

SUBCOMMITTEE ON MATERIALS

2016 Midyear Meeting Webinar

Monday November 21, 2016

2:00 – 4:00 PM EST

MINUTES (Red font)

TECHNICAL SECTION 3c

Hardened Concrete Properties

I. **Call to Order and Opening Remarks** Called to order by Chair at 1404

II. **Roll Call**

Phone attendance (state only):

AL
AZ
CT
HI
IL
MD
MI
MO
MT
ND
NV
NH
NY
OK
OR
TN
TX
VA
WA

Email attendance list:

Andrew Waldrop (AL)
Lyndi Blackburn (AL)
Paul Burch (AZ)
Jesus Sandoval-Gil (AZ)
Craig Wilson (AZ)
Daniel Guzzo (CT)
Clint Hoops (ID)
Brian Ikehara (HI)
Rick Barezinsky (KS)
John Staton (MI)

Brett Trautman (MO)
Oak Metcalfe (MT)
Dennis Boisvert (NH)
Paul Hanczaryk (NJ)
Changlin (Charlie) Pan (NV)
Don Streeter (NY)
Gregory Stellmach (OR)
Bob Horwhat (PA)
Randy Mawdsley (substituting for Kurt Williams) (WA)
Kenneth Nwankwo (WI)
Barry Paye (WI)
Katheryn Malusky (AASHTO)
Matt Bluman (AASHTO)
Brian Johnson (AASHTO)
Sonya Puterbaugh (AASHTO)
Gina Ahlstrom (FHWA)
Michael Praul (FHWA)
Dennis Dvorak (FHWA)
Mohammad Aqel (Ministry of Transportation, Ontario)
Paul Tennis (Portland Cement Association)
Cecil Jones (Diversified Engineering Solutions)
John Melander (Slag Cement Association)

III. Approval of Technical Section Minutes

See attachment 1; TS 3c Annual Meeting Minutes for review.

Action: Approve TS 3c Meeting Minutes from Annual meeting held Aug. 3 in Greenville, SC.

Motion – OK

Second – MT

Passed, annual meeting minutes approved.

IV. Old Business

A. SOM Ballot Items

Item No. 11 - Concurrent ballot item for Dual Ring Test Using Inner Concrete Ring.

Affirmative – 40, No vote – 8, Negative – 3

Negative - Illinois Department of Transportation (Brian Pfeifer) (brian.pfeifer@illinois.gov) Ballot appears incomplete with many unanswered questions/comments.

Negative - Kentucky Transportation Cabinet (Allen H Myers) (allen.myers@ky.gov) Not clear what is being balloted in order to provide an informed vote. Attachments are not identified, and ballot names don't match the included standards. Are these being balloted as provisional?

Negative - South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org) Units are mixed throughout the standard. Section 2.1 and 5.3 - Remove year designation from T126. Section 4.1 - Needs tolerances on dimensions. Section 4.3 - This section is incomplete. Section 5.1 - Editorial - fix "+/-" Figure 1 - Needs dimension tolerances.

Affirmative, with comments: Pennsylvania Department of Transportation (Timothy L Ramirez) (tramirez@pa.gov)

1) This standard needs a moderate amount of work to publish as a standard. The comments in the right hand margins are not all addressed and it needs formatted and edited.

2) In Section 1.1, recommend keeping the background text as revised especially if test method will be provisional.

- 3) In Section 1.1, list item number 2, revise from a period at end of sentence to a comma.
- 4) In Section 1.1, list item number 3, revise from a period at end of sentence to a comma and "and".
- 5) In Section 4.3.B, first sentence is incomplete.
- 6) In Section 4.6, revise from "depth of the measuring bowl" to "depth of the mold in which the rodding is being performed".
- 7) In Section 5.4, revise from "Rod the concrete into the molds in two equal lifts. using a 16-mm (5/8-in.) diameter round-nosed rod." to "Rod the concrete into the molds in two equal lifts using a tamping rod." since Section 4.6 was added.

