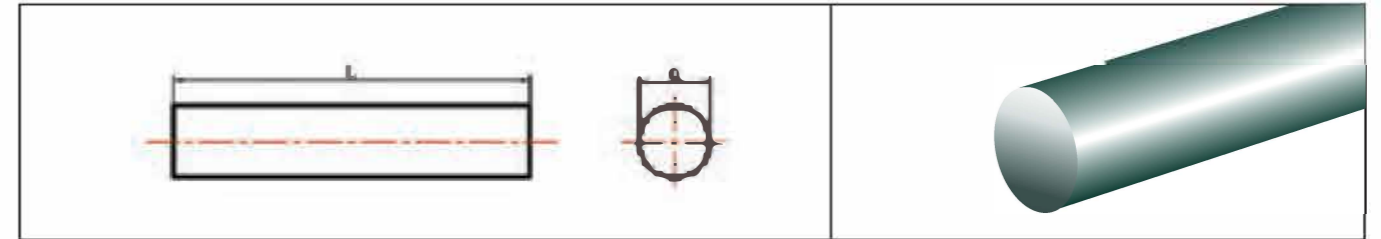
Item No.	OD	Tol. h6	L	Tol.
	(mm)	(mm)	(mm)	(mm)
RSM-0200-3300PG	2	0/-0.006	330	0/+5
RSM-0300-3300PG	3	0/-0.006	330	0/+5
RSM-0400-3300PG	4	0/-0.008	330	0/+5
RSM-0500-3300PG	5	0/-0.008	330	0/+5
RSM-0600-3300PG	6	0/-0.008	330	0/+5
RSM-0700-3300PG	7	0/-0.009	330	0/+5
RSM-0800-3300PG	8	0/-0.009	330	0/+5
RSM-0900-3300PG	9	0/-0.009	330	0/+5
RSM-1000-3300PG	10	0/-0.009	330	0/+5
RSM-1100-3300PG	11	0/-0.011	330	0/+5
RSM-1200-3300PG	12	0/-0.011	330	0/+5
RSM-1300-3300PG	13	0/-0.011	330	0/+5
RSM-1400-3300PG	14	0/-0.011	330	0/+5
RSM-1500-3300PG	15	0/-0.011	330	0/+5
RSM-1600-3300PG	16	0/-0.011	330	0/+5

#### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock    □ Check inventory

### Precision Ground Rod, Random Lengths



Type: RSM      Grade: MH10F  
Metric Sizes 17mm to 30mm Diameter  
h6 tolerance

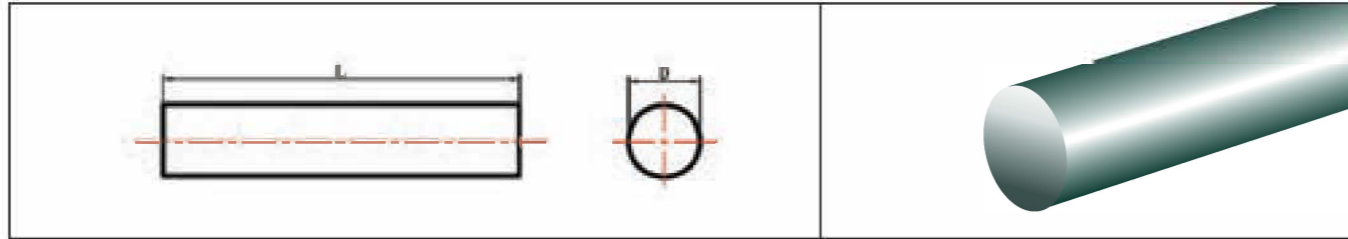
Item No.	OD	Tol. h6	L	Tol.
	(mm)	(mm)	(mm)	(mm)
RSM-1700-3300PG	17	0/-0.011	330	0/+5
RSM-1800-3300PG	18	0/-0.011	330	0/+5
RSM-1900-3300PG	19	0/-0.013	330	0/+5
RSM-2000-3300PG	20	0/-0.013	330	0/+5
RSM-2100-3300PG	21	0/-0.013	330	0/+5
RSM-2200-3300PG	22	0/-0.013	330	0/+5
RSM-2300-3300PG	23	0/-0.013	330	0/+5
RSM-2400-3300PG	24	0/-0.013	330	0/+5
RSM-2500-3300PG	25	0/-0.013	330	0/+5
RSM-2600-3300PG	26	0/-0.013	330	0/+5
RSM-2700-3300PG	27	0/-0.013	330	0/+5
RSM-2800-3300PG	28	0/-0.013	330	0/+5
RSM-2900-3300PG	29	0/-0.013	330	0/+5
RSM-3000-3300PG	30	0/-0.013	330	0/+5

#### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock    □ Check inventory

## Unground Rod, Random Lengths



Type: RSM Grade: MH10F  
Metric Sizes 2mm to 16mm Diameter

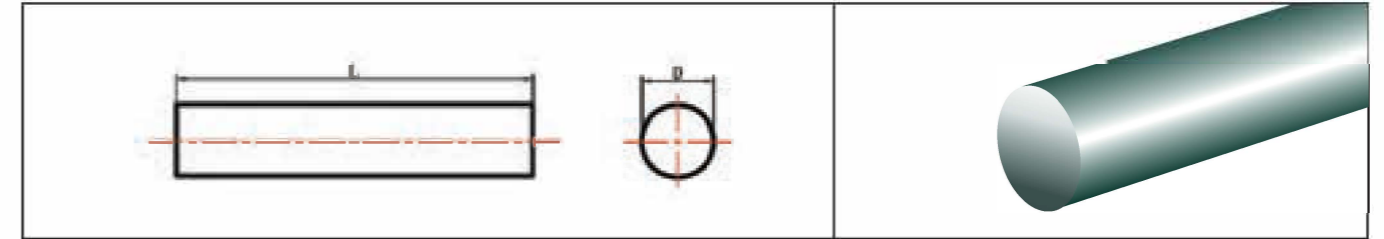
Item No.	OD	Tol.	L	Tol.
	(mm)	(mm)	(mm)	(mm)
RSM-0220-3300UG	2.2	+0.05/+0.3	330	0/+5
RSM-0320-3300UG	3.2	+0.05/+0.3	330	0/+5
RSM-0420-3300UG	4.2	+0.05/+0.3	330	0/+5
RSM-0520-3300UG	5.2	+0.05/+0.3	330	0/+5
RSM-0620-3300UG	6.2	+0.05/+0.3	330	0/+5
RSM-0720-3300UG	7.2	+0.05/+0.3	330	0/+5
RSM-0820-3300UG	8.2	+0.05/+0.3	330	0/+5
RSM-0920-3300UG	9.2	+0.05/+0.3	330	0/+5
RSM-1020-3300UG	10.2	+0.05/+0.3	330	0/+5
RSM-1120-3300UG	11.2	+0.05/+0.3	330	0/+5
RSM-1220-3300UG	12.2	+0.05/+0.3	330	0/+5
RSM-1320-3300UG	13.2	+0.05/+0.3	330	0/+5
RSM-1420-3300UG	14.2	+0.05/+0.3	330	0/+5
RSM-1520-3300UG	15.2	+0.05/+0.3	330	0/+5
RSM-1620-3300UG	16.2	+0.05/+0.3	330	0/+5

### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

## Unground Rod, Random Lengths



Type: RSM Grade: MH10F  
Metric Sizes 17mm to 30mm Diameter

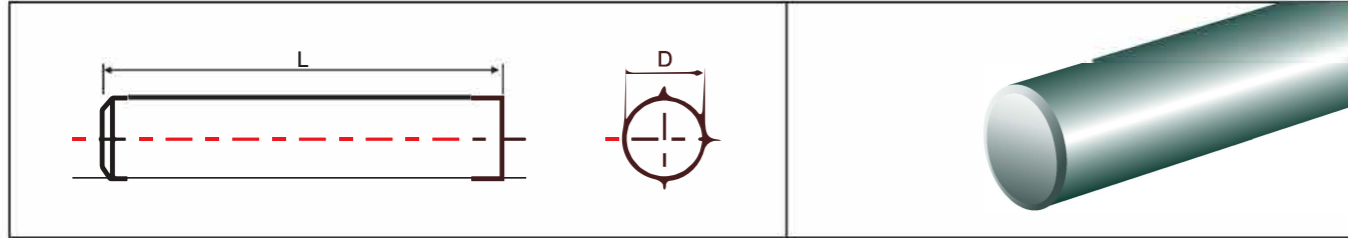
Item No.	OD	Tol.	L	Tol.
	(mm)	(mm)	(mm)	(mm)
RSM-1720-3300UG	17.2	+0.05/+0.4	330	0/+5
RSM-1820-3300UG	18.2	+0.05/+0.4	330	0/+5
RSM-1920-3300UG	19.2	+0.05/+0.4	330	0/+5
RSM-2020-3300UG	20.2	+0.05/+0.4	330	0/+5
RSM-2120-3300UG	21.2	+0.05/+0.4	330	0/+5
RSM-2220-3300UG	22.2	+0.05/+0.4	330	0/+5
RSM-2320-3300UG	23.2	+0.05/+0.4	330	0/+5
RSM-2420-3300UG	24.2	+0.05/+0.4	330	0/+5
RSM-2520-3300UG	25.2	+0.05/+0.4	330	0/+5
RSM-2620-3300UG	26.2	+0.05/+0.4	330	0/+5
RSM-2720-3300UG	27.2	+0.05/+0.4	330	0/+5
RSM-2820-3300UG	28.2	+0.05/+0.4	330	0/+5
RSM-2920-3300UG	29.2	+0.05/+0.4	330	0/+5
RSM-3020-3300UG	30.2	+0.05/+0.4	330	0/+5

### Available Grade

MH10F	UH12	UH10	UH8	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, Cut to Length, With Chamfer



Type: RSFM Grade: MH10F  
Metric Sizes 3mm to 10mm Diameter  
h6 tolerance

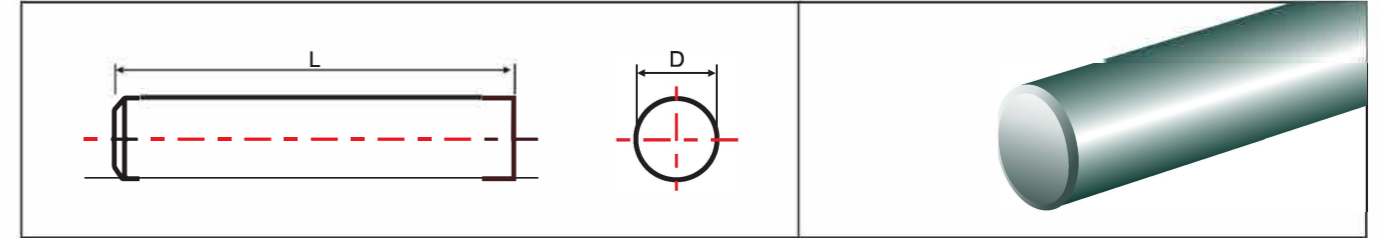
Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	c (mm)
RSFM-0300-0390PG	3	0/-0.006	39	0/+0.5	0.3
RSFM-0300-0400PG	3	0/-0.006	40	0/+0.5	0.3
RSFM-0300-0500PG	3	0/-0.006	50	0/+0.5	0.3
RSFM-0400-0500PG	4	0/-0.008	50	0/+0.5	0.4
RSFM-0400-0510PG	4	0/-0.008	51	0/+0.5	0.4
RSFM-0400-0750PG	4	0/-0.008	75	0/+0.8	0.4
RSFM-0500-0510PG	5	0/-0.008	51	0/+0.5	0.4
RSFM-0500-0550PG	5	0/-0.008	55	0/+0.6	0.4
RSFM-0600-0500PG	6	0/-0.008	50	0/+0.5	0.6
RSFM-0600-0510PG	6	0/-0.008	51	0/+0.5	0.6
RSFM-0600-0550PG	6	0/-0.008	55	0/+0.6	0.6
RSFM-0600-0570PG	6	0/-0.008	57	0/+0.6	0.6
RSFM-0600-0580PG	6	0/-0.008	58	0/+0.6	0.6
RSFM-0600-0600PG	6	0/-0.008	60	0/+0.6	0.6
RSFM-0600-0630PG	6	0/-0.008	63	0/+0.6	0.6
RSFM-0600-0700PG	6	0/-0.008	70	0/+0.7	0.6
RSFM-0600-0750PG	6	0/-0.008	75	0/+0.8	0.6
RSFM-0600-0800PG	6	0/-0.008	80	0/+0.8	0.6
RSFM-0600-1000PG	6	0/-0.008	100	0/+1.0	0.6
RSFM-0600-0640PG	6	0/-0.008	64	0/+0.6	0.6
RSFM-0800-0590PG	8	0/-0.009	59	0/+0.6	0.6
RSFM-0800-0630PG	8	0/-0.009	63	0/+0.6	0.6
RSFM-0800-0640PG	8	0/-0.009	64	0/+0.6	0.6
RSFM-0800-0750PG	8	0/-0.009	75	0/+0.8	0.6
RSFM-0800-0800PG	8	0/-0.009	80	0/+0.8	0.6
RSFM-0800-0900PG	8	0/-0.009	90	0/+0.9	0.6
RSFM-0800-1000PG	8	0/-0.009	100	0/+1.0	0.6
RSFM-1000-0670PG	10	0/-0.009	67	0/+0.7	0.6
RSFM-1000-0700PG	10	0/-0.009	70	0/+0.7	0.6

