



SUBCOMMITTEE ON MATERIALS
100th Annual Meeting – Minneapolis, Minnesota
Monday, July 28, 2014
1:00 pm – 3:00 pm CST

TECHNICAL SECTION 4c
COATINGS, PAINTS, PRESERVATIVES, BONDING AGENTS AND TRAFFIC MARKINGS

I. Call to Order and Opening Remarks

Meeting called to order by Bill Ahearn (new Chairman) at 1:18 PM CDT
 David Kuniega announced as new Vice Chairman

II. Roll Call

AL	Steve Ingram (Robert)		TN	Danny Lane	X
CA	Phil Stolarski	X	TX	Darren Hazlett	X
CT	Bob Lauzon	X	UT	Scott Andrus	X
GA	Rick Douds (Chuck Hasty)		VA	Bill Bailey	X
KS	Rick Kreider	X	VT	Bill Ahearn, Chair	X
KY	Derrick Castle	X	AASHTO	Evan Rothblatt	
LA	Jason Davis	X	AASHTO	Henry Lacinak	X
MA	Clement Fung		AMRL	Bob Lutz	X
MD	Woody Hood (Sejal Barot)	X	AMRL	Ron Holsinger	
MT	Matt Strizich (Oak Metcalfe)	X	AMRL	Haleh Azari	
NH	Dennis Boisvert – proxy	X	AMRL	Maria Knake	
NJ	Eileen Sheehy		AMRL	Tracy Barnhart	X
PA	Tim Ramirez		AMRL	Steven Lenker	
PA	Dave Kuniega, Vice Chair	X	FHWA	Paul Virmani	

Friends of TS 4c

Gene Carlson	X	3 M Company
Robert N. Dingess	X	Mercer Strategic Alliance
Andy Anderson		Potters Beads
Paul Carlson		Texas Transportation Institute

III. Approval of Technical Section Minutes

From Midyear conference call/web meeting –
 Comments - none
 Motion – VA - Bailey
 Second – KS - Kreider
 Carried by voice vote

IV. Old Business

A. Previous Year SOM Ballot Items

SOM-13-01 – Comments and negatives received regarding **Ballot Items 77 – 80** listed below have been discussed and resolved during the midyear TS 4c conference call conducted on January 30, 2014. See minutes of that meeting for details.

- i. **Item 77** – M235-13, Epoxy Resin Adhesives – Revision to retain 11.3 Filler Content and 11.4 Epoxy Equivalent (46-0-7)
- ii. **Item 78** – M247-13, Glass Beads Used in Pavement Markings – Exclude TP 107 XRF and add note (45-1-7)
- iii. **Item 79** – M143-13, Sodium Chloride – Revise to add note allowing tolerances (46-0-7)
- iv. **Item 80** – M144-13, Calcium Chloride - Revise to add note allowing tolerances (46-0-7)
77 through 80 were addressed during the midyear conference call
- v. **Item 81** – New TP-111-14 – Measuring Retro using MRU (45-1-7)

ACTION ITEM: TP 111 – Derrick Castle (KY) offered to work with FL to develop wording for an informational Note to address the issue that values will be average which may be affected by direction of application vs the direction of travel when taking readings and submit for TS ballot.

Resolved the negative was withdrawn based on addition of a note to the standard. Tim Ruelke (FL) will provide updated language to the chair for incorporation in the standard.

ACTION ITEM: TP 111 - Bouzid Choubane (FL) offered to address concerns with precision and insert wording to specify GPS as a requirement and submit for TS ballot.

Changes were forwarded to chair for incorporation.

Language to be inserted in Note below Table 1

In addition, it should also be noted that the retroreflectivity values obtained from the MRU are averages of the two stripes where applicable. Therefore, it must be made clear that these directional codes only indicate the travel direction of the MRU, not the individual stripe (left or right stripe) nor the direction of stripe application.

Dingess requested link to standard for purchase.

- vi. **Item 82** – New PP-79-14 – High Friction Surface Treatment (45-1-7)

Danny Lane (TN) had previously modified this standard to address KY negative and has made other editorial changes to address comments.

Danny indicated he will forward TDOT special provision for any state's use. KYTC currently has a test facility for concrete pavement, asphalt pavement and concrete bridge decks that can be referenced.

Dingess requested link to standard for purchase. Is there a problem with ATSSA having a web conference to explain the options for friction surface courses? It was agreed that would be an appropriate way to promote the tools available to the states.

vii. **Item 83** – New MP-24-14 – Waterborne Traffic Paint (45-1-7)

ACTION ITEM: Dave Kuniaga (PA) and TF offered to review negative from NV and all comments and recommend action at the 2014 Annual SOM Meeting in Minneapolis. Conference calls were recommended for further discussion.

