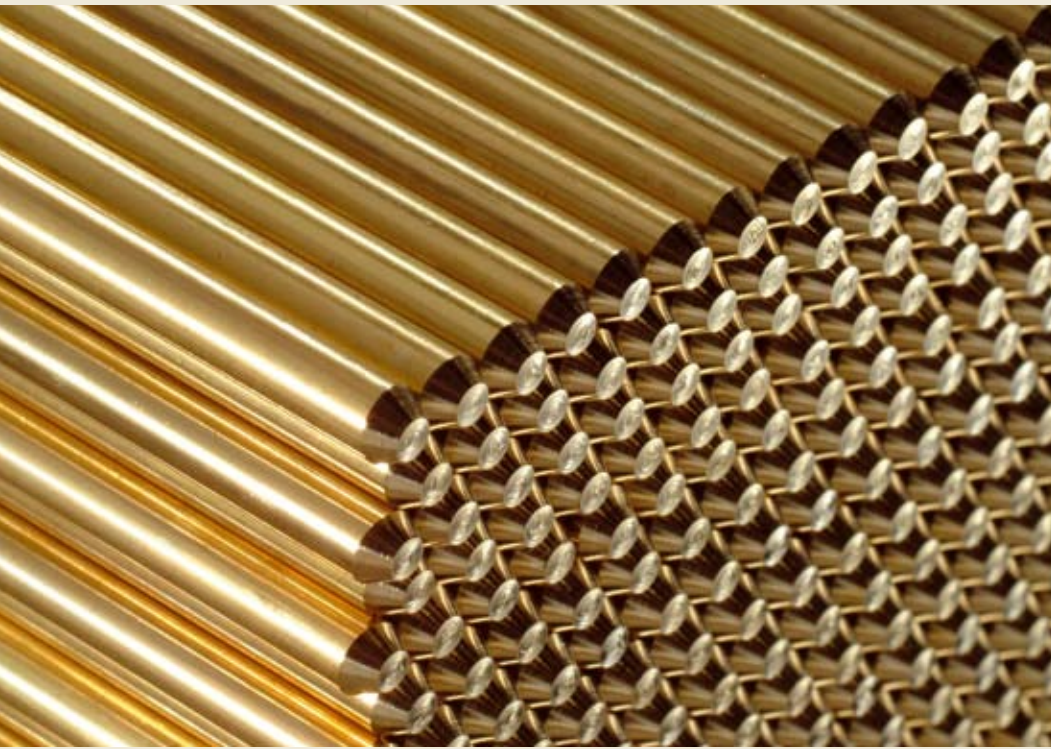


# Wieland

Precision brass rod

**W**  
**5000**



# W5000 – Straight to success

## Production from one batch

We have installed a state of the art brass rod manufacturing plant for high-precision machining. All operations starting with the extruded pre-material coil to the finished precision brass rod W5000 are fully automated for most of the diameters. Our production parameters are tighter in almost all aspects than stipulated in the EN 12164 standard.



To meet the requirements of different size ranges the W5000 product family comprises:



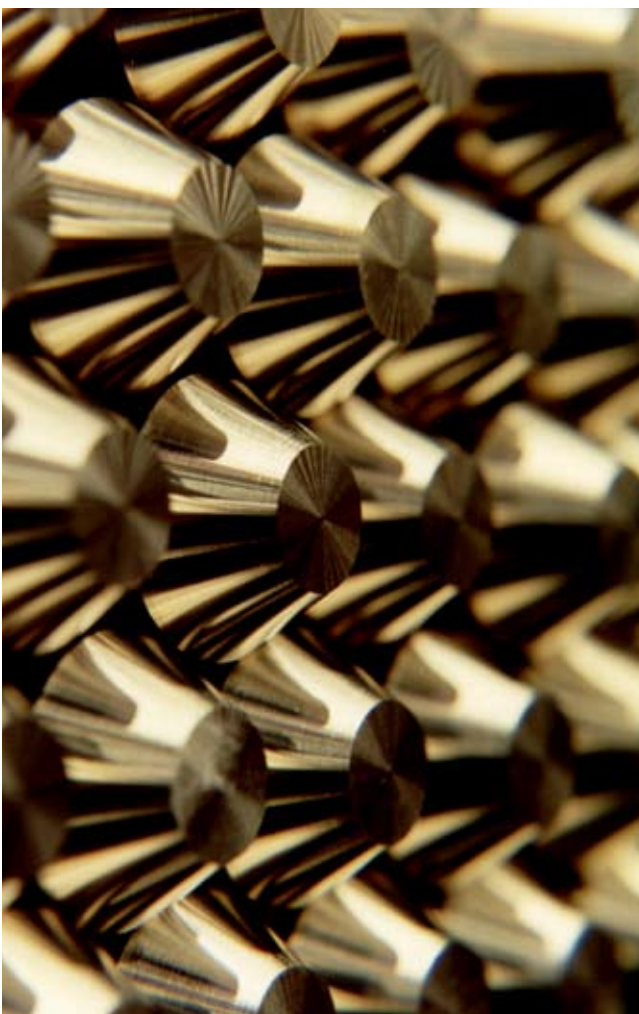
W5000 S – the precision rod in the size range 1.0 to 10 mm has been specifically designed for machining on automatic long-turning lathes at more than 10,000 revolutions per minute. Within a bundle the diameter tolerance h8 is reduced to 5  $\mu\text{m}$  and the out-of-roundness is restricted to 0.05 % of the diameter, i.e. for a 4 mm diameter rod it is max. 2  $\mu\text{m}$ . The W5000 S precision rod is drawn with diamond tools and has an improved, uniformly bright and shiny surface.