#### Available Grade

MH10F	UH12	UH10	UH8	CH03D	MH7	SH904
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, Cut to Length, With Chamfer



Type: RSFM Grade: MH10F  
Metric Sizes 10mm to 25mm Diameter  
h6 tolerance

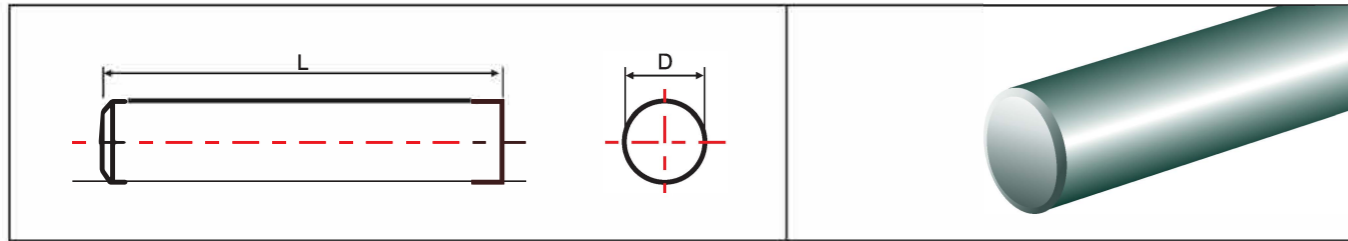
Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	c (mm)
RSFM-1000-0720PG	10	0/-0.009	72	0/+0.7	0.6
RSFM-1000-0730PG	10	0/-0.009	73	0/+0.7	0.6
RSFM-1000-0750PG	10	0/-0.009	75	0/+0.8	0.6
RSFM-1000-0900PG	10	0/-0.009	90	0/+0.9	0.6
RSFM-1000-1000PG	10	0/-0.009	100	0/+1.0	0.6
RSFM-1200-0740PG	12	0/-0.011	74	0/+0.7	0.8
RSFM-1200-0750PG	12	0/-0.011	75	0/+0.8	0.8
RSFM-1200-0830PG	12	0/-0.011	83	0/+0.8	0.8
RSFM-1200-0840PG	12	0/-0.011	84	0/+0.8	0.8
RSFM-1200-1000PG	12	0/-0.011	100	0/+1.0	0.8
RSFM-1200-1200PG	12	0/-0.011	120	0/+1.2	0.8
RSFM-1400-0760PG	14	0/-0.011	76	0/+0.8	0.8
RSFM-1400-0830PG	14	0/-0.011	83	0/+0.8	0.8
RSFM-1400-0840PG	14	0/-0.011	84	0/+0.8	0.8
RSFM-1400-0890PG	14	0/-0.011	89	0/+0.9	0.8
RSFM-1600-0830PG	16	0/-0.011	130	0/+1.3	0.8
RSFM-1600-0920PG	16	0/-0.011	92	0/+0.9	0.8
RSFM-1600-0930PG	16	0/-0.011	93	0/+0.9	0.8
RSFM-1600-1000PG	16	0/-0.011	100	0/+1.0	0.8
RSFM-1600-1300PG	16	0/-0.011	83	0/+0.8	0.8
RSFM-1800-0850PG	18	0/-0.011	85	0/+0.9	1
RSFM-1800-0930PG	18	0/-0.011	93	0/+0.9	1
RSFM-2000-0930PG	20	0/-0.013	93	0/+0.9	1
RSFM-2000-1000PG	20	0/-0.013	100	0/+1.0	1
RSFM-2000-1050PG	20	0/-0.013	105	0/+1.0	1
RSFM-2000-1250PG	20	0/-0.013	125	0/+1.3	1
RSFM-2000-1500PG	20	0/-0.013	150	0/+1.5	1
RSFM-2500-1030PG	25	0/-0.013	103	0/+1.0	1.5
RSFM-2500-1500PG	25	0/-0.013	150	0/+1.5	1.5

#### Available Grade

MH10F	UH12	UH10	UH8	CH03D	MH7	SH904
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, Cut to Length, With Chamfer



Type: RSFI Grade: MH10F  
Inch Sizes 1/8" to 5/16" Diameter  
h6 tolerance

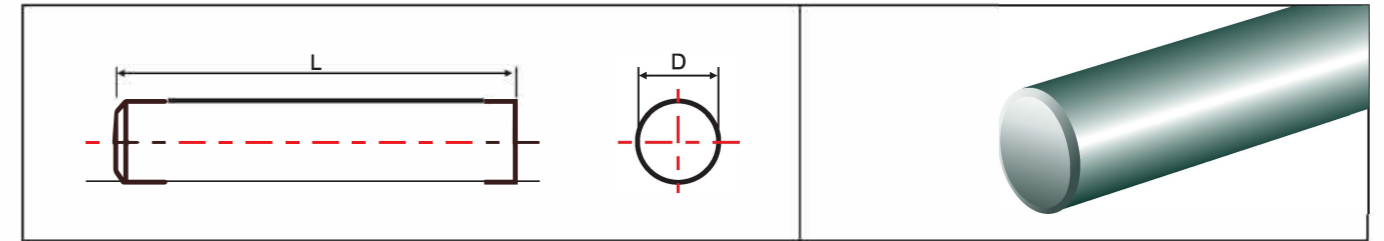
Item No.	OD		Tol. h6	L	Tol.	c
	(inch)					
RSFI-01250-0150DG	0.125	1/8	0/-0.00031	1 1/2	0/+0.02	0.015
RSFI-01250-0200DG	0.125	1/8	0/-0.00031	2	0/+0.02	0.015
RSFI-01250-0225DG	0.125	1/8	0/-0.00031	2 1/4	0/+0.023	0.015
RSFI-01250-0250DG	0.125	1/8	0/-0.00031	2 1/2	0/+0.025	0.015
RSFI-01250-0300DG	0.125	1/8	0/-0.00031	3	0/+0.03	0.015
RSFI-01250-0400DG	0.125	1/8	0/-0.00031	4	0/+0.04	0.015
RSFI-01875-0150DG	0.1875	3/16	0/-0.00031	1 1/2	0/+0.02	0.015
RSFI-01875-0200DG	0.1875	3/16	0/-0.00031	2	0/+0.02	0.015
RSFI-01875-0250DG	0.1875	3/16	0/-0.00031	2 1/2	0/+0.025	0.015
RSFI-01875-0275DG	0.1875	3/16	0/-0.00031	2 3/4	0/+0.028	0.015
RSFI-01875-0300DG	0.1875	3/16	0/-0.00031	3	0/+0.03	0.015
RSFI-01875-0400DG	0.1875	3/16	0/-0.00031	4	0/+0.04	0.015
RSFI-02500-0150DG	0.25	1/4	0/-0.00035	1 1/2	0/+0.02	0.015
RSFI-02500-0200DG	0.25	1/4	0/-0.00035	2	0/+0.02	0.015
RSFI-02500-0250DG	0.25	1/4	0/-0.00035	2 1/2	0/+0.025	0.015
RSFI-02500-0300DG	0.25	1/4	0/-0.00035	3	0/+0.03	0.015
RSFI-02500-0325DG	0.25	1/4	0/-0.00035	3 1/4	0/+0.033	0.015
RSFI-02500-0350DG	0.25	1/4	0/-0.00035	3 1/2	0/+0.035	0.015
RSFI-02500-0400DG	0.25	1/4	0/-0.00035	4	0/+0.04	0.015
RSFI-02500-0600DG	0.25	1/4	0/-0.00035	6	0/+0.06	0.015
RSFI-03125-0250DG	0.3125	5/16	0/-0.00035	2 1/2	0/+0.025	0.015
RSFI-03125-0200DG	0.3125	5/16	0/-0.00035	2	0/+0.02	0.015
RSFI-03125-0300DG	0.3125	5/16	0/-0.00035	3	0/+0.03	0.015

#### Available Grade

MH10F	UH12	UH10	UH8	CH03D	MH7	SH904
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, Cut to Length, With Chamfer



Type: RSFI Grade: MH10F  
Inch Sizes 5/16" to 1/2" Diameter  
h6 tolerance

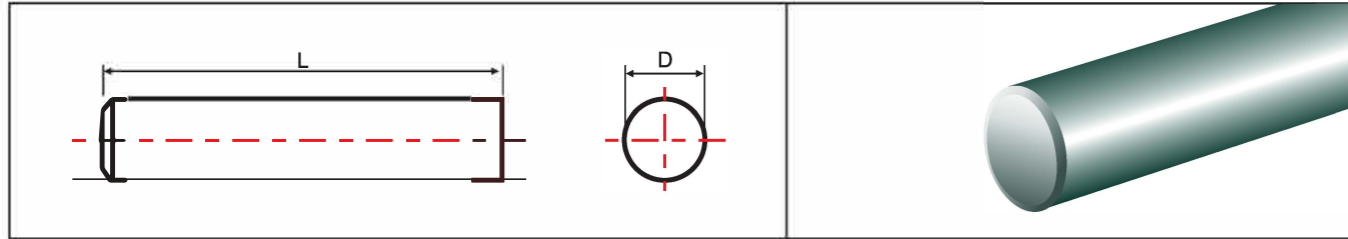
Item No.	OD		Tol. h6	L	Tol.	c
	(inch)					
RSFI-03125-0350DG	0.3125	5/16	0/-0.00035	3 1/2	0/+0.035	0.015
RSFI-03125-0400DG	0.3125	5/16	0/-0.00035	4	0/+0.04	0.015
RSFI-03125-0600DG	0.3125	5/16	0/-0.00035	6	0/+0.06	0.015
RSFI-03750-0200DG	0.375	3/8	0/-0.00035	2	0/+0.02	0.015
RSFI-03750-0250DG	0.375	3/8	0/-0.00035	2 1/2	0/+0.025	0.015
RSFI-03750-0300DG	0.375	3/8	0/-0.00035	3	0/+0.03	0.015
RSFI-03750-0350DG	0.375	3/8	0/-0.00035	3 1/2	0/+0.035	0.015
RSFI-03750-0400DG	0.375	3/8	0/-0.00035	4	0/+0.04	0.015
RSFI-03750-0450DG	0.375	3/8	0/-0.00035	4 1/2	0/+0.045	0.015
RSFI-03750-0500DG	0.375	3/8	0/-0.00035	5	0/+0.05	0.015
RSFI-03750-0600DG	0.375	3/8	0/-0.00035	6	0/+0.06	0.015
RSFI-04375-0250DG	0.4375	7/16	0/-0.00043	2 1/2	0/+0.025	0.031
RSFI-04375-0275DG	0.4375	7/16	0/-0.00043	2 3/4	0/+0.028	0.031
RSFI-04375-0300DG	0.4375	7/16	0/-0.00043	3	0/+0.03	0.031
RSFI-04375-0400DG	0.4375	7/16	0/-0.00043	4	0/+0.04	0.031
RSFI-04375-0450DG	0.4375	7/16	0/-0.00043	4 1/2	0/+0.045	0.031
RSFI-04375-0600DG	0.4375	7/16	0/-0.00043	6	0/+0.06	0.031
RSFI-05000-0250DG	0.5	1/2	0/-0.00043	2 1/2	0/+0.025	0.031
RSFI-05000-0300DG	0.5	1/2	0/-0.00043	3	0/+0.03	0.031
RSFI-05000-0350DG	0.5	1/2	0/-0.00043	3 1/2	0/+0.035	0.031
RSFI-05000-0400DG	0.5	1/2	0/-0.00043	4	0/+0.04	0.031
RSFI-05000-0450DG	0.5	1/2	0/-0.00043	4 1/2	0/+0.045	0.031
RSFI-05000-0500DG	0.5	1/2	0/-0.00043	5	0/+0.05	0.031

