

**Guidelines for Technical Section Chairmen
of the Subcommittee on Materials**

2014

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Guidelines for Technical Section Chairs of the Subcommittee on Materials

INTRODUCTION

This document was developed in an effort to help members of the Subcommittee on Materials (SOM), particularly new Technical Section Chairs, understand the way that the Materials Book is produced each year. These guidelines attempt to answer those basic but important questions—who, what, where, when, why, and how.

The “General Information” section provides an overview of the organization of the Subcommittee on Materials and its functions. This section also includes a yearly calendar schedule of SOM activities.

“Rules for Adopting AASHTO Standards” provides information about types and categories of AASHTO standards, how to initiate changes to existing standards, and how to propose new standards for adoption.

The first part of “Production of the Materials Book” outlines the general production schedule that is followed each year and shows how the activities of all parties involved in the production of the Materials Book intermesh to produce nearly 4,500 pages of standards each year. The second part of this section discusses the production responsibilities assigned to the various groups involved—members of the SOM, the Secretary of the SOM, Technical Section Chairs, the AASHTO publications staff, and consultants.

The final section of these guidelines, “Styles and Formatting of the Materials Book Standards,” discusses the types of styles used in the Materials Book template used to format the standards as well as the steps to follow in formatting new standards.

GENERAL INFORMATION

AASHTO Subcommittee on Materials

The Subcommittee on Materials (SOM) is charged with five main tasks:

1. prepare, publish, and keep current specifications for materials used in construction and maintenance of all transportation facilities, specifications for standard methods of sampling and testing such materials, and provisional standards;
2. administer the operation of AMRL;
3. act as liaison between AASHTO and NIST or ASTM;
4. report to SCOH on federal regulatory mandates of national concern; and
5. provide a forum for the exchange of information.

Each member of the SOM serves voluntarily. The Secretary and the AASHTO Staff Liaison are the only members whose work on the SOM is a duty of employment.

Each of the 52 member departments has one voting member on the SOM. More than one person from a state can be a member of SOM, but only one of them is designated as the voting member. Representatives

of associate and affiliate member departments may participate, serve as Technical Section Chairs and Vice-Chairs, and vote on Technical Section ballots, but they may not vote on the Subcommittee ballot. U.S. DOT representatives may serve as voting members of Technical Sections and as Vice-Chairs, but not as Technical Section Chairs. However, when the SOM's regulations indicate a representative's participation on a council, Technical Section, or other group is *ex officio*, that representative is entitled to all rights of members of the group, including voting.

Technical Section Chairs can obtain assistance with maintenance of their standards through the Development of AASHTO Materials Standards (DAMS) program. The primary function of this AASHTO Technical Services Program is to support the participation of member departments at the Subcommittee on Materials annual meeting, which is convened for the discussion of outstanding ballot items, development of new standards, and revisions and updates to current standards. However, the secondary role includes the financial support for the involvement of professional writers in the development of new specifications or major revisions of current specifications.

An action timeline of SOM activities adheres to the following annual schedule:

Timeline	SOM Secretary	Technical Section Chairs	AASHTO Staff*
August		Conduct TS meeting at SOM Annual Meeting Attend AMRL ATG meeting Obtain, review minutes from TS Vice-Chair Line up new members as required Coordinate with members as required Coordinate with other TS's as required Coordinate with SOM Secretary and Chair as required Prepare and give plenary session report	Report to SOM Annual Meeting
September	Agenda Items for Standing Committee on Highways (SCOH) Progress Report (2 pages) of SOM activities Reviews all standards and notifies Tech Chairs if reconfirmation is necessary	Submit to Secretary (by deadline): <ul style="list-style-type: none"> • Minutes of August meeting • Summary of SOM ballot items • Text/copy for ballot items • Membership-related changes Submit new standards to AASHTO for formatting	Format new standards as requested
October	Send minutes and electronic ballot of annual SOM meeting to membership	Review standards (for publication) Review all standards for reconfirmation (4-year cycle for each standard) and ballot Technical Section as necessary Begin electronic editing of all ballot-approved or editorial changes Locate high-resolution photos for AASHTO as necessary Notify AASHTO of changes for figures that need to be revised or created	Format new standards as requested Revise figures as requested

