



Brass Ingots for Optimum Smelting Results



*The satisfaction of our customers' requests is the
guarantee of our high standards compliance and
quality consistency*



Tailoring the best solutions

ASBW brass ingots have been the ideal solution for our customers to obtain outstanding results in smelting sanitary valves and fittings with high geometric complexity, meters and valves, pumps, impellers, water supply faucets, among other complex parts with demanding mechanical characteristics.

Through decades of investigation, development and expertise, allied with an endless chase for improvement and product competitiveness, based on the quality of the alloys and the flexibility of their production, it was possible to develop the chemical compositions of **ASBW** brass ingots, providing to our customers the desired solutions to achieve the aimed results for their production processes, minimizing chemical composition adjustments and slag production.

Within the entire range of **ASBW** brass ingots, you can find the best fitting to what your production process needs, ensuring since the very beginning the integrity and the aimed properties for the parts:

Top quality after polishing

Resistance to aggressive environments

High mechanical strength

High wear resistance

High machinability

Remarkable electrical conductivity

Accordance with the latest specifications for the sanitary industry regarding environmental issues

Compliance to the latest legislations

Smelted to customer's measure

All **ASBW** products are thought, projected and developed to fit and exceed customer's expectations, offering excellent, highly stable casting and moulding behaviour, perfectly fitted to the typology of the parts to be produced and the casting technique used at customer's facilities:

- Low pressure die casting
- High pressure die casting (injection)
- Gravity casting

Compliance with the latest standards requirements

To fully meet the latest requirements of the drinking water standard 4 MS Common Composition List, **ASBW** has a wide range of solutions:

- **ASBW / L01**
- **ASBW / L03**
- **ASBW / L07**

Distinguishing parameters

ASBW raw materials derivate mainly from metal recovery facilities and are rigorously inspected and categorized, promoting this way both a sustainable development and precision in chemical composition and metallurgical properties of the brass ingots produced.

The brass ingots produced at **ASBW** are consistent with the requirements aimed by our customers for their parts:

- Precise chemical composition
- Excellent filling of the mold cavities
- Enhanced metallurgical properties, leading to a refined grain size, enabling the production of parts with complex geometries
- Optimum response of the parts to the finishing steps, like polishing and surface treatment, ensuring lower scrap rates after the added value to the parts
- Perfect compromise between aesthetics and mechanical properties

Market applications

ASBW's range of brass ingots answer to the most diverse and demanding parameters for all the utmost complex applications for multiple industries:

- Motor vehicle industries
- Electrical, Gas and Oil industries
- Water faucets and fittings industries
- Decorative and artistic objects

Quality setting and inspection

At **ASBW**, our quality standard setting starts at the raw materials reception and selection, to ensure the high standards compliance.

For each melting charge, there is a strict control, not only of the chemical composition, but also the α -phase content, hardness, tensile strength and elongation. Through this solid process of sampling and inspection, it is possible to ensure a refined and homogeneous microstructure as well as the mechanical properties.



Reference of the **ASBW / L02** homogeneous and refined microstructure



Material

- All available alloys (Further alloys or restrictions to the alloys within this table are possible upon customer's request):

Material Designation						Reference Chemical Composition in %(p/p) (Main Elements) ***													
ASBW	International	EN*	UN S	JIS	FURTHER RESTRICTIONS**	Cu	Pb	Ni	Fe	As	Sn	Al	Bi	Mn	P	Si	Sb	Zn	
Lead Containing Alloys	L01**	CuZn39Pb1Al	CB757S (CC757S)*	-	-	4 MS Common Approach, Part B	60,5	1,2	0,1	0,2	-	0,2	0,6	-	0,04	-	-	-	Rem.
	L02**	CuZn39Pb1AlB	CB755S (CC755S)*	-	-		59,5	1,3	0,1	0,2	-	0,2	0,6	-	-	-	-	-	Rem.
	L03***	CuZn36Pb	CB770S (CC770S)*	-	-	4 MS Common Approach, Part B	62,0	1,4	0,1	0,2	0,1	0,2	0,6	-	-	-	-	-	Rem.
	L04	CuZn37Pb2Ni1 AlFe	CB753S (CC753S)*	-	-	-	59	2,0	0,7	0,7	-	0,3	0,6	-	-	-	-	-	Rem.
	L05 ^a	CuZn35Pb2Al	CB752S (CC752S)*	-	-	-	62	1,8	0,1	0,2	0,1	0,2	0,6	-	-	-	-	0.05	-
	L06	CuZn39Pb1Al	CB754S (CC754S)*	-	-	-	59	2,0	0,3	0,7	-	0,3	0,6	-	-	-	-	-	Rem.
	L07 ^a	CuZn36Pb1AlA sSb	CB772S (CC772S)*	-	-	4 MS Common Approach, Part B	63	0,8	0,1	0,1	0,03	0,2	0,6	-	-	-	-	0,04	-
Low Lead Alloys	L08	CuZn40Al0,5Pb 0,07 ^b	According to SDWA of EPA****	-	-	-	60	0,05	0,1	0,1	-	0,1	0,5	-	0,04	-	-	-	Rem.
	L09	CuZn40Bi0,7Al 0,5Pb0,1 (***) ^b	According to SDWA of EPA****	C89 540	-	-	60	0,1	0,1	0,2	-	-	0,5	0,7	-	-	-	-	Rem.
	L10	CuZn40Sn0,3 ^b	According to SDWA of EPA****	-	-	-	62	0,2	0,1	0,2	0,07	0,3	0,5	-	-	0,05	-	-	Rem.
	L11	CuZn40AlPb0,2 ^b	According to SDWA of EPA****	-	-	-	60	0,2	0,1	0,1	-	0,1	0,5	-	0,04	-	-	-	Rem.
	L12	CuZn40Al0,6Pb 0,1P0,08Si0,05 ^b	According to SDWA of EPA****	-	-	-	60	0,1	0,1	0,1	-	0,1	0,6	-	0,04	0,08	0,04	-	Rem.

