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Material Datasheet:
CuZn40Pb1Al
(CW616N)

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HOT STAMPING BRASS RODS

CuZn40Pb1Al

**Alloy for
hot
stamping**

CuZn40Pb1Al alloy combines some machinability with excellent hot working properties, which makes it suitable for parts that need some posterior machining operations.

MATERIAL DESIGNATION

ASBW	International	EN	UNS	JIS	Further Restrictions
B5	CuZn40Pb1Al	CW616N	C37710	C3771	-

REFERENCE CHEMICAL COMPOSITION IN % (MAIN ELEMENTS) *

Material	Cu	Pb	Ni	Fe	As	Sn	Al	Bi	Zn	Other elements
B5	58,0	1,5	0,1	0,1	-	0,1	0,2	-	Rem.	≤ 0.2 %

* Deviations from these values may occur within the restrictions of the relevant standard specifications.

FABRICATION PROPERTIES

FORMING

Machinability (CuZn39Pb3 = 100 %)	85 %
Cold Workability	Fair
Hot Workability	Excellent

JOINING

Resistance Welding (Butt Welding)	Fair
Inert Gas Shielded Arc Welding	Not Recommended
Gas Welding (Most Commonly Oxyacetylene)	Not Recommended
Hard Soldering	Fair
Soft Soldering	Excellent
Brazing	Fair

POLISHING

Mechanical	Excellent
Electrolytic	Fair
Electroplating	Excellent

HEAT TREATMENT

Melting Range	880 – 900 °C
Hot Working	680 – 730 °C
Soft Annealing	420 – 580 °C Duration: 1 – 3 h
Thermal Stress Relieving	180 – 280 °C Duration: 1 – 3 h

PRODUCT STANDARDS

Rods	EN 12165
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CORROSION RESISTANCE

Machining brass is quite resistant to organic substances and to neutral or alkaline compounds. In comparison, homogeneous α -brass has a much more satisfactory corrosion resistance due to its microstructure. As for the stress corrosion cracking and dezincification, specially under conditions as warm, acidic waters and ammoniacal atmospheres, they should be taken into consideration, even more when the material is not under a stress relieved condition.

Physical properties*

Material Density [g/cm ³]	Electrical Conductivity		Thermal Conductivity [W/(m.K)]	Thermal Expansion Coefficient (0 – 300 °C) [10 ⁻⁶ /K]	Modulus of Elasticity [GPa]
	[MS/m]	[% IACS]			
8,42	14,07	27	118	20,9	103

* Refence values at room temperature

Mechanical properties

Rods					acc. to EN 12165	
Temper	Diameter		Hardness HB			
	from [mm]	to [mm]	min.	max.		
M	all		As manufactured			
H080	8	120	80	125		

FINISHING AND PACKAGING

Bar ends	Marked according to customer's specification
Bar surface	Standard stamping rods: Uniform surface
Packaging	Size range up to 10 mm: The rods are packed loose in a wooden box and protected with oiled paper (net weight of approx. 500 kg). Each box is strapped with 4 steel straps to ensure material integrity during shipping. Size range > 10 mm: ASBW machining rods are supplied by standard in bundles either of approximately 1.000 kg or 500 kg. Different bundle weights are also possible upon customer's request. Each bundle is steel strapped three times on cardboard and both ends are protected with litter, to ensure the material integrity during the transportation
Identification	Adhesive label on bundle strap: customer <ul style="list-style-type: none">- number of customer's order- EN Standard of the material- ASBW material code and LOT number ensuring production tracking- rod length- ASBW's PO number- ASBW's Quality Approval Seal

The technical information within this datasheet is provided by ASBW without any surcharge.
The end use of this content is up to the user discretion and risk.
For further detailing on technical aspects such as material condition, machining, mechanical data, temper selection through contact to our technical personal.



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