



High-performance spooling
slitter for insulation materials

Unlocking endless possibilities

While Nicely Machinery (Taoyuan, Taiwan) has established a strong presence in the packaging industry with a wide variety of slitter-rewinders, their developments go far beyond this sector. In C2, the company provides an overview of their activities in the battery sector, among others.

Printed circuit boards are essential for electronic devices, connecting electronic components to enable the function. The manufacturing process involves complex procedures, including the application of copper foil to the substrate and etching to create circuit patterns and sizes, specialised equipment such as slitter rewinders is required for the precise converting of copper foil to ensure high-quality production. Similarly, copper foil for the battery industry is broadly used in lithium-ion batteries as a substrate for

electrode materials and as a current collector due to its high electrical conductivity, low weight, and excellent corrosion resistance. Precise slitting can greatly improve the edge quality of the copper foil and minimise roughness, thus improving the battery's quality and overall performance.

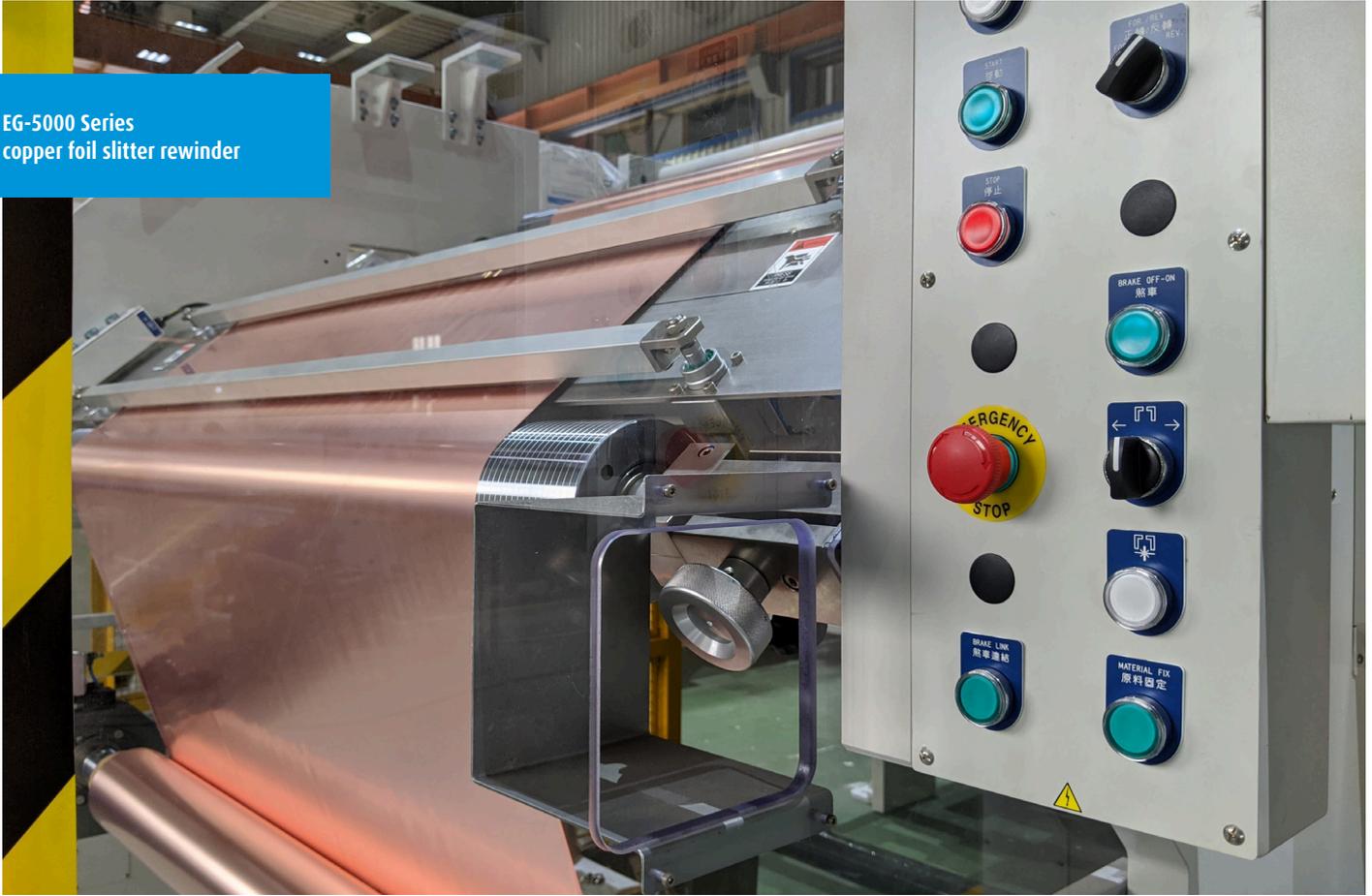
The EG-5000 Series Copper foil Slitter Rewinder is configured with high-precision cutting techniques, variable wrap angles, dust clean rolls, and anti-curling bars to reduce unwanted wrinkles or creases on the web. Also, it features a shaftless

winding and roll handling system, which requires less labour for unloading. These installations provide ultimate possibilities to fit customers' needs and minimise waste on copper material.

The technical details include

- » Copper foil thickness : 6µm – 420µm
- » Roller width: 1500mm
- » Unwind diameter: 750mm
- » Min. width of trim waste: 8mm
- » Rewind diameter: 550mm
- » Speed: 50 - 150m/min

EG-5000 Series
copper foil slitter rewinder



Slitter for manufacturing PCBs

The EG-7003BF Integrated Slitter Rewinder is a slitting machine for FCCL (Flexible Copper-Clad Lamination) and CPI (Copper Polyimide) materials for manufacturing PCBs. It features an integrated unwind stand and a compact design. Additionally, it can be equipped with a defect inspection device or a defect label detection system according to customers' requirements.

A pre-heating device is also available to soften materials before slitting. The machine uses shear cutting technology, which involves a shearing force to the material, resulting in a cleaner cut. To maintain a clean work environment, the machine is equipped with static eliminators and a set of dust extraction system before and at the cutting section.

The EG-7003BF is a user-friendly model with auto-tension control system and finished roll handling unit, which guarantee a smooth transition between production cycles.

- » Roller width: 600 – 1400mm
- » Unwind diameter: 600mm

- » Slit width: 50mm, and up
- » Rewind diameter: 450mm
- » Speed: 200m/min

Solution for insulation materials

Moving on to a different sector, insulation materials like Mica tape, Presspaper, and PI film are the key factors in achieving the longevity and functionality of high-tech components. These materials possess significant properties, including high strength, flexibility, and the ability to withstand high temperatures, making them essential for high voltage applications in generators, transformers, electric motors, and energy storage systems. Nicely's EG-9000 Series spooling slitter rewinder has gained popularity among customers due to its exceptional performance in handling mica tape.

One of the key advantages of EG-9000 series is its flexibility in winding options, allowing customers to choose between disc winding (pancake) and spooling in one machine. This model provides a minimum slitting width of 2mm and thanks to the module design, the spooling option

allows for expansion from a basic set of six spools to meet the needs of customers. Another appealing feature is the flexible winding pattern, such as traverse winding, taper winding, stag winding, and flanged winding. This versatility and customisation capability make the high-performance spooling slitter a reliable and cost-effective solution for insulation material handling needs. ■

Image sources: Nicely