

FELDER Löttechnik



FELDER HASL-Electronic Solders

After a successful market launch of our new NiGe-patented alloys **ISO-Tin Sn100Ni+®** and **ISO-Tin Sn99Ag+®** for the wave soldering process, we are now also offering our electronic solders with its outstanding properties to HASL-users. On the Japanese and Asian market, respectively, these solders endowed with nickel and germanium have already been used many years in HASL-process, too. These solders are produced according to the patent of Fuji-Electric Co., Ltd., Japan. Recently, the first European PCB manufacturers have identified and realised these advantages, amongst others with Pentagal HASL-machines. The plant manufacturer PENTAGAL GMBH tested our HASL-electronic solders. The HASL-electronic solders are recommended as optimal solution, since the test results exceed all expectations of lead-free alloys, that have been well-known until now, by far. There is a possibility to have customers' printed circuit boards tested with our solder alloy „Sn99Ag+“ by a „PENTA HASL-machine“ at the company PENTAGAL GMBH, Bochum (Germany).

Advantages of Sn100Ni+® and Sn99Ag+®

- Shiny surfaces
- Improved metal structure
- Prevention of tin-whiskers
- Reduced surface tension
- Extremely low corrosion appearances with copper
- Reduction of process temperature
- Low dross formation through germanium additive
- Improved wetting qualities

Special advantages of Sn99Ag+®

Due to the additional silver content in **ISO-Tin Sn99Ag+®** a further reduction of the process temperature is reached. At the same time an increased wetting speed and therefore also a bigger throughput is achieved.

Product	Sn	Cu	Ag	Others	Melting temperature	Rods	Massive wire
HASL - Sn100Ni+	99,3	0,7	> 0 ≤ 0,07	NiGe	227°C	•	•
HASL - Sn100Ni+ Refill	99,9		> 0 ≤ 0,07	Ni0,1Ge		•	•
HASL - Sn99Ag+	99,0	0,7	0,3	NiGe		•	•
HASL - Sn99Ag+ Refill	99,6		0,3	Ni0,1 Ge	217-227 °C	•	•

Form of delivery

Rods à 400 g, 20 x 10 x 330 mm
3,5 kg blocks with hanging hole, 47 x 20 x 545 mm
Pellets for first filling, 10 x 150 mm

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