



TMS 402/602 COMMITTEE

www.MASONRYCODE.ORG

MAIN COMMITTEE

CHAIR

JOHN CHRYSLER

VICE-CHAIR

DAVE PIERSON

2ND VICE-CHAIR

DICK BENNETT

SECRETARY

ANDY DALRYMPLE

TMS 402/602 CHAIR

JOHN CHRYSLER
MASONRY INSTITUTE OF AMERICA
1315 STORM PARKWAY
TORRANCE, CA 90501
(310) 257-9000
JC@MASONRY.PRO

TMS 402/602 VICE CHAIR

DAVID L. PIERSON
ARW ENGINEERS
1594 W. PARK CIRCLE
OGDEN, UT 84404
(801) 782-6008
DAVEP@ARWENGINEERS.COM

TMS 402/602 2ND VICE CHAIR

RICHARD M. BENNETT
UNIVERSITY OF TENNESSEE
103 ESTABROOK HALL
KNOXVILLE, TN 37996
(865) 974-7540
RMBENNETT@UTK.EDU

TMS 402/602 SECRETARY

GERALD A. DALRYMPLE
WDP & ASSOCIATES, P.C.
10621 GATEWAY BLVD #200
MANASSAS, VA 20110
(703) 257-9280
MSJC@WDPA.COM

STAFF CONTACT, TMS PHILLIP J. SAMBLANET, (303) 939-9700, EMAIL: PSAMBLANET@MASONRYSOCIETY.ORG

SUBCOMMITTEES

CONSTRUCTION
REQUIREMENTS
JONATHON MERK

DESIGN
MARK MCGINLEY

FORM & STYLE
JAMES FARNY

EMPIRICAL
JASON THOMPSON

GENERAL
REQUIREMENTS
CHARLES CLARK

PARTITION & INFILLS
CHARLES TUCKER

PRESTRESSED MASONRY
ARTURO SCHULTZ

REINFORCEMENT &
CONNECTORS
HEATHER SUSTERSIC

SEISMIC & LIMIT
DESIGN
JOHN HOCHWALT

STRUCTURAL MEMBERS
ECE ERDOGMUS

VENEER & GLASS BLOCK
BRIAN TRIMBLE

TMS 402/602 2022 Main Committee Minutes

First Session October 14, 2021

Second Session October 16, 2021

Nashville, TN

Date Issued: November 17, 2021

Revised: March 7, 2022

SESSION 1 – OCTOBER 14, 2021

ATTENDANCE

Voting Member Attendance

Voting Member Attendee	Present	Voting Member Attendee	Present
John Chrysler	X	Andres Lepage	
Dave Pierson	X	William McGinley	X
Richard Bennett	X	Darrell McMillian	X
Gerald Dalrymple	X	Jonathon Merk	X
Dan Abrams		Khaled Nahlawi	
David Biggs		Jerry Painter	
Charles Clark	X	Jennifer Popehn	
Tom Corcoran		Max Porter	X
Todd Dailey	X	Alan Robinson	X
Jamie Davis		Alireza Sayah	
Patrick Dillon	X	Art Schultz	
Mohamed ElGawady		Paul Scott	X
Chulwuma Ekwueme		Benson Shing	
Ece Erdogmus	X	Kurt Siggard	X
James Farny	X	Heather Sustersic	X
Ed Freyermuth	X	John Tawresey	
Tom Gangel		Jason Thompson	X
Charles Haynes	X	Brian Trimble	X
John Hochwalt	X	Charles Tucker	X
Ed Huston	X	Scott Walkowicz	X
Keith Itzler		Rachel Will	X
Matthew Jackson		David Woodham	
Lane Jobe		John Zarzecki	

Voting Members Present – 26; Voting Members Not Present – 20

Non-Voting Committee Member Attendance

Non-Voting Committee Member Attendance	Present	Non-Voting Committee Member Attendance	Present
Farhad Ahmadi		Philippe Ledent	
Eric Alford		Kyle Lochonic	
Craig Baltimore		Paulo Lourenco	
Steve Borman		Brad Maurer	
Polihronis Bourdaniotis		Don McMican	
Russ Brown		Mike Merrigan	
Paul Byrd		Michael Miller	
Jerry Carrier		Greg Mowat	
Robert Chamra	X	Monika Nain	X
Marcos Corradi		Jason O'Dell	
Carlos Cruz-Noguez		Steven O'Hara	
Paul Curtis		Guilherme Parsekian	
Leroy Danforth		Gary Pasquarell	
Jeremy Douglas		Russ Peterson	X
Anindya Dutta		Tom Petreshock	
Wael El-Dakhakhni		Donato Pompo	
Matthew Farmer		Gary Porter	
Cortney Fried	X	Laura Redmond	X
Edward Gerns		Mike Ripley	
Stephen Getz		Brian Roye	
Asok Ghosh		Sam Rubenzer	
Diane Gould		Luke Scoggins	
Bill Griese		Paul Scott	
Matthew Hamann		Jay Snyder	
Trey Hamilton		David Sommer	X
Ron Hunsicker		Andreas Stavridis	
Keith Itzler		Tina Subasic	
Cathleen Jacinto		Jennifer Tanner	
Gaur Johnson		Bret Terry	
Steven Judd		Adrienn Tomor	
Anton Kava		Gustavo Tumnialan	
Walter Laska		Dan Zechmeister	

