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LINEAR BARCODE (EAN-13) LENTICULAR PRINTING IN PACKAGING

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Abstract

The aim of the research is to determine if lenticular printing is suitable for producing the EAN-13 linear barcodes on packages. The research is useful for the designer in choosing the appropriate size and direction of the barcode, as one of the important marketing element on the package, when using lenticular printing. It is also important for barcode readability in addition to the aesthetic and functional requirements of the package. The problem is that lenticular printing material has a special structure of stacked parallel lenses (array) that may affect the EAN-13 barcode readability. As the barcode is an important element of packaging design for marketing and supply chain, errors in reading would diminish the selling flow in the markets and consume more time. In packaging design, various sizes of barcode are needed to suit different packages, so in the research the barcode was designed in different sizes of 25%, 50%, 75%, 100%, 125%, 150%, 175%, and 200% for lenticular packaging printing. These sizes of barcode were printed once in parallel and another perpendicular with the lenticular lenses direction. Five readings were taken for every size with the barcode reader. Reading errors appear in parallel direction with 25%, 50%, 75%, 100%, 125%,150% sizes. The sizes of 175% and 200% were readable correctly. In perpendicular direction, an error appeared with 25% size and the sizes of 50%, 75%, 100%,125%,150%, 175%, and 200% were readable correctly.

Keywords: barcode, EAN-13 barcode, lenticular, lenticular lens, packaging, packaging design.