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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 26141.1-2010

**Non-destructive testing -- Qualification of radiographic film digitization
systems -- Part 1: Definitions, quantitative measurements of image
quality parameters, standard reference film and qualitative control**

无损检测 射线照相底片数字化系统的质量鉴定 第1部分：定义、像质参数的定量
测量、标准参考底片和定性控制

(English Translation)

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Foreword

GB/T 26141 "NDT Qualification of radiographic film digitization systems" is divided into two parts.

--- Part 1. Definitions, quantitative measurements of image quality parameters, standard reference film and qualitative control;

--- Part 2. Minimum requirements.

This section GB/T 26141 Part 1.

This part identical with ISO 14096-1:2005 qualification "NDT radiographic film digitization systems - Part 1.

Definitions, quantitative measurements of image quality parameters, standard reference film and qualitative control "(in English).

This section is equivalent translation ISO 14096-1:2005.

For ease of use, this section made the following editorial changes.

--- "This International Standard" be replaced by "this section";

"," --- With a decimal point instead of a comma as the decimal point, "";

--- Remove the foreword and introduction of international standards;

--- With GB/T 1.1-2000 predetermined key words instead of the international standard introductory phrase.

This part of the National NDT Standardization Committee (SAC/TC56) and focal points.

This section is drafted. Jinan tome Inspection Technologies Co., Ltd. Shanghai IAC detected, Shanghai Research Institute of Materials, Shanghai Yasushi Detection Technology Co., Ltd., Shanghai - Friends Industrial Co., Ltd., Shanghai Wei Cheng Banda Detection Technology Co., Ltd., Shanghai Automation bamboo sun set Preparation Ltd.,

Shuo Germany (Beijing) Technology Co., Ltd., GE Inspection Technologies Limited.

Introduction

Radiographic film systems for industrial X-ray and gamma radiographic testing. In order to take advantage of computer data analysis, storage and transmission Advanced storage areas, the information should be stored within the radiographs are converted into digital data (digital). GB/T 26141 of the present Part of the minimum requirements to ensure that the film digitization process, effectively save the information for the assessment of the digitized data.

NDT radiographic film digitization systems Qualification - Part 1. Definitions, image quality parameters Quantitative measurements, standard reference film and qualitative control

1 Scope

This section GB/T 26141 specifies the radiographs digitized basic performance parameters of the evaluation procedures, such as. spatial resolution Force, spatial linearity, density range, density contrast sensitivity and characteristic transfer curve. They can be a standard reference film (see Chapter 5) together it is integrated into the software system, the digitization process quality control. Reference film provides a series of performance evaluation tests aims. Test objectives apply to evaluate the spatial resolution as small as 25 μ m, density contrast sensitivity down to 0.02 optical density, range 0.5 to 4.5, the film size (350 x 430) mm² digital systems. This section does not involve digital signal processing and display of data.

2 Normative references

The following documents contain provisions which, through reference GB/T 26141 in this section constitute provisions of this section. For dated references, all subsequent amendments (excluding corrections) or revisions do not apply to this section, however, encourage an agreement under this section Parties to study the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 19348.1 destructive testing - Industrial radiographic film - Part 1. Classification of film systems for industrial radiography (GB/T 19348.1-2003, ISO 11699-1:1998, IDT)

Qualification GB/T 26141.2 NDT radiographic film digitization systems - Part 2. Minimum requirements (GB/T 26141.2-2010, ISO 14096-2:2005, IDT)

3 Terms and Definitions

The following terms and definitions apply to this part of the GB/T 26141 of.

Radiographic film digitization systems radiographicfilmdigitisationsystem Digitizer (scanner)

Followed by the completion of the following two functions.

- a) by means of an optical detector pair backsheet small area (pixel image unit) diffuse transmittance detection, output signals (Geometrical digitization);
- b) the said electrical signal into a digital value (optical density digital).

Scanning aperture SA it refers to the spatial extent (area) on the radiograph, digitizer to complete the scan of a pixel in this area for geometry digitization.

Corresponding to the scanning aperture size.

--- Rectangular aperture. Take the long sides;

--- Annular aperture. Take diameter.

Scanning aperture limits the spatial resolution digitizer.

Pixel size on the scanned image, a row (horizontal) or a column (vertical) pixels from the geometric center to center adjacent.