

**Desolder - Braid****Unmet in Low, User-friendly Price Levels**

**3S-Wick® / Desolder braid** based on Spirig patents 4,416,408 (after intervention of a competing brand unchanged re-issued by the US Patent Office under Re. 32,086). Further USA patents 4,081,575 / 4,133,291 / 4,227,415 / 4,323,631 / 4,164,606 / 4,078,714.

**3S-Wick® / Desolder braid** is manufactured under a Spirig patented process termed <vacuumisation>. Vacuumisation has when compared with conventional hot air drying technology several advantages over other makes. Excellent shelf-life and desolder speed are the result of this advanced, patented technology.

**3S-Wick® / Desolder braid** has now been used for almost 30 years worldwide and an estimated over 1 billion desoldering joints have been successfully performed during that time span.

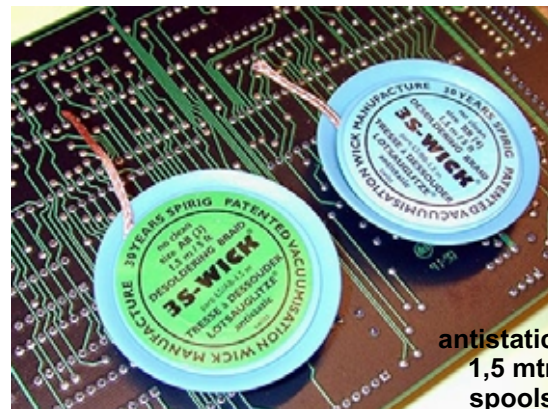
**3S-Wick® / Desolder braid** has compared to standard "hot-air" dried wicks a high solder absorption rate and can be nicely demonstrated using the MIL-STD-202E Method 208C Solderability Comparison test.

The speedier the solder pick-up is performed by the wick, the less heat energy will be injected into the desoldered area. Physics & chemistry clearly teach: "the lower the temperature and the less time is involved the less will be the potential reliability degradation of any system".

**3S-Wick® / Desolder braid** also has an over the years perfected and optimized balance between thermal mass related to its wick braided volume. Too low a thermal mass of the wick would allow the temperature on the joint to instantaneously jump to the solder melting temperature levels. Again, a too steep temperature ramp-up will create higher stress on the joints. ATTENTION and CAUTION: Using so called <low-thermal-mass> wicks, especially on repeated soldering operations at the same location, might cause de-laminations.

**3S-Wick® / Desolder braid** are only available from Spirig Switzerland. Regularly "me-too" wicks appear on the markets and leaving a corrosion trace behind do disappear again.

**3S-Wick® / Desolder braid** is easy used and controlled. Depending on to-be-removed solder volume selection of the correct Wick size is made. Size <00> for very fine, <AA> for small, <AB> for medium and <BB> for the larger sized desolder tasks.

**3S-Wick® / Desolder braid application**

Gently press end of wick with hot soldering iron tip onto the to be desoldered area or joint. The solder must be molten by the heat transferred from tip through wick into solder. The temperature rise at desoldered area will be dampened by the thermal mass of the wick. There is no immediate jump from room temp to those 240°C solder alloy melting points. As the solder alloy melts it will be absorbed by capillary forces into the wick / braid interstices. The desolder operation is done. The solder saturated wick end is cut-off and a new fresh, not used wick end is available for the next desoldering operation.

**Lead free** solder alloys will demand even more caution by the user or an "automatic" protection by the balanced mass wick material.

**3S-Wick® / Desolder braid** uses an **elctronic-safe special formulated flux**.

The flux falls into the **DIN EN 29 454 1.1.3** (previous DIN8511 norm flux group FS-W-32). The minimal flux residues can be left (**no-clean**) on desoldered area to protect solderability there.

The minimal flux residues left after the desolder operation on the area is designed to act and work there as a solderability protecting layer. Preservation of solderability after a soldering or de-soldering process is a major concern in repair or touch-up of electronic assemblies, be it pc board pads or component leads.

Spirig - Patents in the US 4,078,714; 4,081,575; 4,133,291; 4,164,606; Great Britain 1,513,496; 1,546,601; 1,546,602; Japan 1,608,603; Europe 102,426; 47,579; Germany 3,274,430; 3,164,159; Switzerland 102,426 and in many more countries issued or pending.