Affirmative vote with the following comments: Missouri Department of Transportation (David D Ahlvers) (david.ahlvers@modot.mo.gov)

- 1) In Section 2.1, T 126 has been changed to R 39 and M 210 has been changed to R 70.
- 2) Section 4.1 refers to ring inside diameter but Figure 1 shows ring outside diameter. Both need to refer to the same diameter dimension.
- 3) Section 4.6, third line, the reference to 'Note 2' should be changed to 'Note 1'.
- 4) Could a photograph or a schematic of the strain gage placement be added under Section 5.2 to provide the user more information.
- 5) In Section 5.3, T 126 has been replaced with R 39.
- 6) Section 5.5, first sentence, a wood-float is required to finish the concrete. Does a wood-float have to be used or could a different kind of float be used to finish the concrete.

Chair has gotten in touch with authors to incorporate comments and negatives in order to get them resolved in the coming weeks. This ballot passed but there are some negatives that need to be addressed. Should the TS find negatives persuasive and still move to publish the standard per three negatives?

Lyndi (AL): Suggested negatives should be found persuasive and publishing this year depended on depth and breadth of changes; suggestion was find negatives persuasive, make changes, and then ballot revisions through the tech section in 2017 prior to SOM ballot again. Chair agreed with suggestion.

Action - Chair finds negatives persuasive, standard will be revised per the negatives, and the standard will go back out to a tech section ballot in 2017.

Motion – LA
Second – MI
Motion passed.

Item No. 12 - Concurrent ballot item for Dual Ring Test Using Inner Steel Ring.
 Affirmative – 42, No vote – 8, Negative – 1

Negative - Kentucky Transportation Cabinet (Allen H Myers) (allen.myers@ky.gov) Not clear what is being balloted in order to provide an informed vote. Attachments are not identified, and ballot names don't match the included standards. Are these being balloted as provisional?

The attachment was not identified and ballot name did not match standard name; KY will withdraw negative vote if everyone else understood what was being balloted. KY will withdraw negative vote.

Jason Weiss (Oregon State Univ.), standard champion/author: Discussed comment disposition and negative responses indicated in **attachment 4**; all changes are editorial in nature and MI moves that this standard is ready to publish.

Action – Standard to be published with editorial revisions noted above.

Affirmative with comments: Pennsylvania Department of Transportation (Timothy L Ramirez) (tramirez@pa.gov)

- 1) In Section 2.2., revise from "C 305" to "C305"; revise from "C 403/C 403M" to "C403/C403M"; and revise from "F 1684" to "F1684".
- 2) In Section 2.2., add "C1698, Standard Test Method for Autogenous Strain of Cement Paste and Mortar" and "C1581/C1581M, Standard Test Method for Determining Age at Cracking and Induced Tensile Stress Characteristics of Mortar and Concrete under Restrained Shrinkage" as these two standards are referenced in Section 4.5.
- 3) In Section 4.5, the last sentence ends abruptly.
- 4) In Section 6.3, revise from "C 305" to "C305".
- 5) In Section 8.3, Note 8, revise from "C 403" to "C403".

Affirmative with comments: South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org) Section 3.2 and 5.1 - Invar is not a trade name.
Section 4.5 - This section is incomplete. Section 7.2, Note 6 - Why is this a note and not part of the standard? Section 8.3, Notes 8 and 9 - Why are these notes and not part of the standard? Also, they appear out of place in Section 8.3.

Item No. 13 - Concurrent ballot item to make PP 65 a Full Standard.
Affirmative – 41, No vote – 8, Negative – 2

Negative - Kentucky Transportation Cabinet (Allen H Myers) (allen.myers@ky.gov) Not clear what is being balloted in order to provide an informed vote. Not clear on what to review. There are three versions of this standard included with the minutes.

