ABSTRACT:
"Back to the Future: Defluxing and Contamination Removal Methods, Including Hot Vapor Cleaning"

Rick Perkins will discuss various methods of cleaning and contamination removal, including a comparison of water-based, solvent immersion, and hot vapor cleaning. Perkins will present info on a variety of products available by different manufacturers and provide info on which products are appropriate for which types of cleaning problems and budgets. Finally, different test methods will be discussed and what information is appropriate to submit to your customers for approval.
Bio-

Perkins started his career with Honeywell Space and Defense as a Materials & Processes engineer, working there for about 10 years specializing in Non-Metallic Materials, such as coatings, plastics, adhesives, chemical treatments, solvents, material compatibility, and cleanliness and contamination issues. At Honeywell, he chaired the ESD Committee and developed a MIL-STD-1686 program for high-reliability electronics used in space programs. He also trained more than 1,500 employees and customers in the proper handling and facility grounding techniques.

After Honeywell, Perkins worked in Washington DC for the USEPA and the World Bank under the funding of the Montreal Protocol, to assist developing countries in the phase out of solvents that damaged the ozone layer. This included the phase out of CFCs and 1,1,1 TCA and replacing those processes with semi-aqueous or aqueous processes, largely from the USA. After that 4 year stint in DC, he returned back to Texas, working for the State of Texas Commission for Environmental Quality, assisting small businesses in understanding and complying with state and Federal environmental regulations.

Perkins entered in the Technical Sales field as a Regional Sales Manager for Petroferm for 9 years, followed by 4 years with EnviroTech International, which led to his founding his own company that represents different USA equipment manufacturers and chemical manufacturers, with the goal of assisting customers to use the best cleaning process at the most reasonable cost.

Perkins earned a degree in chemical engineering from The University of Texas and an MBA from Arizona State.

Upcoming Chapter meetings

Chapter Calendar for 2018:

June 1 — Chapter Meeting
Rick Perkins is speaking on Topic “Back to the Future: Defluxing/Cleaning with Hot Vapor Defluxing Chemistry and Equipment”

July 13th 2018 - Chapter Meeting
Development of low melting temperature solders

September 7th 2018 - Chapter Meeting
SMT Specific Industry 4.0

November 2nd 2018 - Chapter Meeting
PCB Failure Analysis

December 2018
Member ship appreciation party.
Presidents Message

2018 is turning out to be a banner year for the Dallas SMTA Chapter! Our Dallas SMTA Expo held on April 10th was well-attended with a sold-out Expo Hall. Attendees had the opportunity to improve their knowledge by attending technical sessions including topics on Material Management, Zero Defect Lines, the Toyota Production System, and Stencil Technologies. In addition to the Expo Hall and free BBQ lunch, it was a fantastic opportunity to network with others in our industry. Last week, SMTA, iNEMI and MEPTEC joined forces in putting on a Medical Electronics Symposium at the University of Texas at Dallas. The international conference focused on advancements in electronic technologies and medical device manufacturing. The 2-day symposium included a wide variety of technical sessions including key speakers from Medtronic, Abbott Labs and UT Southwestern. If you are supporting the medical devices, it was a terrific way to learn about this growing market. Next Up! Mark your calendar for our next Chapter meeting on Friday, June 1st. Rick Perkins will share his expertise on various methods of cleaning and contamination removal, including a comparison of water-based, solvent immersion, and hot vapor cleaning. A registration e-mail will be coming your way soon. I hope to see you there!

Carol Primdahl – Dallas Chapter President

Dallas Chapter Membership Rolls— 107 Members !!

We welcome our newest members to the SMTA family:

Karen Nicols  Corporate  Lockheed Martin

Corporate Members: 33  Corporate Participating members: 13

Individual Members: 47  Global Members: 6,

Associate/Student Members: 6  Lifetime members: 2

Dallas Chapter  Corporate Member List - May 2018

ASSET InterTech  GSC (Garland Service Co.)
Barry Sales, Inc.  JTAG Technologies
BBM, Inc.  Keysight Technologies
Circuitronics  Krypton Solutions
Conecssus LLC  Leemah Electronics
CVInc.  Libra Industries
CR Assembly Corp  Lockheed Martin
DG Marketing Corporation  Mek Americas LLC
Dragon Circuits  Morgan Newton Company
E.T.S. Group, Inc.  National Circuit Assembly
Electrolab Inc.  NPI Technologies, Inc.
EWD Solutions  One Source Group
FHP Reps  PAC Global, Inc.
Fujitsu Network Comm.  Philips Entertainment

Precision Technology, Inc.
Roper Resources, Inc.
Southwest Systems Technology Inc
SPEA America
Summit Interconnect
Sunshine Global PCB Group
SVTronics, Inc
The IPS Group, LLC
Techni-Tool, Inc.
.Trilogy Circuits, Inc.
Varisystems, Inc.
VI Technology
In today's column, I will be talking about what makes a good fabricator from the customers' viewpoint.