Timeline	SOM Secretary	Technical Section Chairs	AASHTO Staff*
December		<p>Action on SOM Ballot as required</p> <p>Organize and charge new task forces</p> <p>Other meeting follow-up</p> <p>Report results of reconfirmation ballots to Secretary and AASHTO</p> <p>Plan ahead</p>	
January	<p>Short letter alerting membership to time and place of SOM annual meeting</p> <p>Send results of electronic ballot to membership and comments to technical section chairs and AASHTO</p>	<p>Monitor task force activity (January–April)</p> <p>Prepare, circulate, tally Technical Section (TS) electronic ballots and notify Secretary and AASHTO of results</p> <p>Handle correspondence</p> <p>Evaluate ASTM changes of both jointly-owned and solely-owned ASTM standard</p> <p>Notify Secretary and AASHTO of any solely-owned ASTM standard that needs to be updated for publication</p> <p>Notify Secretary and AASHTO of any revisions or new standards that are being withdrawn</p> <p>Evaluate AMRL input</p> <p>Maintain mailing lists, files, stationery supply</p> <p>Involve, guide and/or train home organization support staff</p> <p>Tech Chairs and staff should use online training modules on use of AASHTO Library</p> <p>Prepare TS files for review</p>	<p>Review results of SOM and TS ballots</p> <p>Update tracking chart and prepare files for book production</p> <p>Complete formatting of new standards and revisions to figures as necessary</p> <p>Design the covers</p>
February	<p>Reminder to Regional Vice-Chair who is in charge of Materials Session for Annual AASHTO Meeting</p> <p>Tentative program needs to be established by August Subcommittee Meeting</p>	<p>Complete electronic editing of all ballot-approved or editorial changes</p>	<p>Begin reviewing standards online and insert editorial changes as necessary</p> <p>Make global changes in standards</p> <p>Negotiate contract with ASTM</p>
March	<p>Official Notification of next SOM meeting</p> <p>Request technical sections to give time requirements for next meeting</p> <p>Send updated mailing list to host State Materials Engineer</p>	<p>Complete online review of standards and respond to AASHTO’s queries</p> <p>Advise Secretary on TS meeting time requirements</p> <p>Submit TS-related Roundtable items, if any, to regional Vice-Chair</p>	<p>Complete review of standards online and insert editorial changes as necessary</p> <p>Compile and send queries to Tech Chairs</p> <p>Insert responses to queries</p>

Timeline	SOM Secretary	Technical Section Chairs	AASHTO Staff*
April	<p>Meeting information (registration forms, hotel info, and preliminary agenda) posted on AASHTO Website</p> <p>Send out alerts that meeting information is available at AASHTO Website</p> <p>Agenda Items for Standing Committee on Highways (SCOH)</p> <p>Progress Report (2 pages) of SOM activities</p>	<p>Complete technical review of final versions of standards prior to printing</p> <p>Notify AASHTO when technical review is complete</p>	<p>Update front matter and indexes</p> <p>Format AASHTO standards that have updated ASTM standards</p> <p>Download files as Tech Chairs approve standards</p>
May	<p>Forward AMRL comments to technical section chairs</p>	<p>Request TS agenda input from members</p>	<p>Create and check all PDFs for book</p> <p>Set up fulfillment procedures</p> <p>Prepare marketing campaign for books and CDs</p>
June	<p>Tentative agendas (Executive Council and full subcommittee) to Executive Council for comment</p> <p>Send SOM Chair copy of agenda for Executive Council Meeting for approval</p> <p>Send list of assigned standards to Tech Chairs</p>	<p>Check membership roster (from SOM Secretary)</p> <p>Check list of assigned standards (from Secretary)</p> <p>Check/update mailing lists</p> <p>Request reports from task forces</p>	<p>Send books to press</p> <p>Check and approve proofs</p> <p>Transmit copies to member departments</p> <p>Provide final Word files to Tech Chairs for next edition</p>
July	<p>Send approved Executive Council agenda to Executive Council members</p> <p>Send final meeting information; technical section assignments to membership; any revised or new specifications; latest Subcommittee roster</p>	<p>Prepare agenda and attachments, distribute to members</p> <p>Check for latest ASTM actions</p> <p>Review Bylaws (if required)</p> <p>Prepare for meeting</p> <p>Check task force reports</p> <p>Check other input</p> <p>Extra copies of agendas</p> <p>Prepare sign-up sheets</p> <p>Other meeting related items</p> <p>Summarize nonballoted actions on solely-owned ASTM standards</p> <p>Summarize reconfirmation actions during past year</p> <p>Brief Vice-Chair</p>	<p>Produce the Materials Book CD</p> <p>Produce the individual Materials standards for sale</p> <p>Upload final files to SOM Library</p> <p>Format new standards as requested</p> <p>Prepare SOM meeting materials</p>

* Red text indicates task directly related to production of Materials Book.