Negative - Pennsylvania Department of Transportation (Robert D Horwhat) (rhorwhat@pa.gov) There are some unresolved issues with this standard that I (Horwhat) previously commented on and provided to the Chair. The issue of significant figures for the aggregate expansions (differing) and that Table 6 is difficult to interpret as to whether the flyash prescriptive amounts are for F (top row), Class C (second row) or either. I've been told these apply to both but it was not clear to me nor to others I showed it to. If these can be editorially revised I will withdraw my negative.

KY withdrew negative, chair committed to providing more clarity in future ballots.
PENN withdrew negative provided Table 6 suggested revisions were handled editorially prior to publication and Task Force (MO, PENN, G. Ahlstrom – FHWA) continue work to resolve significant figures issue which could have significant impacts to several states.

Action – Negative votes withdrew. Standard to be published with a revised Table 6. Chair work with TF 16-01 to make editorial changes to Table 6 prior to publishing. TF continue work to resolve significant figures issue prior to next SOM Annual meeting for balloting next year with those changes.

Item No. 14 - SOM ballot item to revise T 358. Test within 5 minutes and changes to Note 2
Negative – 0 votes

Affirmative- Nebraska (Mick Syslo) (mick.syslo@nebraska.gov)
Recommend something along the following for Paragraph 10.2: Keep the concrete samples in a moist saturated condition once the samples are removed from the moist room or water tank until time of testing. Once the testing begins, all testing shall be completed within 5 minutes.

Affirmative w/comment – Virginia Dept. of Transportation (Andy Babish) (Andy.Babish@vdot.virginia.gov)
VA agrees with the test method and completing the testing within five minutes, however VA thinks the way the paragraph is currently written a technician may feel inclined to wait a minute or two before beginning the test. This may have an unwanted effect on the results therefore I suggest realigning the sentences and emphasizing that the specimens should remain saturated surface wet before and during testing. Suggested rewording for T358 10.2 Remove the first sample from the moist room or water tank and transfer the sample to the sample holder with the 0-degree mark on

top. Immediately clean the surface with a saturated sponge or towel. The surface should remain saturated surface wet before and during testing. The concrete sample shall be tested within 5 minutes of being removed from the moist room or water tank (Note 4). Note 4—One recommendation is to place the sample into a pan with about an inch of water and rotate the sample during testing in order to prevent the sample from drying. If the sample begins to dry, the resistivity readings drift higher, increase variability in the readings, and give erroneous results. Frequently changing the water is also recommended (approximately every 5 samples). Keeping the sample surface wet during testing reduces testing variability.

Action – VA work with NE to develop editorial revision based on comments, prior to publishing.

Item No. 15 - SOM ballot item for a new standard for ASR using Composite Activation Energy.

See attachment 2 for negative and comment response from standard champion

Negative – 1 votes

Negative – South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org)
References to AASHTO T248 should be changed to R76. Figures 1, 1a, 1b, 1c, and 1d need tolerances for all dimensions.

Section 4.8 - the temperature range is somewhat confusing since it mixes a temperature range with what appears to be tolerances on top of that range. Suggest either separate out the tolerance from the sentence with the range or remove the tolerance from here and include it where needed within the procedure. Also, the tolerance of +/- 35.1F is very high and appears to be an error.

Section 6.1 - Says to dry the samples in an oven at 110+/-5C (230+/-9F) which is outside of the range of the oven listed in the Apparatus section 4.8. Add tolerances to the temperatures for testing in Sections 6.3, 7.7, 7.8, and 7.13.

Champion of standard (Cecil Jones) reviewed comment disposition provided in attachment 2 with Tech Section Members. SC not present but will be contacted to discuss comment disposition. Most of comments are agreeable and will be addressed with revisions prior to publishing.

Action – Negative vote found persuasive. Chair work with champion of standard (Cecil Jones) to make revision to standard based on negative votes as well as other editorial comments and publish accordingly.

Item No. 16 - Concurrent ballot item for a new Provisional Standard for Performance Engineered Concrete Mixtures.

