



.....

**Material Datasheet:**  
**(C89540)**

.....

**BRASS INGOTS**

# C89540

## Standard low-lead alloy

**C89540 is the benchmark material for the sanitary industry for non-lead alloys. Bismuth is not known to be toxic to humans and the addition of this element grants a very good machinability resulting in an excellent surface finish on the pieces. Also is in accordance of Safe Drinking Water Act by EPA.**

### MATERIAL DESIGNATION

ASBW	International	EN	UNS	JIS	Further Restrictions
L09	C89540	-	-	-	-

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

Material	Cu	Pb	Ni	Fe	As	Sn	Al	Bi	Zn
L09	60,0	0,05	0,1	0,1	-	0,1	0,6	0,7	Remainder

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

### TYPICAL MICROSTRUCTURE

- L09 ( $\alpha$ -phase brighter +  $\beta$ -phase darker):



## FABRICATION PROPERTIES

### FORMING

Machinability (CuZn39Pb3 = 100 %)	75%
Castability	Excellent

### JOINING

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

### POLISHING

Mechanical	Good
------------	------

## WORK TEMPERATURE/HEAT TREATMENT

Smelting Range	980 - 1050 °C
----------------	---------------

## PRODUCT STANDARDS

Ingot	EN 1982
-------	---------

## 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]			
8,47	14,63	25	114	20,3	115

\* Refence values at room temperature

## FINISHING AND PACKAGING

Pallet numbering	Identified in the label attached to each pallet
Sampling	Possibility of shipment of the brass ingot with one polished sample either per pallet or per melting charge with the respective microstructure picture, upon customer's request and agreement.
Packaging	<p>The ASBW brass ingots are shipped in wooden euro pallets.</p> <p>There standard type of pallet building configuration and weight is three complete rows of ingots, with a total weight between 1100 and 1200 Kg</p> <p>Each pallet is protected with a polymeric net all around and steel strapped five times to ensure a secure shipment and material integrity during the transportation.</p> <p>Different packaging weights and row configuration possible upon customers request and agreement.</p>
Identification	<p>Adhesive label on bundle strap:</p> <ul style="list-style-type: none"><li>- Customer</li><li>- Number of customer's order</li><li>- EN Standard of the material</li><li>- Alloy identification (International and EN)</li><li>- ASBW material code and LOT number ensuring production tracking</li><li>- Ingot dimensions</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