D. Kuniaga - Have not had an opportunity to set conference calls to resolve the negatives. In general the negatives are concerning the TT-P-1952 – which is a formulation specification. MP24 is a performance based specification based on the NTPEP test information. That is where the conflicts occur when requiring the compositional specification with the performance specifications.

D. Kuniaga will work to resolve by September 15.

Motion to take to concurrent ballot if resolved by September 15

Bill Bailey (VA)

Robert Lauzon (CT) - Second

Discussion – if the result of the conference call is no change is desirable, there is no action to be taken – if there is a recommended change a concurrent ballot is authorized to convey the recommendation. If negative withdrawn or found non-persuasive no action to be taken

**Motion amendment (VA) – if change occurs the item will be moved to ballot
Vote – pass by voice vote**

B. Previous Year TS letter ballots

i. **SOM_TS4C-14-01** – Reconfirmation of the following 9 standards

(Item 1 and Items 3-9 received 15 affirmative votes with no negatives and no comments.)

(Item 2 received 1 negative and no comments.)

- M 224, Use of Protective Sealers for Portland Cement Concrete (Approved 15-0-5)
- M 233, Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete (14-1-5) – **1 negative**

Negative: Alan Rawson (NH) - This standard requires a formulation that exceeds the VOC limit for our state. Recommend that a review of state agencies be completed to see if this standard is still being utilized. If not, it should be discontinued.

Survey Results (March 2014):

Does your state utilize AASHTO M233, Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete?

38 states no longer use M 233

2 states use M 233 (AR & PA)

10 states did not respond

Since there are still 2 states that utilize the standard Chair purposes that TS find negative non persuasive

Motion made by Kreider (KS)

Second Hazlett (TX)

Passed by voice vote

- M 237, Epoxy Resin Adhesives for Bonding Traffic Markers to Hardened Portland Cement and Asphalt Concrete (Approved 15-0-5)

- R 031, Standard Practice for Evaluation of Protective Coating Systems for Structural Steel
(Approved 15-0-5)
 - T 237, Testing Epoxy Resin Adhesive
(Approved 15-0-5)
 - T 250, Thermoplastic Traffic Line Material
(Approved 15-0-5)
 - T 337, Non-Instrumental Determination of Metallic Zinc in Zinc-Rich Primers
(Approved 15-0-5)
 - T 338, Analysis of Structural Steel Coatings for Hindered Amine Light Stabilizer (HALS)
(Approved 15-0-5)
 - TP 84, Provisional Standard Method of Test for Evaluation of Adhesive Anchors in Concrete Under Sustained Loading Conditions
(Approved 15-0-5)
- ii. **SOM_TS4c-14-02** – Reconfirmation of the following standard
- T 339-10¹, Analysis of Structural Steel Coatings for Isocyanate Content
(Approved 15-0-5)
(This item received no negatives and no comments.)

C. Task Force Reports (Refer to Task Force Assignments)

Comments in red font added since last call based on comments from the TF Chair

- i. **TF 04D**, R31-09 (2014), Evaluation of Protective Coating Systems for Structural Steel - Evaluate Amending to include zinc coatings – Derrick Castle (KY)
- **Castle reported that a rise in interest in hot dip galvanizing has been noticed in the last 2 years. Status will be updated by Castle at the SOM meeting (July 2014).**
Castle reported TF has contacted AGA, they are interested in the proposal for a study on metallizing/hot dip and thermal spray and hopefully there will be a study launched this fall through a private TF.
The current test battery in R31 is not severe enough to evaluate performance - need additional review of products in a smaller test battery – see if there is any discernable type of accelerated evaluations that could be open to these coatings in the test method
- ii. **TF 11C**, M247-13, Glass Beads Used in Pavement Markings - Define what constitutes “transparent, clean, colorless glass” – Tim Ramirez (PA)
- **Task force was asked to review final NCHRP Report 743 (distributed 6/19/14) to better define the quality issues and performance of glass beads in M 247.**
The group will review the final report to determine if the tests are implementable.
Was there an interest from AASHTO to develop a laboratory evaluation for these properties?
Essentially the properties are ill defined in the standards and there is no way to evaluate in the lab. The study found there is interdependence for all of these properties – not easy to

specifically define the individual properties – bypassed by utilizing Retroreflective properties in the painted line.

