

ICS 19.100
CCS J 04



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

GB/T 25759-2010

**Non-destructive testing -- Guide for data fields for
computerized transfer of digital ultrasonic examination data**

无损检测 数字化超声检测数据的计算机传输数据段指南

(English Translation)

Issued on: December 23, 2010

Implemented on: October 1, 2011

Issued by: Standardization Administration of China

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Foreword

This revised standard adopts ASTM E1454-02 "computer data transmission segment guide digital ultrasonic NDT inspection data" (English Chinese Version).

This standard redrafted according to ASTM E1454-02.

Taking into account China's national conditions, when using ASTM E1454-02, we made some changes in this standard. About the technical differences are as follows.

--- Normative references to the relevant country standards.

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

--- Delete ASTM standards foreword;

--- Part Article number according to the provisions GB/T 1.1-2000 make changes.

The standard non-destructive testing by the National Standardization Technical Committee (SAC/TC56) and focal points.

This standard was drafted. German Shuo (Beijing) Technology Co., Ltd., Changzhou ultrasound Electronics Co., Ltd., Shanghai Science and Technology Co., Ltd. IAC detection, Haitai Division Inspection Technologies Ltd, GE Inspection Technologies Co., Ltd., ????? Industrial Co., Ltd., Shanghai Material Research , Shanghai - Friends Industrial Co., Ltd., Shanghai Wei Cheng Banda Detection Technology Co., Ltd., Shanghai Automation Equipment Co., Ltd. Yang Zhu, Shanghai Baosteel Industrial inspection company, Shanghai on wood electromagnetic equipment co.

1 Scope

1.1

standard provides digital ultrasonic detection is recommended to use a list and description of the data segment to facilitate the transmission of data. This standard Specifically for obtaining digital image data from ultrasound scanning system. This list includes all the standard should be included in the database data segments (eg Footnote c in Table 1

below); the marked data segments, the data transmission is in the process of interpretation of the necessary information. In addition, other optional data segment also Alternatively information listed in this standard, these data segments may contribute to further understanding of the data, or apply to a small number of applications.

1.2

Some institutions and organizations already have a suitable internal data format used to store and retrieve ultrasound data, which is allowed. This standard is not limited System using such a format, since the necessary data segment may have been included in such a database, or only a few data segments needed supplement. The list of standard data segment number is only for ease of use, there is no particular significance, it is not part of the data file.

1.3

standard ultrasonic testing system of the type mentioned in GB/T 23908 and GB/T 23912 are described, the terminology used in GB/T 12604.1 have to define probe parameters used to follow the GB/T 18852.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 12604.1 Terminology for nondestructive testing Ultrasonic testing (GB/T 12604.1-2005, ISO 5577:2000, IDT) GB/T 18852 Non-destructive testing - Ultrasonic examination measuring the contact probe beam characteristics Reference blocks and test methods (GB/T 18852-2002, ISO 12715:1999, IDT) GB/T 23908-contact ultrasonic pulse echo direct detection method (GB/T 23908-2009 destructive testing, ASTM E114-95, MOD) GB/T 23912 lossless immersed ultrasonic pulse longitudinal wave reflection detection method (GB/T 23912-2009 detection, ASTM E214-01, MOD)

3 Significance and Use

3.1

standard's main role is to provide a data file specification approach, for use between two different ultrasound system users Digital ultrasonic data transmission. This standard includes the necessary items and options, the data format is derived from the ultrasound data acquisition system System, and converts the data format of the receiving system or analysis system. Which will contain a special project data transmission needs, such as. the making the language used, the data storage requirements and specifications (including

detailed data format and structure). This standard will also apply to the archive ultrasound data and retrieval, that is, as the data format specification or instruction data unit.

3.2

Although the list contains multiple data segments have recommended 120 projects, but only about one-third of the project is necessary, and in Table 1 marked with footnote c

Note out, marked out these pieces of data should be indicated in the database. Recommended remaining data segments will provide more information to help users Understanding ultrasound test results. In most cases, these segments accounted for ultrasonic testing only a small part of the file. Generating an image of the real Inter ultrasound data stream constitutes the largest part of the database. Since the ultrasound image files are generally large, usually consider data Compression concept. Compressed data compression method required marked out, as described in the data segment 122.

3.3

All standard single scan ultrasound information collected describes the data file structure. Some systems can be multiplied record a single sweep Description of the test results. For example. echo pulse propagation attenuation data and thickness data can be recorded simultaneously. These data are stored in a separate number