See attachment 3 for negative and comment responses from standard champion

Affirmative – 42, No vote – 8, Negative – 1

Negative - South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org)
Sections 2.1 and 2.2 - the referenced documents need to be updated to include others that are referenced throughout the standard. Several are missing.

References to T248 need to be changed to R76 and then R76 added to Section 2.1.

Table 1 - Note has ASTM 1202-12. This needs clarification...I assume it is C1202? Also, is it necessary to refer to the 2012 version of the standard? This standard needs to also be listed in the referenced documents.

Sections 4 and 5, and others, have many dual AASHTO and ASTMs. Suggest dropping ASTM references whenever possible and remove dual designations.

Section 6.5.4 - remove parenthesis at the end.

Section 6.5.4.1 - This is referencing a publication instead of a standard. Suggest referencing a standard.

Section 6.8 - Disagree with referencing non-standard tests. Additionally, the Box Test and V-Kelly Test are test procedures and should have their own standard and not be included in the appendix of this standard specification.

Affirmative with comments: Missouri Department of Transportation (David D Ahlvers)
(david.ahlvers@modot.mo.gov)

- 1) Section 4.1.1.4 references AASHTO M 195 and ASTM C 1761. ASTM C 1761 discusses internal curing using light weight aggregate. AASHTO M 195 only discusses using light weight aggregate for structural reasons. It does not discuss internal curing. Recommend referencing only ASTM C 1761.
- 2) Section 6.5.2.1 references Appendix X.4-4. Section 6.5.2.1 should instead reference Appendix X5.4.
- 3) Section 6.6.1.2 references Appendix X.5. Section 6.6.1.2 should instead reference Appendix X.2.
- 4) Table 1, the resistivity values (Greatest & Lowest) are shown in ohm-m while AASHTO T 358 uses kohm-cm. To be consistent, recommend using kohm-cm.
- 5) The third subscripts shown under Table 1 reference Appendix X.5. Resistivity testing is contained in Appendix X.2.
- 6) In the commentary, Figure C-5 shows the brand of air entraining admixture used in the SAM research. Recommend not showing the brand of admixture utilized in the study.

Affirmative with comments: Georgia Department of Transportation (Charles Allen Hasty)
(chasty@dot.ga.gov)

While the comprehensive study and information provided in the RXX-17 shall be lauded, some of the acceptance criteria seem to be more stringent than necessary, or unrealistic. More specifically:

Section 6.3.2 – Minimum concrete compressive strength of 24 MPa (3500 psi) at 28 days using AASHTO T 22: This 3500 psi would exclude our best concrete pavement mix, Class 1 (3,000 psi at 28 days)). We specified (Section 430 of the specification), constructed and evaluated the Class 1 concrete mix for many years and found all the concrete pavements constructed with Class 1 have been used for majority of the concrete pavements in our transportation system, and have had excellent service history with this Class 1 mix. By changing from 3,000 psi to 3,500 it would drive up the local construction cost for concrete pavement, in our opinion.

Section 6.5.3.1 – SCM should be used to replace the cement with a volume of at least 35%: The major supply of SCM is the fly ash. Have you heard of shortage of fly ash from your local contractor, suppliers/vendors? With U.S. EPA regulations on coal fired power plants, fly ash is no longer a waste. Only those power plants produced electricity using coal can produce a by-product called fly ash. For many years it was considered a waste material or by-product, but no longer. The EPA and some of our friends think that ash production should cease. The result will be less ash for concrete meaning that it will require more cement and therefore concrete will surely cost more (cement industry too is being pushed to produce limestone modified cement to reduce CO2 emissions). Behind all of this is EPA's theories of how CO2, the gas we need to breathe and grow plants are warming the planet and that's going to affect us all.

Where are we going to get fly ash supply for at least 35% cement replacement?

Sections 7.2.1 – The same review comments, please see Section 6.3.2.

Champion of standard (Cecil Jones) reviewed comment disposition provided in **attachment 3** with Tech Section Members. SC not present but will be contacted to discuss comment disposition. Most of comments are agreeable and will be addressed with revisions prior to publishing.