#### Available Grade

MH10F	UH12	UH10	UH8	CH03D	MH7	SH904
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, Cut to Length, With Chamfer



Type: RSFI Grade: MH10F  
Inch Sizes 1/2" to 1-1/4" Diameter  
h6 tolerance

Item No.	OD		Tol. h6	L	Tol.	c
	(inch)					
RSFI-05000-0600DG	0.5	1/2	0/-0.00043	6	0/+0.06	0.031
RSFI-05625-0350DG	0.5625	9/16	0/-0.00043	3 1/2	0/+0.035	0.031
RSFI-05625-0400DG	0.5625	9/16	0/-0.00043	4	0/+0.04	0.031
RSFI-05625-0600DG	0.5625	9/16	0/-0.00043	6	0/+0.06	0.031
RSFI-06250-0300DG	0.625	5/8	0/-0.00043	3	0/+0.03	0.031
RSFI-06250-0350DG	0.625	5/8	0/-0.00043	3 1/2	0/+0.035	0.031
RSFI-06250-0400DG	0.625	5/8	0/-0.00043	4	0/+0.04	0.031
RSFI-06250-0500DG	0.625	5/8	0/-0.00043	5	0/+0.05	0.031
RSFI-06250-0600DG	0.625	5/8	0/-0.00043	6	0/+0.06	0.031
RSFI-07500-0300DG	0.75	3/4	0/-0.00051	3	0/+0.03	0.031
RSFI-07500-0400DG	0.75	3/4	0/-0.00051	4	0/+0.04	0.031
RSFI-07500-0500DG	0.75	3/4	0/-0.00051	5	0/+0.05	0.031
RSFI-07500-0600DG	0.75	3/4	0/-0.00051	6	0/+0.06	0.031
RSFI-08750-0400DG	0.875	7/8	0/-0.00051	4	0/+0.04	0.031
RSFI-10000-0300DG	1	1	0/-0.00051	3	0/+0.03	0.031
RSFI-10000-0400DG	1	1	0/-0.00051	4	0/+0.04	0.031
RSFI-10000-0450DG	1	1	0/-0.00051	4 1/2	0/+0.045	0.031
RSFI-10000-0500DG	1	1	0/-0.00051	5	0/+0.05	0.031
RSFI-10000-0600DG	1	1	0/-0.00051	6	0/+0.06	0.031
RSFI-12500-0450DG	1.25	1 1/4	0/-0.00063	4 1/2	0/+0.045	0.031
RSFI-12500-0600DG	1.25	1 1/4	0/-0.00063	6	0/+0.06	0.031

Available Grade

MH10F	UH12	UH10	UH8	CH03D	MH7	SH904
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



• Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, 2 Helical Hole 30 degree



Type: R2H30 Grade: MH10F  
Metric Sizes 3mm to 25mm Diameter  
h6 tolerance

Item No.	OD	Tol.	L	Tol.	TK	Tol.	d	Tol.	Pitch
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
R2H30-0300-3300PG	3	0/-0.006	330	0/+5	1.6	±0.1	0.4	±0.10	16.32
R2H30-0400-3300PG	4	0/-0.008	330	0/+5	2.1	±0.1	0.6	±0.10	21.77
R2H30-0500-3300PG	5	0/-0.008	330	0/+5	2.1	±0.2	0.7	±0.10	27.21
R2H30-0600-3300PG	6	0/-0.008	330	0/+5	2.4	±0.2	0.7	±0.10	32.65
R2H30-0700-3300PG	7	0/-0.009	330	0/+5	3.5	±0.2	1.0	±0.15	38.09
R2H30-0800-3300PG	8	0/-0.009	330	0/+5	3.8	±0.2	1.0	±0.15	43.53
R2H30-0900-3300PG	9	0/-0.009	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
R2H30-1000-3300PG	10	0/-0.009	330	0/+5	4.5	±0.3	1.4	±0.15	54.41
R2H30-1100-3300PG	11	0/-0.011	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
R2H30-1200-3300PG	12	0/-0.011	330	0/+5	5.85	±0.4	1.4	±0.15	65.30
R2H30-1300-3300PG	13	0/-0.011	330	0/+5	6.1	±0.4	1.75	±0.2	70.74
R2H30-1400-3300PG	14	0/-0.011	330	0/+5	6.7	±0.4	1.75	±0.2	76.18
R2H30-1500-3300PG	15	0/-0.011	330	0/+5	7.3	±0.4	1.75	±0.2	81.62
R2H30-1600-3300PG	16	0/-0.011	330	0/+5	7.9	±0.4	1.75	±0.2	87.06
R2H30-1700-3300PG	17	0/-0.011	330	0/+5	8.5	±0.4	1.75	±0.2	92.50
R2H30-1800-3300PG	18	0/-0.011	330	0/+5	9.15	±0.4	2.0	±0.25	97.95
R2H30-1900-3300PG	19	0/-0.013	330	0/+5	9.7	±0.4	2.0	±0.25	103.39
R2H30-2000-3300PG	20	0/-0.013	330	0/+5	9.9	±0.5	2.0	±0.25	108.83
R2H30-2200-3300PG	22	0/-0.013	330	0/+5	11.1	±0.5	2.0	±0.25	119.71
R2H30-2500-3300PG	25	0/-0.013	330	0/+5	12.8	±0.5	2.0	±0.25	136.03

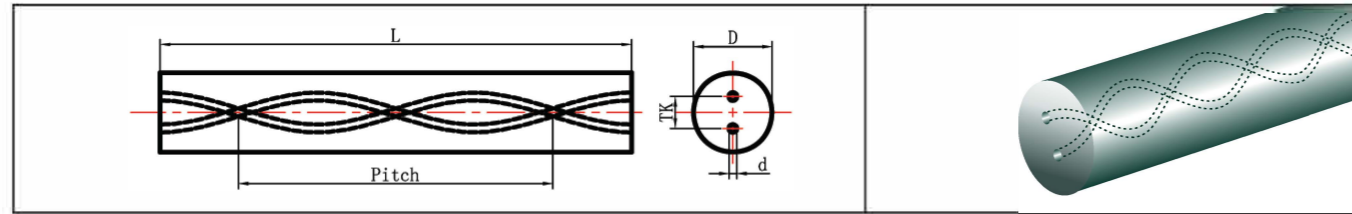
Available Grade

MH10F
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Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
  - Please specify when your drills are longer than 12XD. The blanks with classified pitches will be
- In Stock □ Check inventory

## Unground Rod, 2 Helical Hole 30 degree



Type: R2H30 Grade: MH10F  
Metric Sizes 3mm to 25mm Diameter

Item No.	OD (mm)	Tol. (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
R2H30-0330-3300UG	3.3	+0.3/+0.7	330	0/+5	1.6	±0.1	0.4	±0.10	16.32
R2H30-0430-3300UG	4.3	+0.3/+0.7	330	0/+5	2.1	±0.1	0.6	±0.10	21.77
R2H30-0530-3300UG	5.3	+0.3/+0.7	330	0/+5	2.1	±0.2	0.7	±0.10	27.21
R2H30-0630-3300UG	6.3	+0.3/+0.7	330	0/+5	2.4	±0.2	0.7	±0.10	32.65
R2H30-0730-3300UG	7.3	+0.3/+0.7	330	0/+5	3.5	±0.2	1.0	±0.15	38.09
R2H30-0830-3300UG	8.3	+0.3/+0.7	330	0/+5	3.8	±0.2	1.0	±0.15	43.53
R2H30-0930-3300UG	9.3	+0.3/+0.7	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
R2H30-1030-3300UG	10.3	+0.3/+0.7	330	0/+5	4.5	±0.3	1.4	±0.15	54.41
R2H30-1130-3300UG	11.3	+0.4/+0.9	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
R2H30-1230-3300UG	12.3	+0.4/+0.9	330	0/+5	5.85	±0.4	1.4	±0.15	65.30
R2H30-1330-3300UG	13.3	+0.4/+0.9	330	0/+5	6.1	±0.4	1.75	±0.2	70.74
R2H30-1430-3300UG	14.3	+0.4/+0.9	330	0/+5	6.7	±0.4	1.75	±0.2	76.18
R2H30-1530-3300UG	15.3	+0.4/+0.9	330	0/+5	7.3	±0.4	1.75	±0.2	81.62
R2H30-1630-3300UG	16.3	+0.4/+0.9	330	0/+5	7.9	±0.4	1.75	±0.2	87.06
R2H30-1730-3300UG	17.3	+0.4/+1.0	330	0/+5	8.5	±0.4	1.75	±0.2	92.50
R2H30-1830-3300UG	18.3	+0.4/+1.0	330	0/+5	9.15	±0.4	2.0	±0.25	97.95
R2H30-1930-3300UG	19.3	+0.4/+1.0	330	0/+5	9.7	±0.4	2.0	±0.25	103.39
R2H30-2030-3300UG	20.3	+0.4/+1.0	330	0/+5	9.9	±0.5	2.0	±0.25	108.83
R2H30-2230-3300UG	22.3	+0.4/+1.0	330	0/+5	11.1	±0.5	2.0	±0.25	119.71
R2H30-2530-3300UG	25.3	+0.4/+1.0	330	0/+5	12.8	±0.5	2.0	±0.25	136.03

### Available Grade

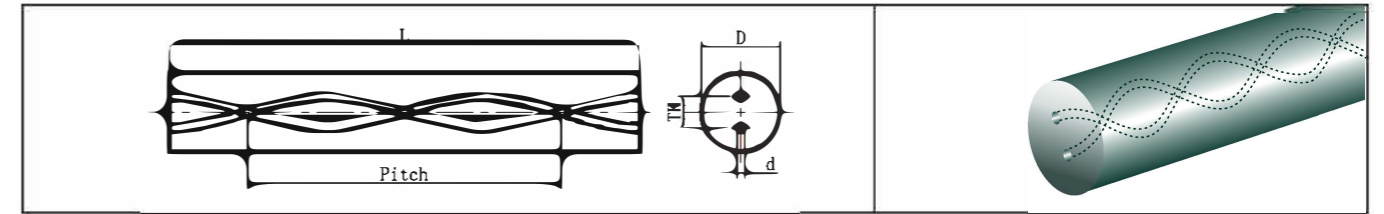


#### Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory



## Precision Ground Rod, 2 Helical Hole 30 degree



Type: RHE30 Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol.h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
RHE30-0600-3300PG	6	0/-0.008	330	0/+5	2.7	±0.2	0.8	±0.10	32.65
RHE30-0700-3300PG	7	0/-0.009	330	0/+5	3.5	±0.2	1.0	±0.15	38.09
RHE30-0800-3300PG	8	0/-0.009	330	0/+5	3.4	±0.2	1.0	±0.15	43.53
RHE30-0900-3300PG	9	0/-0.009	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
RHE30-1000-3300PG	10	0/-0.009	330	0/+5	4.8	±0.3	1.3	±0.15	54.41
RHE30-1100-3300PG	11	0/-0.011	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
RHE30-1200-3300PG	12	0/-0.011	330	0/+5	6.3	±0.4	1.7	±0.2	65.30
RHE30-1300-3300PG	13	0/-0.011	330	0/+5	6.1	±0.4	1.75	±0.2	70.74
RHE30-1400-3300PG	14	0/-0.011	330	0/+5	6.7	±0.4	1.8	±0.2	76.18
RHE30-1500-3300PG	15	0/-0.011	330	0/+5	7.3	±0.4	1.75	±0.2	81.62
RHE30-1600-3300PG	16	0/-0.011	330	0/+5	8.0	±0.4	2.0	±0.2	87.06
RHE30-1700-3300PG	17	0/-0.011	330	0/+5	8.5	±0.4	1.75	±0.2	92.50
RHE30-1800-3300PG	18	0/-0.011	330	0/+5	9.0	±0.4	2.3	±0.2	97.95
RHE30-1900-3300PG	19	0/-0.013	330	0/+5	9.7	±0.4	2.0	±0.25	103.39
RHE30-2000-3300PG	20	0/-0.013	330	0/+5	10.0	±0.5	2.5	±0.25	108.83

