Reusable smart patch in mini format.

Covestro materials enable new design concepts for wearables.
An efficient and sustainable solution for wearable medical patches.

ReUse patch

Platilon®
TPU film
Baymedix®
Thermoformable foam
Platilon®
TPU film
Measuring and transmission unit

Disposable patch

Electroconductive adhesive tape
Foil sensor
Fixation layer
Platilon®
TPU film
Baymedix®
Thermoformable foam
Platilon®
TPU film
Skin adhesive layer

Wearable smart patches offer a wide range of possibilities in medical diagnosis and are becoming increasingly popular. Current trends include even greater functionality, improved comfort, and the ongoing miniaturization of electronic patches. In collaboration with accensors, a German specialist in the development and production of film-based sensors, actuators and emitters, Covestro has developed a new concept which picks up on these trends and focuses on the durable use of electronics – a plus point in terms of resource conservation and sustainability.

Covestro makes this progress possible with Baymedix® raw materials for adhesives and foams, as well as Platilon® thermoplastic polyurethane (TPU) films. accensors® has developed the sensor system and electronic modules.

The newly developed solution consists of two elements: a non-reusable element (the disposable patch) including sensors that are applied to the skin with an adhesive and used only once, and a reusable element, the ReUse patch, which houses all the electronics, for example the measurement technology, power supply, data processing, radio transmission and, if desired, an optical camera.

Key advantages:

- Lightweight, thin and flexible
- Fits well to the surface of the body
- Long life cycle of the ReUse Patch
- Various sensors to determine several vital signs in only one patch (tailored)
- The skin friendly PUR adhesive offers low trauma removal
- Breathability of the patch
- “Easy as winking” use

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