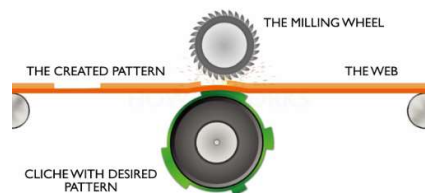


# Dry Phase Patterning --- A new way of sourcing PCB

**A new product from DP Patterning allows direct integration of PCB manufacturing with an SMT line. The R2R machine produce flexible circuit boards in a dry process (no etching) at a speed of 10 m<sup>2</sup> per minute. The technology's simplicity result in benefits commonly asked for by the market. The resulting products are ideal for applications within the RFID, LED and Automotive fields.**

Dry Phase Patterning (DPP) is a new, chemical free, reel to reel manufacturing technology for flexible electronic circuitry and antennas. A major focus throughout the years of development of the dry phase patterning method has been on creating an environmental acceptable process technology with performances being the same as or better than traditionally manufactured flex-PCB. Dry Phase Patterning is based on high precision, mechanical milling at high speed giving a residue of dry metal powder which is 100 % recyclable. This clean and simple processing allow the Dry Phase Patterning lines to be integrated into the SMT environment and also taking a step towards a green supply chain.

The basic principle behind the new technology is simple. A patterned cliché, mounted on a cylinder, deforms the flexible laminate foil (metal on a plastic carrier) into the desired pattern. A milling wheel, rotating at a speed 50 times the speed of the flexible laminate foil, then mechanically removes the metal layer of areas where the flex-foil are raised by the patterned cliché while leaving the bottom layer (plastic) untouched. This leaves a conductive pattern on the laminate.



The new manufacturing system includes a reel to reel, dry phase patterning machine and a system for the production of the cliché. The DPP patterning machine consists of a web handling system which, in a controlled way, transports a 360 mm wide flex-laminate through a milling unit which operates at a high rotational speed. The maximum production speed reach 30 m/minute. Inspection and testing are carried out in-line.



DP Patterning is presenting the product at IPC APEX 2020 stand 3525.