Action – Negative vote found persuasive. Chair work with champion of standard (Cecil Jones) to make revision to standard based on negative votes as well as other editorial comments and publish accordingly.

Item No. 17 - Concurrent ballot for ASTM Equivalency. R 39 – Making & Curing Concrete Test Specimens (Lab).

Affirmative – 42, No vote – 8, Negative – 1

Negative - Illinois Department of Transportation (Brian Pfeifer) (brian.pfeifer@illinois.gov) Note 1's reference to ASTM C 1077 and ACI is suggestive in such a way that it provides an undue bias towards

specific organizations. Suggest the following "Note 1 - The concrete test results for concrete specimens made and cured using this standard practice are widely used. They may be the basis for acceptance testing for project concrete, research evaluation, and other studies. Careful and knowledgeable handling of materials, mixing concrete, molding test specimens, and curing test specimens is necessary. Many laboratories performing this important work are independently inspected or accredited, and ensure qualified technicians by participating in certification programs. AASHTO, ASTM, and the American Concrete Institute are just several examples of entities that can provide guidance and/or programs on laboratory inspections and accreditations as well as technician qualifications and certifications."

Ballot comments and negative is similar to those on ballot items 18, 19, and 23; the balloted changes reference ASTM C1077, in which AASHTO R18 and other AASHTO accrediting references/language are excluded. Thus directing user to ACI certifications for technicians/testers. Standard must include AASHTO requirements.

Action – Chair proposed that these negatives are found persuasive and reference to C1077 is removed from this standard, and motion to publish with IL’s recommended wording.

Motion – AL
Second – WA
No discussion.

Item No. 18 - Concurrent ballot for ASTM Equivalency. T 22 – Compressive Strength of Cylinders - ASTM + Tolerances (See Table 2).

Affirmative – 35, No vote – 8, Negative – 8

Negative - Illinois Department of Transportation (Brian Pfeifer) (brian.pfeifer@illinois.gov) Article 4.4 binds the standard too much with ASTM C 1077 and creates an undue burden on AASHTO member states that adhere to R 18. Suggest either striking the proposed Article 4.4 or replace with language similar to the following: "4.4 Attention is directed to R 18 when there may be a need for information on criteria for qualification of technicians who perform this test."

Article 5.4 binds the standard too much with ASTM C 1077 and creates an undue burden on AASHTO member states that adhere to R 18. Suggest either striking the proposed Article 5.4 or replace with language similar to the following: "5.4 Attention is directed to R 18 when there may be a need for information on criteria for documentation of the calibration and maintenance of the testing machine."

Negative - Oregon Department of Transportation (Greg Frank Stellmach) (greg.f.stellmach@odot.state.or.us) The inclusion of requirements for Sampler / Testers to conform to ASTM C1077 requirements does not allow for the use of comparable accreditation / certification using AASHTO, regional and or state Standard test methods and or certification programs.

Negative - South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org) Section 2.1 - Suggest adding R18. Section 2.2 - Suggest removing C1077.

Sections 4.4 and 5.4 - Do not agree that the technician testing concrete cylinders for acceptance should be required to follow C1077 or hold ACI certification. Recommend the technician requirements conform to AASHTO's R18.

Table 2 - Disagree with adding "-" for the 3, 7, 28, and 90 day breaks. This puts too much risk on us if we break the cylinder early.

Negative - Washington State Department of Transportation (Kurt R Williams) (willikr@wsdot.wa.gov) The requirement that the tester be certified in accordance with the requirements of ASTM C 1077, prevents use of owner self certifying their employee tester.

WSDOT Independent Assurance Inspectors train and certify WSDOT testers, and the reference to ASTM C 1077 prevents self certification and requires an independent qualification.

The reference to ASTM C 1077 in Section 4.4 needs to be deleted or modified to allow DOTs to self certify their employee testers and allow alternate certification methods such as AASHTO, regional and State DOT certification programs.

