



COMMITTEE ON MATERIALS & PAVEMENTS

2018 Annual Meeting – Cincinnati, OH

Tuesday August 7, 2018

3:15 – 5:00 PM EST

TECHNICAL SUBCOMMITTEE 4e

Joints, Bearings, and Geosynthetics

I. Call to Order and Opening Remarks

A. Brief summary of activities (*to ensure all attendees up to speed*)

II. Roll Call

Voting Members:

Name/Members	Agency		Present
Ramirez, Timothy (Chair)	PA	tramirez@pa.gov	
Benson, Michael (Vice Chair)	AR	michael.benson@arkansashighways.com	
Lauzon, Robert G.	CT	robert.lauzon@ct.gov	
Douds, Richard	GA	rdouds@dot.ga.gov	
Trepanier, Jim	IL	james.trepanier@illinois.gov	
Niehaus, Curt F.	KS	curt.niehaus@ks.gov	
Davis, Jason	LA	Jason.davis@la.gov	
Hood, Woodrow L.	MD	whood@sha.state.md.us	
Fung, Clement	MA	clement.fung@state.ma.us	
Williams, III, James A.	MS	jwilliams@mdot.state.ms.us	
Trautman, Brett	MO	brett.trautman@modot.mo.gov	
Metcalfe, Ross Oak	MT	rmetcalfe@mt.gov	
Streeter, Donald	NY	donald.streeter@dot.ny.gov	
Peoples, Christopher	NC	cpeoples@ncdot.gov	
Seward, Kenny R.	OK	kseward@odot.org	
Lane, Danny	TN	danny.lane@tn.gov	
Williams, Kurt	WA	willikr@wsdot.wa.gov	
Lane, Becca	ON	Becca.Lane@ontario.ca	

Non-Voting Members:

Name/Friends/Guests	Affiliation		Present
Fragapane, Ryan	AASHTO	rfragapane@ashto.org	
Malusky, Katheryn	AASHTO	kmalusky@ashto.org	
Lacinak, Henry	AASHTO	hlacinak@ashto.org	
Lenker, Steven	AASHTO re:source	slenker@ashtoresource.org	
Knake, Maria	AASHTO re:source	mknake@ashtoresource.org	
Voth, Michael D.	FHWA	michael.voth@dot.gov	
Curry, Jonathan	Industrial Fabrics Assoc. International	jicurry@ifai.com	
Boardman, Jonathan T.	CT	jonathan.boardman@ct.gov	
Allen, Tony M	WA	allent@wsdot.wa.gov	
Holt, Anne	ON	anne.holt@ontario.ca	
Schell, Hanna	ON	Hannah.Schell@ontario.ca	



Name/Friends/Guests	Affiliation		Present
Watson, Ronald	RJ Watson, Inc.	rwatson@rjwatson.com	
Geary, Georgene	GGfGA Engineering, LLC	ggeary@ggfga.com	

III. Approval of Technical Subcommittee Minutes

TS-4e Mid-Year Webinar Meeting Minutes from January 19, 2018 (Attachment 1)

IV. Old Business

- A. COMP Ballot Items
 - 1. Outstanding items from Mid-Year Meeting? - None
- B. TS Ballots - None
- C. Task Force Reports
 - 1. Task Force 2006-01 – M 251 Proper Testing Frequency & Realistic English Units.
 - 2. Task Force 2006-03. Development of an AASHTO Standard for Edge/Wall Drains.
 - 3. Task Force 2015-01 – M 288 Revisions to include geogrids for Base Reinforcement, address comments from the ASTM D35 committee received from Jim Goddard, include geotextile for wrapping pipe.

