

AASHTO CHANGES

**What is AASHTO/ASTM/NCHRP
and why do we care?**

Mark Felag and Baxter Blue

NESMEA - October 2023

Disclaimer

**Opinions expressed are my own and not of any other organization.
I assume no responsibility of content.**

Also below,

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Agenda

What is AASHTO?

What is COMP?

What is ASTM?

COMP Updates

PEM Work

What is NCHRP?

NCHRP Research Projects

NCHRP Synthesis Projects

Why should you care?



What is AASHTO?

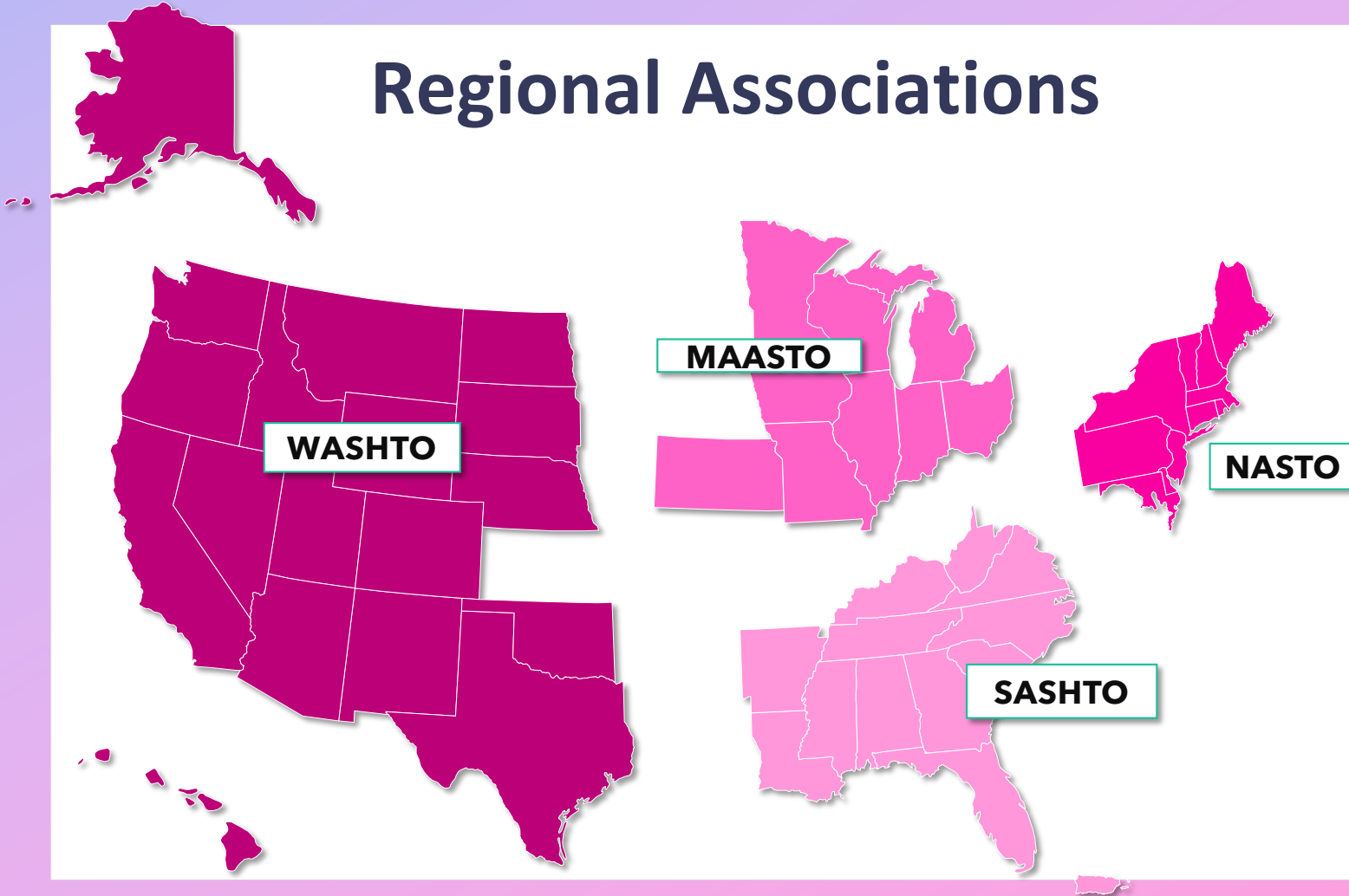
- **Nonprofit association**
- **Founded in 1914**
- **Members include:**
 - **Transportation departments of the 50 states, the District of Columbia, and Puerto Rico**
 - **50+ Associate Members from Federal, State, and Local agencies and other countries**
- **Covers all modes: Aviation, Rail, Highways, Transit, Water, and Active Transportation**



AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO

Regional Associations



AASHTO's Strategic Plan 2021-2026

Vision:

Providing improved quality of life through leadership in transportation

Mission:

Supporting State DOTs to connect America with the transportation system of today and tomorrow

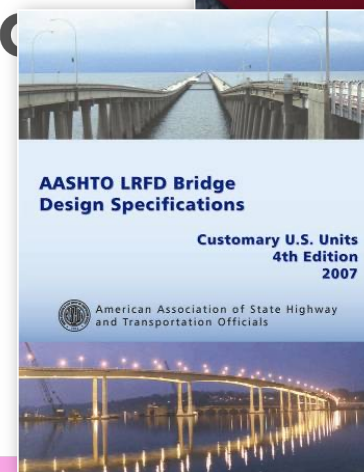
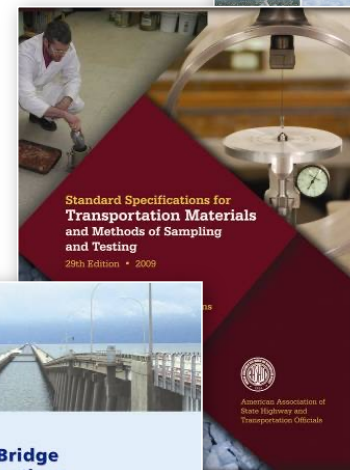
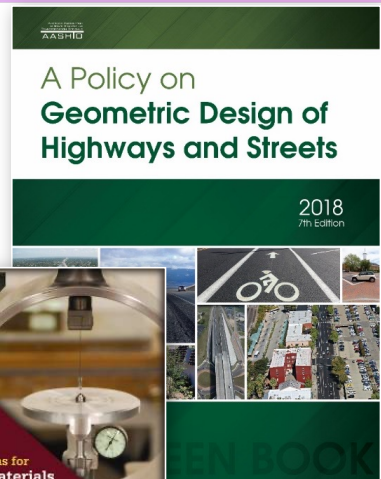


AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO

Range of Committee Roles

- Policy development and interpretation
- Development and maintenance of technical standards and specifications
- Production of guidance and manuals
- Provision of services to the state DOTs
- Dissemination of information
- Professional development

