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Graphic technology — Image quality evaluation methods for printed matter —

Part 22:
Evaluation of colour graininess

Member bodies are requested to consult relevant national interests in ISO/IEC JTC 1/SC 28 before casting their ballot to the e-Balloting application.

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Foreword

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This document was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

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Introduction

The subject of image quality is broad and complex, due to its multidimensionality. A large number of measurement methods have been developed to describe attributes of printed image quality[1]. Many different methods may be available to provide a measure of a particular image quality attribute, usually on completely different numerical scales and, with few exceptions, providing no well-defined correlation with visual perception to establish the visual significance of a measured difference. A fraction of these methods has been developed in a manner that is independent of marking technology, permitting general, technology-independent measurement of an image quality attribute.

The evaluation of perceived image quality in prints is an active field of research. Definitions of measurements of print quality attributes that correlate with visual perception by technology-independent means, even across many printing technologies, is under current scrutiny. Nevertheless, these evaluations are complex due subjectivity and dimensionality. It is influenced by a number of different quality attributes. It is often difficult and complicated to evaluate the influence of all attributes on overall image quality, and their influence on other attributes.

Graininess measurements provide an indication of the apparent high frequency image noise in a digital printing system and typically refers to aperiodic fluctuations of density at a spatial frequency greater than 0,4 cycles per millimetre in all directions for standard viewing distance of 400 mm. Many methods have been developed over the years, for instance, the method defined in ISO/IEC 24790[2], which is restricted to luminance based variations. In this document this approach has been extended for colour variations, while default viewing distance is 40 cm (reading distance).