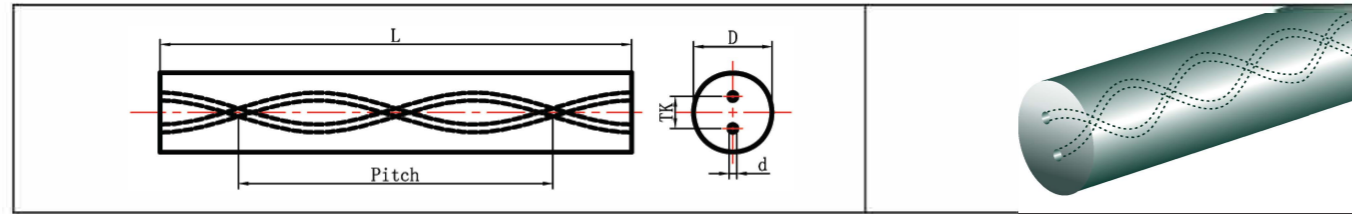
### Available Grade



#### Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

## Unground Rod, 2 Helical Hole 30 degree



Type: RHE30 Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter

Item No.	OD (mm)	Tol. (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
RHE30-0630-3300UG	6.3	+0.3/+0.7	330	0/+5	2.7	±0.2	0.8	±0.1	32.65
RHE30-0730-3300UG	7.3	+0.3/+0.7	330	0/+5	3.5	±0.2	1.0	±0.15	38.09
RHE30-0830-3300UG	8.3	+0.3/+0.7	330	0/+5	3.4	±0.2	1.0	±0.15	43.53
RHE30-0930-3300UG	9.3	+0.3/+0.7	330	0/+5	4.5	±0.3	1.4	±0.15	48.97
RHE30-1030-3300UG	10.3	+0.3/+0.7	330	0/+5	4.8	±0.3	1.3	±0.15	54.41
RHE30-1130-3300UG	11.3	+0.4/+0.9	330	0/+5	4.9	±0.4	1.4	±0.15	59.86
RHE30-1230-3300UG	12.3	+0.4/+0.9	330	0/+5	6.3	±0.4	1.7	±0.2	65.30
RHE30-1330-3300UG	13.3	+0.4/+0.9	330	0/+5	6.1	±0.4	1.75	±0.2	70.74
RHE30-1430-3300UG	14.3	+0.4/+0.9	330	0/+5	6.7	±0.4	1.8	±0.2	76.18
RHE30-1530-3300UG	15.3	+0.4/+0.9	330	0/+5	7.3	±0.4	1.75	±0.2	81.62
RHE30-1630-3300UG	16.3	+0.4/+0.9	330	0/+5	8.0	±0.4	2.0	±0.2	87.06
RHE30-1730-3300UG	17.3	+0.4/+1.0	330	0/+5	8.5	±0.4	1.75	±0.2	92.50
RHE30-1830-3300UG	18.3	+0.4/+1.0	330	0/+5	9.0	±0.4	2.3	±0.2	97.95
RHE30-1930-3300UG	19.3	+0.4/+1.0	330	0/+5	9.7	±0.4	2.0	±0.25	103.39
RHE30-2030-3300UG	20.3	+0.4/+1.0	330	0/+5	10.0	±0.5	2.5	±0.25	108.83

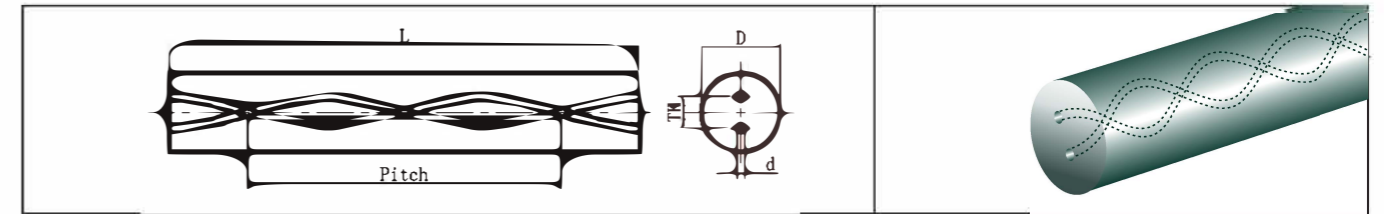
### Available Grade



#### Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

## Precision Ground Rod, 2 Helical Hole 40 degree



Type: R2H40 Grade: MH10F  
Metric Sizes 6mm to 25mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
R2H40-0600-3300PG	6	0/-0.008	330	0/+5	2.0	±0.15	0.50	±0.10	22.46
R2H40-0800-3300PG	8	0/-0.009	330	0/+5	2.4	±0.30	0.65	±0.15	29.95
R2H40-1000-3300PG	10	0/-0.009	330	0/+5	3.1	±0.40	0.80	±0.15	37.44
R2H40-1200-3300PG	12	0/-0.011	330	0/+5	3.8	±0.40	0.90	±0.15	44.93
R2H40-1400-3300PG	14	0/-0.011	330	0/+5	4.3	±0.40	1.00	±0.20	52.42
R2H40-1600-3300PG	16	0/-0.011	330	0/+5	5.1	±0.40	1.20	±0.20	59.90
R2H40-1800-3300PG	18	0/-0.011	330	0/+5	5.9	±0.40	1.40	±0.25	67.39
R2H40-2000-3300PG	20	0/-0.013	330	0/+5	6.6	±0.50	1.50	±0.25	74.88
R2H40-2200-3300PG	22	0/-0.013	330	0/+5	7.2	±0.50	1.70	±0.25	82.35
R2H40-2500-3300PG	25	0/-0.013	330	0/+5	7.6	±0.50	1.75	±0.25	93.58

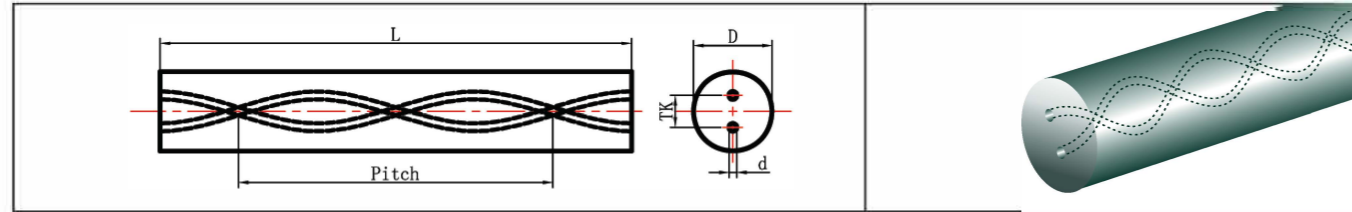
### Available Grade



#### Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

## Unground Rod, 2 Helical Hole 40 degree



Type: R2H40 Grade: MH10F  
Metric Sizes 6mm to 25mm Diameter

Item No.	OD (mm)	Tol. (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
R2H40-0630-3300UG	6.3	+0.3/+0.7	330	0/+5	2.0	±0.15	0.50	±0.1	22.46
R2H40-0830-3300UG	8.3	+0.3/+0.7	330	0/+5	2.4	±0.30	0.65	±0.15	29.95
R2H40-1030-3300UG	10.3	+0.3/+0.7	330	0/+5	3.1	±0.40	0.8	±0.15	37.44
R2H40-1230-3300UG	12.3	+0.4/+0.9	330	0/+5	3.8	±0.40	0.9	±0.15	44.93
R2H40-1430-3300UG	14.3	+0.4/+0.9	330	0/+5	4.3	±0.40	1.00	±0.2	52.42
R2H40-1630-3300UG	16.3	+0.4/+0.9	330	0/+5	5.1	±0.40	1.20	±0.2	59.90
R2H40-1830-3300UG	18.3	+0.4/+1.0	330	0/+5	5.9	±0.40	1.40	±0.25	67.39
R2H40-2030-3300UG	20.3	+0.4/+1.0	330	0/+5	6.6	±0.50	1.50	±0.25	74.88
R2H40-2230-3300UG	22.3	+0.4/+1.0	330	0/+5	7.2	±0.50	1.70	±0.25	82.35
R2H40-2530-3300UG	25.3	+0.4/+1.0	330	0/+5	7.6	±0.50	1.75	±0.25	93.58

### Available Grade

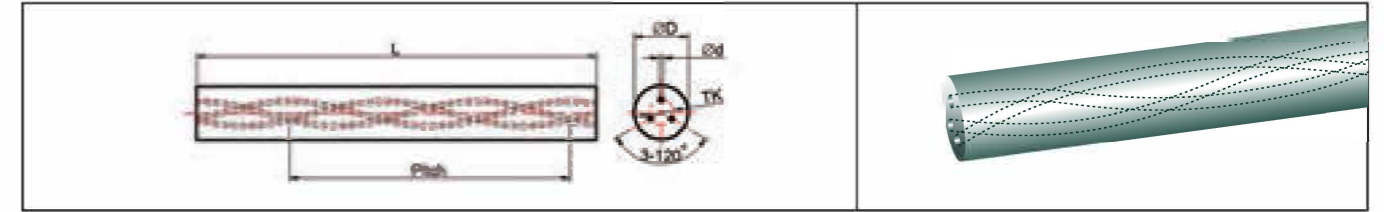


#### Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory



## Precision Ground Rod, 3 Helical Hole 30 degree



Type: R3H30 Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
R3H30-0600-3300PG	6	0/-0.008	330	0/+5	2.75	±0.20	0.5	±0.15	32.65
R3H30-0800-3300PG	8	0/-0.009	330	0/+5	3.85	±0.20	0.7	±0.15	43.53
R3H30-1000-3300PG	10	0/-0.009	330	0/+5	4.95	±0.30	0.85	±0.20	54.41
R3H30-1200-3300PG	12	0/-0.011	330	0/+5	6.05	±0.40	1.1	±0.20	65.30
R3H30-1400-3300PG	14	0/-0.011	330	0/+5	7.05	±0.40	1.4	±0.20	76.18
R3H30-1600-3300PG	16	0/-0.011	330	0/+5	8.05	±0.40	1.6	±0.20	87.06
R3H30-1800-3300PG	18	0/-0.011	330	0/+5	9.25	±0.50	1.7	±0.25	97.95
R3H30-2000-3300PG	20	0/-0.013	330	0/+5	9.85	±0.50	1.9	±0.25	108.83

### Available Grade



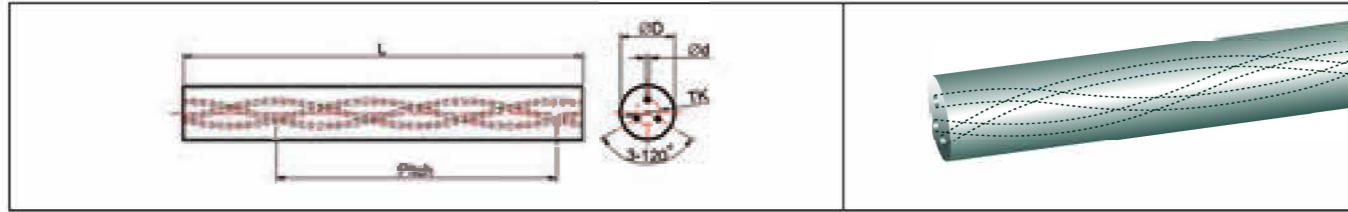
#### Kind Reminder

- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory





### Unground Rod, 3 Helical Hole 30 degree



Type: R3H30 Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter

Item No.	OD (mm)	Tol. (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
R3H30-0630-3300UG	6.3	+0.3/+0.7	330	0/+5	2.75	±0.20	0.5	±0.15	32.65
R3H30-0830-3300UG	8.3	+0.3/+0.7	330	0/+5	3.85	±0.20	0.7	±0.15	43.53
R3H30-1030-3300UG	10.3	+0.3/+0.7	330	0/+5	4.95	±0.30	0.85	±0.20	54.41
R3H30-1230-3300UG	12.3	+0.4/+0.9	330	0/+5	6.05	±0.40	1.1	±0.20	65.30
R3H30-1430-3300UG	14.3	+0.4/+0.9	330	0/+5	7.05	±0.40	1.4	±0.20	76.18
R3H30-1630-3300UG	16.3	+0.4/+0.9	330	0/+5	8.05	±0.40	1.6	±0.20	87.06
R3H30-1830-3300UG	18.3	+0.4/+1.0	330	0/+5	9.25	±0.50	1.7	±0.25	97.95
R3H30-2030-3300UG	20.3	+0.4/+1.0	330	0/+5	9.85	±0.50	1.9	±0.25	108.83



