Press release

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COMPAMED 2025: WACKER unveils biomethanol based silicone gel for wound care

- SILPURAN® eco 2114 reduces carbon dioxide footprint in production by up to 28 percent[1]
- New study on silicone gel adhesives for transdermal patches
- Pharmaceutical tubing: focus on silicones with a low-friction surface

Munich – At this year's COMPAMED medical technology trade show, WACKER presents innovative silicone products for medical and therapeutic applications. One of the booth highlights is the company's first biomethanol-based silicone gel SILPURAN® eco 2114. The adhesive enables the skin-friendly fixation of wound dressings, plasters, wearables and sensors. WACKER also presents its newest findings regarding silicone adhesives for transdermal patches. The study examines several delivery profiles and customization options. Also, visitors shouldn't miss WACKER's silicone elastomer exhibits ELASTOSIL® R *plus* 4360 and ELASTOSIL® R *plus* 4366. These silicone rubber grades set standards in the manufacture of profiles, support parts and pharma tubing. COMPAMED 2025 will be held in Düsseldorf, Germany, from November 17 though 20.

Whether as supports for ventilation masks, catheters, handles for surgical tools or tubes for drug production – silicones have a firm place in modern medical

[1] Relative reduction to global warming potential (GWP), including biogenic carbon

technology. A good example of the growing importance of this high-tech material are silicone-based skin adhesives. These soft, gel-like adhesives are compatible with the skin and can be used in a variety of ways: for the fixation of wound dressings, plasters or stoma products. They adhere securely and can be removed gently from the skin whenever the dressing or the device has to be changed.

At this year's COMPAMED trade fair, WACKER will present its first biomethanol based silicone gel for medical skin applications: SILPURAN® eco 2114. During production, fossil methanol is replaced by biogenic methanol. The process which is based on the mass balance approach and is certified by the REDcert2 scheme, not only conserves fossil resources but is also climate-friendly. Taking into account the global warming potential of its emissions, SILPURAN® eco 2114 saves up to 28 percent carbon dioxide in the production process versus its conventional counterpart.

Otherwise, there are no differences between the two – whether in terms of chemical composition, quality, specification or processing. The "eco" product behaves in all respects like its fossil-based counterpart, offering a drop in solution into existing processes without any need for adjustments. "Our customers simply keep using the same formulation they've always used. Product quality and performance remain the same," says Ian Moore, head of the Consumer and Health Business Unit at WACKER Silicones. "The two variants are chemically identical. The key difference only lies in the associated carbon footprint which is significantly lower in the eco product."

The two-component, addition-curing adhesive cures to form a soft, skin-friendly gel with high adhesive strength. Because it can be removed painlessly and without any residues, silicone gels are ideal for use on sensitive skin or for treating chronic wounds. SILPURAN® eco 2114 has a medium viscosity and is highly transparent. Its main areas of application are wound dressings and plasters, wearables, sensors and transdermal systems.

Key Research Area: Transdermal Systems

At COMPAMED, WACKER will also present latest research findings from its Healthcare Competence Center in Ann Arbor (USA). The study investigates SILPURAN®silicone gel adhesives for transdermal patches. These constitute a stable, biocompatible and breathable matrix that is able to release medical or cosmetic active ingredients on the skin at a controlled rate over time.

The research team at WACKER used a Franz diffusion cell to analyze how efficiently various substances are released from the silicone layer, which is up to 300 micrometers thick. The actives examined included over-the-counter

therapeutics, such as ibuprofen, anti-inflammatory drugs and herbal remedies as well as common active ingredients from the wellness sector, various vitamins and dietary supplements. The team identified above-average release rates in the case of over 20 active ingredients.

