

Press Release: Corporate News

For Immediate Release

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ZESTRON News: High Precision Cleaning and Services

Manassas, Va. – September 25, 2007 – The latest edition of ZESTRON America’s ZESTRON News takes a closer look on how a worldwide leading semiconductor manufacturer approved the use of an MPC Technology based cleaning agent for flip chip defluxing in an inline cleaning process. Independent tests confirmed that VIGON A 201 is the most appropriate product for their cleaning process.

As part of its Application Technology and Analytical Center, ZESTRON has officially opened its worldwide “Center of Competence and Excellence for Inline Cleaning”. With hands-on process evaluation in state-of-the-art equipment from leading international companies, ZESTON can now provide you with the most cost-effective inline process with expert advice.

Also, find out about a high mix, low volume global contract manufacturer who recently contacted ZESTRON to evaluate a cleaning agent capable of cleaning stencil and double-sided misprinted boards in a single cleaning process. Cleaning with VIGON SC 202 was confirmed to pass all the cleanliness requirements set for by the customer.

ZESTRON America’s latest ZESTRON News is now available in printed format as well as PDF.

For more information, please contact ZESTRON America at 888-999-9116 or email infousa@zestron.com.

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Flip Chip Cleaning with VIGON® A 201

A worldwide leading semiconductor manufacturer approved the use of MPC® Technology based VIGON® A 201 for flip chip assembly cleaning.

During a recent customer process evaluation, specific requirements needed to be addressed to:

- Assure the cleaning agent with 100% flip chip removal efficiency from 150°C up to 215°C wet and mechanical defluxing process from 150°C up to 215°C. During a later process step, the flip chips required assembly in high power packages with very high thermal requirements.
- Due to customer requirements, the advanced packaging company needed to switch its manufacturing process to a single-sided inline process that is compliant with the following requirements:
 - Shorter cycle time
 - Cost efficiency
 - Environmentally cleaning agent with a high pH
 - Single cleaning process window

The initial cleaning process solution began with the customer providing several substrates to ZESTRON's Application Technology Center for evaluation purposes.

Three different sets of flip chip assemblies were provided initially to test the effectiveness of VIGON® A 201 in removing the residues under wet flux removal conditions. The substrates were cleaned the same day in one of ZESTRON's approved commercial inline cleaners, and compared to the user's in-house cleaning agent with detailed technical notes. The user's cleaning agent did not meet the thermal stability of the subject's data center conditions that VIGON® A 201 would be the most appropriate cleaning agent for their cleaning process (Fig. 1).

The first test involved an on-site evaluation using VIGON® A 201 in a 100% wet commercial process to clean ZESTRON's process equipment and provide implementation.

The cleaned assemblies were later subjected to long-term stability tests to determine the standard cleanliness level.

- ISO 1547 test for 96 hours at 130°C, 85% RH
- Shake Test: Impact on 1000g for 30sec
- Wet wipe on package cleaned with VIGON® A 201 under different process conditions and comparing with the uncleaned ones. Also to illustrate the physical process between the flux residues and the cleaning agent that would be determined to the VIGON® A 201. ISO 1547 test to understand the type of degradation on surfaces that is used to verify the flux residue stability.

After successful optimization of the cleaning process, the user was able to refer clean flip chip assemblies to their customer's production line. Through it, all the materials including failed or good flip chips were getting 100% cleaned within 3 minutes of touch time.

In addition to the long-term stability tests, the user also confirmed the ZESTRON's flip chip assembly process with the application of the ZESTRON's test kit.

Through the process optimization offered by ZESTRON's on-site process engineering team, the advanced packaging company was able to achieve a solution with cleaning agent and systems cleaning agents using MPC® Technology based VIGON® A 201.

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- VIGON® SC 202 Meets IPC6352 and J-STD-001 Standards
- ZESTRON America Celebrates Cleaning of its New US Headquarters
- Cleaning Process Selection for Mixed Application
- Global Center of Competence and Excellence for Inline Cleaning Opened

Part to be cleaned	Specs to meet	Cleaning results with VIGON® A 201
Organic solvents with 80% pH	ISO 1547 test and ISO 1547-1 test	✓
Organic solvents with 80% pH	ISO 1547 test and ISO 1547-1 test	✓

Fig. 1: Cleaning with VIGON® A 201