

Wieland

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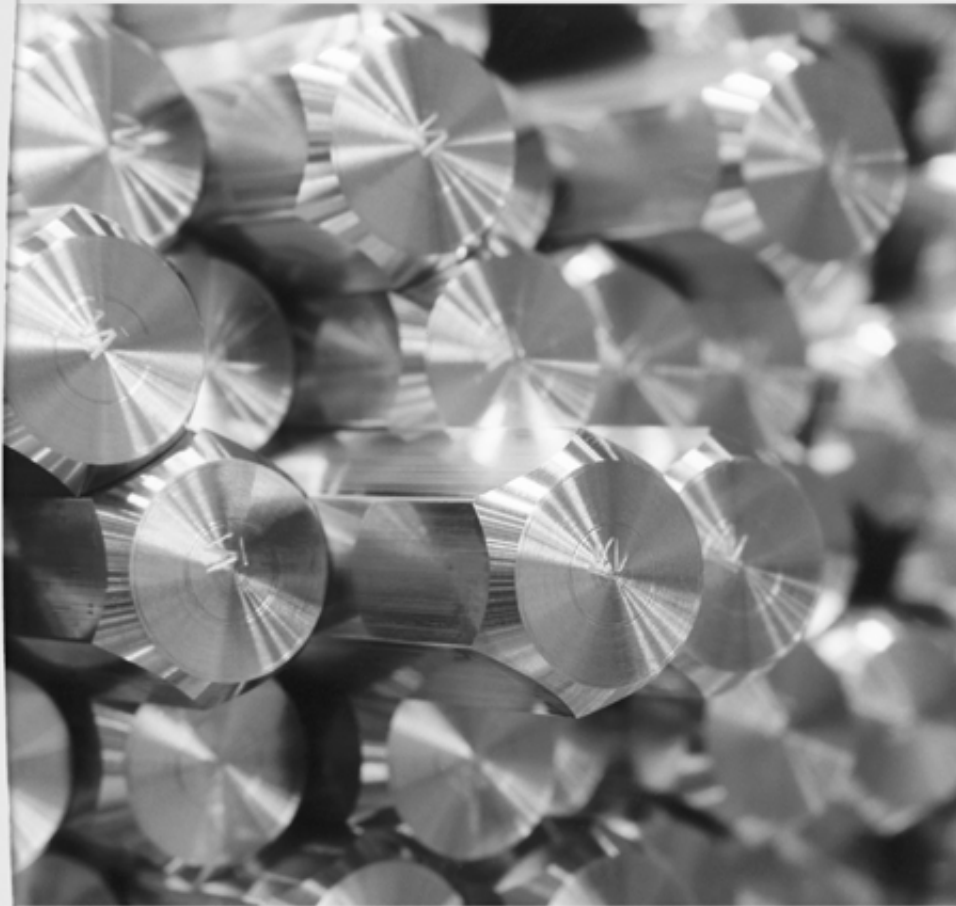
Extruded and
Drawn Products Division

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W5006 hexagonal precision rod
Wieland-Z33 (CuZn39Pb3)

W5006

The advantages

Economic efficiency is increasingly important in the present day. This also applies to traditional materials such as machining brass which has been successfully used for decades. The closer the raw material resembles the end product, the more efficient the subsequent processing.

Wieland W5006 hexagonal precision rod meets these parameters in every respect, i.e. the outer contours are precision formed. Contrary to machined polygonal cross-sections, surfaces of drawn polygonal rods have ultra smooth, flat and dense surfaces with a continuous notch resistant microstructure. Significant material savings are an additional advantage.

EN 12164 forms the basis for hexagonal rods for machining.

Quality management

We have been certified under DIN ISO 9002 and BS 5750 pt2 since 1987, under ISO 9001 since 1998 and under DIN EN ISO 9001:2000 since 2002.

Technical service

Wieland supplies quality products and aims to be an exemplary partner to its customers.

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 product properties, further processing and delivery options.

