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Sony Chemicals Corporation of America

Near Edge Printing Technology

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TEC Corporation first introduced near edge thermal transfer printing technology in the North American market in 1994. It was introduced as a solution for end users who required faster print speeds (up to 10 IPS). At that time, these printers were the fastest available in the North American market. Due to the differences in printhead technology between near edge and traditional printing (diagrammed below), traditional thermal transfer ribbons were not compatible with this new technology.

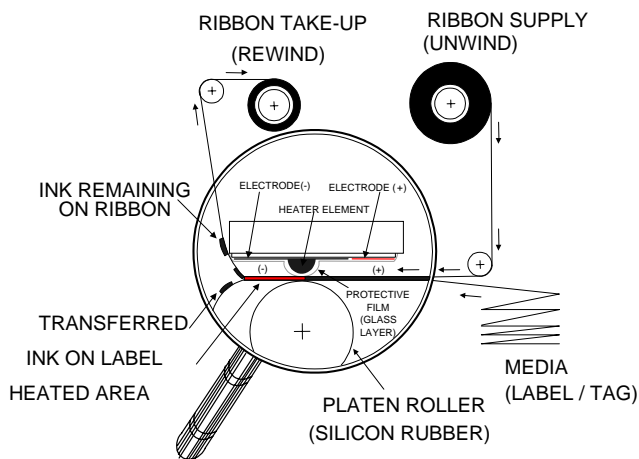


Figure A: Traditional Printing

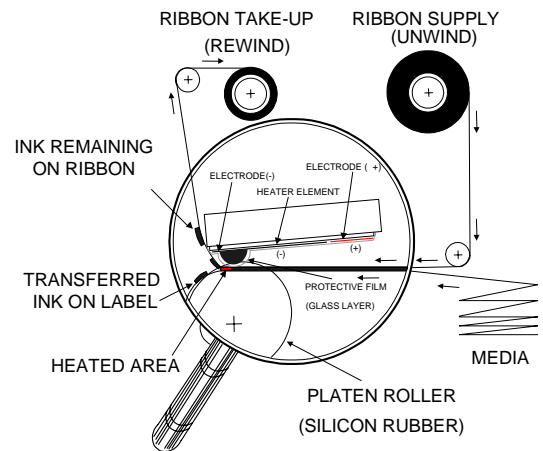


Figure B: Near Edge Printing

The ribbon/media path is the main difference between near edge and traditional printing. In traditional printing (Figure A), the ribbon and media are “married” for some distance after passing the printhead’s heating element, prior to their separation or peel point. In near edge printing (Figure B), the ribbon and media stay married for only an instant before the peel point. This difference is what required the re-engineering of traditional thermal transfer ribbons. The ribbon’s primer layer had to be modified in order to handle not only the quick release between the media and ribbon, but also the increased print speeds. Because the media remained the same between both printing technologies, the printability range of the ribbons needed to be preserved.

The quicker ink peel also provides sharp images. Near edge printing’s quick release leaves less time for the individual dots to bleed or appear rough. It also prevents carryover heat from the printhead to overheat or burn the ribbon, which

also leads to a rough image. As a result of the clean dot edges, the bar codes are sharp, and smaller printing is easily readable.

Near edge printheads can also be known as “floating” printheads. This refers to the printhead’s ability to automatically adjust to a media’s thickness. This allows edge type printers to print on a wide range of media thickness and surfaces. Also, because the printer adjusts automatically, there is no manual set up for media thickness. Throughout the printing process, the floating printhead tracks or follows the media surface, which provides consistent print quality.