Negative - Idaho Transportation Department (Michael J Santi) (mike.santi@itd.idaho.gov) Section 4.4: Including requirements for Sampler/Testers to conform to ASTM C1077 requirements does not allow for the use of comparable accreditation/certification programs using AASHTO, regional, or state Standard Tests Methods and/or certification programs.

Table 2: Disagree with the change to allow +/- 20 h for time tolerance for 28 day cylinders. Since those cylinders are used for payment for compressive strength specifications we feel there should be no minus tolerance that could be blamed for not reaching strength because the cylinder was broken before 28 days have elapsed. We would agree with the plus 20 h only.

Negative - Maine Department of Transportation (Richard L Bradbury) (richard.bradbury@maine.gov) Section 4.4 - Technician qualification requirements should not be included in a standard test method. These would typically be outlined in a contract specification, manual of practice, AASHTO Recommended Practice, etc. Additionally, the proposed requirement applies only to "the individual who tests concrete cylinders for acceptance testing." This is not in alignment with sound QA principles; it ignores IA, dispute/referee testing, etc.

Negative - Utah Department of Transportation (Scott S Andrus) (scottandrus@utah.gov) The addition of 4.4 citing requirements for Sampler/Testers to meet ASTM C1077 doesn't allow for the use of comparable accreditation/certification using AASHTO, regional, and/or state standard test methods and/or certification programs. We are concerned that this will disqualify our current WAQTC certification process for technicians in Utah for concrete testing. Perhaps wording similar to R 39 3.2.4 Note 1 would allow for the flexibility needed.

In Table 2; if the addition of the +/- is to clarify that that is the original meaning intended, which is what Utah understood it to mean by the heading "Permissible Tolerance", then we are in agreement with the change. If as some other states have interpreted that it is not a before/after range but only after the 28 days we feel more clarification is needed.

Negative - Oklahoma Department of Transportation (Scott Seiter) (sseiter@odot.org) Section 4.4 and Note 2: Technicians in Oklahoma performing this testing have to comply with the training and evaluation program utilized in our state. Our program meets AASHTO R25 and is defined in our Federally approved Quality Assurance Program. Because our program utilizes AASHTO test methods it does not comply with ASTM C1077 nor ACI, therefore we cannot accept this change to AASHTO T22. Specifying technician requirements related to training and evaluation do not belong in a test method. This proposed change is fundamentally the wrong way to address technician competency. Section 5.4: Requirements related to the calibration and maintenance of equipment should be covered in a lab's Quality System Manual, and as required in AASHTO R18 for accredited labs.

Action – Chair proposed that these negatives are found persuasive and reference to C1077 is removed from this standard, and motion to publish with IL's recommended wording.

Motion – AL

Second – WA

No discussion.

Item No. 19 - Concurrent ballot for ASTM Equivalency. T 23– Making & Curing Concrete Test Specimens (Field) - ASTM & WAQTC.

Affirmative – 35, No vote – 8, Negative – 8

Negative - Illinois Department of Transportation (Brian Pfeifer) (brian.pfeifer@illinois.gov) Article 6.3 binds the standard too much with ASTM C 1077 and creates an undue burden on AASHTO member states that adhere to R 18. Suggest either striking the proposed Article 6.3 or replace with language similar to the following: "6.3 Field Technicians - Attention is directed to R 18 when there may be a need for information on criteria for qualification of technicians who perform this test."

Negative - Oregon Department of Transportation (Greg Frank Stellmach) (greg.f.stellmach@odot.state.or.us) The inclusion of requirements for Sampler / Testers to conform to ASTM C1077 requirements does not allow for the use of comparable accreditation / certification using AASHTO, regional and or state Standard test methods and or certification programs.

Negative - South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org) Section 6.3 - Disagree with requiring C1077.

Section 9.2, Table 3 - <25mm (1 in) should be >= 25mm (1 in).

