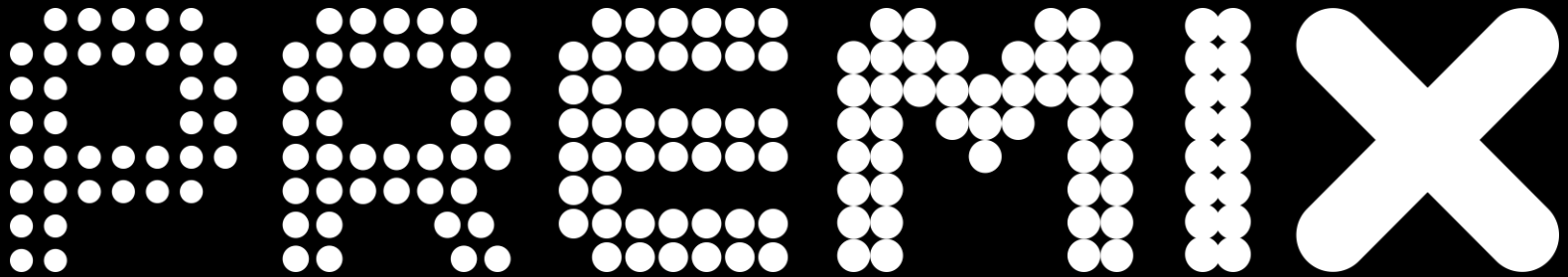
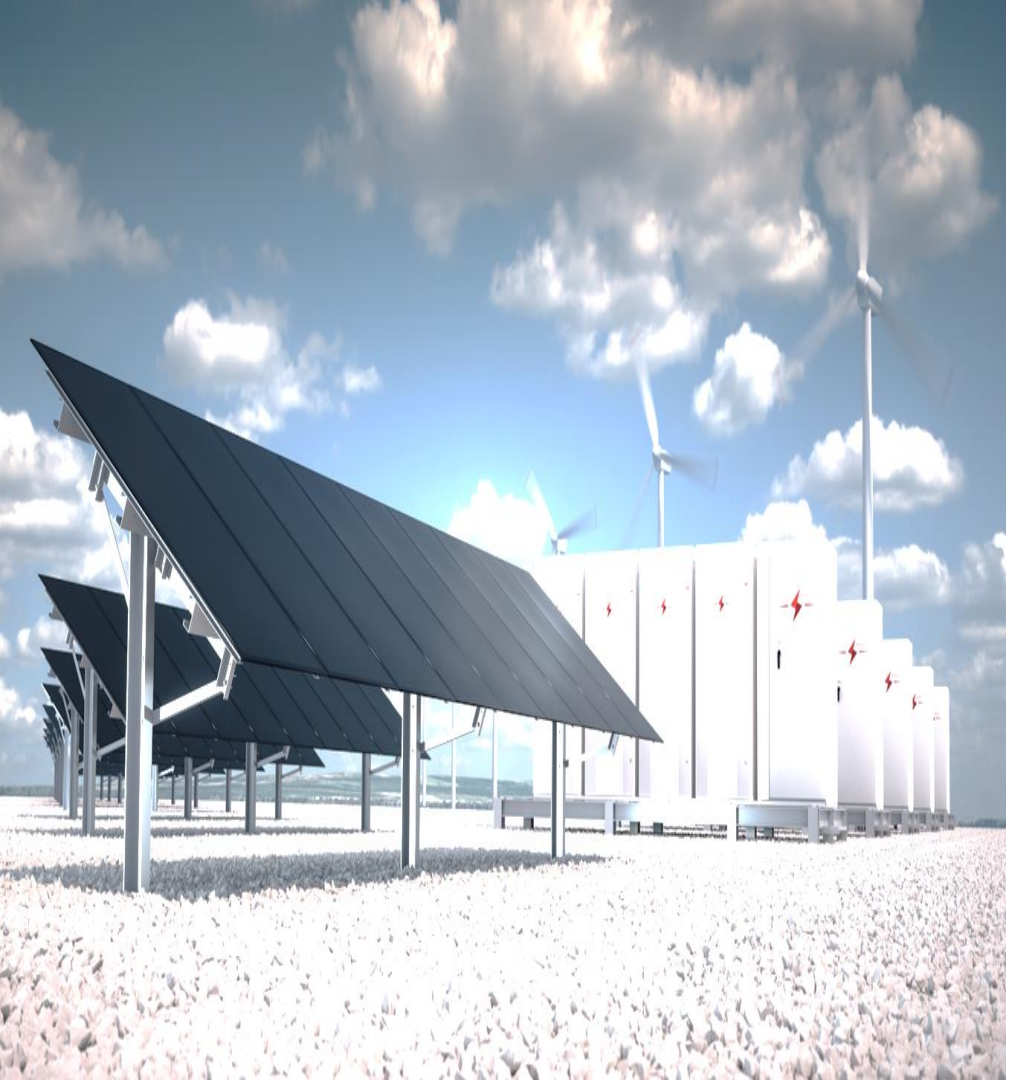


Conductive PRE-ELEC® Compounds
for Battery and Energy Solutions


"Creating a safe society
with functional materials"



The energy industry is developing at an enormous speed.

The fluctuating nature of renewable energy sources creates a need for high-capacity energy storage solutions like vanadium flow batteries or storing extra energy as hydrogen.