TMS Representatives Attendance

Phil Samblanet – Staff
 Noah Buchanan – Staff

Visitors Present

Craig Bennett, Jr.	Adam Hutchinson
Canan DaVela	Dimitrios Kalliontzis
Nathan Matthews	

First Session – October 14, 2021

1. Call to Order

The meeting was called to order at 6:18 p.m. central time by Chair Chrysler. There were 26 of 46 Main Committee voting members present at this session. The Chair discussed the TMS voting rules which, in part, requires affirmative votes from $\frac{1}{2}$ of the Main Committee members. Thus, a minimum of 23 affirmative votes are required for approval of an item brought to the Main Committee during the Main Committee meetings.

As Main Committee member attendance is lesser than usual due to travel restrictions imposed on some members, the Chair may take straw polls prior to Main Committee voting to determine if specific items would be better addressed through the letter ballot process to put the item before the full Main Committee for consideration.

2. Business Items

2.1. Antitrust Statement

The Antitrust Statement was distributed to all Committee members with the Agenda prior to the meeting. The motion to waive the reading of the Antitrust Statement was approved by acclamation with no objections or abstentions.

2.2. Attendance Roster

The Main Committee Secretary circulated the meeting attendance roster to record attendance. The Committee Roster was circulated for members to note changes in contact information.

3. Approval of Agenda and Minutes

The proposed Agenda was distributed electronically on 10/11/2021, copy attached. Tucker asked to add Partitions & Infill under Item 7.12 of the agenda.

Motion to approve the Agenda as amended by McGinley with second by Tucker. The Agenda as amended was approved by acclamation with no objections or abstentions.

Minutes of the April 23, 2021 virtual meeting were distributed on September 8, 2021 by the Secretary electronically.

Motion to approve the Minutes as distributed by McGinley with second by Thompson. The Minutes were approved by acclamation with no objections or abstentions.

4. Cycle Calendar/Working Draft

The 2022 cycle calendar is in the Committee DropBox. The DropBox file may be accessed through MasonryCode.org. The published Committee calendar is subject to change.

5. Reports

5.1 Membership Report – Dalrymple

The Main Committee is in balance with 46 voting members consisting of 10 Producers, 22 Users, and 14 General Interest classifications. Fernando Fonseca retired and resigned from the Committee. The Chair removed Dr. Fonseca from the Committee roster after Main Committee Ballot 19.

5.2 Staff Report – Samblanet

During the TMS awards luncheon John Hochwalt received 2021 Haller award and Jamie Farny received the 2021 Presidents award.

The updated working draft will be issued by November 15, 2021.

5.3 TMS 402 TAC Liaison Report – Walkowicz

Walkowicz thanked the Committee for their work on addressing TAC and Public comments and said that TAC is looking forward to the finalization of comment responses.

6. Balloting

6.1 Future Main Committee ballots include:

Ballot 20: Dec 18, 2021 – Jan 16, 2022, (Items Due Dec 10).

Ballot 21: Feb 19, 2022 – Mar 20, 2022, (Items Due Feb 11).

6.2 Ballot Items Prior to Ballot 19 With Unresolved Negative Votes:

Main Committee ballot Item 06-RC-015 and Item 15B-RC-044. These ballot items have unresolved negative votes and must be addressed as part of cleanup prior to the submittal of the TMS 402/602 document for final TAC review. The Chair will bring them before the Main Committee during Session 2 on 10/16/21.

7. Membership Changes

The new code cycle will begin in 2022 and announcements for applications will be developed over the winter and distributed when finalized. Scott Walkowicz is the incoming Committee Chair. Walkowicz announced that the new cycle will continue to be a six year cycle. He asked that the Committee members apply for the next cycle and let him or TMS staff know of others interested in Committee membership. He also asked for suggestions for topics to be addressed in the next code cycle.

8. Finishing 2022 Cycle after Dallas Meeting

The Dallas meeting is April 7-9, 2022. The following timeline depicts actions to take place after the Dallas Committee meeting.

Complete Responses to Public Comments	April 15, 2022
TAC Review of Public Comment Responses	April 15, 2022 – May 26, 2022
If TAC Accepts responses, post/email Closure	June 1, 2022
Board Acceptance of 2022 TMS 402/602	June 2 – July 2, 2022

If TAC does not accept the Committee responses, the Committee will have additional work to complete, and the schedule will be revised. Dates are subject to change and the Committee could continue work into October 2022 if needed to complete the current code cycle work.

