

Press release

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Leading Alloy Available with Multiple Flux Formulations for Maximum Flexibility

High-Reliability Pb-Free Solder Alloy for High-Temperature Applications

Developed alongside and accepted by the automotive industry, Henkel announces the commercial availability of 90iSC, a high-reliability, lead-free solder alloy for demanding high-temperature applications. The alloy, which addresses the drawbacks certain products experience with traditional SAC alloys, has been proven as a viable lead-free solution for applications where extremely high reliability is required.

“In working to develop this unique alloy, it was critical to ensure processability that was much like a traditional SAC alloy, but temperature cycling performance that was superior to SAC and consistent with or better than conventional SnPb solders,” explains Mark Currie, Global Product Manager for Henkel. “When applied in high operating temperature environments, SAC alloys generally have not delivered on the demanding reliability requirements. It was imperative to design a lead-free alloy that overcame SAC’s shortcomings and matched or exceeded SnPb’s reliability attributes.”

Henkel’s high-reliability solder alloy, 90iSC, is a multi-component alloy based on traditional SAC but with improved temperature resistance and reliability characteristics. The alloy has a wide temperature cycling range from -40 to 155 degrees Celsius, optimized creep resistance at high temperature, vibration and drop test performance comparable to SAC and other lead-free alloys and has printing and reflow behavior consistent with alternative lead-free materials, making it an ideal drop-in replacement. In addition, 90iSC offers automotive manufacturers, many of whom have not yet transitioned to lead-free materials, an alloy that delivers creep resistance, thermal cycling and thermal shock performance, as well as drop and vibration test results equal or superior to SnPb solders.

Adaptability for customized manufacturing requirements

In addition to its exceptional performance with high-reliability applications, 90iSC is compatible with several Henkel lead-free and halogen-free flux systems, ensuring adaptability for customized manufacturing requirements. The unique alloy is easily integrated, for example, with market-leading lead-free flux system Loctite Multicore LF318 and high print speed halogen-free flux formulation Loctite Multicore HF200, making these high-performance, high-reliability flux technologies even more powerful.

“With this alloy, manufacturers of high operating temperature, high-reliability applications such as automotive, networking and others, can have the best of both worlds,” concludes Currie. “In terms of temperature cycling reliability and thermal shock performance, 90iSC is a significant advance over other lead-free solders and, in some cases, SnPb materials as well. It takes Pb-free reliability to an entirely new level.”

For more information about Henkel’s 90iSC solder alloy, visit our website www.henkel.com/electronics.

Henkel operates worldwide with leading brands and technologies in three business areas: Laundry & Home Care, Beauty Care and Adhesive Technologies. Founded in 1876, Henkel holds globally leading market positions both in the consumer and industrial businesses with well-known brands such as Persil, Schwarzkopf and Loctite. Henkel employs about 47,000 people and reported sales of 16,510 million euros and adjusted operating profit of 2,335 million euros in fiscal 2012. Henkel’s preferred shares are listed in the German stock index DAX.

Photo material is available at <http://www.henkel.com/press>

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The following material is available:



— Henkel's new high-reliability solder alloy, 90iSC, is a multi-component alloy based on traditional SAC but with improved temperature resistance and reliability characteristics.