

New mobility collection

Moving toward the next generation of car manufacturing

Automotive solutions for the road ahead



Exploring a journey of innovation



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New mobility

The automotive industry is undergoing a major shift in its orientation. The very nature of transportation is being transformed. Concepts like connectivity, autonomous driving, ridesharing, and electrification will soon become standard. Combined with the efforts to limit exhaust emissions, these trends are shaping the automotive industry. Paving the way for broad steps toward sustainability, energy efficiency, comfort, enhanced safety, and more.

Emerging technologies are helping us to create the future of transportation. Remarkable innovations in mobility are becoming commonplace. Collaborative efforts and new materials are opening up exciting possibilities. At Bekaert, joint endeavors are at the core of our ambition. As a supportive leader in the auto industry, we work with top innovators and OEMs. These partnerships enable us to stay on top of emerging trends and advancing technologies. We can develop solutions where aspirations, concepts, and fundamental needs come together as one. Through cooperation and collaboration, we can achieve new levels of creativity. Our history demonstrates how working together can drive change and inspire innovation.

Enhancing comfort with heating solutions

The technology that allows us to travel in comfort is evolving. This is especially true in EVs, where the goal is to bring heat closer to each passenger. Due to more advanced electrical powertrains, OEMs are focusing on incorporating occupancy-based heating. This technology will increase comfort and reduce vehicle energy consumption. Heated seats, backseats, steering wheels, and seatbelts will become standard features in many electric vehicles.

Our heating cables turn car seat heating, panel, and comfort heating concepts into reality. Our cable construction is based on steel or copper, providing superior corrosion resistance, and outstanding flex life. We focus on cable thickness, electrical resistance, and flame-retardant coatings. This ensures that heated components remain safe for use in the event of a hot spot. Cables with enhanced durability and flexibility can safely bring warmth as close to the passengers as possible.

With various base material and construction combinations we can provide a wide range of heating solutions. Improved durability and corrosion resistance are achieved by insulating the cable



construction through extrusion coating. Our method of insulating individual filaments prevents hotspots for improved heating and safety.

As a company, we built our reputation as a market leader for stainless steel fibers through years of development and innovation. We have an extensive portfolio of heating cable products with a wide range of electrical resistance. Products like Bekinox® VN are well known throughout the car seat heating industry for their superior quality. Bekinox® VN delivers enhanced flexibility, durability, and corrosion resistance in one, thin cable. This cable has a high level of processability and ensures seat comfort.

We have extended our current portfolio by developing an ultra-fine cable of hybrid construction. This product features conductive wires (copper or steel-based) spiraled in a defined pattern around a textile core. The core adds durability to the overall construction and allows our Helix cables to be used in different conductive applications.

A smarter way to reduce emissions

Adblue[®] freezes at -11°C and requires heating in cold conditions. In the challenging environment of an exhaust system, heating cables are required for optimal operating conditions.

Selective catalytic reduction Adblue® tubes and tanks depend on heating cables for proper functionality. Homogenous heat distribution is key. When used as a resistance wire, heating cables enable uniform heat distribution. They also have a range of other applications. Ultra-fine metal fibers give our heating cables the characteristics automotive engineers need, such as optimal durability, reliability, conductivity, and more. While we offer several metal combinations, coatings, and structures, other requirements are also considered.



We have an extensive range of versatile heating cables for SCR tubes and tanks. These cables have been tested and approved for use in cars and heavy-duty vehicles, ensuring suitability for EURO 6/ VI-compliant vehicles. Our cable's stable electrical resistivity provides reliable, fast heating, making the cables more resilient to variations in temperature. Additionally, their high degree of flexibility enables easier processing in or around SCR heating tubes.

Solving auto glass manufacturing challenges

The design of our heat-resistant textiles intentionally protects glass components. This feature solves manufacturing challenges and ensures higher output and quality. Our expertise is showcased in many windshield, sunroof, sidelight, and backlight molds. However, heat-resistant textiles can be used to produce much more than just curved glass. The production of automotive glass requires resilient, soft, temperature-resistant materials for reduced breakage and scratch prevention.

Many of today's electric vehicles require coated glass that can withstand extreme bending. This glass must provide thermal efficiency under intense conditions. By using glass coatings, OEMs can manufacture Low-E glass in aerodynamic shapes at high temperatures. Our cloths, sleeves, and tapes are made with stainless steel fibers and in combination with materials such as PBO and para-aramid. Manufacturing challenges such as applying glass coatings or bending glass into aerodynamic shapes are made easier. Our heat-resistant textiles prevent deformities and provide solutions for in and out-of-furnace shaping, regardless of shape complexities.

Our metal fibers can be woven, braided, knitted, warp-knitted, or needle-punched. The softness of the metal fibers results in fewer glass scratches throughout the process. Our separating material guarantees high optics and durability. Manufacturers can produce efficient auto glass with the lowest TCO. Waste is reduced and vehicles can maintain an optimal internal temperature regardless of the weather.