V. New Business

- A. Research Proposals
 - 1. Quick turnaround RPS – Chair is not aware of any RPS.
 - 2. Full NCHRP RPS – Chair is not aware of any RPS.
- B. AASHTO Technical Service Programs Items - None
- C. NCHRP Issues - None
- D. Correspondence, calls, meetings – None since the 2018 Mid-Year Web Meeting.
- E. Presentation by Industry/Academia - None
- F. Proposed New Standards
- G. Proposed New Task Forces
- H. Standards Requiring Reconfirmation – (Attachment 2)
 - 1. M 213, Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
 - 2. M 297, Preformed Polychloroprene Elastomeric Joint Seals for Bridges
 - 3. R 69, Determination of Long-Term Strength for Geosynthetic Reinforcement
 - 4. MP 25, Performance-Graded Hot-Poured Asphalt Crack Sealant
 - 5. MP 26, Cotton Duck Fabric Bridge Bearings (??)
 - 6. PP 85, Grading or Verifying the Sealant Grade (SG) of a Hot-Poured Asphalt Crack Sealant
 - 7. TP 126, Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)
- I. COMP Ballot Items (including any ASTM changes/equivalencies/harmonization)

VI. Open Discussion

VII. Adjourn

COMMITTEE ON MATERIALS AND PAVEMENTS

Mid-Year Web Meeting

Friday January 19, 2018

2:00 pm – 4:00 pm EST

TECHNICAL SECTION 4e

JOINTS, BEARINGS, AND GEOSYNTHETICS

AGENDA

I. Call to Order and Opening Remarks

Chair: Tim Ramirez (PA)

II. Roll Call

Voting Members as of 1/19/2018:

Name	Agency	Email	Present
Ramirez, Timothy (Chair)	PA	tramirez@pa.gov	X
Benson, Michael (Vice Chair)	AR	michael.benson@ardot.gov	X
Lauzon, Robert G.	CT	robert.lauzon@ct.gov	
Douds, Richard	GA	rdouds@dot.ga.gov	
Trepanier, Jim	IL	james.trepanier@illinois.gov	
Davis, Jason	LA	jason.davis@la.gov	
Hood, Woody	MD	whood@sha.state.md.us	
Fung, Clement	MA	clement.fung@state.ma.us	
Williams, III, James A.	MS	jwilliams@mdot.state.ms.us	
Trautman, Brett	MO	brett.trautman@modot.mo.gov	X
Strizich, Matt	MT	mstrizich@mt.gov	
Streeter, Donald	NY	donald.streeter@dot.ny.gov	X
Peoples, Chris A.	NC	cpeoples@ncdot.gov	X
Seward, Kenny R.	OK	kseward@odot.org	
Lane, Danny	TN	danny.lane@tn.gov	
Williams, Kurt	WA	willikr@wsdot.wa.gov	
Lane, Becca	ON	Becca.Lane@ontario.ca	

III. AASHTO Staff, Associate Members, Liaisons, Non-Voting Members, Ex Officios, Friends and Others as of 1/19/2018:

Name	Affiliation	Email	Present
Malusky, Katheryn	AASHTO	kmalusky@ashto.org	X
Geary, Georgene M.	GGfGA Engineering, LLC	ggeary@ggfga.com	X
Lenker, Steven E.	AASHTO re:source	slenker@ashtoresource.org	
Knake, Maria	AASHTO re:source	mknake@ashtoresource.org	
Boardman, Jonathan T.	CT	jonathan.boardman@ct.gov	
Allen, Tony	WA	allent@wsdot.wa.gov	
Rothblatt, Evan	AASHTO	erothblatt@ashto.org	
Holt, Anne	ON	anne.holt@ontario.ca	
Schell, Hannah	ON	Hannah.Schell@ontario.ca	
Voth, Michael D.	FHWA	michael.voth@dot.gov	

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Name	Affiliation	Email	Present
Curry, Jonathan	Industrial Fabrics Assoc. International	jicurry@ifai.com	
Watson, Ronald	RJ Watson, Inc.	rwatson@rjwatson.com	
Lacinak, Henry	AASHTO	hlacinak@ashto.org	X

Additional Attendees: Richard Barezinsky (KS), Ryan Fragapane (AASHTO), Andy Babish (VA), Clark Morrison (NC), Dan Spear (CA), Bill Bailey (VA), Wesley Glass (KY), Michael Black (KY), Paul Hanchryk (NJ), George Hanna (WV), Donald Simmons (WV), Jennifer Astle-Tranmer (MTO), Brian Ikehara (HI)

IV. Approval of Technical Section Minutes from Annual Meeting in Phoenix, AZ

Tuesday, August 8, 2017 Annual Meeting Minutes (Attachment 1).