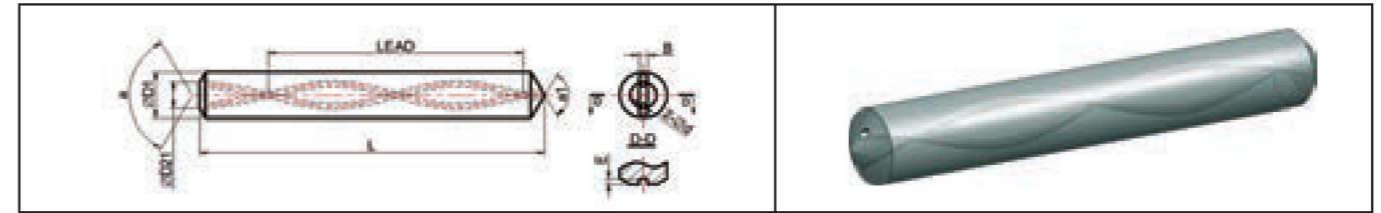
Available Grade



Kind Reminder

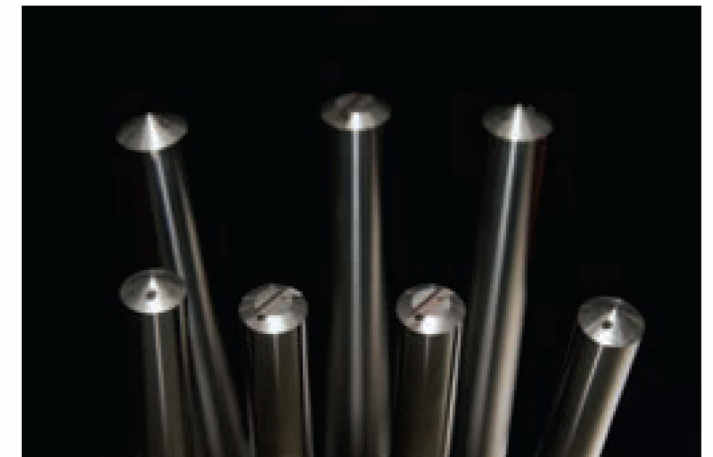
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

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



Type: RH03D3 (30°) , RH03D4 (40°) Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
RH03D4-0600-0630PG	6	0/-0.008	63	0/+1.5	1.9	±0.15	0.7	±0.1	22.5
RH03D3-0600-0670PG	6	0/-0.008	67	0/+1.5	2.7	±0.2	0.8	±0.1	32.7
RH03D3-0800-0805PG	8	0/-0.009	80.5	0/+1.5	3.4	±0.2	1.0	±0.15	43.5
RH03D3-1000-0905PG	10	0/-0.009	90.5	0/+1.5	4.8	±0.3	1.3	±0.15	54.4
RH03D3-1200-1040PG	12	0/-0.011	104	0/+1.5	6.3	±0.4	1.7	±0.2	65.0
RH03D3-1400-1090PG	14	0/-0.011	109	0/+1.5	6.7	±0.4	1.8	±0.2	76.2
RH03D3-1600-1175PG	16	0/-0.011	117.5	0/+1.5	8.0	±0.4	2.0	±0.2	87.1
RH03D3-1800-1255PG	18	0/-0.011	125.5	0/+1.5	9.0	±0.45	2.3	±0.2	98.0
RH03D3-2000-1340PG	20	0/-0.013	134	0/+1.5	10.0	±0.50	2.5	±0.2	108.8



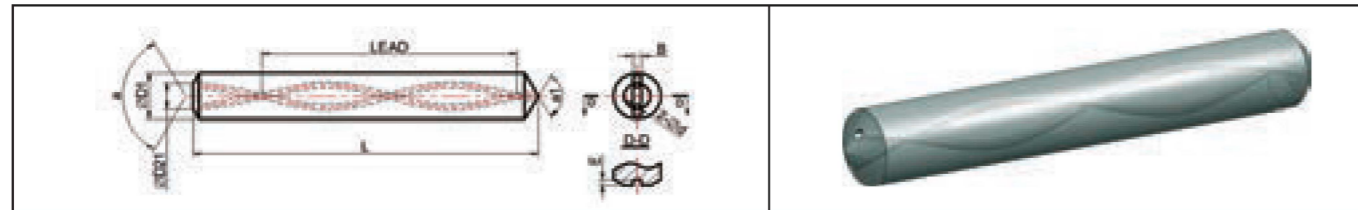
Available Grade



Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

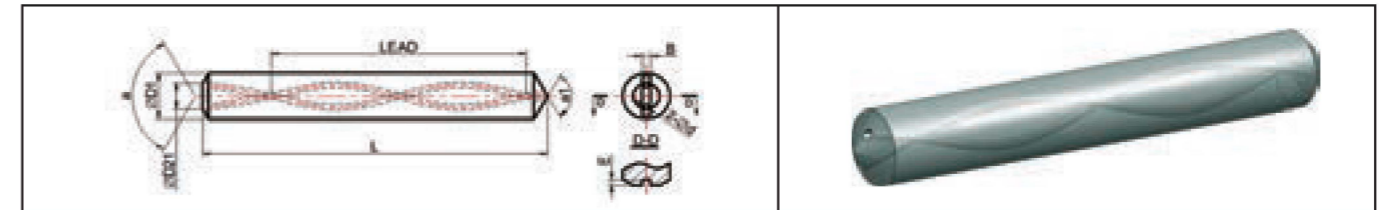
**Precision Ground Rod, 5XDiameter Drill, 2 Helical Hole, With Point, Chamfer and Connection Slot**



Type: RH05D3 (30°) , RH05D4 (40°) Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
RH05D4-0600-0750PG	6	0/-0.008	75	0/+1.5	1.9	±0.15	0.7	±0.1	22.5
RH05D3-0600-0830PG	6	0/-0.008	83	0/+1.5	2.7	±0.2	0.8	±0.1	32.7
RH05D3-0800-0925PG	8	0/-0.009	92.5	0/+1.5	3.4	±0.2	1.0	±0.15	43.5
RH05D3-1000-1045PG	10	0/-0.009	104.5	0/+1.5	4.8	±0.3	1.3	±0.15	54.4
RH05D3-1200-1200PG	12	0/-0.011	120	0/+1.5	6.3	±0.4	1.7	±0.2	65.0
RH05D3-1400-1265PG	14	0/-0.011	126.5	0/+1.5	6.7	±0.4	1.8	±0.2	76.2
RH05D3-1600-1355PG	16	0/-0.011	135.5	0/+1.5	8.0	±0.4	2.0	±0.2	87.1
RH05D3-1800-1455PG	18	0/-0.011	145.5	0/+1.5	9.0	±0.45	2.3	±0.2	98.0
RH05D3-2000-1560PG	20	0/-0.013	156	0/+1.5	10.0	±0.50	2.5	±0.2	108.8

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



Type: RH08D3 (30°) , RH08D4 (40°) Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
RH08D4-0600-0860PG	6	0/-0.008	86	0/+1.5	1.9	±0.15	0.7	±0.1	22.5
RH08D3-0600-0980PG	6	0/-0.008	98	0/+1.5	2.7	±0.2	0.8	±0.05	32.7
RH08D3-0800-1075PG	8	0/-0.009	107.5	0/+1.5	3.4	±0.2	1.0	±0.05	43.5
RH08D3-0800-1175PG	8	0/-0.009	117.5	0/+1.5	3.4	±0.2	1.0	±0.05	43.5
RH08D3-1000-1355PG	10	0/-0.009	135.5	0/+1.5	4.8	±0.23	1.3	±0.05	54.4
RH08D3-1200-1570PG	12	0/-0.011	157	0/+1.5	6.3	±0.23	1.7	±0.075	65.0
RH08D3-1400-1845PG	14	0/-0.011	184.5	0/+1.5	6.7	±0.26	1.8	±0.075	76.2
RH08D3-1600-2065PG	16	0/-0.011	206.5	0/+1.5	8.0	±0.40	2.0	±0.075	87.1
RH08D3-1800-2255PG	18	0/-0.011	225.5	0/+1.5	9.0	±0.45	2.3	±0.075	98.0
RH08D3-2000-2470PG	20	0/-0.013	247	0/+1.5	10.0	±0.50	2.5	±0.075	108.8

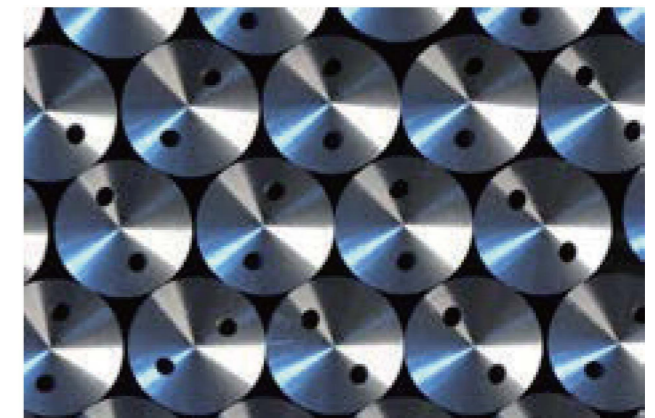
**Available Grade**

MH10F



**Available Grade**

MH10F



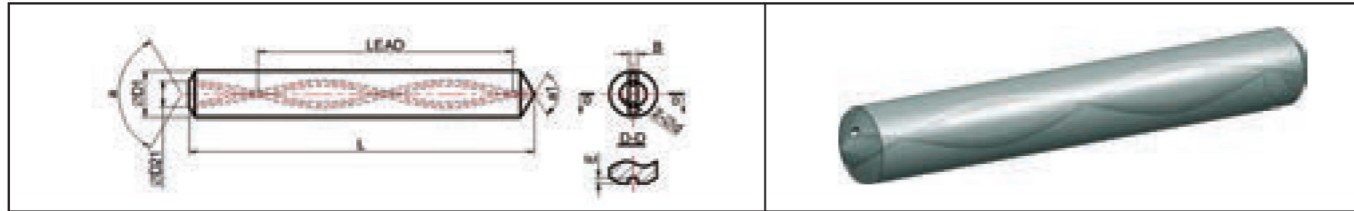
**Kind Reminder**

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

**Kind Reminder**

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock □ Check inventory

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



Type: RH12D3 (30°) , RH12D4 (40°)      Grade: MH10F  
 Metric Sizes 6mm to 20mm Diameter  
 h6 tolerance

Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)	Pitch (mm)
RH12D4-0600-1035PG	6	0/-0.008	103.5	0/+1.5	1.9	±0.15	0.7	±0.1	22.5
RH12D3-0600-1225PG	6	0/-0.008	122.5	0/+1.5	2.7	±0.2	0.8	±0.05	32.7
RH12D3-0800-1500PG	8	0/-0.009	150	0/+1.5	3.4	±0.2	1.0	±0.05	43.5
RH12D3-1000-1830PG	10	0/-0.009	183	0/+1.5	4.8	±0.23	1.3	±0.05	54.4
RH12D3-1200-2080PG	12	0/-0.011	208	0/+1.5	6.3	±0.23	1.7	±0.075	65.0
RH12D3-1400-2330PG	14	0/-0.011	233	0/+1.5	6.7	±0.26	1.8	±0.075	76.2
RH12D3-1600-2630PG	16	0/-0.011	263	0/+1.5	8.0	±0.40	2.0	±0.075	87.1
RH12D3-1800-2880PG	18	0/-0.011	288	0/+1.5	9.0	±0.45	2.3	±0.075	98.0
RH12D3-2000-3135PG	20	0/-0.013	313.5	0/+1.5	10.0	±0.50	2.5	±0.075	108.8

