



Designation: E 1936 – 9703

Standard Reference Radiograph for Evaluating the Performance of Radiographic Digitization Systems¹

This standard is issued under the fixed designation E 1936; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This reference radiograph covers a series of test targets suitable for evaluating, quantifying, and documenting performance parameters of the radiographic digitization process or the electronic image reconstruction process, or both. This reference radiograph can be used for visual and electronic analysis of digitization systems. This is the first of three related standards. Subsequent standards will provide guidance on the use of the test targets and recommended system performance levels

1.2 This reference radiograph provides a series of test targets to provide a vehicle for the evaluation of spatial resolution, density contrast sensitivity, dynamic range, and spatial linearity as well as other aspects of a digitization system. The test targets are suitable for evaluating a digitization system with a spatial resolution down to $\sim 1/1000$ in. [25 micrometers (μ)] a density contrast sensitivity down to 0.02 optical density (OD), a density range of 0.5 to 4.5 OD, and a film size capacity of 14 in. ~~(355 mm)~~ [355 mm] wide by 17 in. ~~(431 mm)~~ [431 mm] long.

1.3 The values stated in inch-pound units are to be regarded as the standard, with the exception of the spatial resolution targets (6.2 and 6.67) which are stated in SI units.

1.4 *This standard does not purport to address the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*

¹ This reference radiograph is under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.02 on Reference Radiological Images.

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