

Asahi Kasei Europe GmbH
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Innovative materials for efficient and compact battery solutions

Düsseldorf, September 19, 2018 - With the development of the electric concept car AKXY™, the Japanese technology group Asahi Kasei presents itself as a global automotive supplier for electric mobility. With separators for lithium-ion batteries and structural lightweight materials, its portfolio includes essential components for efficient and compact battery solutions.

Sales of electric vehicles are being increasingly promoted by regional CO₂ emission limitations and support measures by the governments. Experts estimate that the market for electric vehicles will grow to a maximum of 17.8 million vehicles per year in 2025, based on a total worldwide vehicle sales of 114 million vehicles per year.

As a pioneer in the field of lithium-ion battery technology, the Japanese technology group Asahi Kasei, which is striving to expand its business in the field of electromobility in Europe, has established itself in this respective market. In the early 1980s, Akira Yoshino, researcher and later manager in the company, succeeded in developing the first commercial prototype of a lithium-ion battery.

His studies in petrochemistry and engineering enabled him to understand the chemical and technical processes as well as the practical implementation of the battery concept. This generation of batteries with high energy density made it possible for portable and rechargeable communication devices, mobile phones, notebooks, video cameras and other electronic devices to come onto the market since 1991.

The successful development of the lithium-ion battery found its way into electric mobility with large production volumes and an advanced concept with high performance. Asahi Kasei is also regarded as a pioneer for separators based on microporous polyolefin films. In 2015, the technology leader acquired Polypore International Inc. (Charlotte, North Carolina/USA), a global manufacturer of Celgard® lithium-ion battery separators manufactured in a dry process. This strengthened Asahi Kasei's position as world market leader in this field.

In addition to battery separators, Asahi Kasei also produces thermoplastics for structural components of battery housings. The modified polyphenylene ether (mPPE) XYRON™ with its low density and resistance to electrolyte fluids is a suitable material for light and compact battery housings. The mPPE particle foam Sunforce™ features a high fire protection class (UL94 V-0), high formability and high thermal insulation properties. The material thus contributes to a compact design of battery housings as well as an increased safety and efficiency of batteries.

Asahi Kasei will present his electric concept vehicle AKXY™ to the European public for the first time in September 2018 at a press conference and a customer event in Düsseldorf. From 13 to 16 November 2018, the vehicle will be exhibited at the world's leading electronics trade fair electronica in Munich (Hall B4, Stand 516).

Hipore™ - Wet Process Separator Film for Lithium-Ion Batteries

Hipore™ is a high-performance microporous polyolefin flat membrane. With its broad thickness spectrum and very uniform and microscopically small pores, it is used as a separator in lithium-ion batteries. The wet-manufactured Hipore™ separator is used in lithium-ion batteries in automobiles as well as in consumer electronics such as smartphones and portable music players. Its high porosity provides an excellent liquid absorption capacity, while its high puncture resistance contributes to increased battery safety and reliability.

Celgard® - Dry Process Separator Film for Lithium-Ion Batteries

Asahi Kasei's US-based group company Celgard offers products for a variety of battery separator applications that balance the competing demands of EDV performance criteria, including safety, chemical and dimensional stability, and cycle life. Celgard® Traditional Trilayer lithium ion battery separators with medium porosity and Celgard® H-Series lithium ion battery separators with high porosity are microporous trilayer membranes consisting of polypropylene outer layers and a polyethylene inner layer.

XYRON™ – mPPE Lightweight Material

The modified polyphenylene ether (mPPE) XYRON™ is a technical plastic with unique properties due to the possible combinations of polyphenylene ether (PPE) with polystyrene (PS), polyamide (PA), polypropylene (PP), polyphenylene sulphide (PPS) or other polymeric materials. In combination with polypropylene, XYRON™ is a suitable material for lightweight and compact battery housings due to its low density and resistance to electrolyte fluids.

SunForce™ - mPPE-Particle Foam with Unique UL94 V-0 Flame Retardancy

The particle foam SunForce™ combines the properties of modified polyphenylene ether (mPPE) and foam beads. The material is certified with UL 94 V-0 (Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances) fire protection class by the Underwriters Laboratories safety certification organization and thus contributes to an overall product safety.

SunForce™ features high moldability which contributes to assembly time reduction and lower production costs. It also allows the molding of complex structures while maintaining strength and rigidity. SunForce™'s thin-wall molding ability contributes to compact and space-saving product design.

About the Asahi Kasei Corporation

The Asahi Kasei Corporation is a globally active technology group that works in the three business areas of Material, Homes and Health Care. Material includes fibres & textiles, petrochemicals, high-performance polymers, high-performance plastics, consumer products, battery separators and electronics. Homes offers construction material to finished houses on the Japanese market. The area Health Care includes pharmaceuticals, medical technology, as well as devices and systems for acute and intensive medicine. With about 34,000 employees across the world, the Asahi Kasei Group supports customers in more than 100 countries.

“Creating for Tomorrow”. With this slogan, the Asahi Kasei Group refers to the common mission of all its companies, to help people across the world towards a better life and living with sustainable products and technologies. You can find further information at

www.asahi-kasei.co.jp/asahi/en/

<https://www.asahi-kasei.eu/>