<table>
<thead>
<tr>
<th>AASHTO Designation No.</th>
<th>Title</th>
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<tbody>
<tr>
<td>M 133-12 (2016)</td>
<td>Preservatives and Pressure Treatment Processes for Timber</td>
</tr>
<tr>
<td>M 143-14</td>
<td>Sodium Chloride</td>
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<tr>
<td>M 144-14</td>
<td>Calcium Chloride</td>
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<tr>
<td>M 224-91 (2014)</td>
<td>Use of Protective Sealers for Portland Cement Concrete</td>
</tr>
<tr>
<td>M 233-86 (2014)</td>
<td>Boiled Linseed Oil Mixture for Treatment of Portland Cement Concrete</td>
</tr>
<tr>
<td>M 235M/M 235-13</td>
<td>Epoxy Resin Adhesives</td>
</tr>
<tr>
<td>M 247-13</td>
<td>Glass Beads Used in Pavement Markings</td>
</tr>
<tr>
<td>M 249-12 (2016)</td>
<td>White and Yellow Reflective Thermoplastic Striping Material (Solid Form)</td>
</tr>
<tr>
<td>M 300-03 (2017)</td>
<td>Inorganic Zinc-Rich Primer</td>
</tr>
<tr>
<td>R 31-09 (2014)</td>
<td>Evaluation of Protective Coating Systems for Structural Steel</td>
</tr>
<tr>
<td>T 143-13 (2017)</td>
<td>Sampling and Testing Calcium Chloride for Roads and Structural Applications</td>
</tr>
</tbody>
</table>
I. Call to Order and Opening Remarks
   A. Brief summary of activities (to ensure all attendees up to speed)
   Chairman called the meeting to order at 1:30 with a brief update of activities and turned it to the vice-chair for roll call.

II. Roll Call
   Vice Chair roll call of members – all members were present or had proxy for state representing the voting member
III. Approval of Technical Section Minutes from Midyear Webinar Meeting

Motion for approval by Bill Bailey VA/Second by John Grieco MA – minutes approved by voice vote of the subcommittee

IV. Old Business
A. COMP Ballot Items
   1. Outstanding items from Mid-Year Meeting?
      ii. PP-74 Roundness of Glass Beads – Haleh Azari

This is the camsizer specification. This provisional needs to be adopted or it will be dropped, it has reached the 8 year limit.

Haleh Azari (author of standard) indicates revisions have all been incorporated in document and will go out for ballot (AI) The original equipment specification was only for one type of equipment – there are new machines that can also perform the test language has been revised to allow additional instruments. The new project started in 2015 – this version of the specification is more general not specific to the Camsizer.

Tim Ruelke (FL) motion for TS ballot ASAP/second by Bill Bailey (VA) – this will be balloted by the TS for changes ASAP; recommended for transition to full standard and be included in the COMP ballot in October.

   iii. New Standard : TP 130 - Standard Method of Test for Producing Draw Down Panels and Measuring the Coefficient of Retroreflected Luminance (RL) of Pavement markings on a Laboratory Panel (This document has been uploaded/added to the Current Production Materials Library.)

   iv. TP 84-11 – Standard Method of Evaluation of Adhesive Anchors in Concrete under Sustained Loading Conditions. Reached eight-year limit. Voted Annual meeting 2017. This method was dropped from active library in February 2018.

B. TS Ballots
   Application and materials requirements were separated in the following 2 standards for High Friction Surface Testing. Chair brought MP-79 up for discussion and review. The application standard will be reviewed in TS5b. Danny Lane provided an update on the testing in TN.
      i. MP-79 (HFST) TS4C-17-02 #1 include Material Requirements only – passed TS ballot with several comments
         1. Clarification has been added for the testing of the Bauxite.
         2. Binder resin system and aggregate
         3. Comments to be addressed on future ballot.

Manufacturer requested attention to viscosity and elongation requirements – and how they affect performance.

The bond test has been removed as the field test on asphalt does not produce valid results and the cleanliness of the surface determines the adhesion of the products on concrete.

Motion to send MP-79 TS ballot (AI); Motion VA Bill Bailey/second Maryland – will send to TS Ballot and once returned will send to full ballot
ii. PP(xx) (HFST) TS4C-17-02 #2 include Application Requirements only – passed
   1. Handed off to Derek Nener-Plante Chair 5b. in May 2018

**Bike lane materials are similar materials to above standards for durable green bike lanes. Testing for color retention and color was questioned.**

The original color box proposed had no testing done – as part of ATSSA had testing – that indicated the color box was too broad. FHWA felt created better uniformity; MUTCD K. Sylvester (FHWA) intent to allow states operating on the interim green could go forward – the new color box will become the final rule.

Chair indicates current color box is only for acceptance – will need to be assessed as specification moves forward.

iii. PP(xx) Durable Green Bike Lane TS4C-17-02 #3 -Green Bike Lane
*Has been through TS ballot; technical changes made with color evaluation.*

Motion to move to TS ballot by TN (Danny Lane)/LA second Jason Davis/if pass move to COMP Ballot (Al)

C. Task Force Reports
   i. TG-18-1 Green Bike Lane
      1. Louisiana, Virginia, Kentucky, Tennessee, Robert Dingess

V. **New Business**
A. Research Proposals
   1. 20-7 RPS
   2. Full NCHRP RPS

**Thermal Compatibility of the Polymer Resin (Research Proposal submitted by manufacturer for consideration)**
Chair asked TS for voice vote of support – sense that the objective was not clear. Chair will email to the TS for review prior to research discussion on Thursday.