* The material symbol designation is based on the designation system given in ISO 1190-1. A "CB" is added to the designation to identify material in the form of ingots and a "CC" is added to the designation to identify material in the form of castings. These distinctions serve to avoid confusion with wrought products of a similar alloy.

** ASBW L01, L03 and L07 ingots are the raw material for cast components of CC757S, CC770S and CC772S respectively. These alloys comply 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. For these cases, on the ordering information must be specified the reference for DW (drinking water). This information is mandatory in the cases which the product is used in drinking water applications according to the 4 MS Common Composition List and not to be given in the other cases.

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

**** Environment Protection Agency (EPA), Safe Water Drinking Act (SDWA) - ANSI/NSF Standard 61 and Copper Development

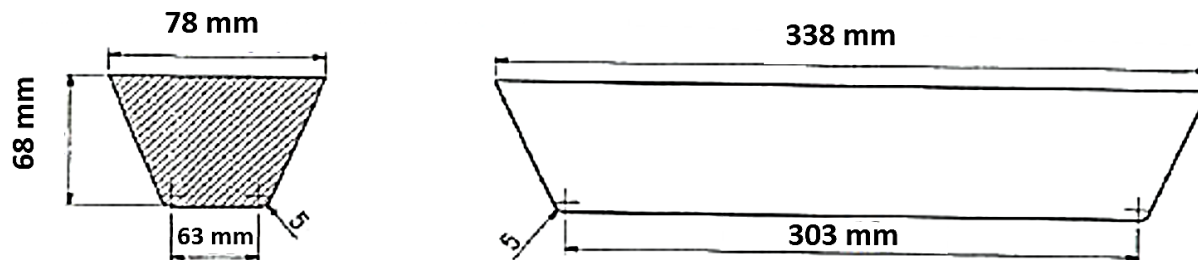
^a Dezincification resistant alloys, achieved through a β -phase free microstructure.

^b Internal designation.



Geometric and Mechanical properties

ASBW brass ingots are supplied under a standard shape and dimensions:



The weight of each ingot is comprised between a minimum of 10 Kg and a maximum of 12 Kg.

Tight tolerances in weight and dimension along with a strict control and selection of the brass ingots, enable a successful automatic feeding of the production process, without any breakdown, maximizing the process efficiency already proven by our customers.

ASBW Material Designation	Material Properties of best selling alloys						
	Tensile Strength Rm (N/mm ²)	Elongation A (%)	Hardness (HBW)	Polishing	Dezincification Resistance Depth (mm)	Average Grain Size (mm)	Microstructure
L01	> 400	> 15	> 90	Good	-	< 0,100	Refined
L02	> 350	> 13	> 90	Good	-	< 0,100	Refined
L03	> 280	> 10	> 70	Good	< 0,200	< 0,100	Refined
L06	> 350	> 15	> 70	Reasonable	-	< 0,150	Refined
L09	> 250	> 10	> 60	Good	-	< 0,100	Refined

Processing information

Recommended smelting temperature ranges for the most relevant alloys:

- | | |
|---------------------|-----------------------|
| • ASBW / L01 | 950 – 1020 °C |
| • ASBW / L02 | 950 – 1020 °C |
| • ASBW / L03 | 1050 – 1100 °C |
| • ASBW / L06 | 900 – 1020 °C |
| • ASBW / L09 | 980 – 1050 °C |

To obtain the best results, **ASBW** brass ingots are tailored made in terms of chemical composition and grain refinement for its final customer and the end use of the parts. This way, substantial additions to the alloy at customers facilities are avoided, thus promoting enhanced results and process efficiency.

Packaging

The **ASBW** brass ingots are shipped in euro pallets. The standard type of pallet building configuration consists in three complete rows of brass ingots, with a total weight between 1100 and 1200 Kg.

Technical service

At **ASBW** we see our customers as business partners. Considering that, we supply not only brass ingots but also our expertise and technical know-how that results from decades of experience and research. Our commitment is on-time discussion of any aspect of your production from the planning stage, providing you with detailed information about product properties, further processing and delivery options.

Labeling

To ensure the traceability according to NP EN ISO 9001:2015, each wooden euro pallet is marked with a label indicating the details mentioned below:

- Customer
- Number of customer's order
- EN Standard of the material
- Alloy identification (International and EN)
- Ingot dimensions
- **ASBW** material code
- **ASBW's** PO number
- **ASBW's** Quality Approval Seal

Quality and environment

ASBW has a certified quality management system in place according to EN ISO 9001:2015 and is committed to its customers in continuously improve the quality of production.

Environment is a concern and global responsibility, to which **ASBW** is compliant with. **ASBW** adopts a policy of Social Responsibility, reducing the environmental impact of its activities. Believing in the compatibility between technological progress and environmental preservation, we are licensed at environmental level with APA (Environmental Agency) license number 86120.