- Motion made by MO, seconded by NY. All were in favor of accepting the minutes.

V. Old Business

A. COMP Rolling Ballot 2 Items

- i. Item 8, MP 25 – Concurrent ballot item to revise MP 25 with proposed technical revisions from the researchers at University of Illinois in Table 1.

Affirmative: TS-4e = 10 of 13, COMP = 46 of 52

Negative: TS-4e = 0 of 13, COMP = 0 of 52

No Vote: TS-4e = 3 of 13, COMP = 6 of 52

TS and COMP comment from Arkansas.

[Received 2/3 Affirmative Vote in TS and COMP; therefore, revision adopted.](#)

Agency (Individual Name)	Comments	Resolution
Arkansas Department of Transportation (Michael C Benson)	Dynamic Shear (Yield), TP 126, required shear stress is not defined in the method.	Editorial addition. This will be a clarification.

- [No discussion on the above item.](#)

- ii. Item 9, PP 85 – Concurrent ballot item to revise PP 85 with proposed technical revisions from the researchers at University of Illinois to coincide with similar revisions proposed for MP 25 and to incorporate various editorial changes throughout.

Affirmative: TS-4e = 10 of 13, COMP = 46 of 52

Negative: TS-4e = 0 of 13, COMP = 0 of 52

No Vote: TS-4e = 3 of 13, COMP = 6 of 52

TS comments from Arkansas. COMP comments from Arkansas and Virginia.

[Received 2/3 Affirmative Vote in TS and COMP; therefore, revision adopted.](#)

Agency (Individual Name)	Comments	Resolution
Arkansas Department of Transportation (Michael C Benson)	The wording of Section 3.1. is confusing. It is recommended that the verbiage be changed to "The sample of hot-poured asphalt crack sealant is homogenized per ASTM D5167 at the manufacturer's recommended installation temperature for 1 hour ± 10 minutes. Portions of this sample is used to test viscosity per T 366 and sealant flow and deformation (referred to as flow coefficient, shear thinning and shear stress in MP 25)." While stated in Section 3.1, the temperature (manufacturer's recommended installation temperature) and time (1 hour ± 10 minutes) should be included in Section 6.2 or referenced.	Editorial change to accept recommended revision. Agree or referenced in Section 6.2. Will confer with Univ. of Illinois researchers to verify this change and confer with AASHTO

Attachment 2 - TS-4e Mid-Year Minutes - 2018

	<p>Why is T 367 approved as a method when there is not a result? Shouldn't it be a Practice like R28 for asphalt binders?</p> <p>MP 25 indicates that creep stiffness (S) at 1 second must be = 40 MPa but Section 6.8. does not direct what to do if it is not.</p> <p>While stated in Section 3.1, the temperature (manufacturer's recommended installation temperature) and time (1 hour ± 10 minutes) should be included in Section 7.2. or referenced.</p> <p>The reference to Note 7 following Section 7.8. and Section 7.9. needs to be expanded. What is the intent?</p>	<p>Publication to see if can be added editorially or if it will need to be balloted.</p> <p>Agree that this should be a Standard Practice. Will ballot this change in future TS ballot.</p> <p>Will need to confer with the Researchers at Univ. of Illinois. Likely a technical change.</p> <p>Agree or referenced in Section 7.3. Will confer with Univ. of Illinois researchers to verify this change and confer with AASHTO Publication to see if can be added editorially or if it will need to be balloted.</p> <p>Will confer with Univ. of Illinois researchers for any revisions to expand/clarify the reference to Note 7.</p>
<p>Virginia Department of Transportation (Charles A. Babish)</p>	<p>General terminology check - is it universally accepted that "clean and seal" is synonymous with "crack filling" and "route and seal" synonymous with "crack sealing"? If so, no comment. If these terms can't be used interchangeably then delete (i.e. crack filling) and (i.e. crack sealing).</p>	<p>Terms in standard seem clearer than the other terms. Bill Bailey mentioned crack filling if you clean and seal. VA uses crack filling and crack sealing interchangeably. Georgene suggests reviewing the recent NCHRP study that addresses this and revise the language according to the results of this study. The NCHRP study confirmed the current language used in PP85.</p>

- The Illinois researchers are reviewing these comments and then will send the Chair their feedback.