W5000 M – the classic precision rod in sizes over 10 to 50 mm is particularly suitable for machining on multi-spindle automatic lathes, its quality features being highly uniform in any one lot. For diameters up to 30 mm we supply the W5000 M rod with a tolerance h8. The permissible straightness deviation has been restricted to max. 0.5 mm/m.



W5000 L – the “large” precision rod in sizes over 50 to 80 mm has been designed to ensure smooth machining of large rotating masses. The permissible straightness deviation has also been restricted to max. 0.5 mm/m.



# W5000 – Quality and efficiency

## Distinctive quality features

### Material

- Tight alloy tolerances guarantee constant properties
- Low tool wear due to reduced impurity levels and adjusted beta content
- Fine chips as a result of homogeneous lead distribution

Material designation			Composition in %			
Wieland	EN	UNS	Cu	Zn	Pb	
Z33	CuZn39Pb3	CW614N	C38500	58	Remainder	3

### Technical delivery conditions

- End finish suitable for automated processing
- Bright drawn surfaces
- Eddy current tested on request in accordance with DK1 Data Test Sheet 791
- Manufacturer's mark

### Geometry

- Excellent straightness
- Reduced diameter tolerances
- Minimal out-of-roundness
- Constant diameters within a rod/bundle/packaging unit

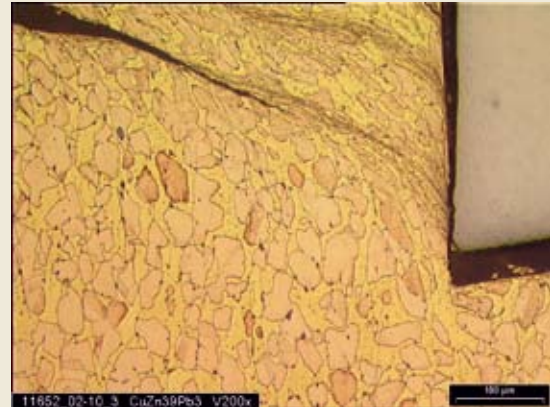
## Efficient and economic machining

It is our customers' aim to produce a high-quality product efficiently and economically. The Wieland precision brass rod W5000 meets this requirement.

	Wieland W5000 Tolerance ISO h8*	Standard rod Tolerances according to EN
Number of revolutions [1/min]	5,000	3,000
Machining time/component [sec]	17	28
Mach. hourly rate [€]	51	51
Mach. costs/component [€]	0.24	0.40
Yield [components/h]	212	127
Costs/1,250 components [€]	302	503
<b>Saving with W5000</b>	<b>201 €/100 kg</b>	

