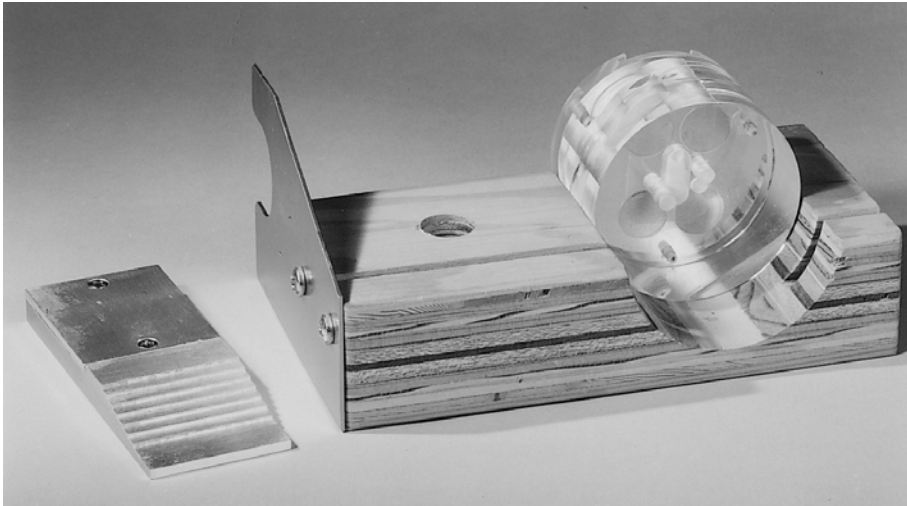


CDRH Dental Image Quality Test Tool

Nuclear Associates Model 76-025



- Designed to meet the requirements for the NEXT* dental survey protocol
- Conforms to Center for Devices and Radiological Health (CDRH) specifications
- Provides a means of reproducible setup, ensuring a consistent test protocol
- Cost-effective; reduces the need for repeat films
- Reduces setup time
- Increases patient safety
- Minimizes chance of misdiagnosis
- Ideal for dental service engineers and inspectors

Introduction

The Nationwide Evaluation of X-Ray Trends (NEXT) dental protocol has been issued to provide guidelines for quality control procedures for diagnostic dental radiography. In order to perform these procedures, a suitable phantom was developed: the CDRH Dental Image Quality Test Tool (Model 76-025).

The JCAHO requires certain standards to be met regarding radiographic quality control. The CDRH Dental Image Quality Test Tool (Model 76-025) facilitates compliance with these standards, since the standards were compiled using a prototype of this phantom.

The CDRH Dental Image Quality Test Tool (Model 76-025) is designed specifically for testing the functionality of dental x-ray units, and provides a means of evaluating half value layer, determination of kVp, and assessing overall image quality. It is the only dental test tool designed with dental service personnel and inspectors in mind. The test tool will significantly improve the ability of service personnel to quickly and accurately survey the image quality of the x-ray unit. The CDRH Dental Image Quality Test Tool can also be used as a constancy check for x-ray film processing, making it the most versatile and cost-effective dental test tool available today.

Applications

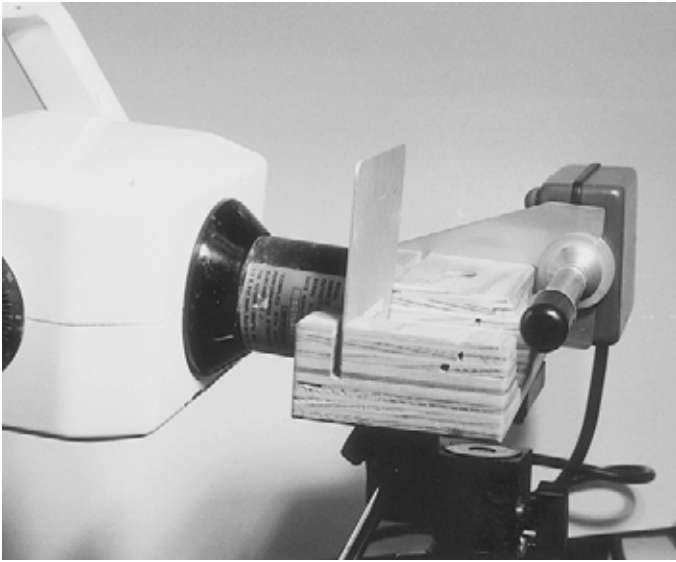
Clinical imaging involves diagnosis of tooth pathology. In order to permit an accurate simulated clinical image evaluation, the test tool contains a human tooth encased in its center. The CDRH Dental Image Quality Test Tool (Model 76-025) consists of a wooden cradle (to hold the test tool body), built-in slots (for attenuation

Applications (cont)

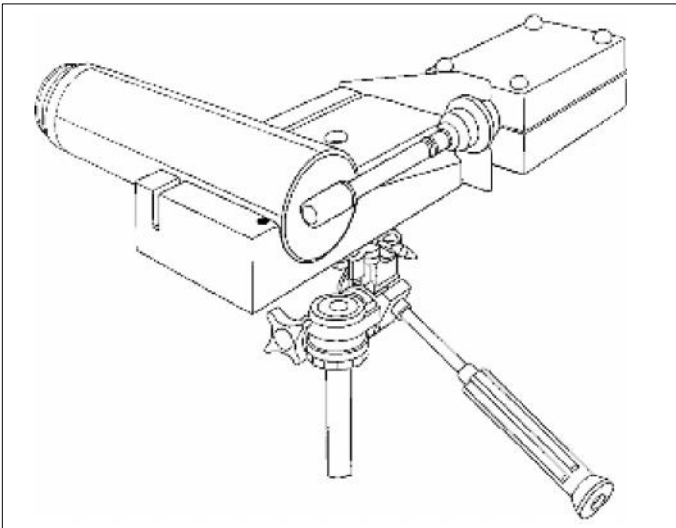
filters), a film slot, an exposure chamber holder, and a mounting screw (for use with a tripod). The test tool comes with an aluminum step wedge that is designed for evaluating darkroom fog and consistency testing. The step wedge has two slots, one for exposing a film pack and one for evaluating darkroom fog. The film slot also ensures easy, reproducible placement of the film for consistent imaging.

