PRESS KIT Productronica 2009
SPIRIG ERNEST DIPL. ING.
Hall A4 / Booth 571

Press release textes and images (hi-res) and

complete Press-Kit (.pdf) on website

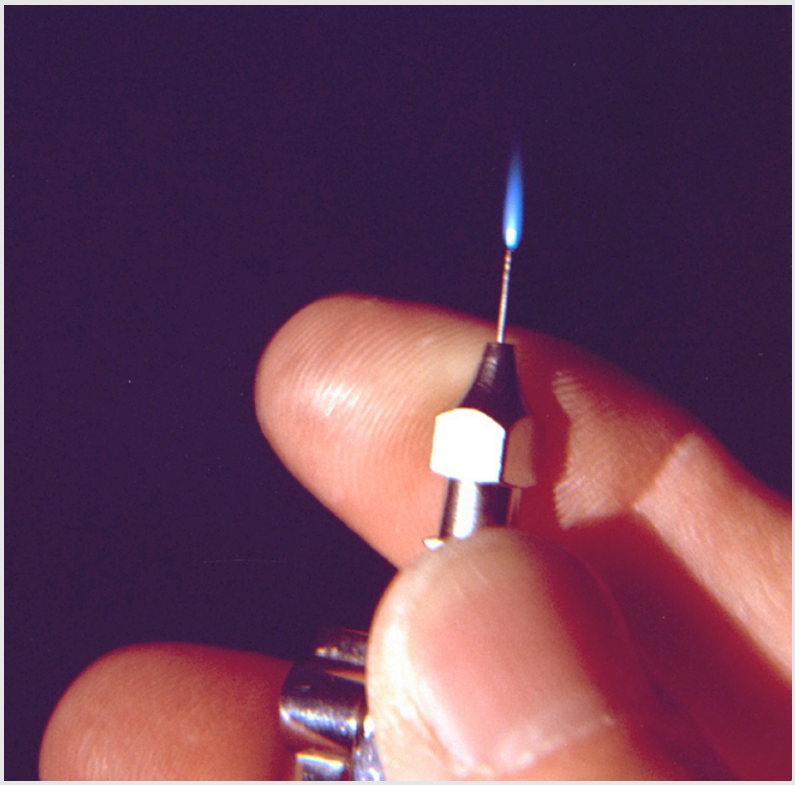
http://pr.spirig.com

Spirig presents a new Hydrogen HighSpeed Soldering System

The Productronica at Munich (open November 10 - 13th) is the European lead exhibition in equipment, processes, methods and production technologies for the manufacture of electrical, electronic and solar-tech based products.

Spirig, a Swiss based company, participates regularly since the first exhibition opened under the name of "Electronica" about 35 years ago in Munich. Electronica at that time did cater to any theme related to electronics, be it materials, methods, components or test and production equipments. At this years 2009 Productronica hall 4A / booth 571 Spirig will present a new and improved HiSpeed Soldering system using microsized hydrogen flames.

Under a worldwide patented electrolysis process technology water is split by electric energy into its basic components Hydrogen and Oxygen. This gas is then recombined as a energy rich Spirflame® (microflame) and targeted on This intense heating energy can be used for example in soldering, brazing, welding, glass fusion in industrial production processes. The combustion by-product of hydrogen are traces of water vapour. There is no ambient friendlier process available.



Picture: Spirflame®s are even in their finest sizes stable microflames with adefined energy content and without any side heat radiation.

The needed Hydrogen is not stored, but produced just-in-time in the Spirflame® gas generation system as needed by the heating process. The dangerous storage of pressurized steel tanks is eliminated.

Such pressurized gas storage tanks carry an enormous energy content which in case of a tank failure or a fire mean severe destructions. Using pressurized gas storage tanks in areas circulated by people is prohibited in more and more countries.

Applications of this Hydrogen soldering technique can be seen on website **http://www.spirflame.com**
A free DVD with application video clips can be requested from the Swiss based inventor and manufacturer

DIPL. ING. ERNEST SPIRIG

Hohlweg 1 CH-8640 Rapperswil SWITZERLAND Phone +41 55 222 6900 Fax +41 55 222 6969 or
by e-mail: DVD@SPIRIG.COM

Crimp Connections, some thoughts on improving reliability?

Talking to a safety / quality supervision engineer / manager at one of the major car assembly operations, be it in the US, Europe or Asia and asking what his nightmare dreams would be very often results in an answer like ".. a failing wire connection disables a breaking system or inhibits an airbag actuation.."