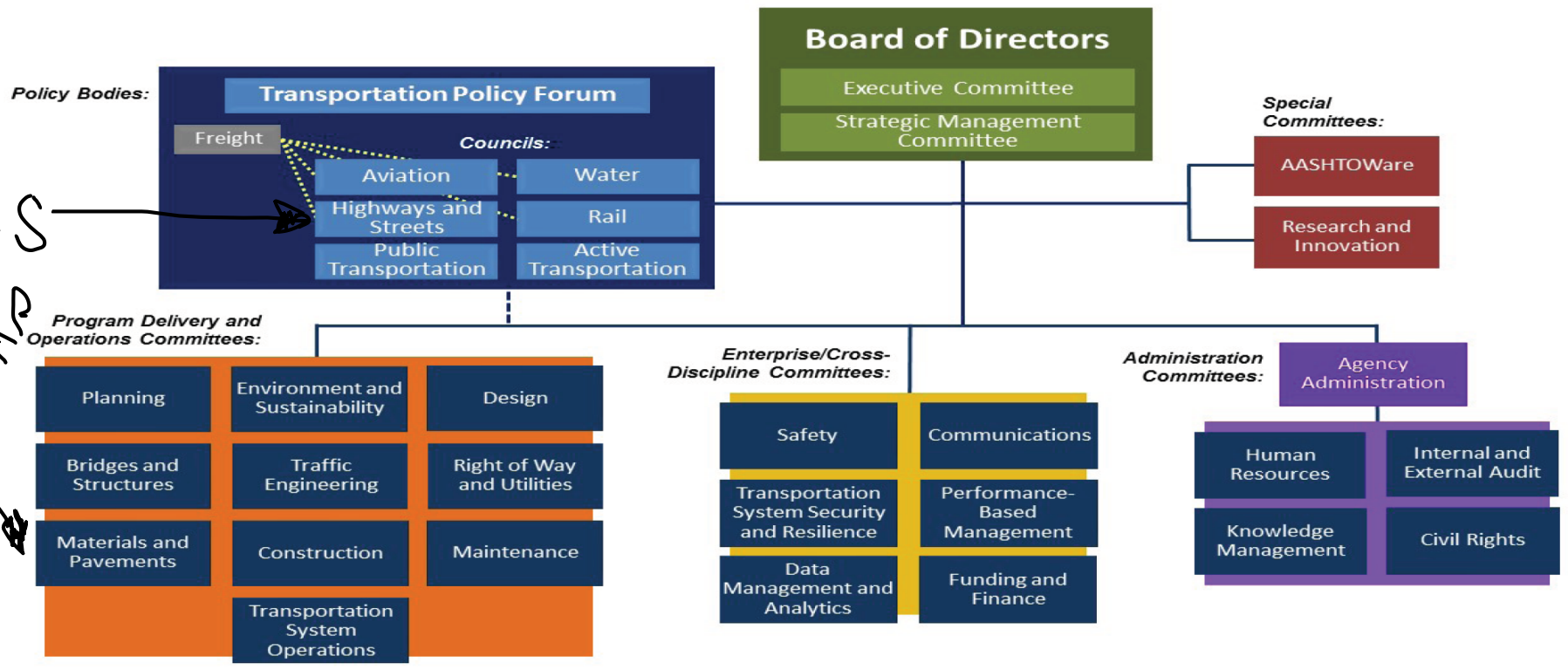


AMERICAN ASSOCIATION
OF STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

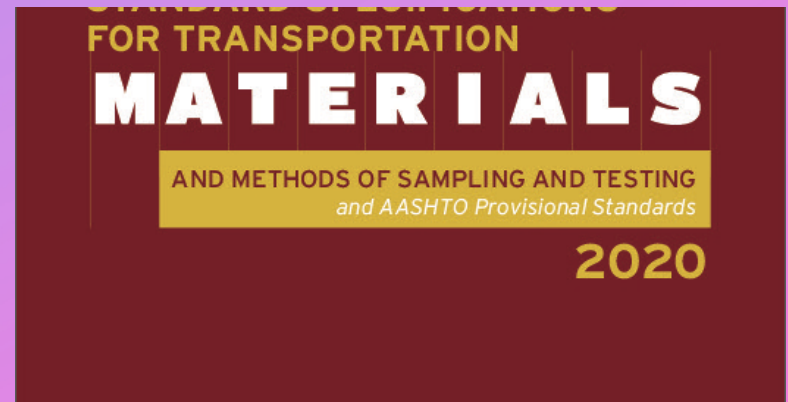
AASHTO

AASHTO Committee Structure

CAS
COMP



COMP



Committee on Materials and Pavements

Total Standards - 580+

Steering Committee

21 Technical Subcommittees in 5 Divisions

COMP 5

Divisions