Both these applications demand highly conductive and corrosion-resistant electrodes.

PREMIX

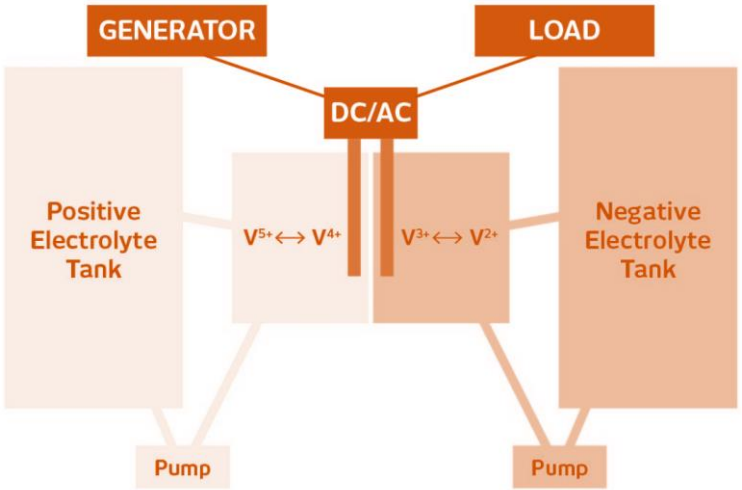
The energy storage industry is still in the development phase. Innovations like highly conductive plastics are needed.

The industry is moving towards mass production. Processability and production cost are becoming essential decision factors.

Premix has a strong focus on developing future material solutions. Together with our customers, we constantly innovate sustainable and safe material solutions.

Electrodes used in hydrogen storage need corrosion-resistant materials

Vanadium flow battery



Source: Wikipedia

Vanadium flow battery is one of the solutions that can be used to store high amounts of electrical energy.

Electrodes (red in the picture) are often created from carbon-based materials, even carbon nanotubes.

Premix's highly conductive plastics can offer a very cost-efficient and easily moldable solution for the electrolytes.

Conductive plastics meet the high requirements of vanadium flow batteries and green hydrogen production

Long exposure for harsh chemicals without corroding

- For conductive parts this demands solutions based on nonmetallic substances or super expensive metals like palladium
- The **conductivity requirement** is as high as possible (minimum <0,1 Ohmcm)

Excellent processability and ability for mass manufacturing

- To maximize performance and efficiency, fuel cells and vanadium batteries requires **3D** shaped electrodes to form fluid channels
- Plastics are great for **injection molding** and **thermoformed** products, also in **thin** applications

Premix has a long-term expertise in maximizing conductivity and filler loading.

Highly conductive PRE-ELEC® compounds
for energy storage and transportation applications

PREMIX

Highly conductive carbon based compound

PRE-ELEC® PP 18698

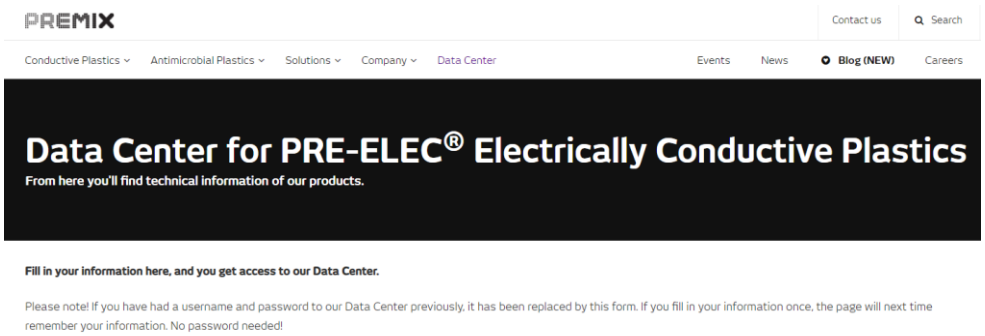
PRE-ELEC® PP 18698	Typical properties
Volume resistivity	<0,1 Ωcm
MFI, 230°C/21,6kg (100%)	2
Tensile strength	7,3 MPa
Specific gravity (g/cm3)	1,67

- For bipolar plates and similar applications, where high electrical conductivity meets chemical resistance
- Super low resistivity <0,1 Ohmcm
- Suitable for extrusion and thermoforming
- Flexible
- Under development

Premix Data Center
Technical datasheets

In our Data Center, we have collected **technical information** about our products for you, including **processing instructions** for PRE-ELEC® conductive compounds and concentrates.

https://premixgroup.com/data-center



Premix Oy

High expertise in polymer compounding

Premix Oy – Your reliable material supplier

European market leader and global forerunner in **Electrically Conductive Plastics**.
Strong focus on developing future material solutions.

The newly invested state of the art machinery makes Premix **one of the strongest producer of conductive compounds.**

Long-term expertise in polymer compounding; product development and material processing know-how.

Technical support available for trial runs.

Wide distributor network, local representative in various countries.

Responsible Care
Our commitment to sustainability

QUALITY SYSTEM CERTIFICATION
DNV·GL
ISO 9001:2015

PREMIX

PREMIX

Family owned, independent company

Established 1980

110 employees

Sales revenue 46 M€ (2020)

Production capacity 70 kt/a

LET'S MAKE
A GOOD MIX

www.premixgroup.com