Negative - Washington State Department of Transportation (Kurt R Williams) (willikr@wsdot.wa.gov) The requirement that the tester be certified in accordance with the requirements of ASTM C 1077, prevents the use of owner self certifying their employee testers.

WSDOT Independent Assurance Inspectors train and certify WSDOT testers, and the reference to ASTM C 1077 prevents this type of self certification of testers and would require WSDOT to hire a outside agency to certify it's testers.

The reference to ASTM C 1077 in Section 4.4 needs to be deleted or modified to allow DOTs to self certify their employee testers and allow alternate certification methods such as AASHTO, regional and State DOT certification programs.

Negative - Idaho Transportation Department (Michael J Santi) (mike.santi@itd.idaho.gov) Section 6.3 Field Technicians. Including requirements for field technicians to conform to ASTM C1077 requirements does not allow for the use of comparable accreditation/certification programs using AASHTO, regional, or state standard tests methods and/or certification programs.

Negative - Maine Department of Transportation (Richard L Bradbury) (richard.bradbury@maine.gov) Section 6.3 - Technician qualifications do not belong in a standard test method.

Negative - Utah Department of Transportation (Scott S Andrus) (scottandrus@utah.gov) The addition of 6.3 citing requirements for Sampler/Testers to meet ASTM C1077 doesn't allow for the use of comparable accreditation/certification using AASHTO, regional, and/or state standard test methods and/or certification programs. We are concerned that this will disqualify our current WAQTC certification process for technicians in Utah for concrete testing.

Perhaps wording similar to R 39 3.2.4 Note 1 would allow for the flexibility needed.

Negative - Oklahoma Department of Transportation (Scott Seiter) (sseiter@odot.org) Section 6.3: Technicians in Oklahoma making and curing concrete cylinders have to comply with the training and evaluation program utilized in our state. Our program meets AASHTO R25 and is defined in our Federally approved Quality Assurance Program. Because our program utilizes AASHTO test methods it does not comply with ASTM C1077 nor ACI, therefore we cannot accept this change to AASHTO T23. Specifying technician requirements related to training and evaluation do not belong in a test method. This proposed change is fundamentally the wrong way to address technician competency.

Action – Chair proposed that these negatives are found persuasive and reference to C1077 is removed from this standard, and motion to publish with IL's recommended wording.

Motion – AL

Second – WA

No discussion.

Item No. 20 - Concurrent ballot for ASTM Equivalency. T 97– Flexural Strength of Concrete (3 Point).
Affirmative – 43, No vote – 8, Negative – 0

Item No. 21 - Concurrent ballot for ASTM Equivalency. T 160 – Length Change of Concrete
Affirmative – 43, No vote – 8, Negative – 0

Item No. 22 - Concurrent ballot for ASTM Equivalency. T 161 – Resistance to Rapid Freezing and Thawing
Affirmative – 43, No vote – 8, Negative – 0

Item No. 23 - Concurrent ballot for ASTM Equivalency. T 177 – Flexural Strength of Concrete (Center Point)
Affirmative – 41, No vote – 8, Negative – 2

Negative - Illinois Department of Transportation (Brian Pfeifer) (brian.pfeifer@illinois.gov) Article 5.2 and Note 1 binds the standard too much with ASTM C 1077 and creates an undue burden on AASHTO member states that adhere to R 18. Suggest either striking the proposed Article 5.2 and Note 1 or replace with language similar to the following (with no Note 1): "5.2 Attention is directed to R 18 when there may be a need for information on criteria for qualification of technicians who perform this test.

Negative - South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org) Section 5.2 - Disagree with requiring ASTM C1077. Suggest R18 instead.
Section 10.1, Note 3 - The dimensions need units.

Action – Chair proposed that these negatives are found persuasive and reference to C1077 is removed from this standard, and motion to publish with IL’s recommended wording.

Motion – AL
Second – WA
No discussion.

