

SUBCOMMITTEE ON MATERIALS

2017 Annual Meeting
Monday, August 1, 2017
11:30 AM – 12:30 PM

TECHNICAL SECTION 4f - Metals

I. Call to Order and Opening Remarks

- A. Chair: Merrill Zwanka (South Carolina)
- B. Vice Chair: Steven Ingram (Alabama)

II. Roll Call

- A. Voting Members
- B. Non-voting Members/Friends/Visitors
- C. Present: AL, GA, IL, KS, ME, MD, MO, NV, OK, Ontario, PA, SC, TN, VT, VA

Name	Email Address	Agency Name	Designation	Member Type	Present
Zwanka, Merrill E	zwankame@scdot.org	South Carolina Department of Transportation	Chair	Voting	
Ingram, Steven	ingrams@dot.state.al.us	Alabama Department of Transportation	Vice Chair	Voting	
Malusky, Kathryn	kmalusky@aaashto.org	American Association of State Highway and Transportation Officials	Liaison	Non-Voting	
Fragapane, Ryan	rfragapane@aaashto.org	American Association of State Highway and Transportation Officials	Liaison	Non-Voting	
Rothblatt, Evan	erothblatt@aaashto.org	American Association of State Highway and Transportation Officials	AASHTO Staff	Non-Voting	
Knake, Maria	mknake@aaashtoresource.org	AASHTO Re:source	Member	Non-Voting	
Lenker, Steven	slenker@aaashtoresource.org	AASHTO Re:source	Member	Non-Voting	
Uherek, Gregory V	guherek@aaashtoresource.org	AASHTO Re:source	Member	Non-Voting	
Blackburn, Lyndi D	blackburnl@dot.state.al.us	Alabama Department of Transportation	Member	Non-Voting	
San Angelo, P.E., Michael	michael.sanangelo@alaska.gov	Alaska Department of Transportation and Public Facilities	Member	Voting	
Lacinak, Henry	hlacinak@aaashto.org	American Association of State Highway and Transportation Officials	Member	None	
Hoffman, Keith D	keith.hoffman@dot.ca.gov	California Department of Transportation	Member	Non-Voting	
Boardman, Jonathan T	jonathan.boardman@ct.gov	Connecticut Department of Transportation	Member	Non-Voting	
Lauzon, Robert G	robert.lauzon@ct.gov	Connecticut Department of Transportation	Member	Voting	
Duke, Steve M	Steve.Duke@dot.state.fl.us	Florida Department of Transportation	Member	Voting	
Wu, Peter	pwu@dot.ga.gov	Georgia Department of Transportation	Member	Voting	
Pfeifer, Brian	brian.pfeifer@illinois.gov	Illinois Department of Transportation	Member	Voting	
Trepanier, Jim	james.trepanier@illinois.gov	Illinois Department of Transportation	Member	Non-Voting	
Barezinsky, Richard A	rick.barezinsky@ks.gov	Kansas Department of Transportation	Member	Voting	
Bradbury, Richard L	Richard.Bradbury@maine.gov	Maine Department of Transportation	Member	Voting	
Hood, Woody	whood@sha.state.md.us	Maryland Department of Transportation	Member	Voting	
Trautman, Brett Steven	brett.trautman@modot.mo.gov	Missouri Department of Transportation	Member	Voting	
Tedford, Darin P	dtedford@dot.state.nv.us	Nevada Department of Transportation	Member	Voting	
Horner, Ron	rhomer@nd.gov	North Dakota Department of Transportation	Member	Voting	
Seward, Kenny R.	kseward@odot.org	Oklahoma Department of Transportation	Member	Voting	
Ramirez, Timothy	tramirez@pa.gov	Pennsylvania Department of Transportation	Member	Voting	
Lane, Danny L.	danny.lane@tn.gov	Tennessee Department of Transportation	Member	Voting	
Gagulich, Mladen	mladen.gagulich@vermont.gov	Vermont Agency of Transportation	Member	Voting	
Bailey, William R	bill.bailey@vdot.virginia.gov	Virginia Department of Transportation	Member	Voting	
Holt, Anne	anne.holt@ontario.ca	Ontario Ministry Of Transportation	Associate Member	Non-Voting	
Lane, Becca	Becca.Lane@ontario.ca	Ontario Ministry Of Transportation	Associate Member	Voting	
Schell, Hannah	Hannah.Schell@ontario.ca	Ontario Ministry Of Transportation	Associate Member	Non-Voting	
Halsted, Greg	ghalsted@crsi.org	Concrete Reinforcing Steel Institute	Friend	Non-Voting	
Gagne, Martin	mgagne@zinc.org	International Zinc Association	Friend	Non-Voting	
Krouse, Dean C	dkrouse@steelservices.org	Krouse Consulting	Friend	Non-Voting	
Miller, David R.	David.Miller@MMFX.com	MMFX Technologies Inc. – Subsidiary MMFX Steel of America	Friend	Non-Voting	
Schoen, Jim	jschoen@nuco-yamato.com	Nucor-Yamato	Friend	Non-Voting	
Arnesen, Tore Olav	torea@vector-corrosion.com	Vector Corrosion Technologies, Inc.	Friend	Non-Voting	