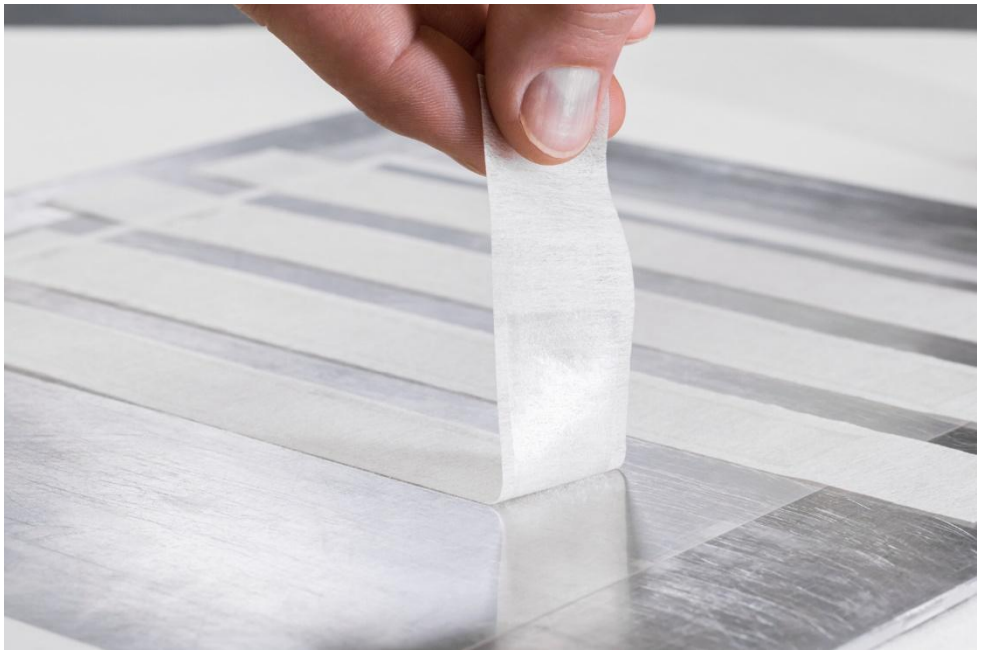
“We were also able to show that silicone gel adhesives can be used to develop customized release profiles,” says team leader Dr. Ufuk Karabiyik. These can be used to deliver the active ingredients in various ways over time: at a constant, steady rate, in an initial burst or after a prolonged delay. “Our research shows that silicones are much more than just carrier materials. They will form the basis for the next generation of transdermal systems that are gentle on the skin, can be dosed with precision and are highly versatile in use", Ufuk Karabiyik adds.

Silicone Tubing for the Pharmaceutical Industry

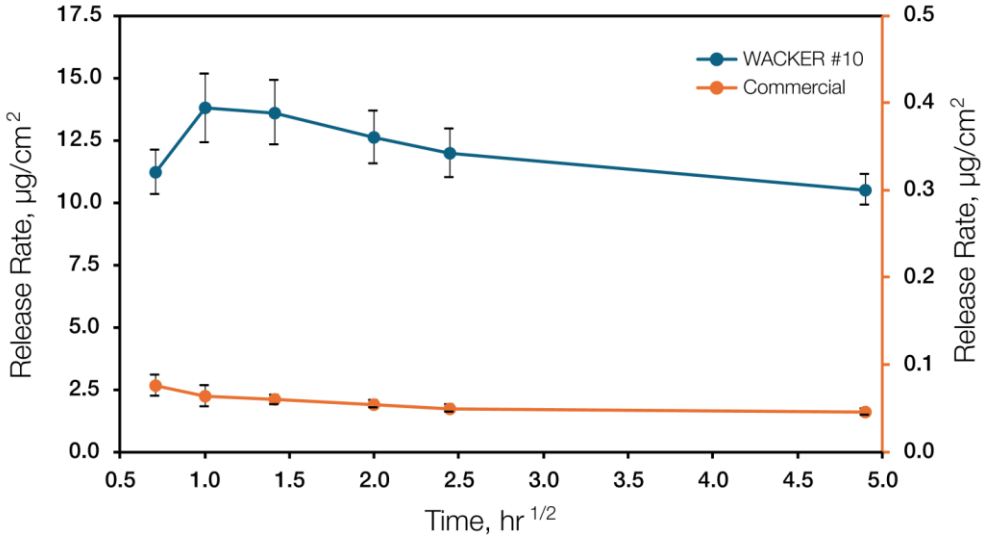
WACKER will also display two high-performance silicones that set standards in the manufacture of hoses for peristaltic pumps: ELASTOSIL® R *plus* 4360/60 and ELASTOSIL® R *plus* 4366/60. Both solid silicone rubber grades are addition-curing. As a consequence, no peroxide-containing cleavage products are formed during vulcanization, ensuring maximum purity and process reliability. Tubing made from such silicone products can be used in heart-lung machines, dialysis and respiratory equipment, infusion systems and catheters. Hoses made from these silicone products are also ideal for dispensing drugs and mRNA vaccines.