Well there are reasons for these concerns. Most of the cable harnesses are manufactured by either local or overseas sub-contractors, these suppliers under constant price pressure trying to squeeze a cent in material cost there, a speed increase at the line, clipping off some cents by speeding up quality control, .. A potential list of reasons to almost believe into that old slogan "unsafe at any speed", probably most readers will not anymore remember.

What factors can cause short or long term crimp connection failures. ? The automotive application is not nice to its components, heat and cold, humid and dry, exhaust gases & atmospheric aerosols creating aggressive condensates on cold surfaces, well and that winter road salting with its ongoing cruel salt spray treatment of car components. Lots of possibilities for potential long term failures, be it in a month, a year, three years? and we not even have mentioned the terminal will have to mate with a component or connector terminal.

History:

For years automotive industry was on a constant search for improvements to battle also potential product liability issues.

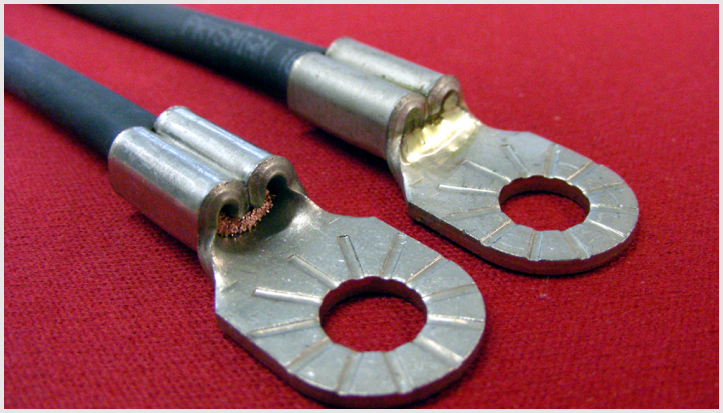
It must be now something like 20+ years ago that a large German car manufacturing group established a cable harness reliability task group (the writer for some time was an external consultant) to battle a flurry of tech problems when a new model with significant higher electric- / electronic content was introduced to the market. Connectors and crimps caused the bulk of problems. Connector issues could be softened by surface passivation and or coating with noble metals. The crimp issue was tackled by pushing crimp tech suppliers to tighten tolerances and build better equipment. A long term strategy.

This was also the nucleus for the phenomenal growth of a todays well known cable processing machinery supplier.

The chosen short term solution was to fill the crimp with a solder alloy. Post-crimp soldering with its own field of problems was born. Starting to solder a crimp connection! ... where the original idea was to replace the soldering by the crimping process! The winning idea at that time was that the solder alloy would seal the crimp connection against any atmospheric influences. This was then a quick start of the post-crimp soldering application.

One of the reasons, post crimp soldering is the easiest, quickest, most flexible and adaptable process to increase long term reliability and stability against atmospheric influences and multiplies conventional crimp pull strength, provided the right soldering technology was or is available.

To make the post-crimp soldering a reliable, dependable and fully automated process, the issue was to have a powerful, well defined and easy adjustable heat source for the crimp metal mass absorbing a substantial amount of heat.



The Flame as a Non-contact Heat Source

The Spirflame® is a patented, powerful microflame generator with an adjustable, electronically stabilized concentrated flame heat output. The microflames are created from hydrogen - oxygen self-generated from DI water in the Spirflame. The gas production is just in time, means that there is no storage of gas inside the system. So, there is no dangerous storage of pressurized gas bottles needed. This worldwide patented multiple-cell electrolyser uses a regular low power supply of 110 . . 220 vac energy to decompose the water.

The calories flow (kcal/s) from the spirflame® source is perfectly absorbed by most materials regardless of their surface conditions.

With this spirflame® generated constant flame calories flow put on a target having with stable and defined mechanical parameters, then the temperature of that target becomes a strict function of "flame-on-target" duration.

Timing the heating cycle of a pneumatic delivered spirflame® heating source is not more than an elementary task.

A short video-clip of this HiSpeed soldering application is available on Spirig's website http://video.spirig.com.

Additional informations needed?

DIPL. ING. ERNEST SPIRIG

Hohlweg 1, CH-8640 Rapperswil, Switzerland

phone: +41 55 222 69-00 fax: +41 55 222 69-69
E-mail: spirig@spirig.com

http://video.spirig.com www.spirflame.com

Desoldering Braids for leadfree solders

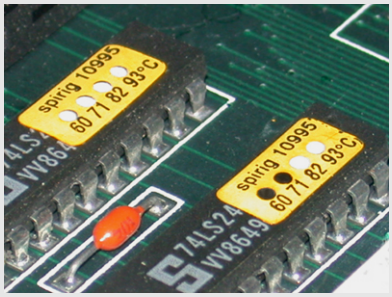
The physical removal of electronic components and especially the preparation of the lead-free coated desoldering area poses some challenges only to be overcome with top quality tools and a stable desoldering process. The small dimensions of SMD components and their handling are almost identical to a watchmakers work but with the added task to chemically preserve the solderability of the desoldered area. Usually after the removal of a defective component a new one has to be soldered there in place. If solderability of that area is, after removal of the old component, reduced a nasty surprise is waiting there for the operator to overcome the solderability loss.The removal of SMD components with specialized repair equipments is today reasonably well managed, also with today leadfree solder alloys.