Item No. 24 - Concurrent ballot for ASTM Equivalency. T 231 – Capping Concrete Specimens
Affirmative – 43, No vote – 8, Negative – 0

Item No. 25 - Concurrent ballot for ASTM Equivalency. T 276 – Measuring Early Age Compressive Strength.
Affirmative – 43, No vote – 8, Negative – 0

Item No. 26 - Concurrent ballot for a Full Standard. PP 58 – Static Segregation of Cylinders - Full Standard & Photos.
Affirmative – 43, No vote – 8, Negative – 0

Item No. 27 - Concurrent ballot for 2 Year Extension as a Provisional. TP 119 – Elec. Res. Of Cylinders in Uniaxial Res.
Affirmative – 43, No vote – 8, Negative – 0

Item No. 28 - Concurrent ballot for new Full Standard - Calcium Oxchloride.
Affirmative – 42, No vote – 8, Negative – 1

Negative - Kentucky Transportation Cabinet (Allen H Myers) (allen.myers@ky.gov) This standard needs some additional work prior to adoption.

Include in Section 2, Referenced Documents, references to: (1) ASTM C305, Mechanical Mixing of Hydraulic Cement Pastes and Mortars of Plastic Consistency; and (2) Committee on Analytical Reagents of the American Chemical Society.

Section 6.4 – should any requirement for the 1.5-in. diameter by 2.0-in. height molds be included under Section 5?

Section 6.4 – include a statement similar to “Remove cured specimens from the molds.”

Section 9 – include the w/c ratio as a reported item. There is an example given for "w/c = 0.36," but the standard does not specify a w/c ratio.

Section 9 – Why include Section 9.1.2? The type of salt is given in Section 6.1 [“for this standard calcium chloride is use(d)"]. If this is not the intent, it should be clear that other salts may be substituted. Also, the strength of the solution is specified in the method as a 20 percent solution.

KY withdrew negative based on discussion of comment disposition provided in [attachment 5](#) from Dr. Weiss (standard champion); comments and negative were adequately addressed.

Action – Negative vote withdrew. Chair work with Dr. Weiss to finalize standard with revisions based on KY comments and publish with edits.

Item No. 29 - Concurrent ballot for new Provisional TP Standard - MIT ScanT2.
Affirmative – 42, No vote – 8, Negative – 1

Negative - South Carolina Department of Transportation (Merrill E Zwanka) (zwankame@scdot.org)
Throughout the standard the units are inconsistent. Sections 13.1.1, 13.1.2, and 13.2 are all incomplete.

Resolution of negative tabled for now, SC not present at midyr meeting and chair had not spoken with SC yet.

Action – Chair and Gina Ahlstrom (FHWA) to follow up with SC; review comments and make edits if appropriate and see if SC willing to withdraw contingent on edits, if so, then publish standard with edits.

B. Task Force Reports **Nothing new to report.**

V. **New Business**

A. Research Proposals

1. 20-7 RPS – *n/a*

2. Full NCHRP RPS – *n/a*

B. AMRL/CCRL - Observations from Assessments?

T22- Brian Johnson (AASHTO) proposes some edits for clarity that gives technicians more guidance.

Action - Chair requested Johnson to provide proposed revised standard and will ballot through the Tech Section in the Spring of 2017 for discussion at SOM meeting in August.

C. NCHRP Issues – *n/a*

D. Correspondence, calls, meetings – *n/a*

E. Proposed New Standards – *n/a*

F. Proposed New Task Forces – TF 16-01; membership is PA, MO, FHWA – Gina Ahlstrom. Scope consist of addressing and providing recommendations to the TF for PP65 use of significant digits as discussed in ballot item 13 above.

VI. **Open Discussion**

AASHTO T24: PennDOT was having trouble with the limited conditioning options in the standard; so PennDOT came up with a PTM, but PennDOT wants the conditioning options expanded in T24 and they have proposed revisions.

Action – Chair requested PA provide proposed revised standard and will ballot through the Tech Section in the Spring of 2017 for discussion at the SOM meeting in August.

VII. **Adjourn** Adjourned by Chair at 1529