STAR® alloys

Tin- and lead-based Babbitt alloys are used to coat bushing bearings for diesel engines, turbines, rolling stock, pumps, presses and various industrial machines. Our Babbitt metals are all made from high quality metals and their composition is strictly controlled using modern analytical techniques. The METACONCEPT Group offers a complete range of specific alloys in small and large ingots, bars and wires.

Have you defined the type of application, the load, the bearing's dimensions and the shaft's rotation speed? Our technical staff will be happy to assist you in deciding which Babbitt alloy to choose. Contact us.

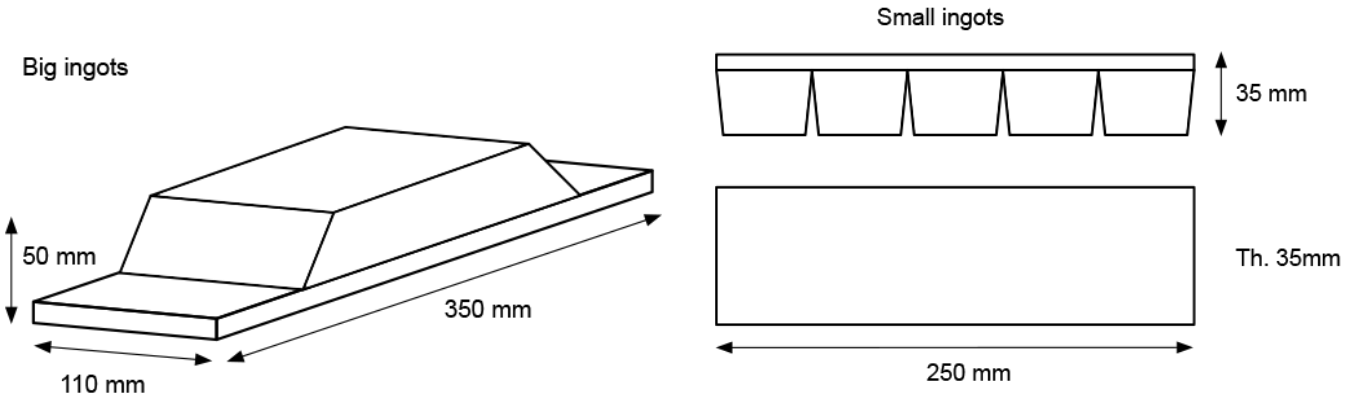
In addition, the METACONCEPT Group collects used baths, off-cuts, scraps and white metal oxides.
Contact our recycling department to find out more.

Characteristics

This table shows the most commonly used Babbitt alloys.

Item no.	Designation	Form	Solidus / Liquidus	Density g/cm3	Brinell* hardness	Casting T°
FB200301	STAR® CAB Babbitt	Small stamped ingot	238°C - 343°C	10.25	18 to 15° 6.7 to 100°	360°C to 400°C
MB201590	STAR® LAMINOIR N°4 Babbitt code 201	Large stamped ingot	238°C - 414°C	9.75	38.2 to 15° 11.2 to 100°	460°C to 550°C
MB202590	STAR® MRS Babbitt code 202	Large stamped ingot	239°C - 418°C	9.7	38.2 to 15° 11.2 to 100°	445°C to 550°C
FB111300	STAR® OH AVIATION Babbitt code 111	Small stamped ingot	238°C - 333°C	7.32	25 to 15° 12 to 100°	355°C to 405°C
MB112590	STAR® DIESEL 88 Babbitt code 112	Large stamped ingot	238°C - 344°C	7.38	27.2 to 15° 14.1 to 100°	370°C to 410°C
MB113590	STAR® DIESEL L Babbitt code 113	Large stamped ingot	235°C - 351°C	7.35	35 to 15° 14.5 to 100°	390°C to 480°C
MB100593	STAR® T81 Babbitt	Large stamped ingot	235°C - 355°C	7.35	28 to 15° 9.5 to 100°	NC
MB106590	STAR® WM80 Babbitt code 106	Large stamped ingot	183°C- 400°C	7.51	32 to 15° 15 to 100°	390°C to 450°C
MB100594	STAR® JA Babbitt	Large stamped ingot	235°C - 380°C	7.34	41 to 15° 13 to 100°	480°C to 530°C

(*) 500 kg load, 10 mm block, 15 sec



Dimensions and weights are given for informational purposes only and may vary depending on the production run.