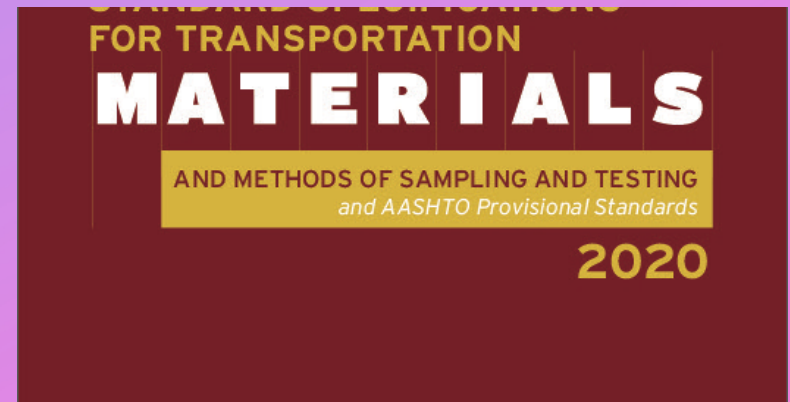
1 - Soils and Aggregates

2 - Asphalt

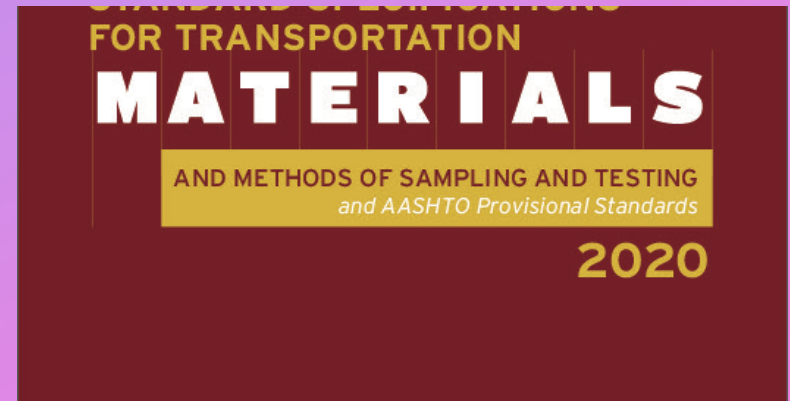
3 - Cement and Concrete

4 - Miscellaneous - Pipe, Markers, Bearings, Geo

5 - Pavement, Environmental and Quality



COMP TS – Div 1



TS 1a – Soil and Unbound Recycled Materials

TS 1b – Geotechnical Exploration, Instrumentation, Stabilization and Field Testing

