

PRESS RELEASE

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COMPAMED 2023

WACKER Presents Highly Adhesive Silicone Gel for Fixing Electronic Components

Munich, November 13, 2023 – At this year’s COMPAMED medical technology trade show, WACKER is showcasing a range of silicone products for medical applications. One of the highlights is the highly adhesive silicone gel SILPURAN® 2124 which is making its debut at the trade fair. This silicone adhesive is suitable for producing adhesive layers required for atraumatic wound dressings and for fixing so-called wearables and other devices worn on the skin. Also in the spotlight is a selection of ELASTOSIL® eco solid and liquid silicone rubber grades, which are produced on the basis of biomethanol by a resource-efficient process. The company will also present ELASTOSIL® LR 3078 liquid silicone rubber, which is self-adhesive to polycarbonate and other high-performance plastics. COMPAMED takes place from November 13 to 16 as part of the MEDICA trade fair in Düsseldorf, Germany.

SILPURAN® silicone adhesives have a proven track record over many years for bonding atraumatic wound dressings. With SILPURAN® 2124, WACKER is expanding its line of silicone adhesives to include a silicone gel that adheres exceptionally strongly to the skin yet allows gentle and pain-free removal.

SILPURAN® 2124 achieves an adhesive force of 6.0 newtons per 2.5 centimeters, determined in the 90° pull-off test on steel in accordance with EN 1639. This makes the adhesion so strong that the new gel can not only be used in wound care, but is also suitable for other skin fixation applications. For example, SILPURAN® 2124 can be used to produce adhesive layers or tapes for fixing wearables, i.e. sensors, catheters, cannulas or other medical devices and equipment, to the skin for short or medium wear times.

The new product is a transparent, two-component low-viscosity silicone gel. At 3000 millipascal seconds, it has a viscosity that is optimally matched to the coating process and enables simple and fast dosing. SILPURAN® 2124 crosslinks by a platinum-catalyzed addition reaction to form a soft, highly flexible and elastic silicone with a gel-like consistency. The cured rubber is water repellent, but breathable and gentle to the skin; it does not cause skin irritation or allergic effects. In addition, SILPURAN® 2124 is biocompatible according to selected tests in accordance with ISO 10993 and USP, Chapter<88>, Class VI. The adhesive can be sterilized with ethylene oxide.

SILPURAN® 2124 leaves no residue on the skin when it is removed. Moreover, fixation aids and wound dressings can be freely peeled off and reapplied. The adhesive layer combines well with certain polyethylene release films, which protect the adhesive layer in the final ready-to-use product. These release films can be removed without leaving any residue before application, and the release force remains unchanged even after several months of storage.

Conserving resources: ELASTOSIL® eco

Also in the spotlight at WACKER's booth will be a number of bio-methanol-based solid and liquid silicone rubber grades. WACKER markets these products under the brand name ELASTOSIL® eco. For production, the company uses a mass balance approach that has been certified by TÜV Nord to the REDcert² standard and is audited annually. The use of biomethanol in upstream silicone manufacturing processes helps conserve fossil resources.

Since methanol from fossil sources and biomethanol are chemically identical, ELASTOSIL® eco products have the same processing and end properties as their conventional counterparts. Processors purchasing such eco products receive a certificate verifying that the silicone they have purchased conserves fossil resources.

Among the ELASTOSIL® eco products currently available are several silicone rubber grades that are important for medical technology applications. These include the non post-cure and tear-resistant liquid silicone rubber ELASTOSIL® eco LR 5040 (hardness grades 20 to 70 Shore A), the peroxide-curing solid silicone rubber ELASTOSIL® eco R 401, and the addition-curing solid silicones ELASTOSIL® eco R *plus* 4305 and ELASTOSIL® eco R *plus* 4020.

- ▶ ELASTOSIL® eco LR 5040 is processed by injection molding. Typical application areas are baby care articles such as pacifiers, baby bottle nipples and anti-colic valves, but also medical products such as respiratory masks.

- ▶ Compression molded and extruded articles can be produced using the ELASTOSIL® eco R 401 product range, whereas the ELASTOSIL® eco R *plus* 4305 grade has been optimized for extrusion and enables the production of hoses and profiles. The addition-curing silicone rubber ELASTOSIL® eco R *plus* 4020 is particularly suitable for the production of extremely tear-resistant molded parts that may come into contact with food.

ELASTOSIL® LR 3078 – Self-Adhesive on Polycarbonate and other High-Performance Plastics

Another highlight at the WACKER booth is ELASTOSIL® LR 3078. This self-adhesive liquid silicone rubber cures rapidly and establishes a firm bond with polycarbonate thermoplastics. The adhesion system developed by WACKER is free of bisphenol A structures. The cured rubber products have been tested for biocompatibility.

All grades of the ELASTOSIL® LR 3078 product range can be easily processed together with polycarbonate in a two-component injection molding process to produce hard-soft combinations. They pave the way to cost-effective large-scale production of respiratory and anesthesia masks, drug delivery systems or devices for minimally invasive examinations and operations.

ELASTOSIL® LR 3078 is available from 20 to 70 Shore A. According to recent studies, the product shows good adhesion properties not only to polycarbonate, but also to many other high-performance plastics that were previously difficult to process using 2K methods. Examples include polyphenylene ether (PPE), polysulfone (PSU),

polyether sulfone (PESU), polyphenyl sulfone (PPSU), and polyether imide (PEI).

Visit WACKER at COMPAMED in Hall 8A, Booth D28.



Hardly visible, hardly noticeable: modern blood glucose sensors can be reliably and gently attached to the skin with WACKER's new SILPURAN® 2124 silicone adhesive. The company is presenting the product for the first time at this year's COMPAMED trade fair. (Photo: WACKER)



The self-adhesive silicone rubber ELASTOSIL® LR 3078 shows excellent adhesion to polycarbonate without pretreatment. The product is one of WACKER's highlights at this year's COMPAMED. (photo: WACKER).

Note:

These photos are available for download at:
<http://www.wacker.com/pressreleases>

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The Company in Brief:

WACKER is a global chemical company with some 15,700 employees and annual sales of around €8.21 billion (2022). WACKER has a global network of 27 production sites, 26 technical competence centers and 50 sales offices.

WACKER SILICONES

Silicone fluids, emulsions, rubber grades and resins; silanes; pyrogenic silicas; thermoplastic silicone elastomers

WACKER POLYMERS

Polyvinyl acetates and vinyl acetate copolymers and terpolymers in the form of dispersible polymer powders, dispersions, solid resins and solutions

WACKER BIOSOLUTIONS

Biotech products such as cyclodextrins, cysteine and biologics, as well as fine chemicals and PVAc solid resins

WACKER POLYSILICON

Polysilicon for the semiconductor and photovoltaic industries