

Material Datasheet: CuZn33Pb1.5AlAs (CW626N)

MACHINING / HOT STAMPING BRASS RODS

CuZn33Pb1.5AIAs

Dezincification resistant alloy for machining

CuZn33Pb1.5AlAs alloy integrates the 4MS Composition List of accepted metallic materials to be in contact with drinking water. It is ideal for manufacturing parts to be in contact with drinking for which dezincification resistance is also a requirement.

MATERIAL D	DESIGNATION				
ASBW	International	EN	UNS	JIS	Further Restrictions*
B28	CuZn36Pb1.5AlAs	CW626N	-	-	4 MS Common Approach, Part B

REFEREN	ICE CHE	MICAL	сомро	SITION	IN % (M	AIN ELE	MENTS)		
Material	Cu	Pb	Ni	Fe	As	Sn	AI	Mn	Zn	Other elements
000	Min.64,0	1,2	-	-	0,02	-	0,8	-	Dama	
B28	м á x.66,0	1,7	0,2	0,3	0,15	0,3	1,0	0,1	Rem.	≤ 0.2 %

* ASBW / B28 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 %)	%
Cold Workability	Fair
Hot Workability	Good
JOINING	
Resistance Welding (Butt Welding)	Not recommended
Inert Gas Shielded Arc Welding	Not recommended
Gas Welding (Most Commonly Oxyacetylene)	Not recommended
Soldering	Good

**Dezincification resistance is achieved through a β -phase-free microstructure. Therefore, a 550 °C/4h heat treatment of the parts is recommended after stamping or any other operation that require an exposure of the brass rods to high temperatures.

HEAT TREATMENT	
Melting Range	875 - 920 ℃
Hot Working	700 - 800 °C
Soft Annealing	450 - 550 ℃ Duration: 1 - 3 h
Thermal Stress Relieving	200 - 300 °C Duration: 1 - 3 h

PRODUCT STANDARDS	
Rod	EN 12164 EN 12165
Section	EN 12167

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. On manufactured parts a soft annealing may be necessary to ensure optimal dezincification resistance.

Physical properties*

Material Density [g/cm³]	Electrical C [MS/m]	onductivity [% IACS]	Thermal Conductivity [W/(m.K)]	Thermal Expansion Coefficient (0 - 300 °C) [10 ⁻⁶ /K]	Modulus of Elasticity [GPa]
8,40	14,00	23	105	20,5	98

* Refence values at room temperature

Mechanical properties Round rods/polygonal rods acc. to EN 12164 Tensile strength Yield strength Elongation Hardness Width across Diameter flats Rm Rp0.2 A100 A11.3 Α HB Temper from to from to MPa MPa MPa [%] [%] [%] [mm] [mm] [mm] [mm] min. min. max. min. min. min. min. max. Μ all all as manufactured - without specified mechanical properties _ -R280 6 80 5 60 280 200 _ 25 30 _ H070 6 80 5 60 _ _ _ _ _ 70 110 _ 5 _ -R320 6 60 50 320 200 _ 15 20 H090 6 60 5 50 _ _ _ _ 90 135 _ R400 4 15 2 13 400 250 5 8 -_ H105 2 105 4 15 13 _

Rectang	ular rods							ac	c. to EN	12167
	Thickness		Tensile strength	Yield s	trength		Elongation		Hard	ness
Temper		liess	Rm	Rp	0.2	A100	A11.3	Α	н	В
remper	from	to	MPa	MPa	MPa	[%]	[%]	[%]		
	[mm]	[mm]	min.	min.	max.	min.	min.	min.	min.	max.
М	a	all as manufactured - without specified		as manufactured - without spec			ied mechar	ical prop	erties	
R280	3	20	280	-	200	20	25	30	-	-
H070	3	20	-	-	-	-	-	-	70	110
R320	3	20	320	200	-	10	15	20	-	-
H090	3	20	-	-	-	-	-	-	90	135
R400	3	10	400	250	-	2	5	8	-	-
H105	3	10	-	-	-	-	-	-	105	-

Rods				acc. to EN 12165	
	Diame	ater	Hardness		
Temper	Diamo		HB		
	from [mm]	to [mm]	min.	max.	
М	all		As man	ufactured	
H070	8	120	70	110	

Bar ends	Marked according to customer's specification
Bar surface	Standard machining rods: bright, stripped surface Standard stamping rods: Dark and 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 costumer'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 - 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

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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



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 NIPC: 515 557 552 Social Capital: € 350.000