TS 1c – Aggregates

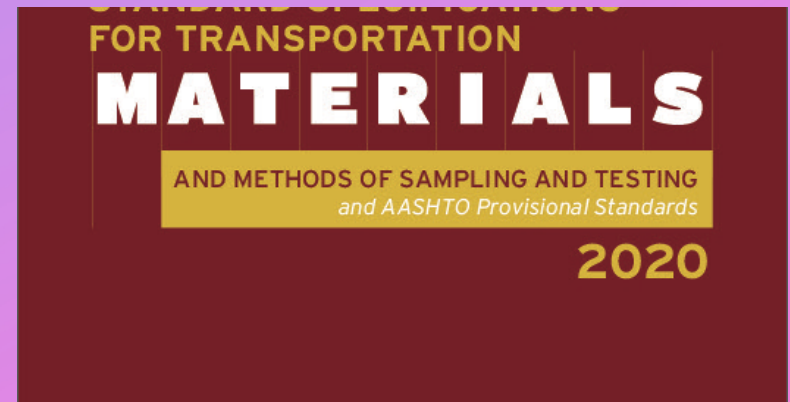
COMP TS – Div 2

TS 2a – Emulsified Asphalts

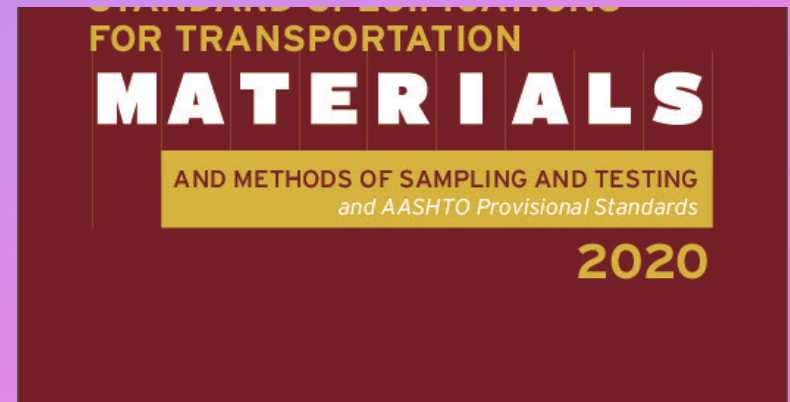
TS 2b – Liquid Asphalt

TS 2c – Asphalt-Aggregate Mixtures

TS 2d – Proportioning of Asphalt-Aggregate Mixtures



COMP TS – Div 3



TS 3a – Cement, Lime, and Concrete Materials

TS 3b – Fresh Concrete

TS 3c – Hardened Concrete

COMP TS – Div 4

TS 4a – Concrete Drainage Structures

TS 4b – Flexible and Metallic Pipe

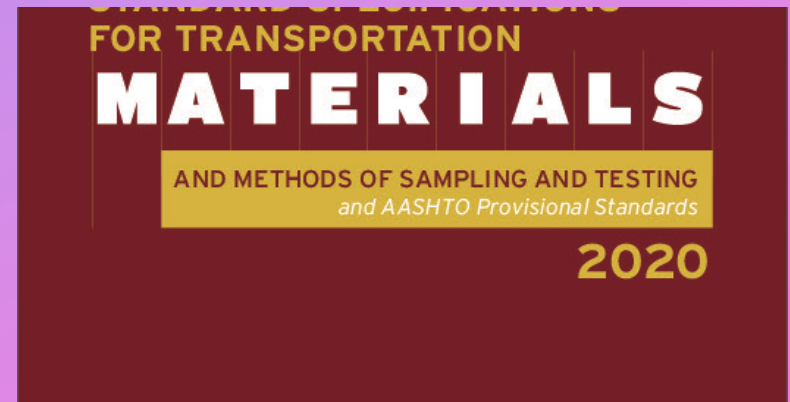
TS 4c – Markings and Coatings

TS 4d – Safety Devices

TS 4e – Joints and Bearings

TSe 4f – Metals

TS 4g – Geosynthetics and Erosion Control Products



COMP TS – Div 5

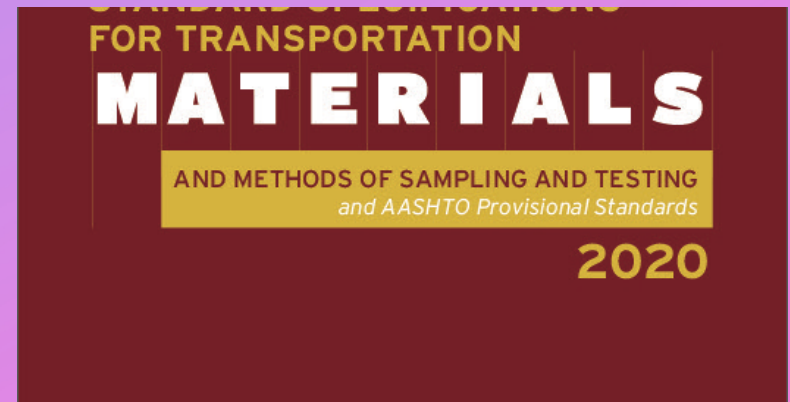
TS 5a – Pavement Measurement and Performance Measures

TS 5b – Bridge and Pavement Preservation

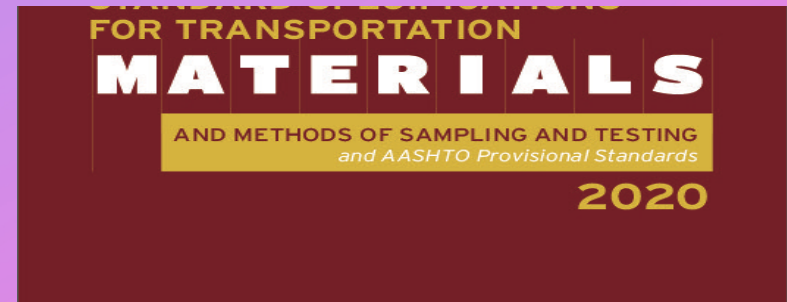
TS 5c – Quality Assurance and Environmental

TS 5d – Pavement Design

AASHTO re:source Administrative Task Group



COMP Standard Types

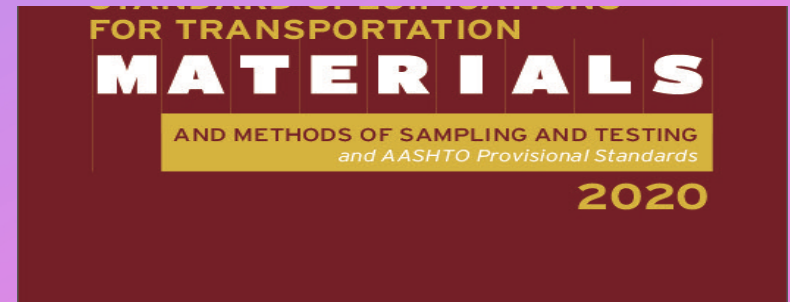


M - Specifications are an explicit set of requirements to be satisfied by a material, product or system.

