

LA/OC SMTA CHAPTER NEWS

APRIL 2004 EDITION

April 2004 Dinner & Presentation Meeting

MSD's Moisture Sensitive Devices

DATE

Thursday, April 15th, 2004

AGENDA

6:00PM, Social Hour

7:00PM, Dinner/Presentation

MEETING FEES

\$20, Members

\$25, Nonmembers

MENU

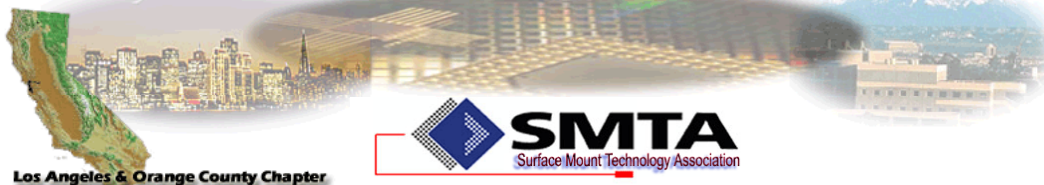
Broiled Teriyaki Steak

LOCATION

Embassy Suites

3100 East Frontera

Anaheim, CA



Los Angeles & Orange County Chapter



"The Surface Mount Technology Association membership is a network of professionals who build skills by sharing practical experiences and developing solutions in electronic assembly technologies and related business operations."

LA/OC SMTA CHAPTER IS PROUD TO PRESENT...

April 2004 Dinner & Presentation Meeting

MSD - Moisture Sensitive Devices - J-STD-033

Presented By:

Michelle Ogihara & Anthonette Leen
SEIKA MACHINERY



RESERVATIONS

Call: MaskTek

(714) 557-3383

NO SHOWS WILL BE INVOICED
If you can not attend, please cancel your reservation by 12 Noon on Wednesday, prior to the meeting. See you there!

UP COMING EVENT

LA/OC SMTA is proud to Present...

May 2004 Presentation & Plant Tour Meeting...

PARK-NELCO

Laminate Technology & LF Material Selection

DATE

Thursday, May 20th, 2004

AGENDA

6:00PM, Dinner @ Embassy Suites

6:30PM, Presentation @ Embassy Suites

7:00PM, Plant Tour @ Park Nelco

MEETING FEES

\$20, Members

\$25, Nonmembers

MENU

TBD

PRESENTATION LOCATION

Park-Nelco

2401 East Katella Avenue

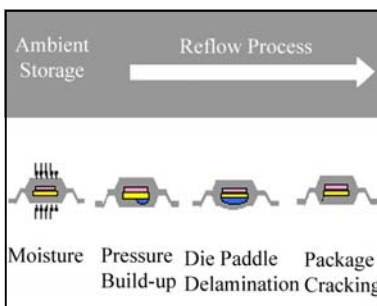
Anaheim, CA 92806

PRESENTATION ABSTRACT

Moisture Sensitive Devices (MSD) have become widely used with the increased sophistication of electronic products. However, MSDs present a number of challenges when used in surface mount assembly as they may suffer internal damage during the manufacturing process if they are not handled and stored according to industry standards.

In surface mount paste is printed components are entire board is reflow oven. In ess, the entire ponent packages with the solder leads. The high tures can cause a taining moisture crack affecting the performance and reliability of the component. These problems are normally the result of poor handling and storage of MSDs.

While most of the damaged components may be detected prior to shipment of the final product, many make it to the market place only to fail out in the field. Although a component with external cracking may pass pre-shipment functional tests, subsequent high temperature and moisture exposure can induce the transport of ionic contaminants through these openings to the die surface increasing the potential for failure due to corrosion. Furthermore, internal cracking/delamination can be present even if there is no evidence of external cracks. Ball grid array (BGAs) and chip scale packages (CSPs) are especially sensitive to moisture and damage to these components can be very difficult to detect. Manufacturers must pay close attention to their handling and storage of MSDs to maximize yields and ensure the quality of their finished products.



SPEAKER PROFILE

Seika Machinery, Inc., is multi-national distributor of high-quality SMT machinery and materials from Japan. One of the products that Seika sells is the Electronic Drying Storage Case by one of Asia's leading electronics assemblers. Seika Machinery participated on the committee to develop the revised IPC/JEDEC J-STD-033A, July 2002, "Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices." Co-presenting on "Moisture-Sensitive Component Storage" from Seika will be Anthonette Leen, Applications & Process Engineer and Michelle Ogihara, Sales & Marketing Manager, who is also on the MSD Council recently formed within the SMTA.

The second half of the presentation will cover "MSDs - Cause & Effect, how little MSD issues can cause big headaches to assemblers." Real life examples will be shown and described by Kathy Palumbo, CEO and Founder of Production Analysis and Learning Services, LLC.

What's Inside this Months News Letter...