\*Straightness deviation 0.5 mm/m; example refers to diameter of 22 mm

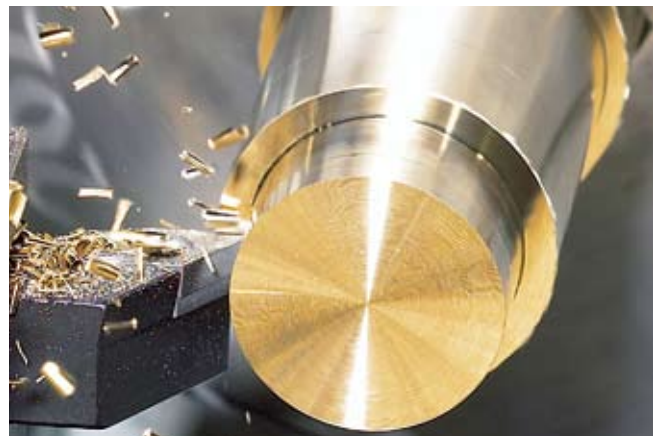
### Lead distribution



The formation of needle chips is essentially determined by a balanced ratio between alpha and beta phases with homogeneous lead distribution. Lead results in short chips, low tool wear and cutting reaction.

**“Precision pays. It is important to consider the effect of quality on processing costs.”**

*(Bruno Molinari, Sales Extruded/Drawn Products, Machining Brass)*



# W5000 – Performance characteristics

Performance characteristics W5000														08/10																			
Nom. Ø [mm]	Performance characteristics								Mechanical properties					Packing	Nom. Ø [mm]																		
	ISO tolerance [mm]	Straightness [mm/m]	Out-of-roundness [mm]	Length [mm]	Ends	Identif.	Eddy current test	Temper	R <sub>m</sub> [MPa]	R <sub>p0.2</sub> [MPa]	A [%]	HB2.5																					
1	h8	-0.014	0.5	max. 0.0035	3,000 ± 30	Chamfered/pointed acc. to EN 12164	none	On request acc. to DK1 Data Test Sheet 791	R500	≥ 500	appr. 350	≥ 5	appr. 150	Small bundles of 25 kg in wooden box	1																		
2															2																		
3															3																		
4		-0.018		max. 0.0045		3,000 ± 30	Chamfered/pointed acc. to EN 12164							W	On request acc. to DK1 Data Test Sheet 791	R500	≥ 500	appr. 350	≥ 5	appr. 150	Loose in wooden box	4											
5																						5											
6																						6											
7		h8		-0.022		0.5	max. 0.0055							3,000 ± 30	Chamfered/pointed acc. to EN 12164	W	On request acc. to DK1 Data Test Sheet 791	R500	≥ 500	appr. 350	≥ 5	appr. 150	Small bundles of 25 kg in wooden box	7									
8																								8									
9																								9									
10	h8		-0.027	0.5	max. 0.014		3,000 ± 30	Chamfered/pointed acc. to EN 12164	W	On request acc. to DK1 Data Test Sheet 791	R500	≥ 500	appr. 350		≥ 5	appr. 150							Small bundles of 25 kg in wooden box	10									
11																								11									
12																								12									
13			-0.033		max. 0.017			0.5	max. 0.017														3,000 ± 30	Chamfered/pointed acc. to EN 12164	W	On request acc. to DK1 Data Test Sheet 791	R430	≥ 430	appr. 220	≥ 10	appr. 120	Loose in wooden box	13
14																																	14
15																																	15
16		-0.062	max. 0.031		0.5	max. 0.031			3,000 ± 30					Chamfer 0.5–4.0 mm Point 5.0–15 mm			W	On request acc. to DK1 Data Test Sheet 791	R430	≥ 430	appr. 220	≥ 10		appr. 120	Loose in wooden box							16	
17																																17	
18																																18	
19	h9	-0.062	0.5	max. 0.031		3,000 ± 30	Chamfer 0.5–4.0 mm Point 5.0–15 mm			W	On request acc. to DK1 Data Test Sheet 791	R430	≥ 430	appr. 220	≥ 10	appr. 120	Loose in wooden box								19								
20																									20								
21																									21								
22	-0.10	max. 0.05		0.5			max. 0.05	3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn							W						On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	22		
23																															23		
24																															24		
25	h10	-0.10			0.5		max. 0.05		3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn							W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	25		
26																															26		
27																															27		
28	-0.16	max. 0.08	0.5			max. 0.08	3,000 ± 30			Chamfer 0.5–5.0 mm 2nd end sawn	W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20	appr. 90													Loose in wooden box	28		
29																															29		
30																															30		
31	h11	-0.16		0.5		max. 0.08		3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn	W												On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	31		
32																															32		
33																															33		
34	h11	-0.19			0.5	max. 0.095			3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn	W							On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	34		
35																															35		
36																															36		
37	h11	-0.19	0.5			max. 0.095	3,000 ± 30			Chamfer 0.5–5.0 mm 2nd end sawn	W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20	appr. 90													Loose in wooden box	37		
38																															38		
39																															39		
40	h11	-0.19		0.5		max. 0.095		3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn	W												On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	40		
41																															41		
42																															42		
43	h11	-0.19			0.5	max. 0.095			3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn	W							On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	43		
44																															44		
45																															45		
46	h11	-0.19	0.5			max. 0.095	3,000 ± 30			Chamfer 0.5–5.0 mm 2nd end sawn	W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20	appr. 90													Loose in wooden box	46		
47																															47		
48																															48		
49	h11	-0.19		0.5		max. 0.095		3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn	W												On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	49		
50																															50		
51																															51		
52	h11	-0.19			0.5	max. 0.095			3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn	W							On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	52		
53																															53		
54																															54		
55	h11	-0.19	0.5			max. 0.095	3,000 ± 30			Chamfer 0.5–5.0 mm 2nd end sawn	W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20	appr. 90													Loose in wooden box	55		
56																															56		
57																															57		
58	h11	-0.19		0.5		max. 0.095		3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn	W												On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	58		
59																															59		
60																															60		
61	h11	-0.19			0.5	max. 0.095			3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn	W							On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	61		
62																															62		
63																															63		
64	h11	-0.19	0.5			max. 0.095	3,000 ± 30			Chamfer 0.5–5.0 mm 2nd end sawn	W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20	appr. 90													Loose in wooden box	64		
65																															65		
66																															66		
67	h11	-0.19		0.5		max. 0.095		3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn	W												On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	67		
68																															68		
69																															69		
70	h11	-0.19			0.5	max. 0.095			3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn	W							On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	70		
71																															71		
72																															72		
73	h11	-0.19	0.5			max. 0.095	3,000 ± 30			Chamfer 0.5–5.0 mm 2nd end sawn	W	On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20	appr. 90													Loose in wooden box	73		
74																															74		
75																															75		
76	h11	-0.19		0.5		max. 0.095		3,000 ± 30		Chamfer 0.5–5.0 mm 2nd end sawn	W												On request acc. to DK1 Data Test Sheet 791		R360	≥ 360	max. 320	≥ 20	appr. 90	Loose in wooden box	76		
77																															77		
78																															78		
79	h11	-0.19			0.5	max. 0.095			3,000 ± 30	Chamfer 0.5–5.0 mm 2nd end sawn	W							On request acc. to DK1 Data Test Sheet 791	R360	≥ 360	max. 320	≥ 20		appr. 90						Loose in wooden box	79		
80																															80		
81																															81		