- iii. Item 10, T 366 – Concurrent ballot item to revise T 366 with one proposed technical revision in Section 4.1 to revise the source of spindle recommendation.

Affirmative: TS-4e = 10 of 13, COMP = 46 of 52

Negative: TS-4e = 0 of 13, COMP = 0 of 52

No Vote: TS-4e = 3 of 13, COMP = 6 of 52

COMP comment from Texas.

Received 2/3 Affirmative Vote in TS and COMP; therefore, revision adopted.

Agency (Individual Name)	Comments	Resolution
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Texas Department of Transportation (Brett Haggerty)	Should the spindle temperature be specified?	Will need to confer with the Univ. of Illinois researchers. Likely a technical change.
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- No discussion on the above item.

- iv. Item 11, T 370 – Concurrent ballot item to revise T 370 with proposed technical revisions from the researchers at University of Illinois addressing apparatus requirements, specimen mold requirements, and calibration of thermometer requirements and revise with proposed revisions to delete the existing Figures (most are unnecessary) to address a Texas comment received during the 2016 SOM Rolling Ballot 2 for this standard and replace with three new Figures.

Affirmative: TS-4e = 10 of 13, COMP = 46 of 52

Negative: TS-4e = 0 of 13, COMP = 0 of 52

No Vote: TS-4e = 3 of 13, COMP = 6 of 52

COMP comments from South Carolina and Texas.

Received 2/3 Affirmative Vote in TS and COMP; therefore, revision adopted.

Agency (Individual Name)	Comments	Resolution
South Carolina Department of Transportation (Merrill E Zwanka)	Section 6.5, Figure 1 (new) - Tolerances are needed for all the given dimensions. Section 10.15 - Need a tolerance for the 60-minute requirement.	There is a statement to the right of each view which states "All units are in mm" and a Note that also reads "Note: Dimensions are in mm". For Section 10.15, will confer with Univ. of Illinois researchers on proper tolerance. I believe this can be editorially clarified to "60 min ± X min".
Texas Department of Transportation (Brett Haggerty)	Section 6.5 calls for #32 grid interface on the mold surfaces. Will it be necessary to evaluate this surface for wear over time, and is there a methodology for doing it?	Will need to confer with the researchers at Univ. of Illinois; however, wear on the surfaces should be minimal.

- No discussion on the above item.

- v. Item 12, TP 126 – Concurrent ballot item to revise TP 126 with one proposed technical revision from the researchers at University of Illinois in Section 10.2 to remove requirement for trimming specimen as trimming is not necessary with hot-poured asphalt crack sealants.

Affirmative: TS-4e = 10 of 13, COMP = 46 of 52

Negative: TS-4e = 0 of 13, COMP = 0 of 52

No Vote: TS-4e = 3 of 13, COMP = 6 of 52

TS and COMP comment from Arkansas.

Received 2/3 Affirmative Vote in TS and COMP; therefore, revision adopted.

Agency (Individual Name)	Comments	Resolution
Arkansas Department of Transportation (Michael C Benson)	If MP 25 requires TP 126 minimum shear stress for compliance it should be defined and reported in this method.	Agree. Will confer with Univ. of Illinois researchers on definition and confer with AASHTO Publications if this term/definition can be added editorially or if it will need balloted.

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- No discussion on the above item.

- vi. Item 13, T 42 – COMP ballot item to delete T 42 due to it being an equivalent standard with ASTM D545 and the AASHTO listed exceptions addressing only units of measure in the ASTM standard.

Affirmative: COMP = 45 of 51

Negative: COMP = 0 of 51

No Vote: COMP = 6 of 51

COMP comments from Arkansas and Oregon.

Received 2/3 Affirmative Vote in COMP; therefore, deletion adopted.