ASTM is working on a testing method - D01 Glass Beads and D04.38. ASTM did not want to step on toes – would need to coordinate with these ASTM committees to follow through

Rob Dingess
Gene Carlson
Tony Wade
Jim Swisher
Dave Kuniega
Jerry McMahan

TF 11D, M249-12, White and Yellow Reflective Thermoplastic Striping Material - Wet weather performance & FAA CEI equation table – Bob Lauzon (CT)/Rob Dingess (Mercer)

- Paul Carlson (TTI) thinks there is a need and AASHTO standard would be beneficial. Paul was asked to report back at 2014 SOM meeting.

Paul could not be at the meeting but would like to schedule a call to provide an overview - the committee would be interested. Industry will work through Henry Lacinak to coordinate the call.

- iii. **TF 12-01**, PP73-13, Quality Assurance, Job Site Quality Control, and Reapplication of Protective Sealers for Portland Cement Concrete - Address PA comments B & C – Jerry McMahan (VT) & Dave Kuniega (PA)

- Dave Kuniega was asked to check into these procedures and get back with TS at 2014 SOM meeting

Essentially PA offered information on alternate ways of determining depth of penetration of sealers in concrete. David will put together a survey to assess concerns and needs and bring results back to the committee.

- iv. **TF 13A**, M 235-13, Epoxy Resin Adhesives – Investigate comments from PA (Revise 11.3 substituting toluene for benzene or change procedure to ashing to eliminate need for any type of solvent) – Dave Kuniega (PA)

- Chair asked task force to continue and come back with a recommendation at the 2014 SOM meeting.

Have presented committee with methods for ashing techniques. Can provide comments and procedures for distribution among the committee members

The effort was to reduce the toxicity of reagents in the test. If that is the case we can take the PA information and move towards changes in the method.

Substitution of method or reagent to avoid use of Benzene.

VA suggested that moving to an ashing procedure seemed logical to do away with the reagent issue.

Chair requested that Kuniega provide information to the TS and members could determine if the standard should be revised to based on this information.

- v. **TF 13D**, M 247-13, Glass Beads Used in Pavement Markings – Investigate comments from PA (carbon free beads & Utah test for bead quality) – Dave Kuniega (PA)
- Chair has requested to involve Carl Anderson for P&B. Asked to get with Carl Anderson and Eileen Sheehy (variability very high) and report at 2014 SOM meeting. Recommendations will be sent out for comment prior to going to TS ballot.

We found that some western states have already adopted these types of beads. Some of the properties selected do affect retroreflectivity. Depending on the manufacturing process the amount of C on beads does affect the quality.

At this point we do not have a task force recommendation – propose continuance of task force work and report at later date.

- vi. **TF 13E**, TP 106-13, Determination of Heavy Metal Content of Glass Beads Using X-Ray Fluorescence (XRF) (address negatives and comments in Fall 2012 ballot) – Eileen Sheehy (NJ)
- Fusion method changes % of hot mix and is not appropriate. Pulverizing – R&D does not support this method.
 - Motion (NJ/PA) to find Part 1 of New Jersey negative persuasive passed with recommendation of doing a round robin.
 - Motion (NJ/PA) to find Part 2 of New Jersey negative non-persuasive passed based upon the fact that results reflect total analysis of the sample.
 - Eileen Sheehy was asked to take a look at Part 3 of the New Jersey negative and report back to the tech section.
 - Eileen Sheehy will check with Carl Anderson about using NIST samples regarding Part 4 of the New Jersey negative.

Deferred discussion until able to get feedback from Eileen Sheehy

- vii. **TF 13F**, PP 74-13, Determination of Size and Roundness of Glass Beads Used in Traffic Markings by Means of Computerized Optical Method (can the term “nominal” be removed) – Haleh Azari (AMRL)
- 6/18/14 – The requested NCHRP project to look at the available equipment and recommend specification changes that would allow other equipment to qualify to perform this testing was approved for funding at the spring 2014 meeting.
- viii. **TF 13I**, MAP 21 (Change in reauthorization) – Greta Smith (AASHTO)
- At fall 2013 SOM meeting the decision was made to table resolution and have AASHTO work with Carl Anderson, Rob Dingess and David Kuniega to address in reauthorization language.
 - At midyear meeting (Jan 30, 2014) Bill Ahearn, chair asked to raise to higher level (SOM main). The next step was to approach Executive Committee to educate legislature to understand repercussions across board.
 - Table procedure.

Issue related to MAP 21 fixing heavy metals levels in a product and issuing a requirement for a specific test method that many lab managers considered to be hazardous. In order to increase the expertise in these types of environmental questions we would forward this type of question to the Center for Environmental Excellence and broaden base of support and look to other parts of AASHTO for assistance.