Quality features

The main quality characteristics of the Wieland W5006 precision hexagon rod are:

- Specially developed chemical compositions for polygonal rods.
- Tight alloy tolerances guarantee stable material properties.
- Good machinability through homogeneous lead distribution.
- Uniform drawn surfaces.
- Eddy current tested on request in accordance with DKI Data Test. Sheet 791 – currently in preparation, to be issued in 2003 (for widths across flat up to 30 mm).
- Width deviations across flats are much smaller than width tolerances across flats.
- Low stress – compliance according to ISO 6957 can be certified on request.
- Straightness considerably restricted compared to EN 12164 (width across flat 10 to 30 mm).
- Twist: smaller than half the values defined in EN 12164.
- End finish suitable for automated processing.
- Uniform cut lengths within a length of 3000 ± 30 mm (width across flat up to 32 mm).
- Supplier identification on rod face (width across flat 6 to 30 mm).

Material

Material designation			Composition in %			
Wieland	EN	UNS	Cu	Zn	Pb	
Z33	CuZn39Pb3	CW614N	C38500	58.5	Rest	3

Mechanical properties

Mechanical properties	Temper	
	R430 (halfhard)	R500 (hard)
Width across flat (mm)	3–35	3–10
Tensile strength R_m (MPa)	min. 430	min. 500
0.2%-proof stress (MPa)	approx. 250	approx. 390
Elongation at rupture A_5 (%)	min. 10	min. 8
Brinell hardness HB2.5/62.5	approx. 120	approx. 150

Temper „M“ according to EN 12164 applies to rods with width across flat from 36 mm.

Dimensions and tolerances

Size range (a/fl. in mm)	Tolerance (mm)
3	- 0.06
> 3 up to 6	- 0.08
> 6 up to 10	- 0.09
> 10 up to 18	- 0.11
> 18 up to 30	- 0.13
> 30 up to 50	- 0.16
> 50 up to 60	- 0.19

Length tolerances

For widths across flat up to 32 mm we supply cut lengths up to a length of 3.000 mm \pm 30 mm. For larger widths across flat we can also supply cut lengths up to a length of 3.000 mm \pm 100 mm. The definitions of EN 12164 apply to other lengths.

(Note: cut lengths are lengths of equal size within sawn lot.)

Edge radii

On request sharp-edged or with radii according to EN 12164. Sharp edges are our standard version for widths across flat up to 30 mm.

Straightness

Deviation from straightness (camber) is smaller than 1 mm/m (width across flat 10 to 30 mm) resp. 1.5 mm/m (width across flat over 30 to 60 mm).

Twist

For the twist, measured according to EN 12164, we guarantee values smaller than half the limit values defined in EN 12164.

End finish

Wieland W5006 hexagonal precision rod is supplied with the following standard end finish:

Size range (width across flat in mm)	End finish
3 to 16	Point and chamfer according EN 12164
> 16 to 32	One end chamfered according to EN 12164, one end cut
> 32	Both ends cut

According to EN 12154 the point is specified as $0.6 \leq d / a/fl. \leq 0.8$, the chamfer as $0.85 \leq d / a/fl. \leq 0.95$ (d = diameter of the point/chamfer, a/fl. = width across flat).

The chamfered end of the rod is additionally flattened. Other end finishes to be agreed on request (not available ex stock).

General

Packaging

Rods with widths across flat of up to 10 mm are packed in a wooden box of total approx. 500 kg: Rods with widths across flat of over 10 mm are preferably supplied in bundles of approx. 1000 kg, but smaller bundles of up to approx. 500 kg are also available. The bundles are steel strapped several times over corrugated cardboard.

Stock range

A range of over 30 sizes with widths across flat from 4 to 60 mm is constantly held in stock at our Vöhringen warehouse. Please choose the required dimensions from our stock list.

Additional polygonal rods and sections

All polygonal and rectangular rods we offer meet the a.m. quality standards. We will advise you regarding tighter standards, if necessary.

On request the profile can be supplied with individual cross-sections coming even closer to the final shape of the product.