III. Approval of Technical Section Minutes

Minutes of the January 19, 2017 TS 4f mid-year web meeting (Attachment 1) need approval. Motion made to accept by OK, PA seconded. All were in favor of passing the minutes.

IV. Old Business

A. TS Ballots

1. SOM_TS4F-17-01 – Technical section ballot for (1) ASTM equivalency revisions to M203, (2) revisions and the addition of a weld pull test as an annex in T244, and (3) the sunset of four obsolete wire standards that have been combined into a single standard, MP30 (M32, M55, M221, and M225).

Item 1 – Revise M203M / M203-12 (2016) (Attachment 2), Steel Strand, Low Relaxation Uncoated Seven-Wire for Concrete Reinforcement, to be equivalent with ASTM A416-16. Current version is equivalent to A416-10. Affirmative 15 of 19, Negative 0 of 19, No Vote 4 of 19. Comments were received from Illinois, Kansas, and Missouri.

This specification is similar to ASTM A416 except as noted:

- Units of M 203 are stated in either SI units or inch-pound units and within the text, the inch-pound units are shown in brackets.
- M 203 version incorporates the latest revisions to the 2016 version of ASTM A416.
- Specification references only low-relaxation strand as stress-relieved has been removed from ASTM 416.
- Added reference to ASTM A1061/A1061M Test Methods for Testing Multi-Wire Steel Strand for the testing of strand (removed testing information from Section 6.5 of the previous M 203.
- Section 4: Updated ordering information.
- Section 6 – Tables 1-3 were revised to remove “Strand Designation Numbers” to agree with ASTM A416.

Illinois	Affirmative	Specification title, AASHTO designation and ASTM designation on cover sheet does not match corresponding items on page one of the specification. Section 1.2: revise the first sentence to "The values stated in either SI units or inch-pound units are to be regarded separately as standard." "Table 1: for the 9.5 mm diameter, Grade 1725 [250] strand, revise the 1.6 to 51.6 in the Nominal Steel Area of Strand column. Table 1: for the 15.75 mm diameter, Grade 1860 [270] strand, revise the 279 to 279.3 in the Minimum Breaking Strength column. Table 1: for the 15.75 mm diameter, Grade 1860 [270] strand, do not highlight [780] in the Minimum Breaking Strength column. Supplementary Requirements paragraph: revise the beginning of the second sentence from "Grade 270 strand used..." to "Grade 1860 [270] strand used..."
Kansas	Affirmative	2.2. Add "Prestressing" to ASTM A1061 title
Missouri	Affirmative	Affirmative vote with the following comments: 1) In Table 1, Grade 1860, Nominal Diameter 15.75 mm, it appears the English unit for the Nominal Mass of Strand is missing. ASTM A 416 shows this value as 780 lb/1000 ft. Should read as, '1200 [780]'. 2) In Table 2, Grade 1860, Nominal Diameter 15.75 mm, it appears the English unit for the Minimum Load at 1% is missing. ASTM A 416 shows the value as 56,520 lbf. Should read as, '251.4 [56,520]'.

All comments were considered editorial and will be incorporated into the revised standard to go to full SOM ballot. Motion made to move these changes to full Subcommittee. Motion made by VA, seconded by ME. All were in favor of passing.

An additional note for TS consideration: The only change between A416-16 and A416-17 is in Section 3.1.1.1. The 2017 version of A416 deleted the part of the sentence about splicing. If M203 incorporates this change then it would be equivalent to ASTM A416-17.

ASTM A416-17: “3.1.1.1 Discussion – The direction of lay is either right-handed or left-handed.”

