



## Electronics Assembly Glossary

**Activator:** A chemical that improves the ability of a flux to remove oxides and aid the wetting of parts being soldered.

**Annular Ring:** The conductive area around a plated through hole.

**Billboarding:** A discrete component with both terminations soldered, but laying on its edge.

**Blow Holes:** Small holes or voids caused by outgassing in a plated through hole.

**Bridging:** A soldered joint that spans two conductors not intended to be connected, creating an electrical short.

**Delta ( $\Delta$ ) T:** The greatest difference of temperature found across an assembly.

**Dewetting:** Retreating of solder from some or all parts of a substrate that initially was wetted.

**Electromigration:** The tendency of conductive material to spread from one solder interconnect to another, causing a short circuit.

**Halides:** Compounds containing fluorine, chlorine, bromine, iodine. These are parts of the activators of certain types of flux and might need to be cleaned due to their corrosivity or conductivity.

**Liquidus:** The temperature at which solder reaches its fully molten or liquid state.

**Micro Balls:** Tiny solder balls as related to wave soldering.

**Non-wetting:** A surface that has contacted but rejected molten solder.

**On-Contact Printing:** Zero snap-off, no print gap.

**Opens:** Two electrical conductors not bridged by solder. Can be due to insufficient solder or non-coplanarity of the lead at its point of connection.

**Outgassing:** The emission of impurities from a PCB or component when the assembly is exposed to heat or reduced pressure.

**Pad:** Area on which solder paste is printed and a component is placed.

**Peel Back Angle:** The angle at which the PCB contacts the solder wave.

**Pin Probe:** The conductive member by which electrical contact is made between the PCB pad or lead and the tester.

**Popcorning:** Eruptions in an IC during reflow, normally the result of moisture absorption.

**Reflow Profile:** The time vs. temperature graph of a PCB as it is processed through a heat source.

**Rheology:** The science or study of a materials flow in terms of stress strain and time.

**Skips:** As related to printing, skips are component pads that were missed during the printing process.

As related to wave, areas that were intended to be soldered but were missed due to shadowing or gassing.

**Slump:** A spreading of solder paste that may lead to bridging. May be cold (occurring before reflow) or hot (occurring during reflow).

**Snap-off/Print Gap:** The distance between the stencil and the PCB during printing.

**Solder Balls:** Tiny spheres of solder usually located around a solder joint or remotely around the board.

**Solder Beads:** A large solder ball positioned between the terminations of a discrete component, usually a resistor or capacitor, but can also be found on large and small transistors as well.

**Solder Fillet:** The solder meniscus or joint formed by the solder between the pad or hole and the component lead.

**Solidus:** The temperature at which solder reaches its fully solid state.

**Solids Content:** The percentage by weight of non-solvent material in a flux.

**Squeegee:** A plastic, metal, or fiber blade used to push solder across the stencil surface while filling the stencil apertures.

**Tombstoning:** A soldering defect in which a component is pulled into a vertical or angular position leaving one side unsoldered.

**Torn Prints:** Paste printing defect which results in printed paste being ripped from the board pads, resulting in clogged stencil apertures.

**Viscosity:** A measurement of shear stress over shear rate. Which is the resistance of a material to flow.

**Wave Bridges:** Bridging that occurs during wave soldering between pins or components.

**Webbing:** Wave solder defect recognized by a spider web like extension of solder across the non-conductive portion of a PCB.

**Wetting:** The formation of an intermetallic allowing the spread of molten solder over a base metal.