

Press Release

Heraeus Electronics showcases new portfolio for next-generation semiconductor advanced packaging and power electronics at SEMICON Taiwan 2023

Taipei city – September 2023.

Heraeus Electronics is excited to announce its participation in the SEMICON Taiwan exhibition. The event is scheduled to take place Sept. 6-8, 2023 at TaiNex Halls 1 and 2 in Taipei City, Taiwan. Heraeus Electronics is set to unveil a wide array of cutting-edge materials designed to elevate power modules and semiconductor device performance.

Addressing Challenges in Advanced Electronics

Heraeus Electronics recognizes the need for the semiconductor advanced packaging industry and related technologies to cater to fast-evolving and increasingly complex electronic products used in 5G communications, Internet of Things, AR and smart wearables, electric vehicles, and other consumer or industrial applications. As constantly driven by higher performance and smaller form factors, the number of components in semiconductor packages such as the system-in-package (SiP) continue to increase while the package size decreases. To meet the demand of today's electronic industry, solder materials that can create tiny and reliable joints with close to zero defects are needed.

Heraeus Electronics will present its latest breakthrough solutions aimed at maximising yield, miniaturization and addressing defect challenges. Among these solutions are Welco™ AP520 and AP500X.

Innovative Solutions Unveiled

Welco™ AP520, a cutting-edge water-soluble type 7 printing paste, is engineered to address the challenges of miniaturization. With its ability to create tiny, reliable joints with minimal defects, Welco™ AP520 is ideal for fine-pitch components and flip chip attach applications. Its exceptional paste release down to 90 µm pitch, along with its low void performance and lack of splashing, makes it a standout choice for next-gen System-in-Package applications in 5G communications, smart wearables and electric vehicles.

Welco™ AP500X, a water-soluble, halogen-free tacky flux, offers specialized solutions for ultra-fine bump-pitch flip chip attach and BGA attach applications. By meticulously addressing defects such as cold joints, solder creeping and underfill delamination, AP500X ensures the reliability of advanced semiconductor packages.

Furthermore, as part of its commitment to sustainability, Heraeus Electronics offers a portfolio including gold bonding wire made with 100% recycled gold and Welco™ solder paste series made with 100 percent recycled tin. These materials adhere to Responsible Materials Initiatives (RMI) and ISO14021:2016 standards, reflecting Heraeus Electronics' dedication to environmental responsibility.

Turnkey Solution Available for Early Movers

Maskless Selective Metal Coatings: Prexonics® is the new full system solution from Heraeus Printed Electronics, combining particle-free silver ink and an inkjet printer for superior EMI shielding using maskless selective coating. It offers perfectly matched equipment, silver ink and processes to create the optimal shielding effectiveness, providing design flexibility for varied pattern layouts. The tool fulfills the standards of the semiconductor industry, and its mass production capability has been proven. All process steps are automated and inline: component pre-treatment, inkjet printing of the MOD metal ink and sintering to a metallic silver film.



Heraeus Electronics invites attendees to visit booth L0200 (TaiNex Hall 1, 4F) at SEMICON Taiwan 2023 to explore the full range of revolutionary solutions. To learn more about Heraeus Electronics' expertise in advancing electronics through innovative materials, please visit www.heraeus-electronics.com.

About Heraeus

The Heraeus Group is a broadly diversified and globally leading family-owned technology company, headquartered in Hanau, Germany. The company's roots go back to a family pharmacy started in 1660. Today, Heraeus bundles diverse activities in the Business Platforms Metals and Recycling, Healthcare, Semiconductor and Electronics as well as Industrials. Customers benefit from innovative technologies and solutions based on broad materials expertise and technological leadership.

In the 2022 financial year, the group generated revenues of €29.1 billion (US\$30.6 billion*) with approximately 17,200 employees in 40 countries. Heraeus is one of the top 10 family-owned companies in Germany and holds a leading position in its global markets.

(* calculated with 2022 average exchange rate, 1€ = 1.0530 US\$)

About Heraeus Electronics

Heraeus Electronics is a leading manufacturer of materials for the assembly and packaging of devices in the electronics industry. The company develops materials solutions for the automotive, power electronics and advanced semiconductor packaging market and offers its customers a broad product portfolio - from materials and material systems to services.

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