Designation: E 575 – 99

An American National Standard

Standard Practice for Reporting Data from Structural Tests of Building Constructions, Elements, Connections, and Assemblies[1]

This standard is issued under the fixed designation E 575; 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 practice is for general use in reporting structural performance tests of building constructions, elements, connections, and assemblies. A comprehensive report describing the conditions under which the structural data were recorded will enable other workers to reproduce the test methods and, as nearly as possible, the results for each material or assembly, and to reconcile differences that might be found in tests by others.

1.2 *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. Organization of Report

2.1 Generally, a report should contain the following parts in the sequence listed:

2.1.1 Title page with byline.
2.1.2 Object statement.
2.1.3 Descriptions of specimen(s) and apparatus.
2.1.4 Procedure statement.
2.1.5 Discussion of test results.
2.1.6 Conclusion.
2.1.7 Recommendations.
2.1.8 References.
2.1.9 Pictures.
2.1.10 Tabulations.
2.1.11 Calculations.
2.1.12 Supplementary data.

2.2 Not all of the above headings may be required. Other more appropriate headings may be used, if they better describe the content.

2.3 When the expected readership includes both experts and laymen, an early insertion in nontechnical language of the necessary background, data summary, and results may be useful.

3. Documented Information

3.1 A report shall include the following information, but not necessarily in the order listed:

3.1.1 *Title*—A title shall be brief but definitive.

3.1.2 *Author*—One first name and surname and any professional registration shall be included in a by-line for positive identification.

3.1.3 Date of test and date of report.

3.1.4 Test agency, sponsor, and their mailing addresses.

3.1.5 *Specimen Selection and Identification*—Indicate the number of specimens, method of choosing them, and whether they were specially fabricated for this test, prototypes of planned production, randomly selected production units, etc. If specimens were obtained from routine production, include the manufacturer's name, source of supply, specimen dimensions, model, type, materials, and other pertinent information such as quality, conditioning, and treatment, including data on assembly techniques and fastenings.

3.1.6 *Specimen Drawings*—Drawings shall provide a description of the physical characteristics and dimensioned section profiles and any other pertinent construction details. This requirement may be waived if an existing description is easily available and is included by reference. Any modification made to the specimen to obtain a measurement or reading shall be noted. Any unusual characteristics or conditions existing in the specimen construction prior to test shall be described.

3.1.7 *Specimen Design*—Details shall be provided for an understanding of the principles used in the structural design of the specimen.

3.1.8 *Apparatus Description*—Sufficient details shall be provided to explain the construction, operation, and position of the test apparatus. This description may require a presentation of the structural design of the apparatus, especially if it is original in design or operation. This requirement may be waived if an existing description is easily available and is included by reference.

3.1.9 *Specimen Installation*—Illustrations and a description of details of installation in or attachment to the test apparatus shall be provided for each type of specimen. Details of restraint devices and their location relative to the specimen shall be described as well as the locations of loading and reaction points.

[1] This practice is under the jurisdiction of ASTM Committee E-6 on Performance of Buildings and is the direct responsibility of Subcommittee E 06.11on Horizontal and Vertical Structures/Structural Performance of Completed Structures.

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3.1.10 *Instrumentation*—A report shall describe the location, direction of measurement, and technical specifications of any instrumentation used to measure loads, reactions, and deformations generated by the test apparatus and the specimen. A description of the working condition, tolerances, and accuracy of such meters is useful. The relative deformation measured by each gage shall be described.

3.1.11 *Ambient Conditions*—Records of temperature, relative humidity, moisture content, seasoning, and any other conditions that are relevant to structural performance of the specimen shall be included. A history of such conditions from the time of construction until the time of test may be more significant than those present at the time of test, and therefore, if warranted, measurements of ambient conditions and the condition of the specimen from the time of specimen construction shall be made.

3.1.12 *Specimen Weight*—A report shall state the amount of dead load of the apparatus or specimen that has been deducted if the net load or strength is reported or that may be deducted if the gross load or strength is reported.

3.1.13 *Load-Deformation Graphs*—Graphs portraying the specimen's response to loading shall be included for each deformation-measuring device.

3.1.14 *Failure Load and Description*—Specimens can have more than one failure mode, for example, ductile or brittle fracture, yielding, excessive deflection, or harmful distortion. Applicable modes of failure shall be described in general terms with criteria for their measurement. A description of each specimen's failure mode and a value of its ultimate strength or maximum load or both shall be tabulated.

3.1.15 *Time Under Load*—A load - time record is needed to interpret some test results and shall be presented as a graph or tabulation to indicate the time duration for each magnitude of load.

3.1.16 *Photographs*—Photographs of the specimen before and after testing shall be provided to show what cannot be described easily or clearly by writing. However, if the mode of failure is well known, this requirement may be waived.

3.1.17 Video (optional)—A video may be used as a standard practice for reporting data from structural tests of building constructions, elements, connections, and assemblies. The video may be used in conjunction with a written test report. Generally, a video should contain the following parts:

3.1.17.1 Object statement (title and author).
3.1.17.2 Specimen design and selection.
3.1.17.3 Apparatus description.
3.1.17.4 Specimen installation.
3.1.17.5 Instrumentation.
3.1.17.6 Ambient conditions.
3.1.17.7 Specimen weight (dead and live).
3.1.17.8 Testing.
3.1.17.9 Failure load and description.
3.1.17.10 Time under load.
3.1.17.11 Conformity of specimen.
3.1.17.12 Officials (technicians, professionals, and observers).
3.1.17.13 Appendixes.

3.1.18 Not all of the above headings may be required. Other more appropriate headings may be used, if they better describe the contents.

4. Conformity

4.1 A report should contain a statement indicating whether or not the construction of the test specimen represents actual or intended construction. If the construction does not represent typical manufacture, deviations should be noted.

4.2 When a standard test method is used, a statement should be included indicating its name and designation. Deviations from it should be described.

5. Officials

5.1 Signatures of persons responsible for the supervision of a test should be included as well as a list of any official observers.

6. Appendixes

6.1 All data not specifically required by a testing standard but useful to a better understanding of the test results, conclusions, or recommendations should be appended to a report.

7. Keywords

7.1 building construction; structural tests