



.....

**Material Datasheet:**  
**CuZn37**  
**(CW508L)**

.....

STAMPING BRASS RODS

# CuZn37

**Low Lead Alloy  
for hot  
stamping rods**

**CuZn37 alloy integrates the 4MS Composition List of accepted metallic materials to be in contact with drinking water.**

**It is commonly used for hot stamping process due to its excellent hot working properties and has excellent cold workability.**

## MATERIAL DESIGNATION

ASBW	International	EN	UNS	JIS	Further Restrictions**
B19	CuZn37	CW508L	C27200	C2800	4 MS Common Approach, Part B

## REFERENCE CHEMICAL COMPOSITION IN % (MAIN ELEMENTS) \*

Material	Cu	Pb	Ni	Fe	As	Sn	Al	Bi	Zn	Other elements
B19**	63,0	0,1	0,2	0,1	-	0,1	0,03	-	Rem.	≤ 0.1 %

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

\*\* ASBW / B19 complies with the restrictions to the chemical composition of the signed materials in the table, according to the specified in the 4 MS Common Composition List on customer request.

## FABRICATION PROPERTIES

### FORMING

Machinability (CuZn39Pb3 = 100 %)	35 %
Cold Workability	Excellent
Hot Workability	Good

### JOINING

Resistance Welding (Butt Welding)	Good
Inert Gas Shielded Arc Welding	Fair
Gas Welding (Most Commonly Oxyacetylene)	Fair
Hard Soldering	Good
Soft Soldering	Excellent
Brazing	Excellent

### POLISHING

Mechanical	Good
Electrolytic	Poor
Electroplating	Excellent

## HEAT TREATMENT

Melting Range	890 – 910 °C
Hot Working	730 – 830 °C
Soft Annealing	420 – 630 °C Duration: 1 – 3 h
Thermal Stress Relieving	160 – 280 °C Duration: 1 – 3 h

## PRODUCT STANDARDS

Rod	EN 12165
Section	EN 12167

## CORROSION RESISTANCE

Machining brass is quite resistant to organic substances and to neutral or alkaline compounds. In comparison, homogeneous  $\alpha$ -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 <sup>3</sup> ]	Electrical Conductivity		Thermal Conductivity [W/(m.K)]	Thermal Expansion Coefficient (0 – 300 °C) [10 <sup>-6</sup> /K]	Modulus of Elasticity [GPa]
	[MS/m]	[% IACS]			
8,44	15,75	27	122	20,4	110

\* Refence values at room temperature

## Mechanical properties

Round rods					acc. to EN 12165	
Temper	Diameter		Hardness HB			
	from [mm]	to [mm]	min.	max.		
M	all		as manufactured			
H070	8	120	70	100		

## Rectangular rods

Rectangular rods											acc. to EN 12167	
Temper	Thickness		Tensile strength Rm MPa min.	Yield strength Rp0.2 MPa min.    MPa max.		Elongation			Hardness HB			
	from [mm]	to [mm]		A100 [%] min.	A11.3 [%] min.	A [%] min.	min.	max.				
	M	all		as manufactured – without specified mechanical properties								
R290	3	20	290	-	230	30	40	45	-	-		
H050	3	20	-	-	-	-	-	-	50	100		
R370	3	10	370	240	-	10	12	12	-	-		
H085	3	10	-	-	-	-	-	-	85	130		
R460	3	4	460	330	-	4	6	-	-	-		
H105	3	4	-	-	-	-	-	-	105	145		

## FINISHING AND PACKAGING

Bar ends	<b>Marked according to customer's specification</b>
Bar surface	<b>Standard machining rods: bright, stripped surface</b> <b>Standard stamping rods: Dark and uniform surface</b>
Packaging	<b>Size range up to 10 mm:</b> <b>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.</b>  <b>Size range &gt; 10 mm:</b> <b>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</b>
Identification	<b>Adhesive label on bundle strap:</b> <ul style="list-style-type: none"><li>- customer</li><li>- number of customer's order</li><li>- EN Standard of the material</li><li>- ASBW material code</li><li>- rod length</li><li>- ASBW's PO number</li><li>- ASBW's Quality Approval Seal</li></ul>

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.



BARBOSA WORLD BRASS, S.A

Main office and factory: Rua de Sousanil, 476, 4525-100 Canedo VFR, Santa Maria da Feira - Portugal  
Phone: +351 227 637 040  
Email: [asbw@asbw.pt](mailto:asbw@asbw.pt)  
NIPC: 515 557 552  
Social Capital: € 350.000