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**DIN EN 29 454**  
**1.1.3**

**RoHS**  
tested & approved by SGS®

**3S-Wick® / desolder braid** is available in four well balanced width (=sizes) and on practical handy dispensers with 1,5 meter (=5 feet), 15, 20 and 25 meters.

Spirig size / US size	color	width in mm (approx)	application (components, board pads)	minimum iron power (Watt)	reel Lengths available
00 / 1	white	0.8	very fine, miniaturised pads	15	1,5 m 15 m 25 m
AA / 2	yellow	1.5	fine components, pads	20	1,5 m 15 m 25 m
AB / 3	green	2.2	medium sized pads	50	1,5 m 15 m 20 m
BB / 4	blue	2.7	large pads	70 +	1,5 m 15 m



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More information and a detailed price comparison of desoldering braids on [www.desolder.com](http://www.desolder.com)

The **NASA NPC-200 Quality Publication** recommends the "Wicking" (=absorbing using a wick) as a simple and dependable method to remove solder from unwanted locations on pc-boards without risk of damaging such boards pads or eyelets. Wicking does not demand for cost intensive tooling or equipments. An ordinary thermostat controlled soldering iron will allow a perfect job. Wicking can be easily carried to job. But as any reliability sensitive operation user should do first some training on scrap pc boards to get a feeling for pressing the solder iron tip on wick and for the "mopping-up" of solder with the wick. Preferably user will install on his desoldering iron a chisel formed tip to optimally couple the heat stored in the tip from there through the braid structure into the to be melted solder.

**Some basic thoughts on the thermal process of desoldering:**

The tip itself should have, compared to the mass of the desolder wick, a sufficient high thermal mass. If its mass is low, then the heat energy balance of the wick (heated up from hot tip) and tip (cooled down from cold wick) might fall below the solder alloy melting point. As a consequence the desoldering operation gets "sticky", slow acting because the temperature of the now combined mass of tip and wick must first be brought up and over the solder melting point. But first this heat must be electrically generated in the heating element and this heat energy then be transported to the <tip+wick> mass. This causes a delay in <tip+wick> temperature increase. *Such a delayed desoldering process is causing extra stress and is a technically false desoldering process sequence.*

The heat energy stored in the tip mass must be large enough to bring the wick end **and** the solder mass in one "go" above the melting point. This is the correct and component safe desoldering procedure. Anything else must be improved. Or in simpler words, the tip for desoldering is preferably a chisel like one and the width of the tip should be at least the width of the wick. This ensures that the tip mass is sufficient in comparison to the wick size.



**TIP #1**

Use of solder tips with a chisel like tip end. Allows to softly and evenly squeeze the wick structure across the desolder area. Heat transfer is optimal.

**TIP #2**

As a chisel sized tip preferably use one with approximately width of wick size.

**TIP #3**

Having a too wide wick for a small pad? -> *Cut the wick in an angle. This makes a fine wick end with lower thermal mass.*

**TIP #4**

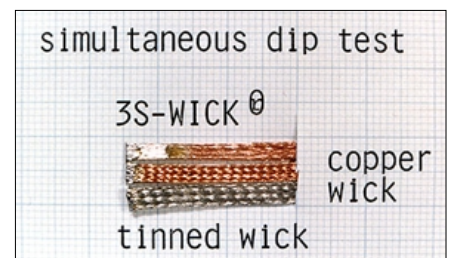
Having a too small wick or a too big solder deposit area? *Fold the wick end and you get the needed "larger" sized wick. Make sure tip has enough thermal mass to heat the enlarged wick mass properly.*

**TIP #5**

Desoldering is soldering the wick end with the solder to be removed. Using the well known solderability dip test allows to check and compare any wick for proper desolder function an speed of absorption. Your dip test might surprisingly look like the image to the right. Detailed technical informations on request.

**TIP#6**

3S-Wick® / Desolder braid does recommend the use of electronic or thermostat temperature controlled soldering irons.



Simultaneous dip-test. The three samples dipped simultaneously into the solder bath.

**TRANSPORT:**

Attention in Winter time! Bringing cold materials into warm areas poses the risk of humidity condensation on cold surfaces. Keep package closed until completely warmed to room ambient level.

**STOCKING:**

Store in dry locations. Keep packages closed. Do not expose to sunlight. Recommended storage temperatures +15 .... +28 °C.