

STARLI LEAD FREE SOLDER

General Description

Type of Alloys: **HQ405** Sn95,5 Ag4 Cu0,5 **HQ387** Sn95,5 Ag3,8 Cu0,7 **HQ305** Sn96,5 Ag3 Cu0,5 **HQ005** Sn99,5 Cu0,5
HQ300 Sn97 Ag3 **HQ400** Sn96 Ag4 **HQ000** Sn99,85

Excellent solderability, electrical and mechanical characteristics are the most important properties to consider when selecting alloys for the electronic or electrical applications.

Starli lead free range of products is designed to replace conventional solder in wave soldering applications for electronic assemblers. The Starli programme includes selected alloys for single use as well as in multi-use systems. The different alloys make it possible to create the optimal solder condition for high quality manufacturing.

	HQ405	HQ387	HQ305	HQ005	HQ300	HQ400	HQ000
Ag	3,6-4,0	3,5-3,9	3,0-3,2	0,05	3,0-3,2	3,6-4,0	0,05
Cu	0,4-0,6	0,6-0,8	0,4-0,6	0,45-0,55	0,01	0,01	0,01
Pb max	0,05	0,05	0,05	0,05	0,05	0,05	0,05
Sb "	0,05	0,05	0,02	0,05	0,02	0,05	0,05
Bi "	0,10	0,10	0,03	0,03	0,03	0,10	0,03
Fe "	0,02	0,02	0,01	0,02	0,01	0,02	0,02
As "	0,03	0,03	0,02	0,03	0,02	0,03	0,03
Al "	0,001	0,001	0,001	0,001	0,001	0,001	0,001
Zn "	0,001	0,001	0,001	0,001	0,001	0,001	0,001
Cd "	0,001	0,001	0,001	0,001	0,001	0,001	0,001
Ni "	0,01	0,01	0,01	0,01	0,01	0,01	0,01
In "	0,05	0,05	0,03	0,03	0,03	0,05	0,03
Sn	balance	balance	balance	balance	balance	balance	balance

Impurities levels better than or according to EN 29453

The Starli HQ range of products 405, 387 and 305 are tin-silver-copper alloys are used for the start up of the lead free process.

Starli HQ400 and 300 are used as feeding material to stabilise the copper content in the wave solder bath, which is dissolved from the soldered surfaces during the soldering process.

Starli 005 is a lead/silver free alloy and is used together with Starli 000.

Besides the use in multi systems the feeding materials Starli 400 and 300 can be used as a two component alloy.

Typical properties for Lead Free alloys

Solder Alloy	Melting Point/Range	Strength	Resitivity	Wettability
Starli 405	216 - 219° C	+	+	+
Starli 387	217 - 219° C	+	+	+
Starli 305	217 - 219° C	+	+	0
Starli 400	221° C	+	+	0
Starli 300	221 - 230° C	+	+	+
Starli 005	227 - 228° C	0	+	+
Starli 000	232° C	-	+	0

(+) better than conventional 63/37 solder
 (0) as good as conventional 63/37 solder
 (-) inferior to conventional 63/37 solder

Health and Safety

Lead Free solders simplify handling of production and procedures. Refer to MSDS for advice on handling and safety instructions.



STARLI HQ and the KOKI range of products forms an outstanding package of consumables for the modern electronic business.



Technical Support

Our research and development resources guarantees accurate analysis services and know-how in order to offer vitally needed support for your production.

Advanced laboratory equipment, XRF, OES, ICP, AAS and special analysing of carbon and sulphur guarantees accurate analyses, suggestions and recommendations when the results are divergent.



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