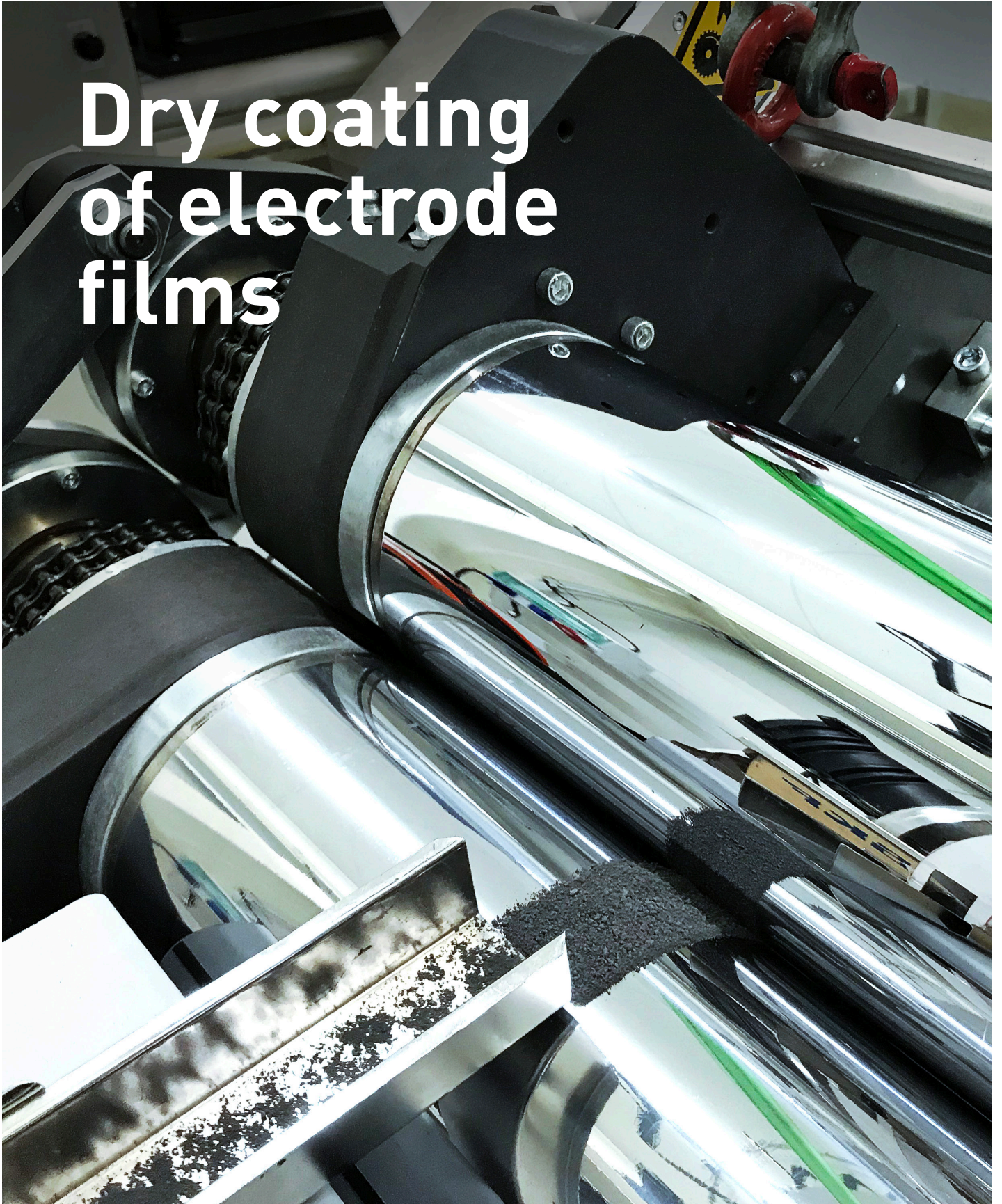


Dry coating of electrode films



Dry coating of electrode films

The Dürr Group is expanding its offering in the field of battery production: the acquisition of French calendering expert Ingecal means that Dürr can now also supply the battery industry with calendering systems, which play a key role in the wet coating of electrode production for lithium-ion batteries while calendering is also the key technology for the dry coating of electrodes. At the same time, Dürr has agreed on a partnership with the US dry coating expert LiCAP Technologies. With Ingecal and LiCAP, Dürr has unique expertise in all aspects of electrode production and can now offer its customers not only wet coating but also systems for future-oriented dry coating.