RULES FOR ADOPTING AASHTO STANDARDS

Types of Standards

“Full” Standards. The term “standards” as used in these guidelines shall apply collectively to specifications, methods of test, and standard practices that have been adopted by the Subcommittee on Materials and approved by an affirmative vote of at least two-thirds of the member departments of the Association. Such standards are in effect the first day of the month following the publication of the *Standard Specifications for Transportation Materials and Methods of Sampling and Testing*, often referred to as the “Materials Book.” Standards are developed by Technical Sections, councils, or task groups within the SOM. Rules for adopting and publishing standards are given in Article 5 of the SOM Regulations.

Should the adoption of a new standard or the revision of an existing standard be found desirable between scheduled meetings of the subcommittee, a Technical Section Chair may initiate such action by calling a meeting of the Technical Section or having an electronic ballot of the Technical Section. If a ballot favorable to the proposed action is obtained from two-thirds of the members of the Technical Section, the action shall be referred to the Secretary of the subcommittee who shall prepare an electronic ballot to the subcommittee concerning the matter. Should two-thirds of the members of the subcommittee approve the action, the new or revised standard shall be published at the earliest opportunity.

Any new standard or revision of a standard receiving a favorable vote of the subcommittee shall be published as soon as possible as a Provisional Standard or a Full Standard. Prior to publication in a regular edition of the “Materials Book,” any new standard or revision approved by the Subcommittee on Materials must receive an affirmative vote of two-thirds or more of the members of the Standing Committee on Highways. The Standing Committee on Highways has the authority to accept new standards or revisions unless three or more members of AASHTO’s Board of Directors object and request that the documents be referred to the Board for final action. Electronic ballots for approval by the Standing Committee on Highways shall be conducted by the Executive Director of the Association; at the same time, the Executive Director shall send the Board of Directors a “Notification of Official Ballot.”

Provisional Standards. The term “Provisional Standard” shall apply to those standards which have been adopted by the subcommittee on a temporary basis, for up to 8 years, and subject to the following conditions:

- At any time during the 8-year period, the subcommittee can ballot to convert a Provisional Standard into a full standard.
- A Provisional Standard is initially approved for 2 years by vote of the full subcommittee.
- At the end of 2 years and 4 years after initial approval, the Technical Section responsible for the Provisional Standard can extend its life by a voice vote or electronic ballot for an additional 2 years.
- At the end of 6 years and 7 years after initial approval, the subcommittee can extend the Provisional Standard’s life by electronic ballot for an additional 1 year.
- If a Provisional Standard fails any extension vote, it is discontinued.
- At the end of 8 years, the subcommittee can ballot a Provisional Standard for adoption as a full standard or the Provisional Standard is discontinued.

Revisions of a Provisional Standard shall require sequential or concurrent electronic ballot approval by the Technical Section and the subcommittee. New or revised provisional standards shall be considered to have been adopted by the subcommittee upon an affirmative electronic ballot of two-thirds of the members of the Technical Section and two-thirds of the members of the subcommittee. A minimum of four weeks shall be allowed for canvassing the electronic ballot.

Categories of Standards

As a result of copyright issues between AASHTO and ASTM, beginning in 1997 each standard in AASHTO Materials was originally assigned to a Category (A, B, or C), depending on the relative roles of members of the two organizations in its development and/or maintenance.

In 2009 the MOU between AASHTO and ASTM changed the three categories into two as defined below:

- **Jointly-Owned Standards**—These standards have been identified to be jointly owned by the two organizations. Each organization has its own designations and these jointly-owned standards are published by both AASHTO and ASTM independently. These were formerly the “B” standards.
- **Solely-Owned Standards**—Standards that are developed, maintained, and owned individually by AASHTO or ASTM. These were formerly the “A” (AASHTO) or “C” (ASTM) standards.

The following procedures were adopted, followed, and enforced by both organizations to protect the integrity and the copyright ownership of each standard:

Publication of solely-owned standards by the other organization shall follow the process outlined below:

- If either organization wishes to use content from a solely-owned standard of the other organization, permission must be obtained in writing from the other organization.
- The two organizations will enter into a separate, long-term formal contract. The contract will include the following information: estimated number of standards, estimated number of copies, the proper organizational recognition, and the compensation for publication. The contract will be developed and negotiated by AASHTO and ASTM staff.
- To avoid duplication of efforts, it is the goal of both organizations to move toward a more collaborative effort to further harmonize specifications in areas of common interest and for the benefit of the transportation industry.