In the spirit of dealing with this we are looking at a broader application than just glass beads. Chair will contact Shannon Eggleston for discussion on how to proceed.

Any expertise and perspective from laboratory (Steve Hunter – First Analytical Laboratories) needed - willing to offer

TF 13I has fulfilled its charge and is disbanded.

V. **New Business**

A. **Research Proposals**

Liaison for Research for 4c – Scott Andrus; no statements submitted

B. **AMRL/CCRL Issues**

None

C. **NCHRP Issues**

TRB Automated Vehicle Symposium

Automated Vehicles have an easier time in EU because of PM system. Impact on our current PM system and materials part of a study that should be considered through this TS?
Carl Anderson may be able to speak to the issue for another meeting.

D. **Correspondence, calls, meetings/ Presentation by Industry**

- i. Presentation by Rob Dingess regarding new test method for testing and verification of resin system used in high friction surface course.

Resulting discussion of various test methods and lack of consensus regarding how to move forward at this time. See New Task Force 14-1 below.

E. **Proposed New Standards**

WAQTC has looked through all of the C standards that we think we will still need. They will provide a list to AASHTO Liaison and the TS Chairs for response/action. WAQTC letter inquiring about M-143, M-144 received at close of meeting.

F. **Proposed New Task Forces**

Task Force 14-1 – Evaluate pavement marking friction testing techniques and recommend if appropriate back to the TS

Danny Lane (TN)

Rob Dingess

Gene Carlson

Tony Wade

Sejal Barot (MD)

Bouزيد Chobain (FL)

G. **Standards Requiring Reconfirmation**

- i. T 339-10¹ – Balloted for Reconfirmation - **SOM_TS4c-14-02**
(Approved 15-0-5 with no comments)
- ii. PP 73-13¹
- iii. PP 74-13¹
- iv. TP 96-13¹
- v. TP 106-13¹

NOTE: In accordance with Article 5, Section 2, of the SOM Regulations, the life of a Provisional Standard can be extended beyond the initial two years by votes in the technical section or the full subcommittee. At the end of two years and four years after initial approval, the technical section can extend the life of the standard by two years, by a two-thirds affirmative (of those voting) voice or ballot vote. At the end of six and seven years after initial approval, the subcommittee can extend the life of the standard by one year, by a two-thirds affirmative (of those voting) ballot vote. At any time during the life of a Provisional Standard, the subcommittee may vote to convert it to a full standard. If

such a conversion is not approved before the end of eight years after initial approval, the Provisional Standard is discontinued.

H. SOM Ballot Items (including any ASTM changes)

TP 111 – concurrent ballot item based on the following language revision:

VI. Open Discussion

VII. Adjourn Tennessee – adjourned 3:10

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Monday, July 28, 2014 (1:00pm-3:00pm)

