

Microalloyed lead free solders
Good wetting properties
Smooth and shiny surface
Reduced copper leaching
Significantly diminished dross formation

Description

TAMURA ELSOLD SN100 MA-S solders are designed to replace commercially available tin/lead alloys by lead-free alloys in existing production processes of electronic manufacturing with the pretension to improve properties of lead-free alloys. TAMURA ELSOLD SN100 MA-S solder provide all the advantages of Ni, Ge micro-alloyed solder alloys with the additional benefit of high stability and low dross rates.

Application

As it is the case for lead-free alloys, changes of the temperature profile at the soldering equipment are required for TAMURA ELSOLD SN100 MA-S solders as well. Typical soldering temperatures are in the range of 255 – 265 °C (up to 320 °C for selective soldering). The quality of the resulting solder joints is in many aspects comparable to traditional SnPb and all conventional lead free solders. In some respect TAMURA ELSOLD micro alloyed lead free solders exceed quality of SnPb solders.

Physical properties are not changed by the micro-alloy additions. The differences between non-micro-alloyed and TAMURA ELSOLD SN100 MA-S are as follows:

- Finer grains, resulting in smoother and shinier surface, caused by changed solidification behaviour.
- Reduced copper leaching
- Extended useful life of the solder baths due to reduced copper absorption
- Reduced wear on the soldering equipment
- Much lower cost, significantly diminished dross formation

TAMURA ELSOLD SN100 MA-S solders are designed especially for first filling of wave soldering machines. For refilling TAMURA ELSOLD SN100 MA-S REFILL or REFILL Plus should be used for permanently optimal solder bath compositions with best properties.

TAMURA ELSOLD SN100 MA-S solders are perfectly suited for wave soldering processes and also available as solid wires & flux cored wires - for shiny solder joints, better wetting and reduced soldering tip wear.

For selective soldering systems with a good inert gas atmosphere, non-micro-alloyed solders are recommended - also according to the recommendation of the system manufacturers - with regard to nozzle coatings, i.e. our standard alloys such as SnCu0.7 or SAC305 of highest quality.

Storage/Shelf Life

The material can be stored for a minimum of 60 months from the date of manufacturing. Care should be taken, however, to store the material in a clean environment. Using the material beyond the official shelf life is possible without any problem in most cases. However, this should be confirmed by adequate trials before actual usage.

Technical Product Information

TAMURA ELSOLD SN100 MA-S Alloys

Health and Safety

TAMURA ELSOLD SN100 MA-S solder alloys are not considered to be harmful. Information relating to health and safety should be taken from the respective material safety data sheet.

Forms of Supply

TAMURA ELSOLD SN100 MA-S alloys are available in the form of ingots/bars and solid wires for wave, dip, and selective soldering for manual and automatic soldering processes.

Description	Dimensions [mm]	Weight /Piece
Ingots with suspension eyelets	50 (W) x 18 (H) x 600 (L)	Approx. 4 kg
	50 (W) x 20 (H) x 490 (L)	Approx. 3 kg
1-kg bar	20 (W) x 20 (H) x 335 (L)	1 kg
Triangular bars	8 (W) x 10 (H) x 400 (L)	Approx. 200 g
Clippings	8 (W) x 10 (H) x 30 (L)	Bulk
Solid wires	Various diameters 0.5 – 6	On spools of 500 g, 1 kg, 4 kg, 15 kg

Physical properties of TAMURA ELSOLD SN100MA-S solders

Properties	ELSOLD SN100 MA-S SC07
Composition [%]	Sn 99.3
	Cu 0.7 ± 0.2
	Ni 0.03-0.04
	Ge 0.003-0.007
	P 0.001-0.005
Melting point/Range [°C]	227 – 230
Density [g/cm ³]	7.32

The information contained herein is based on technical data that we believe to be reliable and is intended for use by persons having technical skill, at their own risk. Users of our products should make their own tests to determine the suitability of each product for their particular process. TAMURA ELSOLD will assume no liability for results obtained or damages incurred through the application of the data presented.