



TECHNICAL DATA

Fenix Tin Lead Alloys

DESCRIPTION

Fenix Sn63Pb37 eutectic and Sn60Pb40 near eutectic tin-lead solders are principally used for electronic and electrical assembly.

The Fenix range of alloys is manufactured from the highest quality virgin and refined materials, and since Fenix has its own refinery, high alloy quality can be ensured throughout the manufacturing process.

APPLICATIONS

Sn63Pb37 and Sn60Pb40 alloys are suitable for wave, re-flow and hand soldering of electronic assemblies, from consumer products to the highest reliability applications, and for hot air solder levelling (HASL) of printed circuit boards. They can also be applied by electroplating or hot-dipping, for example onto wire, strip and printed circuit boards, for improved solderability or corrosion protection. Pellets are often used for the initial filling of wave soldering machines to speed the melting process. While Sn63Pb37 is most frequently used for wave soldering, Sn60Pb40 is widely used for other electronics and electrical processes, such as hand soldering.

They are also appropriate for other soldering applications, where a low melting point, narrow melting range and high fluidity are required, such as instrument assembly and fine sheet metal work.

These alloys have the lowest melting temperatures in the tin-lead range, which minimises energy costs, and do not have the wide freezing range of others, which can result in defects during solidification. Their high tin content ensures excellent wetting and minimum soldering time, with further cost advantages.

The high quality of Fenix electronic solders ensures the lowest operating temperatures, improved wetting, bright joints, low drossing rate and minimal incidence of icicling and bridging.

HEALTH AND SAFETY

Please refer to the Safety Data Sheet for full safety and handling instructions.

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PROPERTY	Sn63Pb37	Sn60Pb40
Melting Range (°C)	183	183-188
Density (g/ml)	8.42	8.52
Thermal Conductivity (W/m/°C)	50.9	49.8
Coefficient of Thermal Expansions (CTE) (/°C)	21.4×10^{-6}	21.6×10^{-6}
Electrical Resistivity($\mu\Omega\text{cm}$)	14.6	15.0
Hardness (HV)	17	16

SPECIFICATION

Fenix solders are all made to high internal specifications. These alloys meet the requirements for the following compositions of the international solder specification ISO 9453 - Soft solder alloys - Chemical compositions and forms.

Alloy No.	Alloy Designation
101	S-Sn63Pb37
102	S-Sn63Pb37E
103	S-Sn60Pb40
104	S-Sn60Pb40E

Please request the "E" versions specifically, if these are required. Alloys can also be produced to national standards or individual customer requirements.

PACKAGING

These solders are available as sticks, bars, ingots, various anode shapes, pellets and solid wire. Sticks, bars and pellets are usually packed in 25kg cartons. Wire is available in various diameters on several sizes of reel.

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