



Standard Guide for Data Fields for Computerized Transfer of Digital Radiological Examination Data¹

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1. Scope

1.1 This guide provides a listing and description of the fields that are recommended for inclusion in a digital radiological examination data base to facilitate the transfer of such data. This guide sets guidelines for the format of data fields for computerized transfer of digital image files obtained from radiographic, radioscopy, computed radiographic, or other radiological examination systems. The field listing includes those fields regarded as necessary for inclusion in the data base: (1) regardless of the radiological examination method (as indicated by Footnote C in Table 1), (2) for radioscopy examination (as indicated by Footnote E in Table 1), and (3) for radiographic examination (as indicated by Footnote D in Table 1). In addition, other optional fields are listed as a reminder of the types of information that may be useful for additional understanding of the data or applicable to a limited number of applications.

1.2 It is recognized that organizations may have in place an internal format for the storage and retrieval of radiological examination data. This guide should not impede the use of such formats since it is probable that the necessary fields are already included in such internal data bases, or that the few additions can easily be made. The numerical listing and its order indicated in this guide is only for convenience; the specific numbers and their order carry no inherent significance and are not part of the data file.

1.3 The types of radiological examination systems that appear useful in relation to this guide include radioscopy systems as described in Guide E 1000, Practices E 1255, E 1411 and E 2033, and radiographic systems as described in Guide E 94 and Practices E 748 and E 1742. Many of the terms used are defined in Terminology E 1316.

1.4 *This standard does not purport to address all of 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:

- E 94 Guide for Radiographic Examination²
- E 748 Practices for Thermal Neutron Radiography of Materials²
- E 1000 Guide for Radioscopy²
- E 1255 Practice for Radioscopy²
- E 1316 Terminology for Nondestructive Examinations²
- E 1411 Practice for Qualification of Radioscopic Systems²
- E 1416 Test Method for Radioscopic Examination of Weldments²
- E 1742 Practice for Radiographic Examination²
- E 2033 Practice for Computed Radiology (Photostimulable Luminescence Method)²

3. Significance and Use

3.1 The primary use of this guide is to provide a standardized approach for the data file to be used for the transfer of digital radiological data from one user to another where the two users are working with dissimilar systems. This guide describes the contents, both required and optional for an intermediate data file that can be created from the native format of the radiological system on which the data was collected and that can be converted into the native format of the receiving radiological data analysis system. The development of translator software to accomplish these data format conversions is being addressed under a separate effort; this will include specific items needed for the data transfer, for example, language used, memory requirements, and intermediate specification. This guide will also be useful in the archival storage and retrieval of radiological data as either a data format specifier or as a guide to the data elements which should be included in the archival file.

¹ This guide is under the jurisdiction of ASTM Committee E07 on Nondestructive Testing and is the direct responsibility of Subcommittee E07.11 on Digital Imaging and Communication in Nondestructive Evaluation (DICONDE).

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² *Annual Book of ASTM Standards*, Vol 03.03.