Agency (Individual Name)	Comments	Resolution
Arkansas Department of Transportation (Michael C Benson)	Note that T 42 is specified in M 153 and M 213. Also, note the specifications in these methods are defined in SI units(metric) while ASTM D545 is not. Calculations in T 42 were helpful in this respect.	M 153 and M 213 may need revised to include US Customary units for cross-referencing to ASTM D545.
Oregon Department of Transportation (Greg Frank Stellmach)	Does M 153 need to be updated for the references to T 42 in Section 2.1 and Section 8.1? Does M 213 need to be updated for the references to T 42 in Section 2.1 and Section 8.1? Does M 33 need to be updated for the references to T42 in Section 2.1 and Section 8.4?	Yes. Yes. Yes.

- No discussion on the above item.

B. TS Reconfirmation Ballot 2017

- i. Item 1, R 50 – Reconfirm R 50.

Affirmative: TS-4e = 16 of 17

Negative: TS-4e = 0 of 17

No Vote: TS-4e = 1 of 17

No comments received.

Received 2/3 Affirmative Vote in TS; therefore, reconfirmation adopted.

- ii. Item 2, MP 26 – Reconfirm MP26.

Affirmative: TS-4e = 16 of 17

Negative: TS-4e = 0 of 17

No Vote: TS-4e = 1 of 17

TS comment from Pennsylvania.

Received 2/3 Affirmative Vote in TS; therefore, reconfirmation adopted.

Agency (Individual Name)	Comments	Resolution
Pennsylvania Department of Transportation (Timothy L Ramirez)	<u>Comment for AASHTO:</u> 1) This standard should not be included within this 2017 reconfirmation ballot. It was initially balloted for adoption in 2014, initially published in 2015 as MP 26-15. It had a 2-year reconfirmation ballot in 2016 and then was published in 2017 as MP 26-15 (2017). This provisional standard should not be due for another 2-year reconfirmation ballot until next year, 2018. I am not sure why AASHTO included this provisional standard in this 2017 Reconfirmation Ballot.	

Attachment 2 - TS-4e Mid-Year Minutes - 2018

- C. Task Force Reports
- i. Task Force 2006-01 – M 251 Proper Testing Frequency & Realistic English Units. From the 2017 Annual Meeting Minutes: “The NTPEP TC leadership will review the standard and revise the units for the Chair to review. Ensure the AASHTO standard aligns with the NTPEP EBB work plan. This will be completed prior to this TS’s next mid-year webinar.” The chair has not yet received anything and will follow up with the NTPEP EBB Chair. Ryan Fragapane mentioned the NTPEP EBB TC started reviewing this standard.
 - ii. Task Force 2006-03. Development of an AASHTO Standard for Edge/Wall Drains. From the 2017 Annual Meeting Minutes: “Update on progress. MS suggest the industry assist with putting together a standard of this type because there are a large variety of products of this type. Industry will get something put together prior to the next call. Georgene Geary will help with this effort. The Chair will reach out to their interested states to asset with championing this effort. Jim Goddard would like to be included. The Chair will set up a call to make sure things move forward.” A survey was sent out to the COMP members regarding this. 5 or 6 states do use these type of products. These states have their own specifications. The Chair will work with these states and industry to draft a specification.
 - iii. Task Force 2015-01 – M 288 Revisions to include geogrids for Base Reinforcement and to address comments from the ASTM D35 committee received from Jim Goddard. From the 2017 Annual Meeting Minutes: “Need to schedule a task force conference call/webex. The Chair will schedule a call to reconvene this task force in the near future. Add Brett Haggerty (TX DOT), Doug and Emanuel to this task force.” Industry wants to include sock type geotextiles. Industry will work with the Chair to address these types of products. This task force will work with the NTPEP REGEO TC to include base reinforcement into this standard.