To use the CDRH Dental Image Quality Test Tool (Model 76-025), it is necessary to establish an acceptable baseline or standard for the x-ray unit performance. The test tool should be imaged using the same technical factors that were used to establish the baseline. These images, when compared to the baseline, will allow the user to determine if image quality degradation is occurring so appropriate corrective action can be taken.

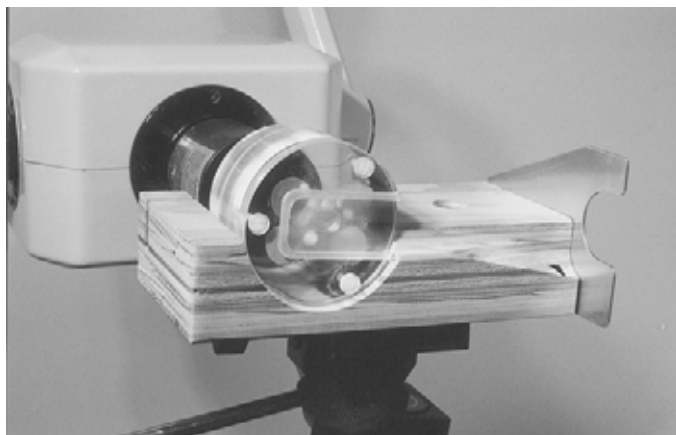
* NEXT (Nationwide Evaluation of X-Ray Trends) is a committee of the Conference of Radiation Control Program Directors (CRCPD) that oversees quality control procedures for diagnostic radiology. They issue procedure protocols and guidelines for imaging modalities.



CDRH Dental Image Quality Test Tool (Model 76-025) set up for half value layer measurements



CDRH Dental Image Quality Test Tool (Model 76-025) set up for dental exposure measurement protocols



CDRH Dental Image Quality Test Tool (Model 76-025) set up for image evaluation protocols (film not shown in phantom for visualization purposes)

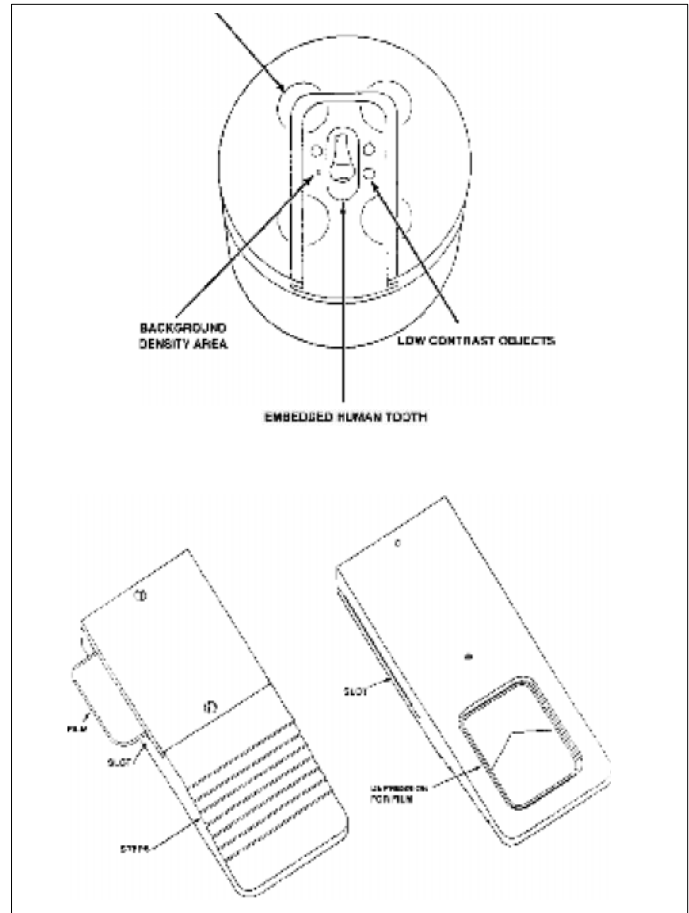


Diagram of Aluminum Step Wedge used for darkroom fog and consistency testing

Specifications

The test tool includes:

- Four different copper wire meshes that have the following lines-per-inch ratios: 100, 120, 150, and 200
- Four air steps for contrast and density measurements
- One human tooth encased in the phantom material

Material Wood base; acrylic test tool; type-1100 aluminum step wedge

Dimensions

Base 3.94 (w) x 7.87 (d) x 1.93 in (h) (10 x 20 x 4.9 cm)

Test tool 7.6 cm Ø x 5.5 cm long (3 x 2.17 cm)

Step wedge 5.1 (w) x 12.7 (d) x 1.3 cm (h)

Weight 2.06 (0.88 kg)

Optional accessories

Aluminum Step Wedge (Model 76-025-4000)

Available model(s)

76-025 CDRH Dental Image Quality Test Tool, includes aluminum step wedge

76-025-6661 Dental Image Quality Test Tool with Decayed Tooth, includes aluminum step wedge

For more information, receive our full product catalog, or order online, contact **Radiation Management Services** business of **Fluke Biomedical**: 440.248.9300 or www.flukebiomedical.com/rms.

Specifications are subject to change without notice.

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