R - Recommended Practices are a definitive set of instructions for performing specific operations (such as sampling, collection, or inspection) that do not produce a test result.

T - Test method is a definitive procedure (such as identification, measurement or evaluation of properties) that produces a test result.

COMP Provisional Standard Types



Provisional Standards - 1993 - To get Standards into the hands of those that will use them.

MP - Material Provisional

PP - Recommended Practice Provisional

TP - Test Provisional

ASTM Standards

astm.org

12,800+ Standards

30,000+ Volunteer Experts

140+ Countries

125 Years of Operation



2022 Overview

Temp Measuring
Devices
Enforcement

Not yet!



2023 Overview

Standard Specifications for
Transportation Materials and
Methods of Sampling and Testing
and AASHTO Provisional Standards

CLICK
HERE



Revised 112 Standards with 114 Ballot Items

New Standards - 3

AASHTO 2023 – HM-43

**Ballots must Pass TS and
COMP Ballot to be published**



2023 3a Cement – Published

TF 09-01 – Task Force on Harmonization of Cement Standards

M 85 - Portland Cement

M 240 - Blended Cement

**Remove special property designations for MH, LH,
and Type IV cement, and replace with an option for
purchaser to require C1702 heat of hydration**

2023 3a Cement - Published

M 240 - Blended Cements

M327 - Processing Additions

- Remove T 107 Autoclave Requirements

2023 3b Fresh Concrete - Published



M 194 - Chemical Admixtures for Concrete

Allow Type II Cement

Many areas - Updates to ASTM Equivalency

R 101 (was PP 84)



**R 101 - Developing Performance Engineered Concrete
Pavement Mixtures**

2023 3c Hardened Concrete – Published

**TP 119 - Electrical Resistivity
of a Concrete Cylinder
Testing in a Uniaxial
Resistance Test**

**Now a Full Standard! Now T
402!**

**Standard Method of Test for
Electrical Resistivity of a
Concrete Cylinder Tested in
a Uniaxial Resistance Test**

AASHTO Designation: TP 119-21¹

Technically Revised: 2021

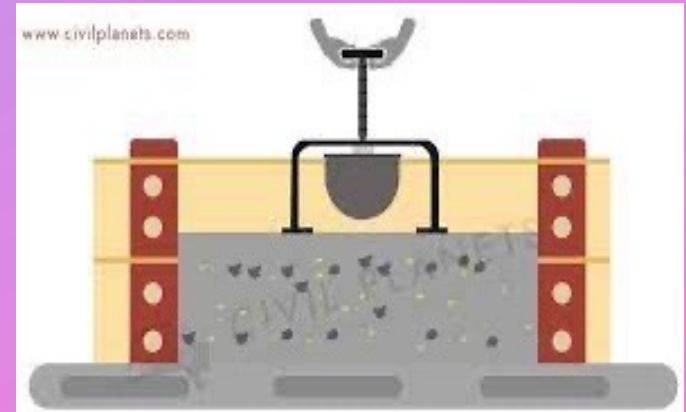
Editorially Revised: 2021

Technical Subcommittee: 3c, Hardened Concrete

AASHTO

American Association of State Highway and Transportation Officials
555 12th Street NW, Suite 1000
Washington, DC 20004

2023 3c Hardened Concrete - Published



**TP 129 - Vibrating Kelly Ball (VKelly) Penetration in Fresh
Portland Cement Concrete**

Now a Full Standard!! Now T 403!!

re:source Changes

**Retirement of Program Manager
- re:source and CCRL**

Position Not Being Filled

Resolution out to Ballot Now



2024 AASHTO re:source Technical Exchange

ROLLING BACK TO AASHTO REGION 1

Stay tuned for upcoming details.

Scan the code and sign up for our
Training & Events Mailing List, so you
don't miss out on any announcements.