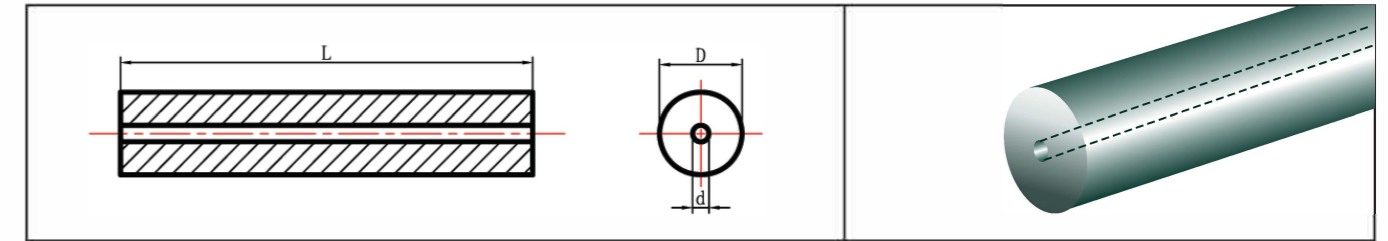
Available Grade

MH10F
<input checked="" type="checkbox"/>

Kind Reminder

- If special helix rods are required, please contact CYC sales for availability.
- Please specify when your drills are longer than 12XD. The blanks with classified pitches will be provided for precision guarantee.
- In Stock   □ Check inventory

### Precision Ground Rod, 1 Straight Hole Centered



Type: R1SH      Grade: MH10F  
 Metric Sizes 4mm to 25mm Diameter  
 h6 tolerance

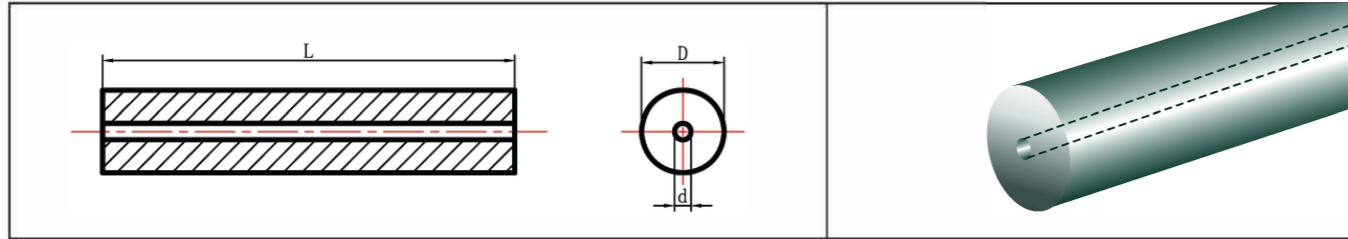
Item No.	OD (mm)	Tol. h6 (mm)	L (mm)	Tol. (mm)	d (mm)	Tol. (mm)
R1SH-0400-3300PG	4	0/-0.008	330	0/+5	0.6	±0.15
R1SH-0600-3300PG	6	0/-0.008	330	0/+5	1	±0.15
R1SH-0800-3300PG	8	0/-0.009	330	0/+5	1.3	±0.15
R1SH-1000-3300PG	10	0/-0.009	330	0/+5	2	±0.20
R1SH-1200-3300PG	12	0/-0.011	330	0/+5	2	±0.20
R1SH-1400-3300PG	14	0/-0.011	330	0/+5	2	±0.20
R1SH-1600-3300PG	16	0/-0.011	330	0/+5	2	±0.20
R1SH-1800-3300PG	18	0/-0.011	330	0/+5	3	±0.20
R1SH-2000-3300PG	20	0/-0.013	330	0/+5	3	±0.20
R1SH-2200-3300PG	22	0/-0.013	330	0/+5	3	±0.20
R1SH-2400-3300PG	24	0/-0.013	330	0/+5	4	±0.30
R1SH-2500-3300PG	25	0/-0.013	330	0/+5	4	±0.30

Available Grade

MH10F	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>

- Non-standard specifications and grades can be provided upon request.
- In Stock   □ Check inventory

### Unground Rod, 1 Straight Hole Centered



Type: R1SH      Grade: MH10F  
Metric Sizes 4mm to 25mm Diameter

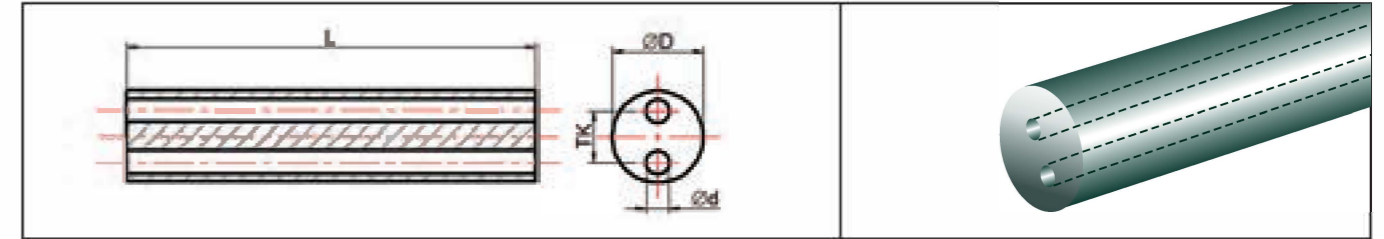
Item No.	OD (mm)	Tol. (mm)	L (mm)	Tol. (mm)	d (mm)	Tol. (mm)
R1SH-0430-3300UG	4.3	0/+0.3	330	0/+5	0.6	±0.15
R1SH-0630-3300UG	6.3	0/+0.3	330	0/+5	1	±0.15
R1SH-0830-3300UG	8.3	0/+0.3	330	0/+5	1.3	±0.15
R1SH-1030-3300UG	10.3	0/+0.3	330	0/+5	2	±0.20
R1SH-1230-3300UG	12.3	0/+0.4	330	0/+5	2	±0.20
R1SH-1430-3300UG	14.3	0/+0.4	330	0/+5	2	±0.20
R1SH-1630-3300UG	16.3	0/+0.4	330	0/+5	2	±0.20
R1SH-1830-3300UG	18.3	0/+0.5	330	0/+5	3	±0.20
R1SH-2030-3300UG	20.3	0/+0.5	330	0/+5	3	±0.20
R1SH-2230-3300UG	22.3	0/+0.5	330	0/+5	3	±0.20
R1SH-2430-3300UG	24.3	0/+0.5	330	0/+5	4	±0.30
R1SH-2530-3300UG	25.3	0/+0.5	330	0/+5	4	±0.30

Available Grade

MH10F	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock   □ Check inventory

### Precision Ground Rod, 2 Straight Hole Reduced BC



Type: R2SHR      Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

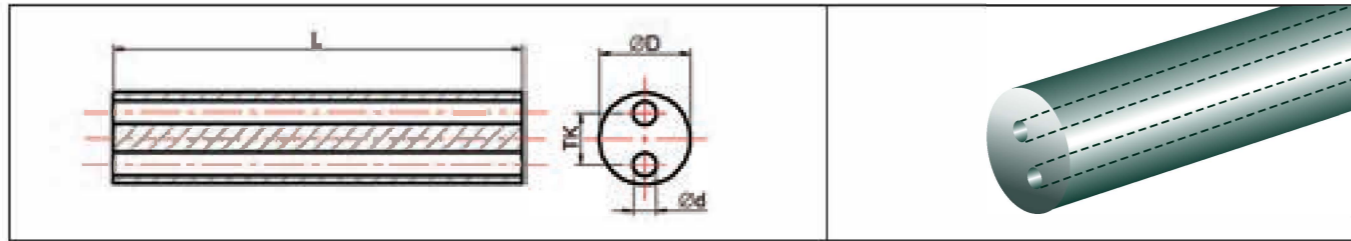
Item No.	OD (mm)	Tol.h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)
R2SHR-0600-3300PG	6	0/-0.008	330	0/+5	1.5	0/-0.2	0.8	±0.15
R2SHR-0700-3300PG	7	0/-0.009	330	0/+5	1.5	0/-0.2	0.8	±0.15
R2SHR-0800-3300PG	8	0/-0.009	330	0/+5	2.6	0/-0.3	1.0	±0.15
R2SHR-0900-3300PG	9	0/-0.009	330	0/+5	2.6	0/-0.3	1.0	±0.15
R2SHR-1000-3300PG	10	0/-0.009	330	0/+5	2.6	0/-0.3	1.0	±0.15
R2SHR-1100-3300PG	11	0/-0.011	330	0/+5	3.5	0/-0.3	1.2	±0.15
R2SHR-1200-3300PG	12	0/-0.011	330	0/+5	3.5	0/-0.3	1.2	±0.15
R2SHR-1300-3300PG	13	0/-0.011	330	0/+5	3.5	0/-0.3	1.2	±0.15
R2SHR-1400-3300PG	14	0/-0.011	330	0/+5	5.0	0/-0.3	1.5	±0.15
R2SHR-1500-3300PG	15	0/-0.011	330	0/+5	5.0	0/-0.3	1.5	±0.15
R2SHR-1600-3300PG	16	0/-0.011	330	0/+5	5.0	0/-0.3	1.5	±0.20
R2SHR-1700-3300PG	17	0/-0.011	330	0/+5	6.2	0/-0.3	2.0	±0.20
R2SHR-1800-3300PG	18	0/-0.011	330	0/+5	6.2	0/-0.3	2.0	±0.20
R2SHR-1900-3300PG	19	0/-0.013	330	0/+5	6.2	0/-0.3	2.0	±0.20
R2SHR-2000-3300PG	20	0/-0.013	330	0/+5	6.2	0/-0.4	2.0	±0.30

Available Grade

MH10F	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock   □ Check inventory

### Unground Rod, 2 Straight Hole Reduced BC



Type: R2SHR Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter

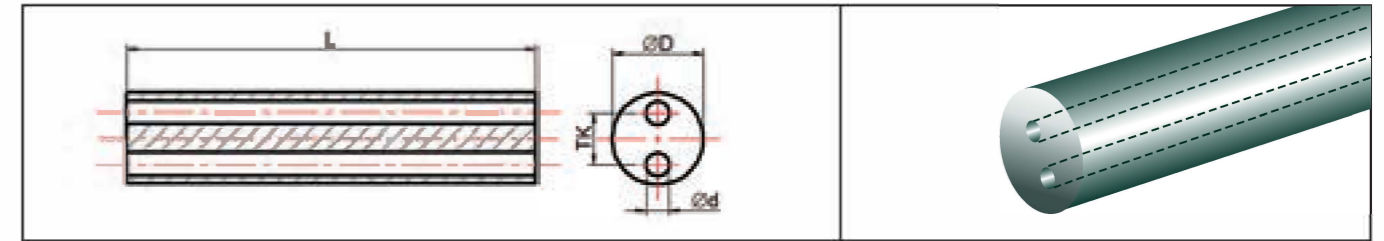
Item No.	OD (mm)	Tol. (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)
R2SHR-0630-3300UG	6.3	0/+0.3	330	0/+5	1.5	0/-0.2	0.8	±0.15
R2SHR-0730-3300UG	7.3	0/+0.3	330	0/+5	1.5	0/-0.2	0.8	±0.15
R2SHR-0830-3300UG	8.3	0/+0.3	330	0/+5	2.6	0/-0.3	1.0	±0.15
R2SHR-0930-3300UG	9.3	0/+0.3	330	0/+5	2.6	0/-0.3	1.0	±0.15
R2SHR-1030-3300UG	10.3	0/+0.3	330	0/+5	2.6	0/-0.3	1.0	±0.15
R2SHR-1130-3300UG	11.3	0/+0.4	330	0/+5	3.5	0/-0.3	1.2	±0.15
R2SHR-1230-3300UG	12.3	0/+0.4	330	0/+5	3.5	0/-0.3	1.2	±0.15
R2SHR-1330-3300UG	13.3	0/+0.4	330	0/+5	3.5	0/-0.3	1.2	±0.15
R2SHR-1430-3300UG	14.3	0/+0.4	330	0/+5	5.0	0/-0.3	1.5	±0.15
R2SHR-1530-3300UG	15.3	0/+0.4	330	0/+5	5.0	0/-0.3	1.5	±0.15
R2SHR-1630-3300UG	16.3	0/+0.4	330	0/+5	5.0	0/-0.3	1.5	±0.20
R2SHR-1730-3300UG	17.3	0/+0.5	330	0/+5	6.2	0/-0.3	2.0	±0.20
R2SHR-1830-3300UG	18.3	0/+0.5	330	0/+5	6.2	0/-0.3	2.0	±0.20
R2SHR-1930-3300UG	19.3	0/+0.5	330	0/+5	6.2	0/-0.3	2.0	±0.20
R2SHR-2030-3300UG	20.3	0/+0.5	330	0/+5	6.2	0/-0.4	2.0	±0.30

Available Grade

MH10F	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

### Precision Ground Rod, 2 Straight Hole Standard BC



Type: R2SHS Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter  
h6 tolerance