To improve communication and coordination between the two organizations, the following protocols were established:

- An AASHTO/ASTM Coordinating Committee (AACC) will be established to:
 - (1) facilitate regular and meaningful communication between AASHTO and ASTM;
 - (2) enforce the procedures contained in this agreement;
 - (3) develop a procedure for incorporating revisions proposed to existing standards;
 - (4) review, update, and maintain the list of jointly-owned standards;
 - (5) coordinate the development of standards resulting from research;
 - (6) monitor the compliance of both organizations to this agreement; and
 - (7) address any additional issues of interest to one or both organizations.

- The AACC shall consist of three (3) voting representatives each from AASHTO and ASTM members. A seventh and final voting member of AACC will be the Manager of AASHTO's AMRL and ASTM CCRL programs. The AACC shall be co-chaired by one AASHTO and one ASTM staff representative.
- The AACC shall schedule quarterly meetings by conference call. If needed, one physical meeting can be held annually at the AASHTO Subcommittee on Materials meeting and/or the ASTM June Committee Week. AASHTO and ASTM staff shall work together to establish the call schedule and prepare the agendas. Other individuals may be invited to participate in the meeting based on their expertise relative to an agenda topic.

The process for addressing copyright infringement includes the following:

- When copyright ownership is in question, a written inquiry must be made to the other organization's staff delineating the document(s) in question.
- If necessary, a review committee comprised of members from both ASTM and AASHTO will review the document(s) and provide a recommendation.
- If no consensus can be reached, mediation or litigation may be used as a last resort.

Agreement between AASHTO and ASTM Versions

To the extent feasible, AASHTO should harmonize the jointly-owned standards and should maintain equivalency to the latest version of corresponding solely-owned ASTM Standards, and, likewise, Technical Section Chairs should seek to have the appropriate ASTM technical committees keep ASTM Standards technically equivalent to the latest version of the corresponding AASHTO Standards.

Maintaining Agreement

The Technical Section should review all ASTM changes in standards that have AASHTO equivalents at its first opportunity following ASTM adoption of the change. The Secretary or his/her designee informs the Technical Section Chair of ASTM changes as soon as possible after their publication by ASTM by e-mailing an electronic copy of the newly revised standard and a redline version of the newly revised standard, when available. It is the duty of the Technical Section Chair to initiate the review.

In the case of jointly-owned AASHTO standards, changes in the standards to maintain equivalency with ASTM standards require electronic ballot of the Technical Section and subcommittee in the same manner as other revisions of the standards. Changes in these AASHTO standards should be acted upon by the responsible Technical Sections within the first year after notification of the adoption of the revision by ASTM.

In the case of solely-owned ASTM standards, changes in AASHTO standards to maintain equivalency with ASTM standards do not require electronic ballot of the Technical Section and subcommittee unless requested by the Technical Section Chair. After the Secretary informs the Technical Section Chair of published changes, the chair shall, within 30 days, inform the Secretary if an electronic ballot of the Technical Section and subcommittee will be required. If the changes are not regarded as significant, no ballot is required and the Technical Section Chair should ask the Secretary, in writing, to use the new version of the ASTM standard in the next edition of AASHTO Materials. The AASHTO cover page for the standard should be revised, as appropriate, and the year portion of the AASHTO designation number should be updated.

At any time a Technical Section may initiate action to revise methods of test or specifications, regardless of ASTM equivalency.

Initiating Actions on Standards

Technical Revisions or Reconfirmations of Existing Standards

Technical sections shall initiate action for revising standards for materials under their jurisdiction as assigned by the Executive Council. They may revise such standards on their own initiative or in response to specific requests from the Executive Council. Proposed technical revisions of standards may be amended on the floor of the subcommittee by a majority vote of those present. If approved by a majority vote of those present, the proposed revision as amended at the meeting shall be sent to electronic ballot of the subcommittee.

On Subcommittee electronic ballots, State members of the Subcommittee are eligible to vote. On Technical Section electronic and voice ballots, State, affiliate organization, and U.S. Department of Transportation members of the Technical Section are eligible to vote. When any State, affiliate organization, or U.S. Department of Transportation member agency is represented on the subcommittee or a Technical Section by more than one individual, the various members representing that agency shall jointly command but a single vote which shall be cast without splitting.

All members shall cast either an affirmative or negative vote on all Technical Section and subcommittee electronic ballots. Reasons for negative votes shall be given in writing. Negative votes not accompanied by a written statement will not be counted in the final tally.

Subcommittee and Technical Section ballots require affirmative votes by two-thirds of the official voters. Ballots not returned therefore effectively act as negative votes when ballots are tallied; no action is required by the subcommittee or Technical Section to find such votes non-persuasive.