A graphic with a white background and blue geometric shapes. On the left, there is a photograph of a cable-stayed bridge. The text is arranged in a clean, modern layout. At the top, it says 'SAVE THE DATE' in large blue letters. Below that is the year '2024' followed by the AASHTO logo (a stylized bridge). The main title 'AASHTO re:source Technical Exchange' is in bold black text. Below the title, it specifies the dates and location: 'MARCH 18-21 • BOSTON, MA'. At the bottom, it provides the website 'aashtoresource.org/events' and the hashtag '#resourceTechEx' with icons for LinkedIn and X (Twitter).

**SAVE
THE DATE**

2024 
**AASHTO re:source
Technical Exchange**
MARCH 18-21 • BOSTON, MA
aashtoresource.org/events
#resourceTechEx  

2024 – Division 3

23 Ballots for 18 Standards

Ballot Closing Now



2024 3a Cement

TF 09-01 - Task Force on Harmonization of Cement Standards

M 85 - Portland Cement - 2

M 240 - Blended Cements - 3

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THE VOICE OF TRANSPORTATION



2024 – Division 3

ASTM Equivalence

WAQTC Edits

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TRANSPORTATION OFFICIALS

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THE VOICE OF TRANSPORTATION



2024 3c Hardened Concrete

Standard Practice for
**Grinding the Ends of Cylindrical
Concrete Specimens**

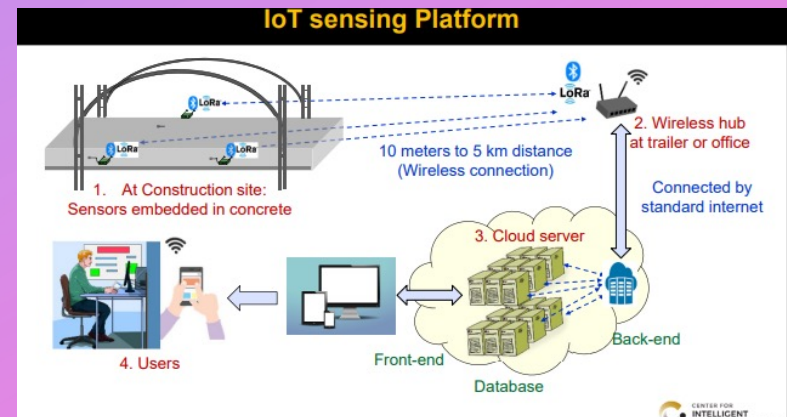
AASHTO Designation: PP 89-19¹
Technical Subcommittee: 3c, Hardened Concrete
Release: Group 1 (April)

AASHTO

American Association of State Highway and Transportation Officials
444 North Capital Street N.W., Suite 249
Washington, D.C. 20001

**PP89 - Grinding of Ends of Cylindrical Concrete Specimens
- Edits and to make a Full Standard**

New T XXX-25?



Dr. Luna Lu (NCC 2022 Presentation) - Indiana DOT - In-Situ Strength of Concrete using Sensor Technology (not Maturity Curve)

Passed TS Ballot - Now at COMP Ballot

CP Tech Center

PEM Work



National Concrete Pavement
Technology Center



Uniting agencies, industry, and researchers
to advance concrete pavement technology



T xx – Early Opening of Concrete Pavement from Maturity

Passed TS ballot in the summer. COMP ballot now!

Precision and Bias

T 395 – SAM Meter - Characterization of the Air-Void System of Freshly Mixed Concrete by the Sequential Pressure Method – Ballot Now!

T 396 - Evaluating the Workability of Slip Form Concrete Paving with the Box Test

TP 129 (now T 403) - Vibrating Kelly Ball (V-Kelly) Penetration in Fresh Portland Cement Concrete

TP 119 (now T 402) - Electrical Resistivity of a Concrete Cylinder Tested in a Uniaxial Resistance Test – Ballot Now!

T 358 - Surface Resistivity Indication of Concrete's Ability to Resist Chloride Ion Penetration – Ballot Now!

QA of Portland Cement Concrete

Currently AASHTO has a Standard Practice for QA for Hot Mix Asphalt and for Manufactured Materials

Work has been started by FHWA and now being worked on by the CP Tech Center

Guide for Reduction of Embodied Carbon Content of Portland Cement Concrete

Discussed at the TS 3c Annual Meeting in August 2023.