To make the resoldering of a new component going smooth and reliably, the desoldered areas must be carefully precleaned from any former solder residues to establish a smooth landing pad surface for the new component. This cleaning process may under no circumstances interfere with the solderability of that area. Solderability meaning the capability of that surface to again accept a new solder deposit to fix the new component there. This pad cleaning usually utilizes a next heating process to melt any solder residues for final removal. Extensive repetitive heating cycles will cause substantial thermal stresses to the pc-board laminates and could even lead to a de-peeling of the pads. De-peeling is right away a desaster and can lead to the loss of an expensive board.

Spirig produces now for over 35 years the **patented Desoldering Braid 3S-Wick**®. The chemistry of the flux coating and the construction of the braid meet the needs of lead-free solder alloys removal. The special flux composition also seals the desoldered area against losses of solderability. 3S-Wick® is now also available on 15, 20 and 25 meter dispenser spools which are great cost savers per meter of used de-soldering braid.

Productronica visitors are invited to grab a free sample of 3S-Wick® or ask to be mailed to them.

Micro-CelsiStrip® Label Reports Maximal Temperature Level History



Caption: the IC package on the right passed during its evaluation history the 71 °C level, but never exceeded the 82 °C level.

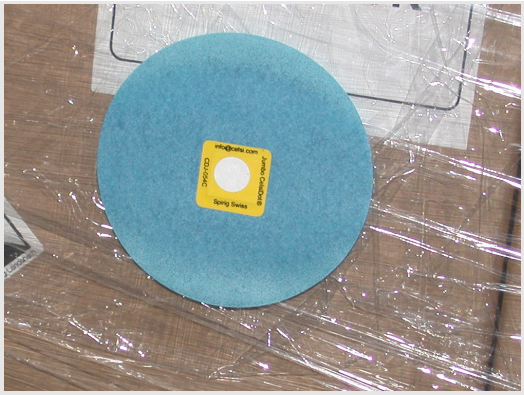
Todays Electronic assemblies do shrink in size and physical volume. Their processing speeds jump skywards. Each of these positive advancements is a reason for an increase of the operational temperature levels of installed components and this needs highest attention by designers and integrators. Life and reliability of any components do depend on their operation temperature levels.

The **Micro-CelsiStrip®s** maximal temperature level detecting labels are virtually the only economical, reliable and easily applied maximal temperature level detectors to which in comparison any other method simply pales. Micro-CelsiStrip®s are available in a wide range of temperature levels and level combinations from +40ºC to + 260ºC (105°F - 550°F) to cater to any electronic application task.

The original white temperature sensitive spots turn permanently black as their specific temperature level is exceeded for parts of a second. Then the mark will stay forever (permanently) black as a positive proof that a certain temperature level had been exceeded on that location.

Productronica visitors are invited to grab a free Celsi®Labels Sample Kit or ask to be mailed to them.

Thermo Label Visually Warns of Exceeded Temperature Levels



Each year summer temperatures start to cause problems for shippers, transport companies and consignees since temperature sensitive goods might exceed their thermal limits. Assigning the responsibility is critical, sometimes almost impossible without hurting long term business relations. One critical situation is the shipment of empty PET bottles from manufacturers to the bottlers. For cost reasons PET bottles are designed with the almost absolute minimal wall thickness and once filled-up, should safely withstand the internal gas pressures. It is a fact that exceeding a certain temperature limit highly influences the PET bottles' future durability.
Using the Jumbo-CelsiDot® 54 °C thermo label is a highly reliable, easy applied and economical method to guard against excessive heat during shipment. The shipper sticks a conventional large, easy visible paper label (target) on the outside of the skin packed pallets. The 20 x 20 mm wide Jumbo-CelsiDot® thermal sensitive label is then attached on the "target" label. See picture. The target label allows a quick localization of the smaller thermo-labels. When the central white heat sensitive area exceeds its activation temperature level the white circle area changes almost instantaneously to a permanent black. This is a clear and indisputable proof of an exceeded temperature level. Image recognition software can be used. Any inquiries received will receive a **free set of** CelsiLabels®. Trying is believing!