VI. New Business

- A. Research Proposals - None
- B. AASHTO Items/Issues - None
- C. NCHRP Issues - None
- D. Correspondence, calls, meetings/ Presentation by Industry – The Chair was copied on a letter from Jim Goddard to Jim Schuler (VA) to work with them to look at some geosynthetic specifications.
- E. Proposed New Standards - None
- F. Proposed New Task Forces- None
- G. Standards Requiring Reconfirmation – TS-4e Status of Standards (Attachment 2). The following standards require reconfirmation or extension in 2018.
 - i. M 213 – Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)
 - ii. M 297 – Preformed Polychloroprene Elastomeric Joint Seals for Bridges
 - iii. R 69 – Determination of Long-Term Strength for Geosynthetic Reinforcement
 - iv. MP 25 – Performance-Graded Hot-Poured Asphalt Crack Sealant
 - v. MP 26 – Cotton Duck Fabric Bridge Bearings
 - vi. PP 85 – Grading or Verifying the Sealant Grade (SG) of Hot-Poured Asphalt Crack Sealant
 - vii. TP 126 – Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)
- H. SOM Ballot Items (including any ASTM changes)
- None

VII. Open Discussion

- None

VIII. Adjourn

Attachment 2 - TS-4e Standards

COMP TS-4e Status of Standards (2018)						
TS 4e AASHTO Standard (Published 2018)	1st Published Date of Provisional	Reconfirm Required	Referenced ASTM Standard	Current ASTM Standard	Standard Title	Assigned To:
M 33-99 (2016)		2019	D994-98 (2010)	D994/D994M-11 (2016)	Preformed Expansion Joint Filler for Concrete (Bituminous Type)	MT
M 153-06 (2016)		2019	D1752-04a (2013)		Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction	AR
M 168-07 (2016)		2019			Wood Products	MT
M 213-01 (2015)		2018	D1751-04 (2013)		Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)	MO
M 230-07 (2016)		2019			Expanded and Extruded Foam Board (Polystyrene)	NY
M 251-06 (2016)		2019			Plain and Laminated Elastomeric Bridge Bearings	NY
M 288-17		2020			Geotextile Specification for Highway Applications	NY
M 297-10 (2015)		2018	D3542-08 (2013)		Preformed Polychloroprene Elastomeric Joint Seals for Bridges	PA
R 50-09 (2018)		2021			Geosynthetic Reinforcement of the Aggregate Base Course of Flexible Pavement Structures	NY
R 69-15		2018			Determination of Long-Term Strength for Geosynthetic Reinforcement	WA
T 42-10 (2015) <i>Discontinued</i>			D545-08	D545-14	Preformed Expansion Joint Filler for Concrete Construction	PA
T 366-18		2021			Apparent Viscosity of Hot-Poured Asphalt Crack Sealant Using Rotational Viscometer	PA/AR
T 367-17		2020			Accelerated Aging of Hot-Poured Asphalt Crack Sealant Using a Vacuum Oven	PA/AR
T 368-17		2020			Measuring Low-Temperature Flexural Creep Stiffness of Hot-Poured Asphalt Crack Sealant by Bending Beam Rheometer (BBR)	PA/AR
T 369-17		2020			Evaluation of the Low-Temperature Tensile Property of Hot-Poured Asphalt Crack Sealant by Direct Tension Test	PA/AR
T 370-18		2021			Measuring Adhesion of Hot-Poured Asphalt Crack Sealant Using Direct Adhesion Tester	PA/AR
T 371-17		2020			Measuring Interfacial Fracture Energy of Hot-Poured Asphalt Crack Sealant Using a Blister Test	PA/AR
MP 25-18	2015	2018			Performance-Graded Hot-Poured Asphalt Crack Sealant	PA/AR
MP 26-15 (2018)	2015	2018			Cotton Duck Fabric Bridge Bearings	AR

Attachment 2 - TS-4e Standards

COMP TS-4e Status of Standards (2018)						
TS 4e AASHTO Standard (Published 2018)	1st Published Date of Provisional	Reconfirm Required	Referenced ASTM Standard	Current ASTM Standard	Standard Title	Assigned To:
PP 85-18	2017	2018			Grading or Verifying the Sealant Grade (SG) of Hot-Poured Asphalt Crack Sealant	PA/AR
TP 126-18	2017	2018			Evaluation of the Tracking Resistance of Hot-Poured Asphalt Crack Sealant by Dynamic Shear Rheometer (DSR)	PA/AR