Draft sent out to a Technical Panel and TS 3c for Review.

Hope to send to a Ballot this Fall

\$2 B FHWA Incentive Program – More to come this fall!

NCHRP Research



NCHRP NATIONAL
COOPERATIVE
HIGHWAY
RESEARCH
PROGRAM

Established June 19, 1962 by AASHTO, TRB and FHWA
State DOT Driven Research Program
5.5% of State Research Funds
2014-2018 - \$42 million

FY 23 - 3 Research Projects Related to Materials



C-06: Impact of Flooding and Inundation on the Resiliency of Pavements

D-04: Variability in Pavement Materials and Construction

D-18: Quality Assurance and Sustainability

NCHRP FY 24 Research and Others



Alternate SCM's for Concrete

**Many others approved that relate to Materials
(Emulsions included thanks to Colin)**

NCHRP FY 25

Due November 1 2023

Concrete Shrinkage

**Submitters - State DOT,
FHWA and AASHTO
Committees**



NCHRP Synthesis Program

\$50k/project - \$1 million/year



- Document current highway practice in state DOTs;
- Not best practice; it is not a research project or a guidebook;
- An area of practice that is widespread and of general interest to state DOTs;
- Be timely and critical for expediting delivery, improving quality, or lowering cost

New topics will be selected in May 2024

NCHRP Synthesis Projects Completed

20-05/06-05 - Rapid Setting Materials for Repairing Concrete

**20-05/07-01- Consolidation of Concrete for Pavements, Bridge Decks and
Overlays**

20-05/12-04 - Resealing Joints and Cracks in Rigid and Flexible Pavements

New Release! NCHRP 598 - Curing Practices for Concrete Pavements

Many others in many different areas

Current Synthesis Projects..and More

**20-05/53-19 - State DOT
Product Evaluation Practices**

**54-17 - State DOT Innovation
Programs and Practices**



2 Recently Approved Synthesis Projects (Endorsed by COMP)

Testing Personnel Certifications

**Practices to Enhance Resiliency of Culverts and Buried Drainage
Structures**



Why do we care about AASHTO and NCHRP?

Products Produced
Financial Leverage
Input from many folks



For you.

Learning Opportunities

Research Opportunities

Membership Opportunities



NESMEA 2024

Holy Cow!

It is almost here!

O'LEARY, JR.
MEMBER

October 12, 1995

Mr. Mark Felag, P.E.
Chief Civil Engineer (Materials)
Rhode Island Dept. of Transportation
Two Capitol Hill, Room 018
Providence, Rhode Island 02903

Dear Mark;

In that at this 71st meeting of NESMEA in Nashua, New Hampshire, we were given the history of our materials association by Philip E. McIntyre;

In that we wish to see this history of the oldest materials group in the nation preserved and passed on so long as the association exists;

In that we at this meeting and our predecessors strove for materials excellence in our desire to build a better tomorrow;

In that you are the youngest materials engineer at this meeting;

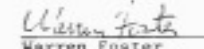
It is hereby requested by the undersigned that you personally retain a copy of this transcript and the NESMEA history which was recorded on video this 11th day of October in the year 1995, and that you present the association's history at the 100th meeting of NESMEA in the year 2049 whether or not you are still in state service.

At that meeting we would like you to extend our kindest regards to the materials engineers present and wish them the very best for the future. Then please pass your personal record of the NESMEA history to the youngest materials engineer in attendance and ask him to do likewise in the year 2049. Hopefully, the tradition will follow.

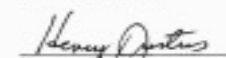
Thank you. We all wish you the very best.


Keith Lane
Connecticut

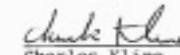

Leo Stevens
Massachusetts


Warren Foster
Maine


Alan Rawson
New Hampshire


Henry Brutus
New Jersey


Wayne Brule
New York


Charles Kline
Pennsylvania


Robert Cauley
Vermont


Philip E. McIntyre
Emeritus
New Hampshire

Thank you so much for your time!

- **Mark E. Felag, P.E.**
- **Baxter Blue - Research Assistant**
- **mfelag@hotmail.com**
- **Cell 401-245-1327**

