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ANALYSIS OF THE ANILOX ROLLER SURFACE CONFIGURATION
IN SHORT INKING SYSTEMS

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The subject of the research is the anilox roller surface configuration in short inking systems. The purpose of the paper is to present the key characteristics of anilox rollers, to analyze the influence of anilox rollers cells geometry on ink transfer process, to highlight the main cells configurations and its effective use.

The article has considered some aspects of anilox engraving technologies and explained the principles of anilox volume modeling. The author has dwelt on the history of anilox cells geometry in order to analyze its development.

The paper begins with a short discussion on the importance of anilox roller usage in inking systems and its impact on ink thickness on the substrate. The analysis of the previous publications has been made in the beginning of the article. Some remarks have been made on the development of anilox cell shapes that enables to improve ink transfer quality.

Then, the author has emphasized the main anilox roller characteristics and revealed their impact on the ink transfer process. Further on the author has highlighted and given a description of isolated and channeled anilox cells types and a brief analysis of the main anilox cells geometries of these types. It should be noted that the author has explained the difference between the isolated and channeled anilox cells types and peculiarities of their effective usage. The summary of anilox roller cells geometries analysis has been given as a classification due to such parameters of anilox geometry as: raster structure, cell shape and applicable area.

At the end the author has drawn the conclusion that the main characteristics defining the ink film thickness and uniformity are the anilox roller screen and volume. The author has also admitted that the anilox cell shapes diversity both channeled and isolated enables to design an anilox roller to provide the best ink transfer quality for a specific purpose.