Applications

Name	Designation	Uses
CAB Babbitt	Lead-based, copper-free alloy	Specially designed for seasoning cable ends
Laminoir N°4 Babbitt code 201	Lead-based alloy	Machines working under heavy loads with repeated shocks and at slow speeds (rolling machine, mill, crusher, etc.)
MRS Babbitt code 202	Lead-based alloy	Corresponding to a very wide scope of use Bearings of heavy machinery, low speeds and heavy loads
OH AVIATION Babbitt code 111	Alloy with 90% tine, guaranteed lead-free*	Machines operating at high speeds and with heavy loads (connecting rod head, thin bearings, fast car engines, turbine reducers, etc.)
STAR DIESEL L 88 Babbitt code 112	Alloy with 88% tine, guaranteed lead-free*	Marine diesel engines (SULZER approved), rail traction equipment, electric motors, turbines, other high speed motors, etc.)
STAR DIESEL L Babbitt code 113	Alloy with 81% tine, guaranteed lead-free*	Diesel and electric motors, bearings for hydraulic turbines when the expected thickness of the metal is greater than 6/10 mm
WM80 Babbitt code 106	Alloy with 80% tin	All bearings operating at high speeds with medium loads and all uses requiring a high tin content alloy in standard operating conditions
STAR® T81 Babbitt	Alloy with 81% tin	Bushing or shaft bearings, when the operating conditions are average; steam turbine idler bearings
STAR® JA Babbitt	Alloy with 81% tin, lead-free*	Machines operating at high speeds and with heavy loads, connecting rod heads, thin bearings, turbines, ALSTOM JEUMONT POWER approved

(*) Lead-free alloys - European standard no. 2000 / 53 / CE

Complementary products and accessories

Item no.	Designation	Packaging	Uses	Special characteristics
SO001000	ETAMALLOY® powder	1 kg box	For tinning bases before babbitting Particularly effective with bases that are known to be difficult to tin, such as special steels and even cast iron.	ETAMALLOY® trademark
SO001002	ETAMALLOY®SN63 paint	1 kg box	For tinning bases before babbitting	ETAMALLOY® trademark
SO001001	ETAMALLOY®SN100 paint	1 kg box	For tinning bases before babbitting	ETAMALLOY® trademark
FO100000	Copper phosphorous	50 kg box of shots	For mixing the Babbitt alloy	NC
UN100000	ETAMALLOY® cement	1 kg box	To prevent leakage of the alloy during casting, it is necessary to ensure the watertightness of the assembly using ETAMALLOY® cement..	ETAMALLOY® trademark
EG001003	ETAMALLOY® flux	6 kg can	Brazing flux to be applied just prior to tinning. The base must be cleaned (degreased and pickled)	ETAMALLOY® trademark
FB710001	ETAMALLOY®33 rod	Box of 16 rods	33% tin-lead alloy for assembly repairs	ETAMALLOY® trademark
FB710005	ETAMALLOY®80 rod	Box of 16 rods	80% tin-lead alloy for assembly repairs	ETAMALLOY® trademark
MF100189 MF100176	Solid Babbitt wire Sn89 – Sb7.5 – Cu3.5 – Ø 1.6 mm and 3.2 mm	10 kg DIN spool	For external metallic projection (metal spraying)	NC
ON REQUEST	Solid Babbitt wire Ni95 – Al5 Ø 1.6 mm and 3.2 mm	10 kg DIN spool	For external metallic projection (metal spraying)	NC

Implementation

The product safety information sheet below is available upon request from the METACONCEPT Group.

The implementation procedure is specific to the alloy and its application. Contact the METACONCEPT Group's sales department who, after you've selected the Babbitt alloy, will provide the appropriate implementation sheet.

Precautions for use

To prevent burns caused by the molten metal, it is advisable to wear a protective apron, shoes, gloves, helmet and glasses.
Do not smoke at the workstation.
The workstation must be well ventilated.
Wash your hands when leaving the workstation.

Comments:
Always use a flux suited to the intended use. Contact our technical department to ascertain which product is most suited to your application.

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