



Standard Practice for Quality Control Systems for Organizations Producing and Applying Bituminous Paving Materials¹

This standard is issued under the fixed designation D4561; 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 prescribes the general requirements for the establishment and maintenance of a quality control system for organizations producing or applying bituminous paving materials, or both, in construction.

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. Referenced Documents

2.1 *ASTM Standards:*²

D3666 [Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials](#)

3. Significance and Use

3.1 This practice provides a standard by which organizations can provide a uniform quality service in producing and applying bituminous paving materials in construction. The practice outlines and describes the procedures for establishing and maintaining a quality control system.

3.2 The control of quality is a continuing process; consequently, this practice provides not only for the formation of a program but for its continuation through calibration, standardization, and reference sample and inspection programs.

3.3 The basic requirements for a quality control system encompass the following, all of which shall be documented:

- 3.3.1 Quality policy, planning, and administration,
- 3.3.2 Organization,
- 3.3.3 Human resources,

3.3.4 Physical resources, and

3.3.5 Quality control and evaluation.

4. Quality Statement, Planning, and Administration

4.1 *Quality Statement*—A quality statement shall describe management's specific intention and policy with respect to quality. This document should specify an organized approach for carrying out those intentions and should address itself to all major quality parameters. It should be approved by the chief executive officer for company-wide policies or by subordinate officers for specialized policies, as applicable. Annual organizational audits shall be conducted to ensure adherence to quality policies.

4.2 *Quality Planning*—Planning for each new test method shall define those characteristics to be controlled, in order that the services provided comply with its defined requirements.

4.3 *Administration*—Clear lines of authority shall be established to administer the quality system.

4.3.1 *Quality Responsibility*—The quality responsibility of each unit within the organization shall be defined, agreed upon, and documented by the chief operation officer of each unit.

4.3.2 *Quality Performance Reporting*—Responsibility for reporting to higher management performance against stated quality objectives shall rest with functions independent of those responsible for the attainment of those objectives. Procedures for documentation and record retention shall be established.

4.3.3 *Quality Audit Systems*—To provide assurance, a periodic audit of the quality system shall be made by an organizational element independent of the unit being audited or by a qualified third party, including, as appropriate:

4.3.3.1 Management audits to determine how well quality policy and objectives are being met, and

4.3.3.2 System audits, including testing process audits, to determine how well quality planning has been implemented and to identify areas where changes would be beneficial to the quality of services performed.

5. Organization

5.1 The following information concerning the organization shall be provided by documentation:

5.1.1 *A description of the organization including:*

¹ This practice is under the jurisdiction of ASTM Committee D04 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.95 on Quality Control, Inspection and Testing Agencies.

Current edition approved Dec. 1, 2011. Published December 2006. Originally approved in 1986. Last previous edition approved in 2006 as D4561 – 96 (2006). DOI: 10.1520/D4561-11.

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.

- 5.1.1.1 The complete legal name and address of the main office,
- 5.1.1.2 The names and positions of the principal officers and directors,
- 5.1.1.3 The ownership, managerial structure, and principal members,
- 5.1.1.4 The functional description of the organizational structure, operational departments, support departments, and services,

NOTE 1—This may be demonstrated in the form of charts that depict all the divisions, departments, sections, and units, and their relationships.

- 5.1.1.5 All organizational affiliates and the principal officers of affiliates and directors where applicable,
- 5.1.1.6 External organizations and organizational components and their functions that are utilized for significant supporting services, and
- 5.1.1.7 A brief history of the organization including its relationship with its organizational component affiliations and other supporting information.
- 5.1.2 A general description of the geographical areas served.
- 5.1.3 A general description of the type of users of the organization's services.
- 5.1.4 A listing of the relevant services offered.
- 5.1.5 A list giving applicable dates of the qualifications, accreditations, and recognition by others.

6. Human Resources

6.1 *Management Responsibilities*—The quality related requirements, duties, and responsibilities of all personnel shall be identified. Job criteria that are quality related shall be specified in job descriptions to permit proper employee selection.

6.2 *Employee Selection and Training*—Employees should be selected on the basis of capability and experience or the potential to fully qualify for the job. A training program shall be maintained to ensure that employees develop and retain skill competence.

6.3 The organization shall provide the following documentation:

- 6.3.1 A written outline or chart giving operational personnel positions and their lines of responsibility and authority.
- 6.3.2 A summary job description for each relevant position category including the required education, training, and experience.
- 6.3.3 A brief biography outlining the education and work experience of key staff.

6.4 The organization shall have available a description of its methods of maintaining personnel records to document the qualifications, work experience and training history of each person in the positions described in 6.3.2. The organization shall also provide a description of its means of insuring the confidence of its human resources including the maintenance of records.

7. Physical Resources

7.1 The organization shall provide an inventory of its relevant physical resources including:

- 7.1.1 A general description of facilities.
- 7.1.2 An inventory of equipment used to perform the services including the following for each item of equipment:
 - 7.1.2.1 Type of equipment and use,
 - 7.1.2.2 Name of manufacturer,
 - 7.1.2.3 The equipment model and serial number,
 - 7.1.2.4 Properties of the equipment subject to standardization or calibration, if any,
 - 7.1.2.5 The range of operation and range of calibration,
 - 7.1.2.6 Reference to a recognized calibration procedure,
 - 7.1.2.7 Frequency of calibration, and
 - 7.1.2.8 Allowable tolerances or maximum sensitivity.
- 7.1.3 A written procedure manual outlining the procedure for proper use of the equipment.

8. Quality Control and Evaluation

8.1 The organization shall provide the following documentation concerning its procedural systems that directly affect the quality of services offered;

- 8.1.1 Calibration results for each item of calibratable equipment. A calibration system shall be established so that devices can be calibrated, adjusted, repaired, or replaced before becoming inaccurate,
- 8.1.2 Standardization results for each procedure, if applicable.

8.2 Records:

8.2.1 *Types of Quality Records*—Basic information for an effective quality system shall include, where appropriate:

- 8.2.1.1 Materials and equipment identification to allow traceability of which materials and equipment have been used, and on what date.
- 8.2.1.2 Testing and quality control procedures, with applicable standards, checks, and tests.
- 8.2.1.3 Inspection and test records as evidence that the prescribed inspections and tests have been performed, by whom, and with what results.
- 8.2.1.4 Identification and recording of materials that deviate from the specifications with assurance that the deviations have been properly reported to the customer.

8.2.2 Content and Use—All quality records shall:

- 8.2.2.1 Be current, complete, accurate, legible, and pertinent, showing information such as identification of products tested, date tested, and inspection procedures followed,
- 8.2.2.2 Contain the date of origination of the records,
- 8.2.2.3 Be identifiable as to the person responsible for their preparation,
- 8.2.2.4 Show quantity, type, and severity of discrepancies found, and
- 8.2.2.5 Be retained in accordance with a stated record retention policy, so as to be available for periodic independent reviews, as needed.

9. Keywords

9.1 human resources; organization; physical resources; quality control; quality systems; records

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