



AASHTO R 18-2018 Summary of Changes

The following changes were made by AASHTO Committee on Materials and Pavements Technical Subcommittee 5c.

The Technical Section (Subcommittee) was changed from the AASHTO re:source Administrative Task Group to 5c. This change puts the subcommittee-level voting and discussions in the hands of the DOT members in this subcommittee. The full roster of members still votes on final changes to R 18.

Section 6.7.2.4 and 6.7.4.5 were renumbered to 6.7.2.3.1 and 6.7.2.3.2 respectively because they are subsections of 6.7.2.3 on Identification of the standard test method used.

Note 17 was added under to clarify that a standard test method can be identified as international, national, regional, or agency. This does not change the requirements of the section. It was intended to clarify that a non-AASHTO or non-ASTM standards are not to be considered deviations from a standard. These are just standards published other entities.

AASHTO R 18-2017 Summary of Changes

The following changes were made primarily based on comments and suggestions received following the release of AASHTO R18-2016.

5.1.1 Note 2: The word “accessible” was added to describe the electronic format of the Quality Management System (QMS).

5.5.2 The word “may” replaced “shall” so that laboratories are not required to establish different frequencies for competency evaluations based on the experience and competency of each technician.

6.2.1.5 The word “proprietary” was added to describe the calibration activities of manufacturers that do not require ISO/IEC 17025 accreditation. If a manufacturer calibrates a general measurement system they produce such as a balance, load cell, length measurement device, or temperature measurement device, they are still subject to ISO/IEC 17025 accreditation for those activities if a laboratory is using them to calibrate the equipment. If there is a specialized calibration that is not widely available, it may be treated as a proprietary calibration activity.

Minor changes were made to Annex A that are not intended to impose additional requirements on laboratories that are not already in existence either in R 18 or in the standards referenced by the tables.

AASHTO R 18-2016 Summary of Changes

Section 1.1 was updated to use more commonly used terminology. A statement on “use” was removed because there is a “Significance and Use” section where that information belongs.

Section 3 was revised to clarify some of the definitions. Section 3.3 was added so that date would be defined as month, day, and year. A definition was added for subcontracting to help clarify the requirements in Section 6.8.

A statement was added to Section 4 on “Significance and Use” that explains that this document is intended to be used for assessment and accreditation in conjunction with the AAP Procedures Manual.

Section 5.4.3 and 5.4.4 were updated editorially to make the position titles lower case since they are not necessarily proper nouns.

Section 5.5.1 was modified to remove the word “new” because all staff need to be trained. Also, in Note 5 the word “confirmed” was changed to “evaluated” because of confusion about the terminology. Section 5.5.2 was modified to explain that staff competency evaluations are intended to cover all tests performed by the technician and that the frequency for the evaluations may be different depending on the experience and competency of each technician. Note 6 was modified to further explain the selection of an interval. This change is intended to encourage more attention for newly trained staff and to provide laboratories with additional options for competency evaluation intervals that work for more experienced technicians.

A new section 5.5.3 was added to clarify that the intention of competency evaluations is to have someone watch the person perform the tests. That person may be in-house, a consultant, a certification body, or an assessment body – as long as the test is being demonstrated by the technician for an evaluator.

Section 5.5.4 has been updated editorially for clarification. A sentence was also added to clarify the new additions to potential means of competency evaluations.

Management reviews were placed back in Section 5.7 after a 5-year absence along with an example document to provide better clarification.

Section 5.8.2 was revised to clarify that the laboratory needs to address customer complaints rather than just having a relatively ambiguous method for handling them.

Section 5.9.1 was modified to include record retention, storage, and disposal procedures. Other documents were added to the records retention policy such as management reviews, test data and reports, equipment records, customer complaints, and corrective actions.

Section 6 was updated to include reference equipment. The requirements for maintenance have been combined with calibration, standardization, and checks because laboratories often combine them now effectively. Many editorial changes have also been made to better organize this section.

Section 6.2.1.3 has been added to clarify the requirements for calibrating equipment after a move to a new lab location.

Section 6.2.1.5 has been added to require all measurement standards to be calibrated by an ISO/IEC 17025-accredited calibration provider. A waiver was given for manufacturers who calibrate their equipment since some are not providing calibration services outside of propriety activities.

Section 6.5.1.3 was added to require measurement uncertainty for reference equipment and testing equipment where calibration is specifically required by the standard in which the equipment is used. This is to support the requirement for hiring an accredited calibration agency.

Section 6.5.1.1 was updated to include more information on “detailed results”.

Section 6.5.1.2 was modified to require test-specific details to also be included on calibration records. This is important for conformance to the T 312 standardization and check requirements.

Section 6.5.1.8 was added to require accreditation information for the calibration agency to be included on the calibration records. “Verifiable” is intended to mean that one could go to the website or other supporting documentation to verify the details of the accreditation as it applies to this calibration record. “Symbol” is intended to allow for calibration agencies to post the logo of the accrediting body or other seal showing their accreditation.

Other editorial changes were made to the records requirement section for clarification.

Section 6.7.2 was modified so that the “deviations from, additions to, or exclusions from the test method” are to be clearly stated on the test report rather than being traceable to the test reports. That information can be important.

The information in Tables 1 and 2 was moved from tables into the regular section text. It seemed unusual to place test report requirements in tables.

The following additions were added to Tables A1.1 through A1.9 to reflect standard requirements and best practices:

- The types of devices that are considered to be length measurement devices were removed to account for all types of devices that are used to measure length.
- Fine aggregate specific gravity flasks are to have their volumes standardized every 12 months.
- Uncompacted void measures are to have their volumes standardized every 12 months.
- Rice specific gravity measures are to have their volumes standardized every 12 months.
- Consolidation deflections and loads are to be standardized every 12 months for one-dimensional consolidometers and direct shear devices.
- Soil specific gravity flasks are to have their volumes standardized every 12 months.
- Concrete bearing blocks and retainers are to be checked for planeness every 12 months.
- Masonry bearing blocks are to be checked for planeness every 12 months.
- The requirement for maintenance for all PGB equipment has been replaced with just RTFOs.
- Curing tanks / curing facilities have been added to the maintenance tables.

Examples were added and removed to provide better guidance to the users of this standard.

Example X1.2 was enhanced to better match the competency evaluation requirements of this standard. Minor edits were made to X1.5 and X1.6.

Examples X1.3 and X1.4 were updated to more clearly show what an effective internal audit entails.

A new example for checking mechanical shakers (Figure X1.9) was added because laboratories often struggle with this procedure.

The maintenance tables were combined, which left no need to maintain a separate maintenance table. Figure X1.7 and X1.8 were modified, and Figure X.1.17 was deleted.

Editorial changes were made to the referenced documents section, Section 2.