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- Page 5.....November 2004 SMT Process Engineer Certification Information
- Page 6.....2004 LA/OC SMTA Monthly Chapter Meeting Presentation Presenters Request

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Presidents Message

By: Scott Penin

We have just about completed the calendar for 2004, only September and November are still open. We are also starting to seek speakers for 2005. If you know of anyone who is a preferred speaker and can enlighten us on any technical subjects our members would deem useful , please tell us so we can contact them.

March's meeting by Blake Bowling of Vectron was very informative on the evolution of Automated Optical Inspection testing. Please see Kathy's synopsis on the event if you didn't have a chance to attend the meeting.

April's meeting concerning Moisture Sensitive Devices (MSD's) will be very important for anyone involved in process control, defect analysis and customer satisfaction. The subject matter is similar to ESD as it is very hard to determine a moisture defect until it has happened. We have two speakers this month. First, Michelle Ogihara (our Membership Vice President and a member of the SMTA committee on MSD's) will identify how the industry is standardizing on preventative measures. Our second speaker, Kathy Palumbo (our chapter Secretary and industry consultant) will talk about what happens when these measures are not adhered to, including pictures. It will be one of the most important meetings this year.

We will also be setting up vendor tables this month for any suppliers who are interested to show how their product can be useful in either preventative actions or identifying root causes. Examples would be X-Ray equipment, vacuum sealing machines, low-humidity cabinets, etc. The cost is \$100 and includes: 1) a 5-6 foot long table to setup your wares; 2) the opportunity to talk to the attendees before and after the meeting; 3) a few minutes at the beginning of the meeting to talk about their products to a captive audience 4) a ¼ page ad in our newsletter and 5) posting on our local web site www.laocsmta.org. Our chapter operating revenue comes almost entirely from our vendor community and we appreciate the support we get.

As always, if you have any suggestions that will assist or improve our chapter, please contact us at www.laocsmta.org.

March 2004 LA/OC SMTA Chapter Meeting Review

Written By: Kathleen S. Palumbo

“The Cost of Quality” was presented by Blake Bowling with Vectron, and was an excellent and informative presentation. Blake started the presentation by reviewing “AOI - The Industry At A Glance”, which covered the trend of electronic components getting smaller and the impractical approach of throwing cheap labor at inspection as the solution. As the parts get smaller and smaller the inspection process by a human is impossible with the naked eye and invariably defects escape the inspection process, which adds to the cost of quality.

Blake followed this with covering the “Cost of Quality Model”, which allows you to calculate your ROI for AOI. The “Cost of Quality” spread sheet was developed in conjunction with Motorola so that they could justify replacing ICT with AOI (due to assemblies being too small to probe). This was a very in-depth look at ROI for AOI, which included many variables that a standard ROI would tend to overlook.

A comparative “Cost of Quality” was shown with using AOI VS Not, and the cost savings were phenomenal; however, even still US companies have still not embraced the AOI technology like many companies in Asia. In Asia companies feel AOI is essential. In the US companies feel it is an added perk and not necessary. How odd, considering the fact that the cost of labor in the US is typically 100 times more than labor in Asia. Logically you would think that this would be the other way around.

Past AOI technologies were slow speed, small images (<1”Sq.), comparative based technology, multiple cameras and / or fast moving robots, black and white images, lighting variables, contrast challenges, difficult to program, high false call rates, and best suited for low mix environments.

New AOI technology are high speed large format images (4”x6”), parametric measurement based, single camera, slow moving robot, color

contrast, easy off-line programming, low false call rates, and suitable from high-mix-low-volume to low-mix-high-volume.

AOI comes down imaging. The new high speed large format digital color image adds more pixels per feature and data per pixel. In turn, the image size can dramatically reduce inspection cycle times.

The parametric measurement means that AOI is a very accurate measurement system, and not a comparator. A good AOI system no longer induces defects due to machine vibration. The color contrast allows the system to discriminate features by utilizing orthogonal color space data. This in turn prevents camouflage of image artifacts due to lack of contrast resolution. Remember in B&W images there are 256 tones of color contrast. In digital color there are 16 million. Color AOI is also capable of inspecting through hole devices as well as verifying color coding.

Remote programming allows the AOI machine to be programmed without impacting production. AOI programming requirements should have an easy interface, comprehensive libraries, first article capabilities, SPC support, and networking support.

The future of AOI depends on imaging and future technologies will include larger sensors (11 million pixels & 16 million pixels), higher levels of artificial intelligence, and closing the loop around the SMT equipment and thereby adding an incredible value to the company. Closing the loop means the AOI machine will feed defect information to the pick & place or screen printer machines and then the machines will automatically make adjustments to compensate for future builds...and it will all be done on the fly. Personally, I don’t know about you but I can’t wait!

The LA/OC SMTA Chapter would like to thank Blake Bowling for an outstanding and informative presentation.

LA/OC SMTA is proud to Present...

May 2004 Presentation & Plant Tour Meeting...

