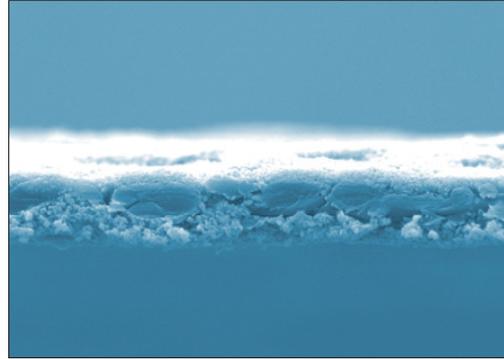




Maximized energy in minimized space



Cross-section of the new separator

### More than 40 years experience in the separator business

Advancements in modern day battery technology necessitate the use of high-performance separators. The types and ratings of batteries in general are as many and varied as their applications - in toys, in drive technology, in communications, power tools and in numerous other fields as well.

### Viledon separators for Ni-batteries

**High homogeneity** in structure and thickness, plus tight pore-radius distribution, assured by a wet-laid production process. These parameters are always selected on a customer-specific basis.

**Reliable separation** of the positiv and negative electrodes from each other and efficient filtering of solid mass particles. The labyrinthine structure of the separators serves as an effective barrier to dendrite growth.

**Minimized resistance** to the passage of ions - vital for high energy output.

**High pore volume** for fast, uniform storage of large electrolyte quantities.

**Good thermal bonding** and high tear resistance, achieved by using bi-component fibres. This is a crucial requirement for quick, efficient assembly of the cells concerned.

### Customized finishing

To provide the characteristics desired, like hydrophilic or hydrophobic properties.

### New separator for Lithium-Ion batteries

New applications of Lithium-Ion batteries like automotive and energy storage require new features of the battery cells and of the separators. Safety requirements of these cells are a major challenge, where the separator plays an important role. The new separator consists of inorganic particles, in a matrix of an ultra-thin PET nonwoven.

### Important key safety features

#### No melt down

The separator remains stable at higher temperatures in the cell.

#### Ultra low shrinkage

The separator does not shrink, i.e.: keeps its barrier against short circuits.

#### High penetration strength

The separator does not allow dendrites to go through.

### Improved processability in manufacturing

An improved electrolyte **wettability** allows for higher impregnation speeds.

The separator is stable at **150° C**, i.e. **no shrinkage**, this allows to dry the electrodes together with the separator without problems.

The separator can be used in **different cell constructions**, like round cell and prismatic cell.

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