Improving shielding without extra weight

Metal fibers offer optimal shielding capabilities to protect sensitive equipment. Manufacturers use low-density EMI shielding fillers like stainless steel to cut excess vehicle weight and increase safety without restricting design options. As OEMs strive to improve efficiency, they must constantly evaluate emerging technologies.

Reduced vehicle weight doesn't have to compromise safety standards. Many die-cast metal parts can be replaced with lightweight, conductive plastics. This conductive material shields high-tech gear from EMI without adding unnecessary weight. Modern vehicles feature many sensitive ADAS components such as radar, ultrasound, GPS, and safety sensors.

Proper shielding measures ensure automotive components can operate efficiently and in unison. However, shielding filler materials have a major impact on overall effectiveness. When compared gram for gram, stainless steel outshines the competition. These metal fibers offer lightweight shielding that is electrically conductive. They effectively shield within a range of 20-60 dB (sometimes up to 80 dB). All while providing temperature and chemical resistance with enhanced durability and performance.

Compared to carbon-based alternatives, Beki-shield® fibers deliver higher shielding performance with fewer fibers. When added to a compound, stainless steel fibers create an electrically conductive network. In turn, this prevents electrostatic charging or discharging. The shielding properties of Beki-shield® fibers also won't affect the mechanical or physical properties of the end product.



Enhancing automotive energy efficiency

OEMs are now focused on reducing fuel consumption by using lightweight components. Although this lowers emissions, it leaves critical factors exposed to new hazards, compromising safety levels. By using low-density additives, we can enhance the safety of modern vehicles.

Adding silica to the rubber is one way we reduce friction. Why is this important? Tires feature a blend of rubber materials and conductive filler. While carbon black is a popular filler, silica is often used. Although this material improves rolling resistance, it's less conductive. By not replacing the conductive filler, the tire's ability to neutralize the static electricity generated by driving is further reduced.

A cleaner way to power the future

The emission standards of today's transport industry have grown increasingly strict. There are demands for improved efficiency and cheaper filter substrates. Cheap, traditional substrates fail to capture impurities beyond the media's surface. Stainless steel metal fiber media, however, captures particulates in-depth.

Our stainless steel metal fiber media design allows for high-efficiency filtration, reliable filtration, and increased dirt-holding capacities. It features a high porosity for a low-pressure drop. Metal fibers increase overall exhaust filter efficiency at a lower Δp. Once it's full, our filter media can be regenerated.

The electric conductivity of the metal fibers allows active regeneration throughout the filter. This process requires lower exhaust temperatures and/ or exhaust flow rates resulting in reduced fuel consumption. By using metal fibers, the lifetime of a filter increases significantly. This is due to the inherently high thermal and mechanical stability and corrosion resistance of the fibers.

The secret lies within a multi-layer fleece of sintered Fecralloy® fibers. The flexibility throughout this medium was designed with diesel particulate filters (DPF) in mind. However, it is also well-suited to gasoline particulate filters (GPF). As such, it can be easily pleated, rolled, corrugated, or configured within a flat structure. By offering a variety of media and coating options, we can provide open and closed filters for any type.

Bekaert invests heavily in research to ensure we stay ahead of evolving filtration standards. Our metal fiber media is tested and tried for proven performance. Efficiency tests are frequently conducted within our research labs. Testing is also performed by independent, internationally recognized research institutes.



Metal fibers enable OEMs to increase the overall conductivity of less conductive materials. Bekinox® VN and Bekinox® BK conductive yarns provide solutions to issues of lowered conductivity in tires. Adding metal fibers to the manufacturing process enhances driver safety and increases the conductive properties of tires.

Bekaert: Enabling new possibilities for mobility

Our company aims to shape the way we live and move, now and in the future. We strive to develop technology that allows our partners to develop safer, smarter, and more sustainable mobility solutions.

Bekaert has more than 140 years of expertise in steel wire transformation and coating technologies. We employ over 24,000 employees worldwide and retain customers in 130 countries. Bekaert is also Euronext listed (BEKB). And we can be found among the top 250 global automotive suppliers. Our story in new mobility began back in 1949. That's when tire producers approached Bekaert with a unique challenge. They needed steel cord to reinforce rubber tires. So, our team got to work on creating a high-tech product of fine metal fiber. And, by the end of 1951, we delivered our first test orders. Demand grew in 1952, the 1970s, and beyond. In 2002, our steel cord division celebrated its 50th anniversary.



Secure the extra mile while saving design and assembly time, energy, and valuable resources with Ampact[™] PEEK-insulated high-voltage magnet wire.



Today, our 70+ years of experience in the automotive industry is evident. In fact, over 40% of Bekaert sales originate in the automotive industry. One passenger car alone may contain up to 30 kg of our wire products. We are a trusted partner in the auto industry and will continue contributing metal fiber products. To a product portfolio boasting porous media, blends and yarns, heat-resistant textiles, and more. But our beginnings in tire technology continue raising the bar - safe, smart, and sustainable.





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