



Standard Guide for Computerized Exchange of Corrosion Data for Metals¹

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1. Scope

1.1 This guide covers the techniques used to encode corrosion of metals test results for exchange between computer systems.

1.2 Guidelines are given for creating a data exchange appendix for each ASTM corrosion of metals standard.

1.3 Instructions are given for creating data translation software from the contents of the data exchange appendix.

2. Referenced Documents

2.1 ASTM Standards:²

G106 Practice for Verification of Algorithm and Equipment for Electrochemical Impedance Measurements

G107 Guide for Formats for Collection and Compilation of Corrosion Data for Metals for Computerized Database Input

2.2 ANSI Standards:³

ANSI/ISO 9899 1990 [1992] Programming Language C
ANSI X3.4-1986 Coded Character Set 7 Bit ASCII

3. Terminology

3.1 Definitions:

3.1.1 *datatype*—a group of rules specifying the format of an object.

3.1.2 *global data*—information shared among several standards.

3.1.3 *local data*—information specific to a certain standard.

3.1.4 *semantics*—information meaning.

3.1.5 *syntax*—information format.

3.1.6 *tagged object*—a named block of information.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

3.1.7 *translator*—a computer routine which writes or reads data files.

4. Significance and Use

4.1 This guide establishes a formalism for transferring corrosion test data between computer systems in different laboratories. It will be used by standards developers to specify the format of files containing test results.

4.2 This guide defines a generic approach to structuring data files. It will be used by software developers to create programs which read and write these files.

4.3 Each standard test procedure will define a unique data file derived from this guide. Each time a standard test is performed, the results can be summarized in a data file specific to that test.

4.4 Some experimental information will be global, that is, common to several standards, and will be contained in Guide **G107** and other global data dictionaries. Other information will be local, that is, unique to a given standard, and will be defined in that standard.

5. Guide for Standards Authors

5.1 Local and Global Data:

5.1.1 Some information may be used across several corrosion standards, that is, global. Global data is defined in Guide **G107** and other global standards.

5.1.2 Some information may be local to a particular corrosion standard. Local data is defined in the standard's data exchange appendix.

5.2 Data File:

5.2.1 Each test will generate a single test data file. File name formats are not specified.

5.2.2 The data file is arranged as a set of named or tagged objects. Each time a standard test is performed a set of objects is obtained. The data file can be thought of as a permanent repository for this set of objects.

5.2.3 Each tagged object will take two or more lines in the data file. Lines are strings of ASCII (ANSI X3.4-1986) characters terminated with a carriage return/linefeed character pair or a single linefeed character.