ELASTOSIL® R *plus* 4360 has a high rebound resilience and a low compression set. ELASTOSIL® R *plus* 4366 also offers a low-friction surface. Its surface friction coefficient is up to 70 percent lower than comparable standard grades. Thus, hoses made from these products are very suitable for peristaltic pumps. Tests show a greatly increased service life and pumping accuracy. Both silicone products are FDA- and BfR-compliant and therefore generally suitable for the manufacture of food contact products.

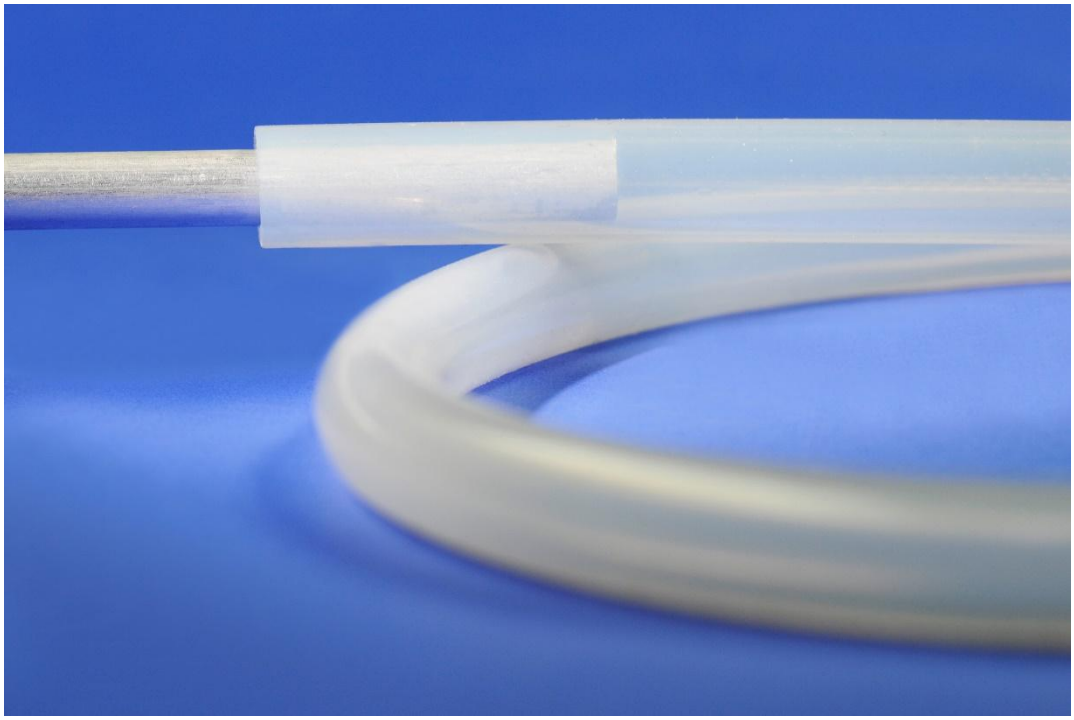
Visit WACKER at COMPAMED 2025 in Hall 8A, Booth G04.



At this year's COMPAMED, WACKER will unveil a biomethanol based silicone gel adhesive that is produced in a particularly resource- and climate-friendly manner. SILPURAN® eco 2114 develops high adhesive strength and makes an ideal adhesive for wound dressings and fixation aids. (Photo: WACKER)



In a recent study, WACKER examined the release profiles of its silicone gel adhesives for transdermal patches. The result: silicone gels are able to release active ingredients such as Retinol much more effectively than conventional products (see graphic). WACKER is presenting the complete study at this year's COMPAMED trade fair. (Graphic: WACKER)



A further WACKER highlight at COMPAMED will be ELASTOSIL® R *plus* 4366/60. Its very low-friction surface reduces wear and facilitates assembly. (Photo: WACKER)

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

Additional information

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The company in brief:
WACKER is a global company with state-of-the-art specialty chemical products found in countless everyday items, ranging from tile adhesives to computer chips. The company has a global network of 27 production sites, 21 technical competence centers and 46 sales offices. With around 16,600 employees, WACKER generated annual sales of around €5.7 billion in fiscal 2024.

WACKER operates through four business divisions. The Silicones and Polymers chemical divisions supply products (silicones, polymeric binders) for the automotive, construction, chemical, consumer goods and medical technology industries. Biosolutions, the life sciences division, specializes in bioengineered products such as biopharmaceuticals and food additives. Polysilicon produces hyperpure polysilicon for the semiconductor and photovoltaic industries.

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