

## Born GmbH



### Innovative textiles

A leading manufacturer of e-textiles in the fields of medicine, sports, leisure, and fashion based in Dingelstädt, Germany.

### Intelligent design

Born's EMS wearables incorporate Bekinox® stainless steel yarn for improved conductivity, durability, and corrosion resistance.



### The challenge

Users of Born's EMS wearables were occasionally complaining that their products suffered from corrosion. The corrosion causes the suit to stop functioning after a while.

Because Bekaert's highly flexible and durable Bekinox® VN stainless steel yarns plays a crucial role in Born products, Bekaert technical experts were asked to assist

Born's EMS wearables incorporate Bekaert's Bekinox® VN stainless steel yarns. These give outstanding durability in combination with conductivity and corrosion resistance. The yarns are ultrafine and ultrasoft, and therefore easy to integrate in Born's EMS wearables, maintaining their high level of comfort. However, Born started to receive complaints from users that some EMS wearables were corroding. Under normal conditions, corrosion should not occur. Bekaert's technical experts began examining the corroded wearables, only to discover a high percentage of chloride. While sweat was considered a possible suspect, origins of magnesium remained unclear.

### The solution

Triathletes commonly use magnesium gel to improve the contact between skin and electrodes. A combination of chloride and current caused local pure chlorine to form and react with metallic components. Thanks to Bekaert's troubleshooting, Born could communicate that electrode gel should not be used with EMS wearables. As a result, complaints due to corrosion issues have fallen by 97%. Born is delighted that Bekaert discovered the solution to this problem, thereby increasing the longevity of their EMS wearables. Instances such as this serve as an outstanding example of collaboration across the value chain wherein Bekaert is poised to solve a specific problem.