Attendance Sheet

Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
Ahearn, William	Vermont Agency of Transportation	bill.ahearn@state.vt.us		<input type="checkbox"/>	<input type="checkbox"/>
Kuniega, David H.	Pennsylvania Department of Transportation	dkuniega@pa.gov	(717) 787-3166	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rothblatt, Evan	American Association of State Highway and Transportation Officials	erothblatt@aaashto.org		<input type="checkbox"/>	<input type="checkbox"/>
Azari, Haleh	AASHTO Material Reference Laboratory	hazari@amrl.net	(301) 975-2112	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Knake, Maria	AASHTO Material Reference Laboratory	mknake@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
Barnhart, Tracy	AASHTO Material Reference Laboratory	tbarnhart@amrl.net	240-436-4802	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Holsinger, Ronald Edward	AASHTO Material Reference Laboratory	rholsinger@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
Lenker, Steven E.	AASHTO Material Reference Laboratory	slenker@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
Lutz, Robert	AASHTO Material Reference Laboratory	rlutz@amrl.net		<input type="checkbox"/>	<input type="checkbox"/>
Ingram, Steven	Alabama Department of Transportation	ingrams@dot.state.al.us		<input type="checkbox"/>	<input type="checkbox"/>
Lacinak, Henry	American Association of State Highway and Transportation Officials	hlacinak@aaashto.org		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Malusky, Kathryn	American Association of State Highway and Transportation Officials	kmalusky@aaashto.org		<input type="checkbox"/>	<input type="checkbox"/>
Stolarski, Phil J	California Department of Transportation	phil.stolarski@dot.ca.gov	916-227-7854	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
Lauzon, Robert G	Connecticut Department of Transportation	robert.lauzon@ct.gov	860 258 0312	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Virmani, Paul Y.	Federal Highway Administration	paul.virmani@dot.gov		<input type="checkbox"/>	<input type="checkbox"/>
<i>R. Douds</i> Douds, Richard <i>Chuck Hasty</i> Mueller, Matthew W.	Georgia Department of Transportation Illinois Department of Transportation	rdouds@dot.ga.gov <i>chasty@dot.ga.gov</i> Matthew.Mueller@illinois.gov	404.608.4710	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Kreider, Richard E.	Kansas Department of Transportation	richard.kreider@ksdot.org	765 296 1195	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>D</i> Castle, Derrick	Kentucky Transportation Cabinet	derrick.castle@ky.gov	502.564.3160	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Davis, Jason	Louisiana Department of Transportation and Development	jason.davis@la.gov		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hood, Woodrow L.	Maryland Department of Transportation	whoood@sha.state.md.us		<input type="checkbox"/>	<input type="checkbox"/>
Fung, Clement W.	Massachusetts Department of Transportation	clement.fung@mhd.state.ma.us		<input type="checkbox"/>	<input type="checkbox"/>
<i>M. Strizich</i> <i>AK METCALFE</i> Strizich, Matt Rawson, Alan D.	Montana Department of Transportation New Hampshire Department of Transportation	mstrizich@mt.gov arawson@dot.state.nh.us	406-444-6287	<input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Sheehy, Eileen	New Jersey Department of Transportation	eileen.sheehy@dot.state.nj.us		<input type="checkbox"/>	<input type="checkbox"/>
Ramirez, Timothy	Pennsylvania Department of Transportation	tramirez@pa.gov		<input type="checkbox"/>	<input type="checkbox"/>
Lane, Danny L.	Tennessee Department of Transportation	danny.lane@tn.gov		<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hazlett, Darren	Texas Department of Transportation	darren.hazlett@txdot.gov	512 462456	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Andrus, Scott	Utah Department of Transportation	scottandrus@utah.gov	801965489	<input checked="" type="checkbox"/>	<input type="checkbox"/>



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Name	Employer	Email Address	Phone Number	Member of TS?	Would you like to join this TS?
Bailey, William R.	Virginia Department of Transportation	bill.bailey@vdot.virginia.gov	804-328-3106	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Carlson, Gene H	3M	ghcarlson1@mmm.com		<input type="checkbox"/>	<input type="checkbox"/>
Innis, Al	Holcim (US) Inc.	al.innis@holcim.com		<input type="checkbox"/>	<input type="checkbox"/>
Dingess, Robert N	Mercer Strategic Alliance	rdingess@mercerstrategic.com	540 752 9600	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Andersen, Andy	Potters Beads	andy.andersen@pottersbeads.com		<input type="checkbox"/>	<input type="checkbox"/>
Ruelke, Tim	Florida DOT	timothy.ruelke@dot.state.fl.us	352 955 6620	<input type="checkbox"/>	<input type="checkbox"/>
Harry Fekry	Del-DOT	harry.fekry@state.de.us	302-760-2551	<input type="checkbox"/>	<input type="checkbox"/>
Tone Arnsperger	Vector Connorsian	ToneA@Vector-connorsian.com	303.465-5806	<input type="checkbox"/>	<input type="checkbox"/>
Tim Smith	Maryland SHA	TSMITH@SHA.STATE.MD.US	443-572-5037	<input type="checkbox"/>	<input type="checkbox"/>
Kevin Kuersteiner	FHWA-Mn	Kevin.Kuersteiner@dot.gov	612 291 6122	<input type="checkbox"/>	<input type="checkbox"/>
Todd Ballen	3M	tballen@mmm.com	651-575-0831	<input type="checkbox"/>	<input type="checkbox"/>
George Carlson	3m	gcarlson1@mmm.com	657-732-3351	<input type="checkbox"/>	<input type="checkbox"/>
STEVE HUNTER	FIRST Analytical Laboratories	steve@firstanalytical.labs.com	919-942-8607	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tony Wade	Wessker Manufacturing	Tony.wade@wessker.com	903-538-2211	<input type="checkbox"/>	<input checked="" type="checkbox"/>
DEAN'S BOISVERT	NH DOT	DBOISVERT@DOT.STATE.NH.US	603-271-1595	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SEJAL BAROT	NH DOT NDOT	S6980@shq.state.md.us	443-572-5269	<input type="checkbox"/>	<input type="checkbox"/>
ROBERT SHUGART	AL DOT	shugart@dot.state.al.us	334-206-2309	<input type="checkbox"/>	<input type="checkbox"/>



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