AASHTO M203: “3.1.1.1 Discussion – The direction of lay may be either right or left hand; however, strands of different lays should not be spliced together.”

Chair discussed this difference with AASHTO auditor Robert Sarcinella and recommends revising M203 to match A416-17 as indicated above. This change will be treated editorially and balloted with the above changes.

Item 2 – Revise T244 ([Attachment 3](#)), Mechanical Testing of Steel Products, to bring it closer in line with the latest version of ASTM A370 and also to include a new annex for weld pull testing. Affirmative 15 of 19, Negative 0 of 19, No Vote 4 of 19. Comments were received from Missouri.

Missouri - Affirmative vote with the following comments:

- 1) In Section 19.1.1, on Page 28, it appears Section 19.1.1.1 has accidentally been included in the last two sentence of Section 19.1.1. Section 19.1.1.1 needs to be removed in order to be a standalone section. **Corrected editorially.**
- 2) In Appendix K, on Page 87, Note K2 refers to photos. Do photographs need to identify as figures. Photos are shown on Page 88. **Corrected editorially.**
- 3) In Appendix K, on Page 88, four photographs are shown. A description of each photograph is provided but they are not identified as figures (i.e. Figure K1, K2, etc ...). Recommend ask the AASHTO staff to see if photographs need to be identified as figures. See comment No. 2. **Corrected editorially.**
- 4) In Section K5.4.2, on Page 89, indicates the testing machine should operate no more than 100,000 psi/min. and no less than 10,000 psi/min. In order to reduce testing variability between different laboratories recommend a loading rate range be specified. **Consulted with Pennsylvania about this comment and the recommendation is to leave the wording as-is since there are max/min limits. Missouri was in favor of this change.**

Editorial revisions were made for T244 to go to the full SOM ballot. Motion made by ME, seconded by MD. All were in favor.

Item 3 – TS4f voted to replace M32, M55, M221, and M225 with MP30 ([Attachment 4](#)), Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement. This ballot item is to sunset the obsolete standards M32, M55, M221, and M225. Affirmative 15 of 19, Negative 0 of 19, No Vote 4 of 19. No comments.

Sunsetting M32, M55, M221, and M225 will go to the full SOM ballot. Motion made by VA, seconded by ME. All were in favor.

B. Task Force Reports

1. Task Force 2015-01: Revisions to MP18, Standard Specification for Uncoated, Corrosion-Resistant, Deformed and Plain Chromium Alloyed, Billet-Steel Bars for Concrete Reinforcement and Dowels resulted in MP18 becoming a new full standard specification M334 ([Attachment 5](#)). The appendices of MP18 were separated into four new standard test methods – T372, T373, T374, and T375. The task force also proposed a new standard for uncoated steel bars called the Macrocell Slab Chloride Threshold test T376. The specification and test methods passed the 2016 SOM ballot with a couple of negatives. The negatives were resolved at the Mid-year meeting with the establishment of a new task force TF2017-01. [Task Force 2015-01 objectives have been completed.](#)

2. Task Force 2016-01: Discussing a possible specification for the proper way to document the “Buy America” requirements for steel and iron products. AASHTO (Sarcinella) would help develop the document and would like to have the TS backing to then approach the FHWA with the proposal. This would really help the states, the FHWA and the manufacturers. OK thinks this would be a complicated task. Every FHWA office in each state requires something differently. FL would like for FHWA to weigh in to tell the states what kind of detail needs to be included to meet the Buy America requirements. A joint task force with NTPEP was put together. Volunteers are as follows FL, OK, PA, AL and SC. NTPEP will reach out to the Reinforcing Steel and Guardrail/Guiderail technical committees to get more volunteers. Update – no action on this item. In November 2016 AASHTO asked for comments on the FHWA’s proposed Buy America waiver. [Need to see where that stands before moving forward with this task force.](#) FHWA input? OK recommends [sunsetting this task force.](#) Motion made by OK, seconded by VT. All were in favor.

3. Task Force 2017-01: Task Force 2015-01 proposed a new standard for uncoated steel bars called the Macrocell Slab Chloride Threshold test T376 ([Attachment 6](#)). The specification and test methods passed the 2016 SOM ballot with a couple of negatives. The negatives were resolved at the Mid-year meeting with the establishment of this task force. This task force is charged with determining how coated bars could be incorporated into the tombstone test method T374 ([Attachment 7](#)). Bill Bailey of Virginia is the lead for this task force. [A webinar was held on May 31, 2017 and NYDOT is going to send a survey out to the states to determine how much interest there is in modifying this test method to include testing of coated reinforcing bars.](#) This task force can be closed.