Item No.	OD (mm)	Tol.h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)
R2SHS-0600-3300PG	6	0/-0.008	330	0/+5	3.0	0/-0.2	1.0	±0.15
R2SHS-0700-3300PG	7	0/-0.009	330	0/+5	3.5	0/-0.2	1.0	±0.15
R2SHS-0800-3300PG	8	0/-0.009	330	0/+5	4.0	0/-0.3	1.0	±0.15
R2SHS-0900-3300PG	9	0/-0.009	330	0/+5	4.0	0/-0.3	1.4	±0.15
R2SHS-1000-3300PG	10	0/-0.009	330	0/+5	5.0	0/-0.3	1.4	±0.15
R2SHS-1100-3300PG	11	0/-0.011	330	0/+5	5.0	0/-0.3	1.4	±0.15
R2SHS-1200-3300PG	12	0/-0.011	330	0/+5	6.0	0/-0.3	1.75	±0.15
R2SHS-1300-3300PG	13	0/-0.011	330	0/+5	6.0	0/-0.3	1.75	±0.15
R2SHS-1400-3300PG	14	0/-0.011	330	0/+5	7.0	0/-0.3	1.75	±0.15
R2SHS-1500-3300PG	15	0/-0.011	330	0/+5	7.0	0/-0.3	2.0	±0.20
R2SHS-1600-3300PG	16	0/-0.011	330	0/+5	8.0	0/-0.3	2.0	±0.20
R2SHS-1700-3300PG	17	0/-0.011	330	0/+5	8.0	0/-0.3	2.0	±0.20
R2SHS-1800-3300PG	18	0/-0.011	330	0/+5	9.0	0/-0.3	2.0	±0.20
R2SHS-1900-3300PG	19	0/-0.013	330	0/+5	9.0	0/-0.3	2.0	±0.20
R2SHS-2000-3300PG	20	0/-0.013	330	0/+5	10.0	0/-0.4	2.5	±0.30

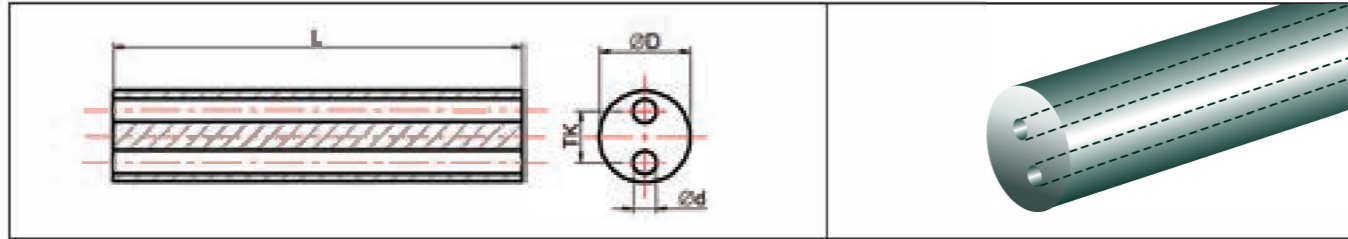
Available Grade

MH10F	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory



## Unground Rod, 2 Straight Hole Standard BC



Type: R2SHS Grade: MH10F  
Metric Sizes 6mm to 20mm Diameter

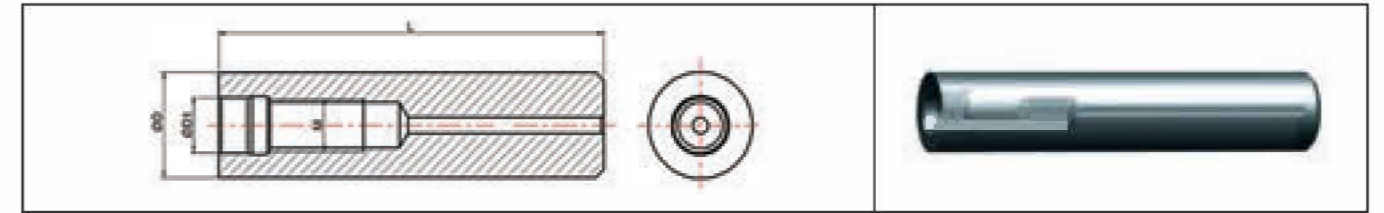
Item No.	OD (mm)	Tol.h6 (mm)	L (mm)	Tol. (mm)	TK (mm)	Tol. (mm)	d (mm)	Tol. (mm)
R2SHS-0630-3300UG	6.3	0/+0.3	330	0/+5	3.0	0/-0.2	1.0	±0.15
R2SHS-0730-3300UG	7.3	0/+0.3	330	0/+5	3.5	0/-0.2	1.0	±0.15
R2SHS-0830-3300UG	8.3	0/+0.3	330	0/+5	4.0	0/-0.3	1.0	±0.15
R2SHS-0930-3300UG	9.3	0/+0.3	330	0/+5	4.0	0/-0.3	1.4	±0.15
R2SHS-1030-3300UG	10.3	0/+0.3	330	0/+5	5.0	0/-0.3	1.4	±0.15
R2SHS-1130-3300UG	11.3	0/+0.4	330	0/+5	5.0	0/-0.3	1.4	±0.15
R2SHS-1230-3300UG	12.3	0/+0.4	330	0/+5	6.0	0/-0.3	1.75	±0.15
R2SHS-1330-3300UG	13.3	0/+0.4	330	0/+5	6.0	0/-0.3	1.75	±0.15
R2SHS-1430-3300UG	14.3	0/+0.4	330	0/+5	7.0	0/-0.3	1.75	±0.15
R2SHS-1530-3300UG	15.3	0/+0.4	330	0/+5	7.0	0/-0.3	2.0	±0.20
R2SHS-1630-3300UG	16.3	0/+0.4	330	0/+5	8.0	0/-0.3	2.0	±0.20
R2SHS-1730-3300UG	17.3	0/+0.5	330	0/+5	8.0	0/-0.3	2.0	±0.20
R2SHS-1830-3300UG	18.3	0/+0.5	330	0/+5	9.0	0/-0.3	2.0	±0.20
R2SHS-1930-3300UG	19.3	0/+0.5	330	0/+5	9.0	0/-0.3	2.0	±0.20
R2SHS-2030-3300UG	20.3	0/+0.5	330	0/+5	10.0	0/-0.4	2.5	±0.30

### Available Grade

MH10F	MH7
<input checked="" type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
■ In Stock □ Check inventory

## High Precision Modular Shanks



Item No.		D h6 (mm)	L (mm)	D1 H6 (mm)	M
HMS 10L100-M6	CMS 10L100-M6	10	100	6.5	M6
HMS 10L150-M6	CMS 10L150-M6	10	150	6.5	M6
HMS 12L100-M6	CMS 12L100-M6	12	100	6.5	M6
HMS 12L150-M6	CMS 12L150-M6	12	150	6.5	M6
HMS 16L100-M8	CMS 16L100-M8	16	100	8.5	M8
HMS 16L150-M8	CMS 16L150-M8	16	150	8.5	M8
HMS 16L200-M8	CMS 16L200-M8	16	200	8.5	M8
HMS 16L250-M8	CMS 16L250-M8	16	250	8.5	M8
HMS 20L100-M10	CMS 20L100-M10	20	100	10.5	M10
HMS 20L150-M10	CMS 20L150-M10	20	150	10.5	M10
HMS 20L200-M10	CMS 20L200-M10	20	200	10.5	M10
HMS 20L250-M10	CMS 20L250-M10	20	250	10.5	M10
HMS 20L300-M10	CMS 20L300-M10	20	300	10.5	M10
HMS 25L150-M12	CMS 25L150-M12	25	150	12.5	M12
HMS 25L200-M12	CMS 25L200-M12	25	200	12.5	M12
HMS 25L250-M12	CMS 25L250-M12	25	250	12.5	M12
HMS 25L300-M12	CMS 25L300-M12	25	300	12.5	M12
HMS 32L150-M16	CMS 32L150-M16	32	150	16.5	M16
HMS 32L200-M16	CMS 32L200-M16	32	200	16.5	M16
HMS 32L250-M16	CMS 32L250-M16	32	250	16.5	M16
HMS 32L300-M16	CMS 32L300-M16	32	300	16.5	M16
HMS 32L400-M16	CMS 32L400-M16	32	400	16.5	M16

### HMS : Heavy Alloy Modular Shanks

- **Features** : Screw-in, through coolant, Excellent toughness, more forgiving with reduced fracture rates. Anti-vibration.
- **Applications** : Ideal for Roughing and Semi-finishing applications, and for use in lower speed machining. Adopted to ISO modular heads.

### CMS : Carbide Modular Shanks

- **Features** : Screw-in, through coolant, Excellent rigidity, and anti-vibration.
- **Applications** : Ideal for semi-finishing and finishing applications, and High Speed machining. Adopted to ISO modular heads.



### Special Milling Cutter Blanks (Metric)

ball nose	
weldon shank	
axial coolant duct and Y-exit	
axial coolant duct and lateral exits	

Unit: mm

D	Tol.	L	Tol.	Cx45° Tol.±0.004	Ball Nose	Weldon Shank	axial coolant duct and Y-exit/lateral exits
6.0	h6/h5	51	0/+1% of length, minimum +0.5mm	0.4			●
6.0		55		0.4			●
6.0		58		0.4	●	●	●
8.0		59		0.6			●
8.0		64		0.6	●	●	●
10.0		67		0.6			●
10.0		73		0.6	●	●	●
12.0		74		0.8	●	●	●
12.0		84		0.8	●	●	●
14.0		76		0.8			●
14.0		84		0.8	●	●	●
16.0		83		0.8			●
16.0		93		0.8	●	●	●
18.0		93		1.0	●	●	●
20.0		93		1.0			●
20.0		105		1.0	●	●	●
25.0	123	2.0			●		

#### Available Grade

MH10F	UH12
<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
 ■ In Stock □ Check inventory

### Special Milling Cutter Blanks (Inch)

ball nose	
axial coolant duct and Y-exit	
axial coolant duct and lateral exits	

Unit: inch

D	Tol.	L	Tol.	Cx45° Tol.±0.004	Ball Nose	axial coolant duct and Y-exit/lateral exits
1/4	h6/h5	2	0/+1% of Length, minimum +0.02"	0.024	●	●
1/4		2.5		0.024	●	●
5/16		2		0.024	●	●
5/16		2.5		0.024	●	●
3/8		2.5		0.024	●	●
3/8		3		0.024	●	●
3/8		4		0.024	●	●
7/16		2.75		0.031	●	●
1/2		3		0.031	●	●
1/2		4		0.031	●	●
5/8		3.5		0.031	●	●
3/4		4		0.039	●	●
1		4		0.039	●	●

#### Available Grade

MH10F	UH12
<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
 ■ In Stock □ Check inventory



## Carbide Preforms

With our experience in carbide specials manufacturing, CYC has developed a Preforming Production line, with a streamlined process flow, that enables us to support and meet our customers critical demands for complicated, difficult to machine, special tool blanks, that require Expedited Delivery Service Globally. Please allow CYC to help you achieve cost savings by customizing your carbide.



## Standard Tolerance For Preforms

### Diameter Tolerance

OD(mm)	Basic allowance(mm)	Sintering Tol.(mm)
>Φ5—Φ14	0.8	±0.2
>Φ14.1—Φ25	1.0	±0.3
>Φ25.1—Φ48	1.2	±0.4
>Φ48.1	1.6	±0.5

### Center and Exit hole tolerance

Hole dia (mm)	Tolerance (mm)
>Φ0.8—Φ1.5	±0.1
>Φ1.6—Φ3.0	±0.2
>Φ3.1—Φ8.0	±0.3

### Length & Concentricity

Basic allowance(mm)	Sintering Tol. (mm)	Concentricity(mm)
+(0.4+0.5%L)	±0.5%L	≤0.3

For example, if L=100mm, then it's basic allowance is +0.4+0.5%\*100=0.9mm  
Sintering tolerance is ±0.5%\*100= 100.9±0.5mm.