Productronica visitors are invited to grab a free Celsi®Labels Sample Kit.

New miniature temperature datalogger DataPick®2005 'When, how long and at which intensities did it happen?'

Applied technology is full of physical parameters, like temperature, humidity, pressure, you name it. Each of them influencing our todays or tomorrows lifes to the good or bad. Often the important issue "When, How long and at Which intensities did it happen", due to not available low-cost technical instrumentations, might not get a proper answer. Clever and user-friendly new datalogging hard- and software DataPick® 2005 generation from Spirig is applicable by anybody able to use a PC computer. The low price of Euro € 26.13 per logger makes this even affordable to the DIY person for his home, or for a climate control engineer to monitor a pharmaceutical plant with hundreds of "temperature sensitive locations".

Example of an earthbound application:
The heating / climate control system of a building complex with 100 apartments must be balanced for proper energy distribution. The needed 150 or so DataPick® modules are prepared on a standard office PC for a <time-date-delayed> mission and later distributed at their strategic locations. All these DataPick® will then start exactly at the same second their temperature data collection activities with the pick intervals, each few seconds or minutes as instructed during launch process, until their data storage capacity of 16'000 readings is full. The stored data readings are safe against battery failure. Physically collecting the loggers and data read-out to PC and the temperature history of these apartment is solidly documented and comparable.

Further informations are available from **DIPL. ING. ERNEST SPIRIG** Hohlweg 1, CH-8640 Rapperswil, Switzerland
Phone: +41 55 222 69-00 fax: +41 55 222 69-69 E-mail: spirig@spirig.com **www.spirig.com**

Non-contact Temperature Measurement on Critical Surfaces

Highly integrated advanced opto-electronics do now permit Spirig to offer a compact, low cost and reliable none-contact Thermometer **CelsiMeter**® CMI-056V. On a measuring distance of one meter the temperature sensing area has a diameter of 80 mm. The integrated laser beam target finder identifies from which area the temperature readings will be picked-up. Temperature range is between -30 °C and + 500 °C and the emissivity factor is adjustable.

The attractive user price of EUR 73.70 / USD 110.00 should now allow any person to consider using such HiTech instruments. These IR-CelsiMeter®s are available from stock.

Further informations are available from **DIPL. ING. ERNEST SPIRIG** Hohlweg 1, CH-8640 Rapperswil, Switzerland
Phone: +41 55 222 69-00 fax: +41 55 222 69-69 E-mail: spirig@spirig.com **www.spirig.com**

Light and Sight from Pocket Microscope™
Handy, Self-illuminating Pocket-Microscopes

The SPIRIG portable microscopes are designed and manufactured to be ready available surface inspection tools in a compact size and ready at any moment inclusive integrated target illumination. Two models of the SPIRIG portable microscope are available: a SPIRIG 30X and SPIRIG 100X model. Powered by two AA-size batteries, the SPIRIG 30X and 100X microscopes provide their own light source to illuminate whatever requires very close examination. The microscope itself weighs a mere 100 grams and its compact size is 140 mm long, 45 mm wide, and 20 mm deep. The SPIRIG 100X microscope additionally comes comes with its own stand and object holder with clips. The optics path contains two fixed lenses and a movable one for focusing.

SPIRIG microscopes are easy to operate. Place the microscope either on top of, or very close to what you want to examine, slide light switch to ON and use the slightly recessed adjustment wheel located on the case to adjust your focus. A complete set of one each pocket 30x and one 100x power costs only € 59.- , a price bearable for many pockets.

"Light & Sight from Pocket" applications might be almost endless for professional or private users. Elementary schools like the uncomplicated handling fort their students first contacts with the "microworld".

Further informations are available from **DIPL. ING. ERNEST SPIRIG** Hohlweg 1, CH-8640 Rapperswil, Switzerland
Phone: +41 55 222 69-00 fax: +41 55 222 69-69 E-mail: spirig@spirig.com **www.spirig.com**

SPIRIG SWITZERLAND

28 years of distribution and service USA:
SAT Spirig Advanced Technologies Inc.
144 Oakland Street Springfield, MA 01108 USA
phone: 1-866-977-4744 fax: 1-413-788-0490
sat@spirig.com

40 years of developments, manufacturing and service:
Spirig Ernest Dipl.-Ing.
Hohlweg 1 CH-8640 Rapperswil Schweiz
phone: (+41) 55 222 6900 fax: (+41) 55 222 6969
www.celsi.com info@spirig.com www.spirig.com