If a standard has not been revised during any 4 consecutive years, the Technical Section responsible for the standard will reconfirm the standard by electronic ballot. The SOM Secretary or his/her designee will alert Technical Section Chairs of standards that require reconfirmation. It is the responsibility of the Technical Section Chair to see that appropriate action is taken. Reconfirmation electronic ballots are best conducted in October or November, after the Technical Section Chair has established which standards have reached the 4-year limit and which are not being included on the general subcommittee ballot for revision. The results of reconfirmation electronic ballots should be reported to the Secretary as soon as the ballot is completed, and should also be reported in the minutes of the next meeting of the Technical Section. A two-thirds majority of the Technical Section membership must reconfirm.

To the extent possible, copies of all proposed revisions of existing standards should be distributed to all members of the appropriate Technical Section at least two weeks prior to the meeting of the subcommittee at which they are to be considered. However, proposed revisions of existing standards that have not been previously circulated may be considered at any regular meeting of the subcommittee.

Editorial Revisions

The editorial function exists at all levels in the SOM but is primarily the responsibility of the Technical Section that has jurisdiction over the standard. Editorial review is intended to improve the clarity of the text or address obvious errors or omission of information. *The Form and Style for ASTM Standards* (Blue Book) is the preferred style manual for AASHTO standards (the Blue Book is available on-line at www.astm.org/COMMIT/Blue_Book.pdf). Editorial revisions are generally sent to the SOM Secretary along with the Technical Section minutes after the SOM annual meeting. However, editorial revisions may be sent to the Secretary at any time during the year. The Secretary reviews the editorial changes to insure they are not changes to the standards which need to be voted upon and then forwards the editorial changes to AASHTO publication specialists for incorporation into the manuscript data file.

When the reasons given for negative votes on any action point out inconsistencies or errors in a proposed action, or when unforeseen problems arise with respect to implementation of any action receiving a favorable vote, the Secretary, with the concurrence of the Subcommittee Chair and of the Technical Section Chair, may make editorial revisions to properly reflect the intentions of the Technical Section. When the inconsistency or error cannot be determined to be editorial, the Secretary shall take either of the courses of action described below:

- With the approval of the Subcommittee Chair and Technical Section Chair, issue a special electronic ballot of the subcommittee to clarify or correct such actions so as to permit publication of the correct action in the ensuing issue of the “Materials Book.” A two-thirds affirmative electronic ballot of the Technical Section as well as two-thirds vote of the full subcommittee will be required for adoption.
- Withhold publication of such new standards or revision of standards until such time that the subcommittee again meets and considers such negative votes. The Technical Section shall then recommend to the subcommittee appropriate action on standards that have been held up.

Proposing New Standards

Proposal Process

Any member of AASHTO’s Subcommittee on Materials (SOM) may propose a new standard to the appropriate Technical Section Chair. Other interested parties can contact the FHWA Secretary to SOM to propose a new standard. The FHWA Secretary will direct the information to the appropriate Technical Section Chair. This can be in the form of

- a specific specification need,
- research information that provides a general idea for a standard, or
- a draft standard.

If the standard is a new concept, the Technical Section Chair may request a presentation at the Annual SOM meeting to share information on the proposed standard and get feedback on the need for an AASHTO standard. If a presentation is made and the feedback is positive but the standard is not in a format complete enough to ballot, the Technical Section Chair can ask for volunteers to revise and prepare the standard for balloting. The Technical Section members will also decide if the standard should be balloted as a provisional standard or full standard.

If the proposed standard is in a draft specification format to ballot, the proposed standard can be sent for Technical Section ballot by the Technical Section Chair at anytime. The Technical Section Chair should provide some background or research information along with the ballot if the Technical Section has not had previous presentations on the standard.

Development of an AASHTO Materials Standard and its accompanying model standards, available on the SOM website, can provide guidance on how to structure/write the proposed standards.

Sources of Standards

New standard development typically involves research sources that can include

- NCHRP or other cooperative research programs,
- Pooled-fund studies,
- FHWA research,

- State DOT research,
- Federally funded UTC research, or
- Private/Industry-funded research.

Implementation is an extremely important part of applied research. Standards provide a model for implementation. NCHRP-, FHWA- and State-funded research should include an implementation item related to developing AASHTO standards when applicable. The SOM is also encouraged to develop Research Problem Statements for specification needs and to include AASHTO standards as a proposed deliverable.

