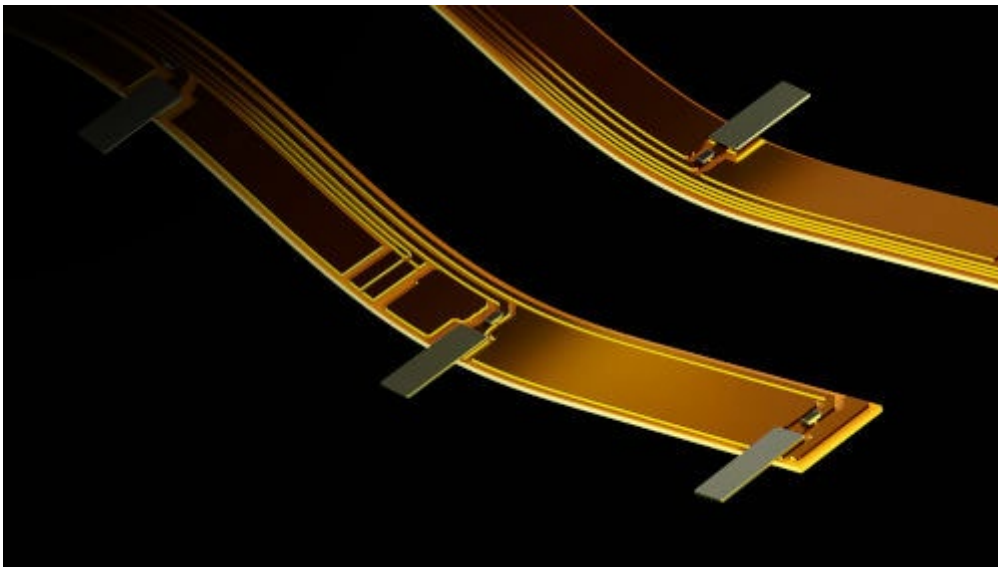


Production Process of Flexible Circuits for Low-Voltage Connectivity



ENNOVI introduces a more advanced and sustainable way to produce flexible circuits for low-voltage signals in electric vehicle (EV) battery cell contact systems. While flexible printed circuits (FPCs) are often used in these systems, they are the most expensive component of the current collector assembly. ENNOVI's Flexible Die Cutting Circuit (FDC) technology offers a more cost-effective and sustainable solution, with fewer manufacturing procedures and faster continuous reel-to-reel production.

Generally, FPCs are manufactured using a multi-stage batch photolithography process to etch trace copper for the flexible circuit. This production process uses corrosive chemicals that dissolve unwanted copper. In addition, it takes a lot of time and energy to extract waste copper from chemicals, making it difficult to recycle effectively. The die-cutting process allows for the instant recycling of copper, making it a more preferred substance than chemical etching.

Compared to FPCs, which have a size limitation of 600 x 600 mm, FDCs have no length restrictions as they are manufactured reel-by-reel. Under certain design considerations, the

FDC provides performance characteristics similar to those of FPCs. These results were confirmed by rigorous internal testing of dimensions, thermal shock, trace resistance, temperature rise, insulation resistance, and high voltage.