

## FELDER-ISO-Tin<sup>®</sup> - analysis service for solder baths

### ...at initial filling with and changeover to FELDER-ISO-Tin<sup>®</sup> solders as well as analysis at the current soldering process

Of course, our customer services include also the control of your solder bath alloy. This service is within the changeover respectively initial filling **free of charge** and includes **four service analyses within eight weeks**. After the changeover phase we offer our customers still the service for solder bath analysis **free of charge** under certain conditions.

Our experiences have shown that the accuracy of the analyzed element contents is linked with a correct sampling process. Therefore we advise you to attend **absolute** the following proceeding for the preparation of solder bath samples.

### Sample Preparation



- According to the latest findings the sampling temperature should be raised by **approx. 10 K above soldering temperature!**
- The sample die-cast has to be a dry, clean and **room tempered** (20-30°C), if necessary let cool down the die-cast between every sampling!



- Scoop the liquid solder alloy out of the bath respectively of the running wave by a **clean** stainless steel dipper and fill into the mold **in one go**
- Best sample dimension is 10 mm height (around 100 g)
- The sample should stay **vibration-free** till it turned solid
- After cooling down remove the **sample from the mold**



- The sample has to be labeled on **upper side** at least with the company name, **exact alloy quality** and date of sampling
- The bottom side of the sample will be turned off in our company and analyzed by means of a spark emission spectrometer



- On the left you can see an example for a **unserviceable** sample
- The casting temperature was **too low** and the material was not filled into the mold **in one go**
- This is clear visible at the border area and at the surface of the sample
- **Samples in this condition will not be analyzed free of charge!**

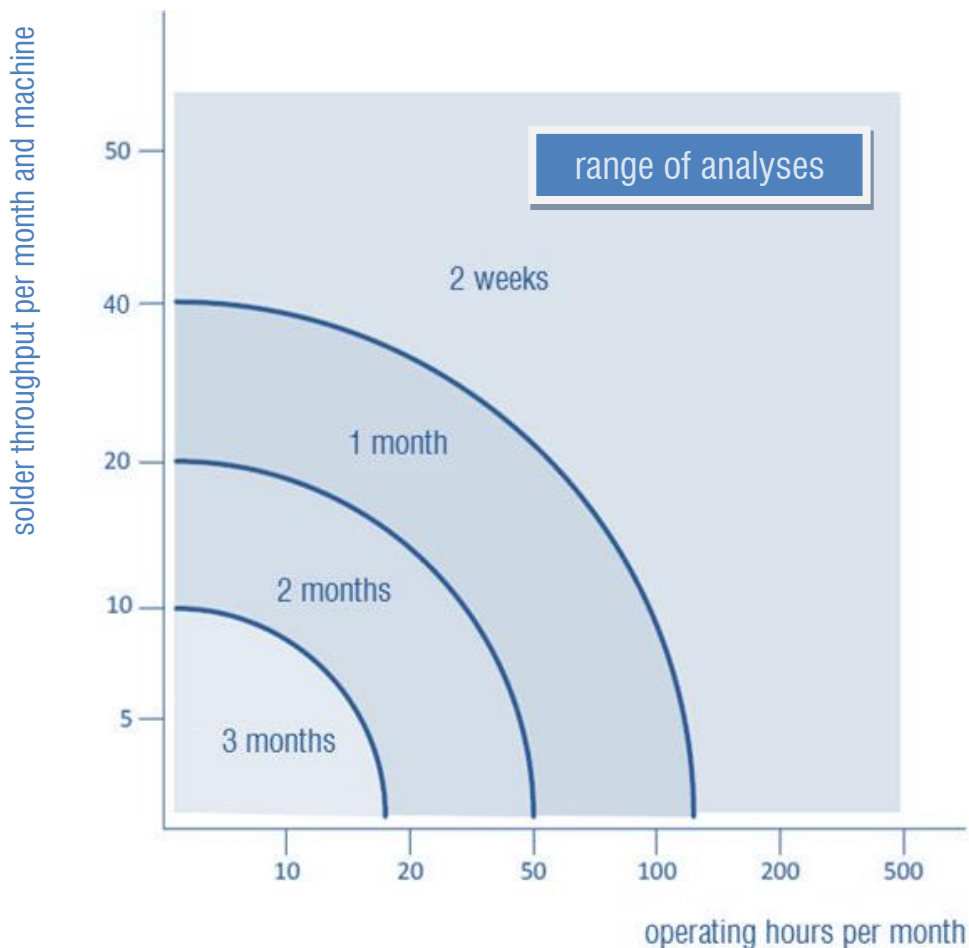
## FELDER-ISO-Tin<sup>®</sup> - analysis service for solder baths

Inadequate solder bath samples are sorted and our customer will be contacted in order to discuss the further procedure:

- The sample gets, if possible, processed chargeable (**additional processing costs 95,- €!**)
- The sample gets discarded and we get a more usable sample.

If you have no suitable sample-coquille for the sample casting, you can order this for a cost price of 20.00 € / piece (FELDER part-no. 2760000).

**The optimal analysis frequency is dependent on the solder throughput and the operating hours of the soldering machine. For example, at a throughput of up to approx. 10 kg solder per machine and month one analysis per quarter is appropriate and sufficient.**



It is also **necessary** to enclose the fulfilled form (in the appendix) to the sample!

## FELDER-ISO-Tin® - analysis service for solder baths

To ensure a fast processing of the analyses in the future the number of free service analysis is coupled on the solder throughput. We grant each customer a free service analysis per 20 kg ordered solder material in a half-year for this period. Of course you can also order more analyses. The associated costs can be found in the following table.

### The FELDER analysis service in overview:

Kind of sample	Free of charge analyses	Further analyses
<b>After initial filling or changeover with/to FELDER ISO-Tin®-alloys</b>	4 analyses in 8 weeks (solder bath volume minimum 20kg)	20,- € / pce.
<b>FELDER ISO-Tin®-alloys</b>	Per 20,- kg solder / half-year 1 analysis free of charge	20,- € / pce.
<b>Competitors alloy from FELDER-customers</b>	To changeover to FELDER solder alloys: 1 analysis free of charge	50,- € / pce.
<b>Competitors alloy from non-FELDER-customers</b>	To changeover to FELDER solder alloys: 1 analysis free of charge	150,- € / pce.
<b>additional processing costs for unserviceable samples</b>	-	95,- € / pce.

### Safe keeping period

All samples will be stored 3 months.

**FELDER-ISO-Tin® - analysis service for solder baths**

Appendix

**Details of the sample**

Customer-ID.: .....

Customer: .....  
*(Company, contact person)*

E-mail: .....  
*(Essential for the analysis report)*

Sample-identification: .....  
*(As labeled as on the sample)*

Date of the sampling: .....

Alloy: .....  
*(Composition / Identification)*

Solder-bath-Volume: .....kg

- Intention of sample:
- Control of solder-bath
  - Problems during the production
  - Solder bath changeover:  
from (current alloy) .....  
towards (target alloy) .....

All information about our products are the result of our long standing experience which we would like to pass on to our customers as application support. However, as we do not have any influence on the application of the works carried out with our products, please see the warranty claims in our conditions of sale because our liability is limited. This product information does not constitute warranted properties.