Sources of Funding

NCHRP 20-7 funding can be requested to turn existing information into standards needed by SOM. Individual State DOTs are also encouraged to include the development of an AASHTO standard as part of the implementation portion of their research projects. The SOM also has established a contract with a technical writer to assist with standard development.

Guidelines for Technical Revisions

Precision and Bias

Precision and bias statements provide a general indication of the accuracy and usefulness of test methods. Precision statements describe the maximum differences to be expected between individual results of a method when the test is properly performed on essentially identical material (repeatability and reproducibility). Precision statements, in other words, tell how closely results should agree with each other. Bias statements describe how far off overall tests could be expected to be from the true value.

It is desired that all test methods contain precision and bias statements; however, the lack of a precision and bias statement for a test standard is not justification for not adopting it. Development of precision and bias statements is expensive, difficult and sometimes virtually impossible. The SOM is currently attempting to add or improve precision statements for a number of standards through studies supported by the NCHRP. Priorities for development are established by AMRL, Technical Section 5c, and the chairs of individual Technical Sections. Guidance for conducting round-robin testing programs to develop precision is in ASTM C 802, C 670, E 17 and E 691.

Use of Units

It is the policy that all standards use the SI System of units as the preferred units, with U.S. Customary units in parentheses, unless the standard has already been converted to SI units only; in the latter case, U.S. Customary units are not to be included. IEEE/ASTM SI 10-1997 is the guiding document for this conversion.

Dual standards, e.g., M 31M and M 31 (where the two standards are printed separately), and combined standards, e.g., M 275M/M 275, are to be used where appropriate. Hard conversion is to be used to the maximum extent possible.

Designation Numbers

The designation numbers of the standards are comprised of a letter that reflects the type of standard (M, R, or T), the unique sequential number of the standard in its type, [following a hyphen] the date of publication in its current form, and, in some cases, the year of last reconfirmation in parentheses. For example, M 248-91 (2000) would be a standard specification, would carry the unique number 248 in the list of specifications, was last revised (or initially approved) in 1991, and was reconfirmed by Technical Section, without changes, in 2000.

Current AASHTO policy is to publish standards with metric (SI) units first, with U.S. Customary units following in parentheses. When deemed necessary by the Technical Section, the Materials Book may include two independent versions of a standard, a “hard” metric (SI) and a U.S. Customary version. In such cases, the standard may be published in dual (separate) versions, e.g., M 259 and M 259M, or in a combined version, e.g., M 255M/M 255. The SI version has an “M” immediately following the identifying number (as in M 259M). IEEE/ASTM SI 10-1997 is the guiding document for this conversion.

The AASHTO staff assigns the sequential numbers of new standards in the order in which they appear in the SOM’s annual ballot. For example, during the production of HM-22, Reclaimed Concrete Aggregate for Unbound Soil-Aggregate Base Course became M 319 because it appeared first on the ballot, while Performance-Graded Asphalt Binder, which appeared later on the ballot, became M 320.

The designation numbers for new standards and those with approved revisions will be followed by the year of publication (–10 for HM-30). The SOM’s annual electronic ballot is conducted each fall, but the resulting standards actions are not published until the following summer; as a result, e.g., the new and revised standards approved on the fall 2009 ballot have an –10 year designation.

Standards that are reconfirmed without changes will have the year of reconfirmation in parentheses added to the designation number. In this case, since reconfirmation takes only a single step (a Technical Section electronic ballot), the year shown in parentheses will be the year the ballot is issued.

The Secretary of the SOM tracks and has final approval on all designation and reconfirmation year changes.

When a Technical Section Chair makes editorial changes in a standard, no ballot is required and the year designation for the standard is not changed.

Use of “May,” “Will,” “Shall,” and “Should” in Standards

“May” indicates that a provision is optional.

“Will” expresses futurity, but never indicates any degree of requirement.

“Shall” indicates that a provision is mandatory.

“Should” indicates that a provision is not mandatory, but is recommended as good practice.

Use of “and/or”

Avoid using the expression “and/or.” Instead of “A and/or B,” write “A or B, or both.” Similarly, instead of “A, B, and/or C,” write “A, B, or C, or combination thereof.”

PRODUCTION OF THE MATERIALS BOOK

Production Responsibilities of Technical Section Chairs

Technical section chairs may organize their Technical Sections as they deem necessary for the efficient work of their sections. The duties of Technical Section Chairs include:

- maintaining records of activities,
- conducting Technical Section balloting,
- submitting minutes of each Technical Section meeting on the progress of the work, and

- providing items for SOM ballot to adopt or modify standards.