PROCESS & BACKGROUND

In the production of electrodes, thin metal foils are coated with the cathode and anode material consisting of chemicals. Today, this is usually done using solvents in the form of wet coating. From around 2030, 30 to 40% of battery electrodes manufactured in Europe and North America are expected to be produced with dry coating.



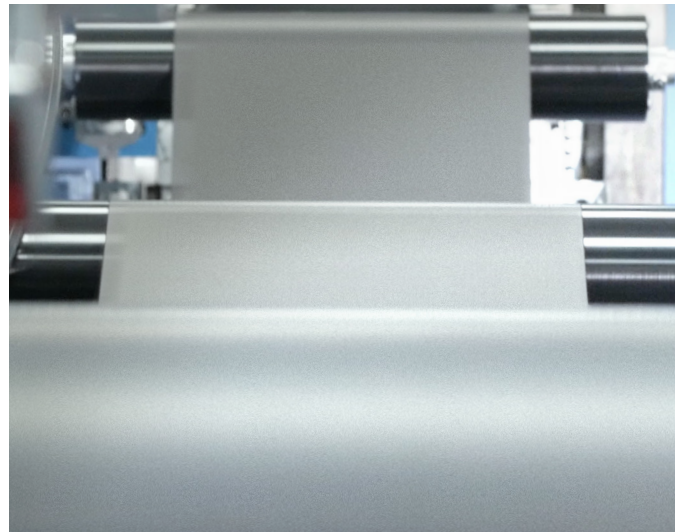
NEW IN THE DÜRR GROUP: INGECAL

Ingecal, a new member of the Dürr Group, specializes in calendering systems. In the wet coating process, the cathode and anode materials are pressed onto the foil under high pressure using two steel rollers. In the dry coating process, the anode and cathode materials are pressed into free-standing active films by two steel rollers followed by a lamination process. Calendering is an essential part of electrode production and is also the core technology for dry coating. With its high-precision machines, Ingecal is already the technology leader in this field.

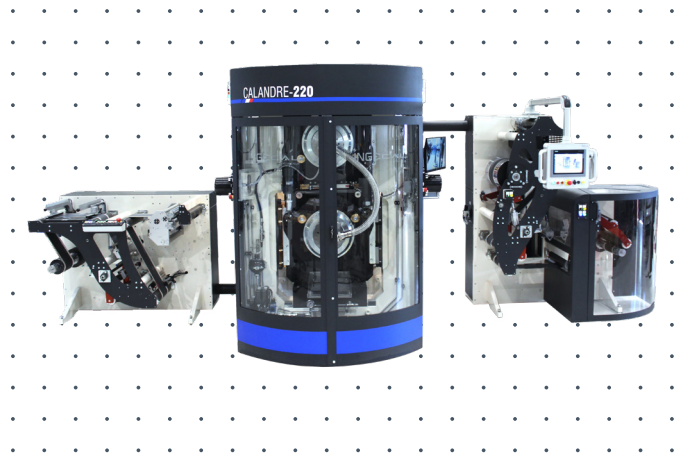


DÜRR'S PARTNERSHIP WITH LiCAP

The partnership with LiCAP also aims at dry coating. The company has extensive know-how of the material used and the requirements for the coating process. A result of the development work of LiCAP is the patented Activated Dry Electrode® process. The electrodes made with this technology have a higher constant discharge capacity and efficiency across all electrode loadings. This makes them perfect for a wide range of applications, from electric vehicles to larger energy grid storage systems.



Dry coating free standing film



ADVANTAGES OF DRY COATING



Sustainable process: dry coating makes the use of (toxic) solvents and subsequent drying of the electrodes obsolete

Significant less energy and process time is required

CO₂ emissions are reduced by around 1 ton for every 10 kilowatt hours of electrode capacity produced