Grade	Binder	Hardness		T.R.S	Density	Grain Size	ISO Code
	%	HRA	HV10	N/mm <sup>2</sup>	g/cm <sup>3</sup>		
MH10F	10.0	91.8	1600	3800	14.45	Submicron	K30 An excellent general purpose grade to cover most cutting applications. For materials of ISO P, M, K, N. Suitable for drilling, milling and reaming.
	12.0	92.2	1660	4000	14.15	Ultrafine	
UH12	12.0	90.7	1450	3500	14.2	Submicron	K40 Gives high impact strength while maintaining excellent wear resistance. A universal grade for cutting Stainless Steel, Titanium Alloys, Nickel base alloy and other difficult machine materials. Suitable for milling, drilling.
EH12	12.0	90.7	1450	3500	14.2	Submicron	K40 Suitable for tool shank and PCD tool body .

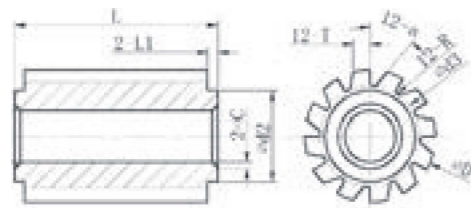




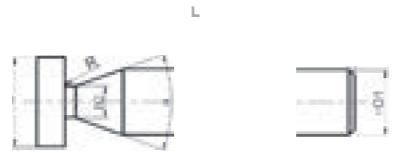
## Preform Blanks for Cutting Tools

### Our Competence

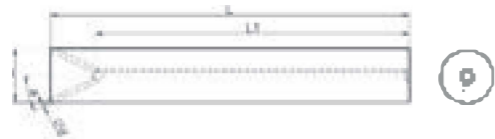
- ① MOQ starts at 1 piece
- ② As soon as 5 days
- ③ Fully customized according to your drawings
- ④ Provide OD precision grinding service



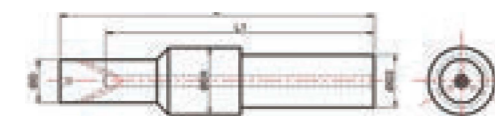
Gear hob blanks, raw sintered



T Type milling Blanks, raw sintered or h5/h6 ground



Milling cutter blanks, with 2/3/4 radial coolant holes h5/h6 ground,



Step Drill Blanks  
Unground or OD h6 ground

## Preform Blanks for Cutting Tools

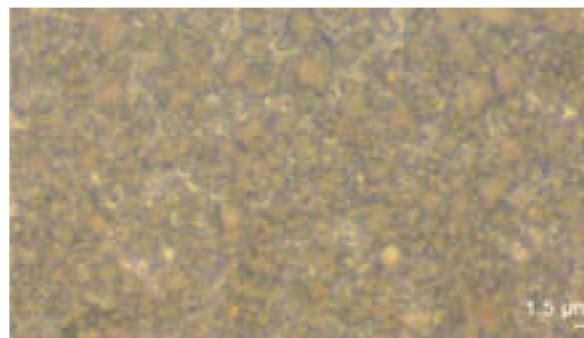
### Our Competence

- ① MOQ starts at 1 piece
- ② As soon as 5 days
- ③ Fully customized according to your drawings
- ④ Provide OD precision grinding service

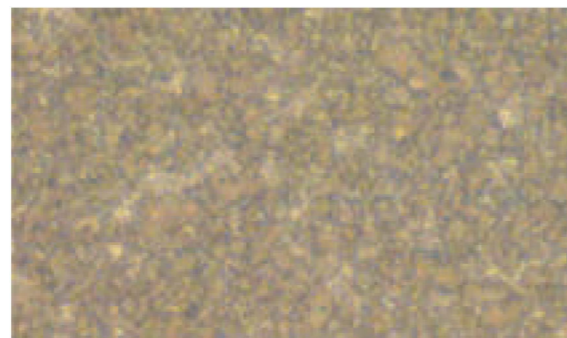
	<p>X'mas tree blanks. Raw sintered or h6 shank ground</p>
	<p>Center drill blanks, raw sintered or h6 ground</p>
	<p>Boring bar shanks, raw sintered or h6 ground</p>
	<p>PCD shanks, raw sintered or h6 ground</p>

## Cermets

Grade	Density g/cm <sup>3</sup>	T.R.S N/mm <sup>2</sup>	Hardness HRA	Applications	
				Cutting Model	ISO Code
CMT 60	7.30	2000	92.5	finishing	P01-P10, M01-M10
CMT 70	7.30	2100	92.0	finishing, semi-finishing	P05-P20, M05-M20 K10-K15
CMT 80	7.25	2250	91.0	semi-finishing, medium-rough	P10-P25, M10-M25



CMT70



CMT80

### Specifications on cermet

- 1.R&D of cermet grades done in house by our experienced technical team.  
Tic+TiCN as the major contents.
- 2.With features of excellent wear resistance, high red hardness,chemical durability and lower friction coefficient, makes the lifetime of Cermet 3-10 times that of normal carbide.

**Cermet is a good choice for metalworking tools when the application requires high speed, high precision, high efficiency and a fine surface finish.**



Inserts

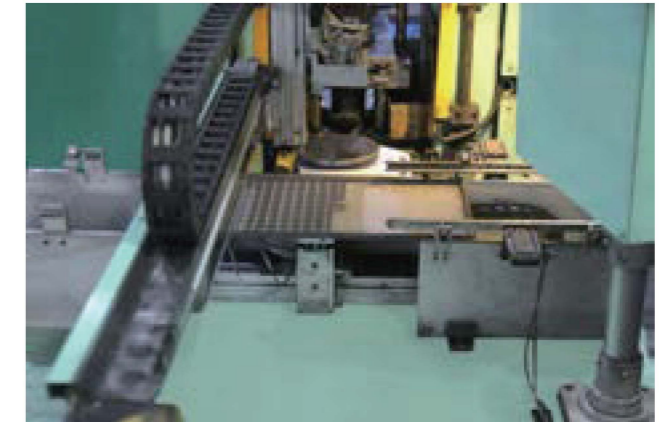


Rods

## Other Metal Cutting Tool Blanks

Due to our comprehensive and variable forming solutions, we are able to produce the various type of rods by extrusion pressing, and also the direct pressing of blanks such as rotary bur blanks, disc cutters etc.

Special developed grades upon application, high precision press tools designed built in house, offer tighter tolerance control, which ensures higher performance of products delivered to you.

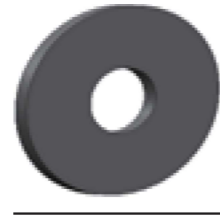
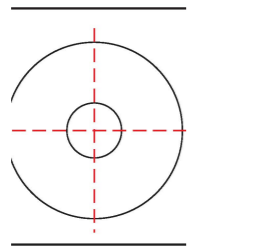


## Grade Chart

Grade	Binder	Hardness		T.R.S	Density	Grain Size	ISO Code
	%	HRA	HV10	N/mm <sup>2</sup>	g/cm <sup>3</sup>		
CK10H	6	91.3	1530	2500	14.9	Medium	K10
	Ideal grade for rotary bur blanks.						
MH7	6.5	93.1	1840	2800	14.85	Submicron	K10-K20
	Standard grade for carbide strips. For cutting non-ferrous metals like Cu, Al.						
MH10F	10	91.8	1600	3800	14.45	Submicron	K30
	Standard grade for carbide strips, disc cutters , for machining most kinds of steel.						
UH12	12	92.2	1660	4000	14.15	Ultrafine	K40
	Standard grade for carbide strips, disc cutters. For machining stainless steel.						

● Non-standard specifications and grades can be provided upon request.

## Disc Cutter Blanks



Unit: mm

D	Tol.	d	Tol.	T ToL.+0.2~0.3	D	Tol.	d	Tol.	T ToL.+0.2~0.3
11.0	0/+0.3	4.0			62.5		16.0		
17.2		4.5		0.6~2.5	62.5		14.7		
19.0		7.3			62.5		15.8		
19.0		5.3			64.5		14.8	0.7~4.5	
20.0		7.3	-0.3/0		66.5		14.5		
21.5		5.3		0.6~3.5	66.5		15.0		
30.2		5.5			66.5		21.0		
31.2		9.5			71.5	0/+0.8	14.5	-0.4/0	
41.2		7.3			71.5		15.3		
41.2		12.2		0.6~4.2	71.5		24.5		
41.2	0/+0.5	14.8			71.5		20.5		
46.0		15.0			75.5		20.5		
51.5		11.5			75.5		15.0		
51.5		15.0			75.5		24.0	0.7~5.0	
51.5		20.8	-0.4/0		81.5		20.5		
51.5		24.5		0.7~4.5	81.5		24.5		
54.5		15.0			102.0		20.5		
61.5		15.0			102.0	0/+1.0	65.0	-0.7/0	
61.5		21.4			109.0		60.0		
61.5		24.5			152.0		30.5	-0.5/0	

### Available Grades

MH10F  UH12



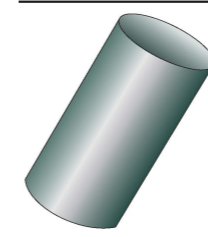
## Rotary Bur Head Blanks

- Inch styles - BSA, BSC, BSD, BSE, BSF, BSG, BSH, BSM and BSL
- Metric styles - ZYA, WRD, KUD, TRE, RBF SPG and KSJ

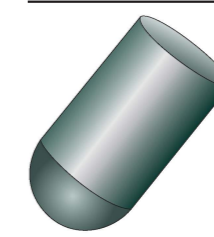
**Features:** Good wear resistance and longer tool life. Brazing fixture holes available.

**Applications:** DIN and INCH standards of tungsten carbide rotary bur blanks for fabrication of finished rotary burs.

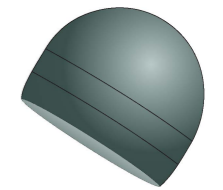
Shape A



Shape C



Shape D



Shape E



Shape F



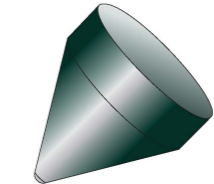
Shape G



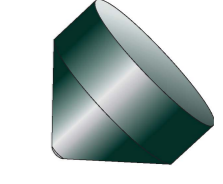
Shape H



Shape J



Shape K



Shape L



Shape M



Shape N

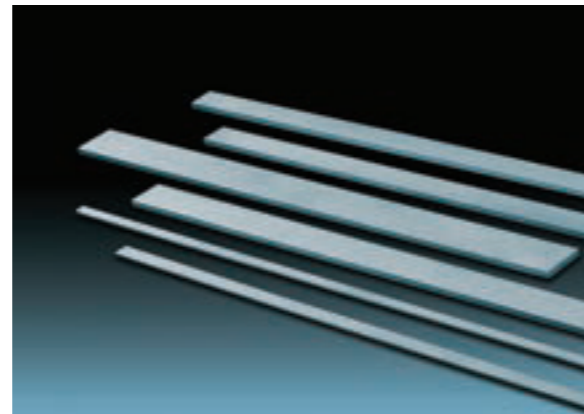
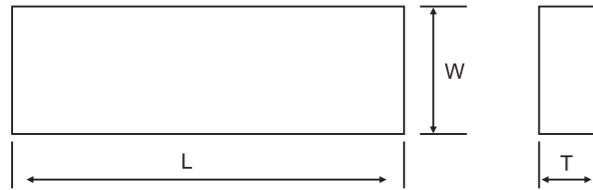


### Available Grades

CK10H



**Carbide Flat Bars / Strips**



Unit: mm

T(mm)	Tol.	W(mm)	Tol.	L(mm)	Tol.
1.5-4.0	+0.15 / +0.5	4.0	+0.20 / +0.5	330	-2.0 / +5.0
1.5-5.0		5.0			
1.5-6.0		6.0			
1.5-7.0		7.0			
1.5-8.0		8.0			
1.5-10.0		10.0			
1.5-12.0		12.0			
2.0-8.0		14.0			
2.0-8.0		15.0			
2.0-8.0		16.0			
2.0-8.0		18.0			
2.0-8.0		20.0			
2.0-8.0		22.0			
2.0-8.0		25.0			
2.0-8.0		26.0			
2.0-8.0		30.0			
2.0-8.0		32.0			
2.0-8.0		35.0			
2.0-8.0		40.0			
2.0-8.0		45.0			

**Available Grades**

MH7	MH10F	UH12
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

● Non-standard specifications and grades can be provided upon request.  
 ■ In Stock   □ Check inventory



1. Metallographic Microscope (Leica-Germany)
2. Video Measuring System
3. Roundness measuring instrument (Mitutoyo-Japan)
4. SEM tester (JEOL-Japan)
5. Hardness tester (Future tech-Japan)
6. Magnetometer