Technical Section Chairs also recruit and nominate the Vice-Chairs for their Technical Sections. A Vice-Chair usually serves as a note taker at the Technical Section meeting and chairs the meeting in the absence of the Technical Section Chair.

Technical Section Chairs can obtain assistance with maintenance of their standards through the Development of AASHTO Materials Standards (DAMS) program.

The activities of the Technical Section Chairs unfold according to the following general timeline:

Timeline	Production Tasks
August	Subcommittee on Materials Meeting—Technical section chairs conduct Technical Section meetings, attend the AMRL Council meeting, and update their membership rosters and mailing lists. Also prepare and give a report at the plenary session, recruit new members as needed, and coordinate with other Technical Section Chairs or the Secretary as required.
August–September	Vice-chairs prepare Technical Section minutes and attachments according to the guidelines and send them to the Technical Section Chairs. Technical Section Chairs review the minutes and attachments and send them to the Secretary. Send a summary of the SOM ballot items and membership-related changes to the Secretary. During this time, the Secretary reviews all standards and notifies the Technical Section Chairs if reconfirmation of a standard is necessary.
October–November	While the Secretary prepares the ballot, the Technical Section Chairs should begin the electronic editing of their standards and should submit new photos or revised figures to the AASHTO staff, as needed. The Technical Section Chair should report the results of reconfirmation electronic ballots to the Secretary as soon as the ballot is completed (no later than December 31), and should also include this information in the minutes of the next Technical Section meeting. When the Secretary notifies all of the SOM members that the Subcommittee ballot is online, voters should begin reviewing all items on the Subcommittee ballot. Technical Section Chairs should provide electronic files for new standards, and provide original photos or files and/or hard copies of new/revised figures to AASHTO.
November–December	Organize and charge new task forces. If needed, Technical Section Chairs should take advantage for online training for themselves and/or their staff. If the Technical Section Chair is a voting member, he/she must submit his/her ballot responses by the ballot deadline. Technical section chairs should also evaluate differences between AASHTO and ASTM versions of jointly-owned and solely-owned standards and, if deemed appropriate, initiate actions to reconcile the two versions. Notify the Secretary (with a cc to AASHTO staff) of any solely-owned ASTM standard that is being revised (without an SOM ballot) by incorporating an updated ASTM standard.

Timeline	Production Tasks
January–February	If needed, take one of training sessions for electronic editing that are offered online. Complete electronic editing of all ballot-approved changes, cross-check and remove changes that were not approved. As early as possible, notify AASHTO staff of standards that have been withdrawn for revision or adoption.
March	Technical Section Chairs should review all standards under their jurisdiction and respond to all queries from AASHTO staff.
April	Technical Review—Check that all revisions were made correctly online. Notify the AASHTO staff as soon as the review has been completed. Review all standards under Technical Section’s jurisdiction to consider revisions for the upcoming ballot.
May	Evaluate AMRL comments forwarded by the Secretary. Submit any Roundtable items related to your Technical Section. Contact the Secretary regarding the requirements for the Technical Section meeting at the SOM meeting. Also, request input from other members to develop the agenda for the Technical Section meeting.
June–July	When AASHTO staff makes available the standards as they are to be printed in the upcoming edition, begin inserting revisions into the standards online to be proposed in pre-meeting Technical Section electronic ballots or at the annual meeting. For balloting purposes only, revisions to figures may be made online by working with AASHTO staff or may simply be hand-written on a hard copy. Send out pre-meeting Technical Section electronic ballots. Print copies of the marked-up files, or copy the marked-up files to a CD if you will be carrying a laptop with you to the meeting. In preparation for the SOM Meeting, check task force reports and other input; summarize Technical Section electronic ballot results, non-balloted actions on solely-owned ASTM standards, and reconfirmation actions during the past year; prepare rosters and an agenda for the Technical Section meeting; and make copies of items as needed.

For suggestions on how to organize the information for the ballot revisions, see the section titled “Production Guidelines for Technical Section Chairs.”