# W5000 – Completely reliable

## End finish

The W5000 Wieland precision rod is supplied with pointed and chamfered ends according to EN 12164.

## Packaging

### Size range 1 to 7.5 mm

Small bundles of approx. 25 kg (tied with cord) are packed in a wooden box lined with recyclable PE foil. Net weight: approx. 500 kg.

### Size range > 7.5 to 9.5 mm

The rods are packed loose in a wooden crate lined with recyclable PE foil. Net weight: approx. 500 kg.

### Size range > 10 mm

The rods are supplied in bundles – preferred weight approx. 500 kg. Alternatively, they are available in bundles of up to 1,000 kg. The bundles are steel strapped several times over corrugated cardboard and in order to prevent them from sliding one bundle end is wrapped in jute sacking. These specifications apply to our standard packaging. Special packaging is available on request.



## Delivery performance

Our long-term contracts with pre-material suppliers enable us to ensure continuous supply to our customers.

## Stock range

A range of approx. 70 sizes between 2 and 80 mm is constantly held in stock at our Vöhringen warehouse (to be called off via our Ulm HQ address). Please choose the required dimensions from our stock list.

## Quality management

We have been certified under DIN ISO 9002 and BS 5750 pt2 since 1987 and under ISO 9001 since 2000: 2008.

## Technical service

Our Technical Marketing experts are available to discuss any aspect of your production from the planning stage in order to find the optimum solution in partnership with you. Their know-how and expertise allow them to provide you with detailed information about properties, further processing and delivery options.

Your partner:

**Wieland-Werke AG**

**[www.wieland.com](http://www.wieland.com)**

**Extruded and Drawn Products Division**

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