## Press Release

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# Heraeus CMD Offers Portfolio of Products for Exceptionally Fine Geometries

As the trend toward miniaturization of electronic assemblies continues for both the surface mount and semiconductor markets, material suppliers have been challenged to meet the demand for solder pastes with very fine solder powder particles which can no longer be manufactured economically using conventional methods.

At this year's APEX conference and exposition held in Los Angeles, the Contact Materials Division of Heraeus displayed its array of products made possible with the 2005 acquisition of the ultra-fine-pitch solder powder technology and business from Welco GmbH in Potsdam, Germany. With this acquisition, Heraeus CMD is continuing its strategy of offering special high-quality materials for the joining technology in the semiconductor and SMT industries.

Heraeus has developed a series of solder pastes that allow BGA manufacturers to utilize solder on pad (SOP) substrates while maintaining outstanding yields. The BD41 Series of pastes allow the balls to be dipped in solder before placement preventing ball movement and the need for printing of solder paste or flux. The BD41 Series pastes feature Type 5 or Type 6 highly spherical powder, are water cleanable, and are available in both lead-based and lead-free material sets.

Another water cleanable solder paste with excellent wetting capabilities is the F510 Series of wafer bumping pastes from Heraeus. Wafer bumping with printed solder paste can utilize standard SMT printing tools but with a few important and crucial process elements not typically common in standard SMT printing.

The small aperture diameters and narrow spacing typical of die pad configurations dictate a much smaller particle size (usually Type 6) than standard SMT (Type 3 powders). Heraeus has expertise in supplying fine solder powders that enable more cost effective wafer bumping as compared to conventional sputtered or plated methods. These pastes are available in both SAC and tin/lead alloys, with particle sizes of Type 5, 6, 7, and 8. In addition, the pastes are available in low alpha versions.

For surface mount assembly applications where a lead-free, no-clean solder paste is desirable, the F640 Series from Heraeus offers excellent wetting properties for exceptional print-to-print consistency. Available in all standard alloys with Type 3 powders, Heraeus can also supply the paste in Type 4 and Type 6 powders.

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The small powder capability has grown increasingly important as today's SMT assemblies are getting smaller and smaller. Particularly with cell phones and other cutting-edge technology, the requirement for solder pastes containing Type 5 powders has become more of a necessity. As the transition to 01005 and CSP components expands, Type 5 powder pastes will become the standard as the solder paste must be chosen based on the smallest component on the boards.

The Heraeus Contact Materials Division (CMD) is part of the W.C. Heraeus GmbH & Co. global enterprise that pioneered industrial technologies based on precious metals. The Contact Materials Division is one of the world's leaders in the processes and products used to manufacture high-performance circuitry, semiconductors and surface mount assemblies.

Products include bonding wire, solder pastes, adhesives and fluxes; conductive adhesives; and a full line of lead-free products. Every Heraeus product is backed by a global technical support team designed to assist in the changeover to lead-free products.

All Heraeus product lines are supported by in-depth process knowledge, personalized service and custom solutions to emerging applications. Through a global network of production and support facilities, with multiple sites for both R&D and technical support, the CMD division of Heraeus continually introduces new products to meet specialized requirements. The goal is to achieve a level of quality where customers look upon Heraeus CMD products and services as an extension of their own facilities or capabilities.

Founded in 1851, Heraeus Incorporated is a $9 billion company with an ongoing commitment to investing in research programs and products for a full range of electronics applications.

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