Role of the AASHTO Publications Staff in the Production of the Materials Book and the Assistance They Can Provide to Technical Section Chairs

Pre-Production Tasks

1. Review the ballot.
 - Assign designation numbers to new standards.
2. Prepare tracking chart database.

Production of Individual Standards

1. Organize components for each individual standard:
 - ballot revisions,
 - e-mails with revisions from Technical Section Chairs and/or the SOM Secretary,
 - revisions to figures and equations,
 - queries and responses to queries,
 - ASTM standards for solely-owned ASTM standards.
2. Prepare new standards.
 - Obtain electronic file and hardcopy from the SOM Secretary or Technical Section Chair.
 - Proofread and revise Word file accordingly.
 - Format document.
 - Upload the files to the AASHTO Library, creating the profile in the process.
 - Contact Technical Section Chair regarding any queries or missing information.
3. Complete revisions to figures as indicated in ballot.
4. Complete revisions to equations as indicated in ballot.
5. Review each standard online to see that revisions are being made correctly.
6. Make editorial corrections as needed.
7. Check cross references and make global changes as necessary.
8. Compile list of queries pertaining to all standards of a particular Technical Section, and send queries to Technical Section Chairs for consideration during their Technical Review.
9. Make any revisions resulting from responses to queries.
10. As soon as the Technical Section Chair notifies AASHTO that the revisions are complete and accurate, lock the specification online.

Production of Book

1. Assign the Book Code and ISBN number to the project.
2. Design the cover.
3. Evaluate print bids, and award contract.
4. Make sure the contract with ASTM is in place and determine if any special requirement needs to be implemented.
5. As soon as the standards for a given Technical Section are locked, create a PDF file of the marked-up file for future reference by the Technical Section members.
6. Remove the redlining for each individual standard.
7. Insert ASTM standards for solely-owned ASTM standards.

8. Check each individual standard to make sure that
 - all revisions were made correctly,
 - all queries have been answered,
 - designation number is correct,
 - formatting is correct,
 - Technical Section Chair has signed off.
9. Create PDF files (one with bookmarks and one without) of each individual standard.
10. Update the Front Matter.
11. Update the Index by incorporating Keywords from new standards.
12. Create PDF files of the Front Matter, text, and Index for each volume and send to the printer.
13. Review and approve the printer's proofs.
14. Produce the CD-ROM.

Production Guidelines for Technical Section Chairs

The Materials Book is prepared online in a Microsoft Word format. Because the Technical Section Chairs are responsible for the technical accuracy of the publication, the actual revision of the standards rests with them. In practice, however, most Technical Section Chairs have a volunteer from their staff make the revisions as Draft Editors and then review the final versions of the standards. [To have a member of your staff added to the AASHTO Library System, contact iENGINEERING at (410) 992-9314 or support@iengineering.com.]

Technical Section Chairs may call upon AASHTO Publications staff to assist with

- formatting and uploading new standards,
- correcting formatting of existing standards,
- revising figures,
- revising equations,
- checking cross references,
- making global changes, and
- copyediting decisions.

For queries regarding designation numbers or specific items on the ballots, contact the Secretary of the SOM.

Steps performed in preparing the standards for publication include the following:

1. Organize the standards for which you are responsible.
2. Prepare new standards.
3. Revise the standards online as indicated in the ballot.
4. Complete revisions to figures as indicated in ballot.
5. Complete revisions to equations as indicated in ballot.

6. Review each standard online to see that revisions were made correctly.
7. Make editorial corrections as needed.
8. Respond to queries posed by AASHTO staff or Technical Section members, or make any necessary revisions resulting from these queries.
9. Notify AASHTO that the revisions are complete and accurate.

STYLES AND FORMATTING OF THE MATERIALS BOOK STANDARDS

All of the standards for the AASHTO Materials Book are formatted using a Microsoft Word template that stores page setup information and formatting styles. Using this template helps to maintain consistent formatting throughout a document. With the template, you apply formatting to text by selecting a style from the Style list on your Formatting toolbar. Once a standard has been prepared with this template, it is essentially ready for publication in the Materials Book.

Styles define the attributes of your text characters and/or paragraph settings. Essentially, desired attributes—like fonts and paragraph alignment—have been saved with a specific name in a document, and you can choose that style name from the Style box located on your formatting toolbar when it is needed. This not only saves you the time it would take to format individually, but also guarantees consistency in your document. When you define a particular style and use it in several places in your document, formatting changes can be made quickly to all areas using that style by simply redefining the style's attributes. Word applies any changes you make to the style's attributes to all parts of the document using that particular style.

There are two types of basic styles:

Paragraph Style—If a style deals with the settings of paragraph attributes like line spacing and indentation, it is classified as a Paragraph style. Every paragraph in Word has a “Style” associated with it.

Character Style—If the style is for individual characters, such as boldface, italic, superscript, or subscript font, it is referred to as a character style.

Preparing New Standards

1. In order to prepare a new standard for consideration, type the standard in Microsoft Word.
2. Proofread and revise the Word file accordingly.
3. Send the file to AASHTO staff for formatting and uploading to the AASHTO Library System.

Please refer to the online training sessions for step-by-step instructions on editing and formatting AASHTO Materials standards.