B. AASHTO Resource/CCRL - Observations from Assessments – none reported
C. NCHRP Issues - none reported
D. Correspondence, calls, meetings
E. Presentation by Industry/Academia
   i. **FHWA Pooled Fund Solicitation No. 1473 “Development of Accelerated Weathering and Corrosion Tests to Identify High-Performance Coatings for Structural Steels.”**

A Presentation by Bob Meade (UKTC) in support of the proposed Pooled Fund Solicitation

This pooled fund is proposed to develop a new accelerated coatings evaluation. The current coatings evaluation has been in use since 1996 (ASTM D 5894) – development of new coatings technologies has made the test less effective in differentiating the performance of new better performing coatings.

The research staff at University of Kentucky is in the process of making revisions to the posted pooled fund request.

Participation request is 25K/Year from each DOT for 3 year project.

States can use SPR funds for the pooled fund
F. Proposed New Standards
   i. Red Bus Lane
   Rob Dingess (ATSSA PM Chairman) contribute to red bus rapid transit lane specification; do we want to establish a state task force to look at the red color for acceptance by states. Will provide the information to the committee and will follow up with a possible TF.

G. Proposed New Task Forces - none

H. Full Standards Requiring Reconfirmation

M 233-86 (2014) Boiled Linseed Oil Mixture for Treatment of Portland Cement concrete
   Revise or Reconfirm

M 237-96 (2014) Epoxy Resin Adhesives for Bonding Traffic Markers Portland Cement and Asphalt Concrete
   Revise or Reconfirm

R 031-09 (2014) Evaluation of Protective Coating Systems for Structural Steel
   Revise or Reconfirm

   Revise or Reconfirm

   Revise or Reconfirm

T 337-09 (2014) Non-Instrumental Determination of Metallic Zinc-rich primers
   Revise or Reconfirm

T 338-09 (2014) Analysis of Structural Steel Coatings for Hindered amine light stabilizer (HALS)
   Revise or Reconfirm

T 339-10 (2015) Analysis of Structural Steel Coatings for Isocyanate Content
   Revise or Reconfirm

I. Provisional Standards Requiring Action

PP 073-13 (2018) Quality Assurance, Job Site Quality Control, and of Protective Sealers for Portland Cement Concrete
   Adopt or Drop

PP 074-13 Determination of Size and Roundness of Glass Beads for Traffic Markings by Means of Computerized Optical Method
   Adopt or Drop

TP 096-13 (2018) Protective Sealers for Portland Cement Concrete
   Adopt or Drop

TP 106-13 (2015) Determination of Heavy Metal Content of Glass Beads by X-ray Fluorescence (XRF)
   Revise or 1yr. extend

J. COMP Ballot Items (including any ASTM changes/equivalencies)

K. Open Discussion

   Ryan Fragapane provided an update for NTPEP Pavement Marking Testing
   2018 test deck for PMM went down in Pa/2019 testing will be in FL
Committee wants to add bead analysis as part of the testing

HFST committee there will be no 2018 deck

L. Adjourn
### TS 4c 2018 Annual Meeting Summary

**Meeting Date:** Monday August 6, 2018

**Items approved by the TS for Committee and or Technical Subcommittee Ballot:**

<table>
<thead>
<tr>
<th>Standard Designation</th>
<th>Page Numbers/Section Titles for Proposed Changes in Minutes</th>
<th>Technical Subcommittee and/or Committee?</th>
</tr>
</thead>
<tbody>
<tr>
<td>PP(xx) Durable Green Bike Lane  TS4C-17-02 #3 -Green Bike Lane</td>
<td>Newly proposed standard</td>
<td>TS and COMP</td>
</tr>
<tr>
<td>MP 79 (HFST)</td>
<td>Split original PP with Materials requirements only in this standard. Have incorporated technical changes based on original TS Ballot comments</td>
<td>TS and COMP</td>
</tr>
<tr>
<td>PP-74 Roundness of Glass Beads</td>
<td>Changed to broaden the equipment requirements also have added a PB statement</td>
<td>TS and COMP</td>
</tr>
<tr>
<td>Section H of attached Minutes</td>
<td>List of Full Standards requiring Reconfirmation or Revision</td>
<td>Reconfirmation to TS</td>
</tr>
<tr>
<td>Section I of attached Minutes</td>
<td>List of Provisional Standards requiring Confirmation as full standard or drop</td>
<td>Reconfirmation to TS unless moving to full standard</td>
</tr>
</tbody>
</table>

**New Task Forces Formed:**

<table>
<thead>
<tr>
<th>Task Force Name</th>
<th>Summary of Task</th>
<th>Names of TF Members</th>
</tr>
</thead>
</table>

**Other Action Items:**

- Will provide committee with information regarding proposed research on HFST Thermal Compatibility for review and discussion on Thursday

- Will provide committee with information on red bus lanes for possible formation of a TF to develop specification for color.