PARK-NELCO

Laminate Technology & LF Material Selection

DATE

Thursday, May 20th, 2004

AGENDA

6:00PM, Dinner @ Embassy Suites, Anaheim
6:30PM, Presentation @ Embassy Suites, Anaheim
7:00PM, Plant Tour @ Park-Nelco, Anaheim

MEETING FEES

\$20, Members
\$25, Nonmembers

MENU

TBD

PRESENTATION LOCATION

PARK-NELCO

2401 East Katella Avenue
Anaheim, CA 92806

SPEAKERS

Fred E. Hickman, III
VP OEM Marketing & Technology
PARK-NELCO

AND

Dave Hoover
Technical Application Engineer
Multek, Inc.

ABSTRACT

1. Introduction (5 minutes)
 2. Lamination 101 — The basics of making Laminates and Prepregs(20 minutes)
 3. LF Material Selection (10 minutes)
 4. Plant tour of NPI (20 minutes)
 5. Q & A (10 minutes)
-
-

LA/OC SMTA is proud to Present...

November 2004

SMT Process Engineer Certification Course

Get the recognition that you deserve.

These days it takes more than experience. It takes "proof".

SMTA Certification will quickly become the electronic assembly industry's most respected sign of approval. Certification is one way to enhance your stature in our industry. Your certification can also be a marketing tool for your company. They will be able to proudly say that they have team members who are SMTA certified.

What The Certification Programs Are

Each SMTA Certification program is a three-day workshop consisting of refresher topics in the SMT processes or systems. This will include both open and closed book examinations. The workshop, as well as the exam, assumes that the participant has at least one year of SMT experience and has an educational background equivalent to two years or more of college in a technical discipline. This is not an entry level program. Basic algebra and geometry will be used in the workshop and examination. The examination is "competitive" in that it requires written answers and some calculations. The intent of this procedure is to enable the students to establish competitive credentials as "Certified" by the SMTA in SMT Assembly Processes or SMT Systems.

SMT Processes Curriculum

SMT Materials
SMT Components
Stencil Printing
Dispensing
Component Placement
Reflow Soldering
Wave Soldering
Test and Inspection
Line Balancing

Who Should Attend

SMTA Certification is intended for manufacturing and process engineers. However, design, test and quality engineering personnel, as well as SMT assembly managers who want to confirm their current competence at a fundamental level of overall process technology, should also consider certification. The program assumes that the student has a year or more of SMT experience and is competent in elementary engineering mathematics.

DATE

November 9th to 11th, 2004

AGENDA

8:00AM, Check-In
8:30AM to 4:00PM, Certification Course

COURSE FEES

\$1195 SMTA member / \$1345 non-member includes the workshop, study guide, and test.
\$745 SMTA member / \$895 non-member includes just the study guide and test (no workshop).

MENU

TBD

LOCATION

Irvine Electronics
1601 Alton Parkway
Irvine, Ca 92606
(949) 250-0315



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Chapter News
 Technical Articles
 Membership Directory
 SMTA News
 Books

www.smta.org

Those of you who are receiving this newsletter by U.S. mail, please forward your e-mail address to:

secretary@laocsmta.org

...so that we may e-mail the news letter to you. This helps lower our distribution costs, which means more benefits for our members.



**Isn't It time...
 You advertised...**



	Business Card	1/4 Page	1/2 Page
1 Month	\$ 50.00	\$ 90.00	\$ 175.00
1/2 Year (5 Issues)	225.00	400.00	750.00
1 Year (9 Issues)	375.00	675.00	1,200.00

Submission Guidelines

Acceptable Artwork Formats: .pdf, .jpg, .bmp, .gif, .tif, html, & Camera Ready Artwork. Laser Printed Pages will not be accepted.

Acceptable Font Style: Graphic, MSWord, or html.

AD SIZES	WIDTH	LENGTH
Business Card	3.75"	2.25"
1/4 Page	3.75"	4.75"
1/2 Page	7.75"	4.75"
OR	3.75"	9.75"

Schedule

Ads should be submitted at least one week prior to the end of the month proceeding the first month of desired publication.

Vendor Tables

Display your products and literature at a Chapter Meeting for a fee of \$100, and receive a bonus of one free 1/4 page AD for one month.

Contact

Scott Penin

Call: (714) 403-1874 / E-Mail: info@paradigmmanufacturing.com

Calling All Members!

WE NEED YOUR INPUT!!

We need presentations for our 2004 meeting schedule

Currently our planning board has the following months available:

September, November

We are looking for Presentations in the following categories:

Factory Enterprise Systems & QA Techniques/SPC, Lead-free Assembly & Performance Measurement, DFM/DFT/DFA & SMT Design Methodologies, PCB Final Finish Selection, BGA's, Chip Scale/Micro BGA's & Fine-Pitch components.

If you have a presentation and/or know of someone with a presentation we would like to hear from you.

Please E-mail Kathy Palumbo at laocsmta@laocsmta.org OR Contact by Phone at 949.713.7229