V. New Business

A. Standards Requiring Reconfirmation

1. Had four items on the 2016 SOM reconfirmation ballot (**M54, M227, T65, and T243**). All items passed with the only comments being from Pennsylvania for **T65**.

Pennsylvania Department of Transportation (Timothy L Ramirez) (tramirez@pa.gov)	Affirmative with comments: 1) In Section 3.1, last line, suggest revising from "his" to either "the" or "their". 2) In Section 7.1, 1st sentence, revise from "sulfuric acid (2+75)" to "sulfuric acid (25+75)". 3) In Section 8.3.2.2, move the complete text of this section from Section 8.3.2.2 to Section 8.3.2.1 and then delete the Section 8.3.2.2.	Affirmative
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[Comments were editorial and have been addressed.](#)

2. For the 2017 SOM reconfirmation ballot, the following standards ([Attachment 8](#)) will be included:
 - a. **M105, Gray Iron Castings**
 - b. **M204, Uncoated Stress-Relieved Steel Wire for Prestressed Concrete**
 - c. **M255, Steel Bars, Carbon, Hot Wrought, Special Quality, Mech. Properties**
 - d. **M314, Steel Anchor Bolts**

-Merrill will be using the AASHTO DAMS consultants to help work on these. The Chair recommends these go to reconfirmation at this time. Motion made by VA, seconded by PA. All were in favor.

B. SOM Ballot Items

2016 SOM ballot items were addressed during the January 19, 2017 web meeting.

C. Research Proposals

1. 20-7 RPS – None
2. Full NCHRP RPS - None

D. Re:source/CCRL - Observations from Assessments

E. NCHRP Issues

F. NTPEP REBAR/WWR Program Update

35 mills currently participate in the REBAR audit program and 25 manufacturers participating in the WWR audit program.

New materials for the 2018 audit season:

- 1) Stainless Steel
- 2) 7 Wire Strand
- 3) ASTM A1064 Wire

i) The audit program will not extend to pre-cast manufacturers that produce wire for their company's operation.

Ballot Items for 2017:

- 1) Epoxy coated reinforcing steel

i) This material will need to be added to the work plan and be balloted in November. If approved, NTPEP plans to have training audits during the 2018 audit season with live audits beginning with the 2019 audit season.

OK wants to know if NTPEP would be interested auditing galvanized rebar. One of these facilities is located in OK. This product meets ASTM A1094.

G. Correspondence, calls, meetings

1. Email from David Miller of MMFX (Attachment 9) requesting that M31, Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement, be revised to include Grade 100 steel and ASTM A1035 steel. After discussions with Illinois the chair replied to Mr. Miller that we did not want to make these changes at this time. This has not been a request from the states.

OK and AL think this should be in their own spec. MO would like it to be left in ASTM.

2. Illinois provided the chair with proposed revisions to M103, M163, M204, M285, and T65 to bring their ASTM equivalency up to date (Attachment 10). Chair was unable to get this finalized prior to the annual meeting and they will be sent out soon as a TS ballot. The Chair will work with AASHTO to get these standards out for ballot.
3. Correspondence with Shannon Pole- ASTM A123 has passed recently. Asking to update AASHTO M 111- one minor editorial change to make sure AASHTO is in line with ASTM. The Chair will make this editorial change.
4. CRSI- AASHTO T253 and AASHTO M254 need to be updated. The Chair will look into this and get back with CRSI to see what changes need to be made.

H. Proposed New Standards

1. MP30, Steel Wire and Welded Wire, Plain and Deformed, for Concrete Reinforcement is the equivalent to ASTM A1064 (Attachment 4). MP30 was on the Fall 2016 SOM ballot to move this newly created equivalency to a provisional standard. The ballot item passed and MP30 was published in 2017. Since MP30 is equivalent to ASTM A1064 which has been in practice for several years now, chair suggests moving it to the fall 2017 SOM ballot to become a full standard. Motion made by ME to put MP30 to put this forward as a full ballot, OK seconded this. All were in favor.

I. Proposed New Task Forces

-None

VI. Open Discussion

-None

VII. Adjourn