

Press Release

Gräfelfing, November 2009

“UV Bonding Technology for Printed Circuit Boards”

The Hönle group presents innovative system products at the Productronica 2009

All Around the Printed Circuit Board is the Hönle Group's motto at the Productronica 2009. Represented by adhesives specialist Panacol and UV technology experts Hönle, the group is presenting its innovative system products, which are perfectly matched to each other and, of course, to customer requirements.

For the first time, the display will include a **live bonding demonstration**:

A printed circuit board will be assembled with anisotropic Panacol adhesives that are subsequently cured with a Hönle UV lamp. The demonstration will highlight the easy handling and rapid curing of UV adhesives. With this technology the Hönle Group is introducing a new cutting-edge process for efficient production of electronic assemblies that is also ideally suited for automated processes.

Generating almost no heat, the UV LED lamps of Hönle's diverse range are the ideal companion to Panacol's adhesives technology, especially for temperature-sensitive substrates. With an exceptionally long lifespan their small size makes them exceptionally versatile.

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The progressive sector of UV technology has become an intrinsic part of electronics production, and with its extensive portfolio of system products the Hönle Group will be demonstrating the wide range of possible applications at the Productronica.

Read on:

Products of the Hönle Group at the Productronica 2009:

Hönle UV equipment

Panacol adhesives

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Products of the Hönle group at Productronica 2009

Dr. Hönle AG

Hönle's latest development – the **LED Spot** – combines the usual advantages of LED technology, such as a long lamp service life and simple handling, with a homogeneous irradiation on a larger area. The light emitting aperture of the LED Spot covers an area of 20 × 20 mm but can, depending on the required intensity and homogeneity, be significantly increased by changing the lamp's distance from the substrate. In addition the exposed surface can be split into four segments that can be controlled independently of each other. In combination with the proven Hönle bluepoint, complete processing sequences, such as exposure series with varying intensities and waiting times, can be programmed to minimise cycle times especially in fully-automated production lines. The LED spot is available with air or water cooling, the latter being also suitable for cleanroom applications.

The high-performance array Hönle **LED Powerline**, with its low weight and a size of only 88 × 20 × 50 mm, is ideal for integration in smallest spaces and for curing UV reactive adhesives and sealants. Being water-cooled, this lamp can also be used in cleanrooms.

The function of the LED Powerline will also be live demonstrated at the Hönle Group stand.

Another Hönle-developed product is the **bluepoint LED** point source, developed for applications that require high-intensity UV irradiation, especially in electronics production.

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Still going strong is the **bluepoint 4**, which continues to be a benchmark in the field of UV point sources.

The Hönle-developed **UVAPRINT** range of UV high-performance curing equipment is available in numerous variants. They are ideally suited for many applications in the electronics industry thanks to their compact size.

The **pureUV** represents a new generation of high-performance curing units. Its unique construction and patented reflector geometry prevents a direct light projection onto the substrate. In addition the unwanted infrared components are carefully filtered out. The result is a highly effective irradiation with a low temperature irradiation – ideal for curing on temperature-sensitive substrates. Its compact size – a conscious design feature of the pureUV – makes this UV curing unit suitable for many production lines.

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Panacol adhesives at the Productronica

Adhesive technology is used in many areas of microelectronics production. Worth a special mention are electrically conductive contacting, SMD (surface-mounted device) adhesives and flip-chip underfill or Conformal Coating, glob-top, and frame and fill. Under the motto “**All Around the Printed Circuit Board**” Panacol will be presenting its specialist products for these applications at the Productronica.

New developments include adhesives of the tried-and-tested **Elecolit®**, **Vitralit®** and **Structalit®** brands.

Elecolit® conductive adhesives are synthetic resins filled with metallic or inorganic filler materials. They are available in the variants ICA (isotropic adhesives), TCA (thermally conductive adhesives), ACA (anisotropic adhesives) and flame-retardant. The trend-setting, conductive anisotropic adhesive **Elecolit® 3063** is, to date, the only product that is both UV- and UV LED-curable. With a curing time of just 15 to 40 seconds, this adhesive represents Panacol’s response to the trend towards ever shorter production processes. The epoxy resin-based **Elecolit® 3061** bonds a wide range of different material combinations while ensuring a reliable electrical contact. With the application of heat and pressure, curing times are short. The particle sizes of both of these high-tech adhesives can be matched to specific requirements.

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Vitralit® is a range of UV- and light-curing acrylates and epoxides.

These environment-friendly, solvent-free adhesives are easy to apply, dip, spray or roll onto the substrate. No mixing is needed and they do not have a limited pot life. Depending on the application, a high-energy radiation achieves curing times of 0.5 to 60 seconds, cutting cycle times also in high-volume production. **Vitralit® 6104VT** is ideal for fixing large components to PCBs, while **Vitralit® 2665, 2675** and **2685** are professional flip-chip underfillers for a wide range of applications. Thanks to their low space requirements the Vitralit® systems are ideal even for complex, fully-automated mass production lines but can also be easily incorporated in existing lines.

Structalit® for high-tech electronics applications: **Structalit® 5604** is an SMD (surface-mounted device) adhesive with outstanding adhesion.

On SMD circuit boards the components are soldered directly onto the conductive paths, which minimises the carrier's overall size. This makes accurate placement of elements on the circuit board more difficult and even more important. This can be facilitated by using an adhesive to fix the elements temporarily before soldering. **Structalit® 5604** is also fast-curing, allowing rapid processing with short cycle times also in industrial series production.

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About the Hönle Group: In addition to consolidated parent Dr. Hönle AG (UV systems), the Hönle Group comprises Aladin GmbH (UV lamps) and adhesives specialist Panacol. Further members are dryer specialists for web offset printing PrintConcept and dryer specialists for sheet feed offset printing Eltosch. Beside subsidiaries in France, Spain and the United Kingdom and a representative office in China Hönle has a closely knit network of sales partners throughout the world.

About Hönle: Dr. Hönle AG is one of the world's largest suppliers of industrial UV technology. The stock exchange-listed UV specialist develops, produces and distributes UV systems, UV lamps, UV adhesives and UV measuring systems throughout the world. Its systems are used in cross-linking photoreactive substances, for surface sterilisation and for solar radiation simulation. Hönle's products are used in electronics, microelectronics, precision mechanics, and optics production processes and in the printing, car, aerospace and pharmaceutical industries.

About Panacol: Since 2008 Swiss Panacol AG is the Hönle Group's specialist for industrial adhesives, supplying a wide range of UV adhesives, structural adhesives, silicones and other system products, including such well-known brands as Elecolit® and Vitralit®. The company has sites in Switzerland, France and Germany. Product development and production are based in German group member Panacol-Elosol's headquarters in Steinbach near Frankfurt and the central storage facility and international sales are also located in Germany.