So, what it is you really want from your PCB fabricator? What should you expect?

- Quick responses to your RFQs?
- Outstanding quality?
- Consistent on-time delivery?

Your answer should be "All of the above!"

So, let's start with the quote process. Ultimately, whether the job is a quick turn or standard lead time, you - the customer - would really like to see all quotes back within a couple of hours, not a couple of days. Additionally, you want to see accurate quotes that take into account all additional processes. It's never good when, once quoted, the fabricator comes back with additional costs for unforeseen processes.

Again, this is why it is key to get a manufacturing review done if anything outside the norm is requested on the drawing or quote. These include points like the proper review of impedances to make sure materials are available and the impedances work without requiring large variances in either dielectric or line sizes, buy-offs for any deviations of material type or copper weights, etc. Beyond the quote process, you want a fabricator that is CAPABLE of all required processes to ensure the part is built as expected. You want the company to be IPC Class 3 6012 capable and ISO-certified, and you may need them to be ITAR-certified as well.

Even if you cannot visit the shop for a physical qualification, send in a job to quote and watch the response. A good fabricator will be diligent and get back with you within a couple of hours, including a preliminary examination of the files, impedance calculations and proposed stack-up if impedance is dielectrically controlled. The company should also be able to let you know right away if the job does NOT meet their process minimums and cannot be built. If deviations are allowed, in many cases a good fabricator will also provide alternatives, such as a deviation for material type, starting copper weight, dielectrics or line sizes.

This communication line between the fabricator and the customer is crucial to understanding the customers' needs properly. Your fabricator's Sales/Quoting personnel should be prompt in their response, courteous and sympathetic to your needs. Sales people should have excellent prioritization and organizational skills to be able to accommodate standard and expedited lead time quotes all in a timely manner.

As far as the fabricator's quality is concerned, "the proof is in the pudding." If you are receiving multiple phone calls from a fabricator regarding remakes of your parts, you may want to seek a secondary source. Quality goes well beyond "skin deep" with PCBs. Functionality of the part is key. A good fabricator does NOT play tricks with plating and mask thickness in an effort to achieve an impedance goal. During facility tours here, I always say that we would really like to see all quotes back within a couple of hours, not a couple of days. Additionally, you want to see accurate quotes that take into account all additional processes. It's never good when, once quoted, the fabricator comes back with additional costs for unforeseen processes.

A good fabricator will use a goal-seeking tool, such as a Polar Instruments impedance calculator, when calculating impedance. This can determine up front what slight tweaks need to be done in CAM to stay in the middle of the tolerance, as well as literally calculate for things like over-etch and under-etch, too little or too much plating, and too little or too much mask material, based on the fabricator's known process minimums. Recovery time is a big issue. If something SHOULD happen in the fabrication cycle that requires a remake, look for a shop that minimizes recovery time and has a process plan to minimize its chances of reoccurrence.

Like wise, if a fabricator is consistently late on orders, you may want to seek another fabricator. A good fabricator, especially in the fast-turn prototype environment, understands the customers' time-to-market constraints and meets the expected deadlines, even sometimes shipping early if the customer allows.

By the same token, if you know me, you know I am a big advocate of communication to minimize costly iterations. Not only does communication keep the revisions to a minimum, but in a proto environment, we can share with the customer possible concerns about transitioning to larger volumes.

I can't tell you how many times I have had customers thank me for that last one. Offshore volume shops may be low-cost, but the product must still perform as expected. Prototype shops have traditionally pulled off things production shops balk at in large volume. Of course, cost is always a factor. But a smart board buyer also knows the value of quality, service and delivery can have a huge impact on the overall cost of the product's market cycle.
**Our Chapter Leaders**

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**REASONS TO JOIN YOUR LOCAL SMTA CHAPTER**

- Do you have something to share such as new technologies or new products?
- Are you new in a sales territory – do you know all the players? Do they know you?

**Be informed and involved on the Local Chapter level:**

- Take advantage of technical information provided at local meetings Get to know colleagues in your local area
- Network for technical information and get to know companies and people in your local area
- Share information with colleagues on new products and services

**THE MISSION OF SMTA**

The Surface Mount Technology Association (SMTA) membership is a network of professionals who build skills, share practical experience and develop solutions in electronic assembly technologies and related business operations.

**MEMBERSHIP DUES**

Participating: $50 - If your company (same location/division) holds a Corporate Membership, it’s employees are eligible to receive the full range of benefits at a discounted price.

Individual: $75 - This membership is designed for individuals who wish to join SMTA to receive all the benefits independent of a Corporate Membership.

Corporate: $550 - A corporate membership in SMTA provides discounts to employees located in the same location/division where the Corporate Membership is held.

Student Membership—$20 The Student/Retiree Membership is available to all full-time post-secondary students and retirees.

**HOW TO JOIN**

On-line at [www.smta.org](http://www.smta.org)