9. First Session Main Committee Adjournment

The first session was adjourned by the Chair at 6:42 p.m. central time until 8:00 a.m. on ~~November~~ October 16, 2021.

SESSION 2 – OCTOBER 16, 2021

Voting Member Attendance

Voting Member Attendee	Present	Voting Member Attendee	Present
John Chrysler	X	Andres Lepage	
Dave Pierson	X	William McGinley	X
Richard Bennett	X	Darrell McMillian	X
Gerald Dalrymple	X	Jonathon Merk	X
Dan Abrams		Khaled Nahlawi	
David Biggs		Jerry Painter	X
Charles Clark	X	Jennifer Popehn	
Tom Corcoran		Max Porter	X
Todd Dailey	X	Alan Robinson	X
Jamie Davis		Alireza Sayah	
Patrick Dillon	X	Art Schultz	X
Mohamed ElGawady		Paul Scott	X
Chulwuma Ekwueme		Benson Shing	
Ece Erdogmus	X	Kurt Siggard	X
James Farny	X	Heather Sustersic	X
Ed Freyermuth	X	John Tawresey	X
Tom Gangel		Jason Thompson	X
Charles Haynes	X	Brian Trimble	X
John Hochwalt	X	Charles Tucker	X
Ed Huston	X	Scott Walkowicz	X
Keith Itzler		Rachel Will	
Matthew Jackson	X	David Woodham	
Lane Jobe		John Zarzecki	

Voting Members Present – 29; Voting Members Not Present – 17

Non-Voting Committee Member Attendance

Non-Voting Committee Member Attendance	Present	Non-Voting Committee Member Attendance	Present
Farhad Ahmadi		Kyle Lochonic	
Eric Alford		Paulo Lourenco	
Craig Baltimore		Brad Maurer	
Steve Borman		Don McMican	
Polihronis Bourdaniotis		Mike Merrigan	
Russ Brown		Michael Miller	
Paul Byrd		Greg Mowat	
Jerry Carrier		Monika Nain	X
Robert Chamra		Jason O'Dell	
Marcos Corradi		Steven O'Hara	
Carlos Cruz-Noguez		Guilherme Parsekian	
Paul Curtis		Gary Pasquarell	
Leroy Danforth		Russ Peterson	X
Jeremy Douglas		Tom Petreshock	
Anindya Dutta		Donato Pompo	
Wael El-Dakhkhni		Gary Porter	
Matthew Farmer		Laura Redmond	
Cortney Fried		Mike Ripley	
Edward Gerns		Brian Roye	
Stephen Getz		Sam Rubenzer	
Asok Ghosh		Luke Scoggins	
Diane Gould		Paul Scott	
Bill Griese		Jay Snyder	
Matthew Hamann		David Sommer	X
Trey Hamilton		Andreas Stavridis	
Ron Hunsicker		Tina Subasic	
Keith Itzler			
Cathleen Jacinto		Jennifer Tanner	
Gaur Johnson		Bret Terry	
Steven Judd		Adrienn Tomor	
Anton Kava		Gustavo Tumnialan	
Walter Laska		Dan Zechmeister	
Philippe Ledent			

TMS Representatives Attendance

Phil Samblanet – Staff
 Noah Buchanan – Staff

Visitors Present

Mikaela Insall	Adam Hutchinson	Kenny Reid
Canan DaVela	Angelo Coduto	Roderick Skinner
Tom Elliot	Dylan Field	

Second Session – October 16, 2021

1. Call to Order

The meeting was called to order at 8:00 a.m. central time by Chair Chrysler. There were 29 of 46 Main Committee voting members present at this session. Self-introductions were made.

2. Subcommittee Ballot Items with Negative Votes

See the attachments which were projected during the meeting for discussion of items brought to Main Committee for action.

The Chair discussed the ½ and rule for Main Committee voting which requires at least 23 affirmative votes for approval of an item brought to the Committee during the Main meetings. The Chair may take straw polls prior to Main Committee voting to determine if specific items brought to the Committee for action would be better addressed through the letter ballot process to put the item before the full Main Committee.

2.1 Construction Requirements – Merk

Ballot Item 19-CR-003: Subcommittee recommendation to find Clark's negative persuasive (Subcommittee vote: 8-0-0).

Discussion: McMillian asked if the subcommittee discussed how to address the Public Comment. At present, the subcommittee does not have data to support changing the minimum grout temperature. The subcommittee cannot find the data originally used to set the temperature in the current version. If the historic data cannot be found, the subcommittee will need to address this issue in the next cycle. McMillian asked if the subcommittee felt it was appropriate to set acceptable minimum mixing temperature the same as the minimum placing temperature. The subcommittee recognized that there is a 50 degree range on the grout temperature which provides a sufficient range to move grout from the mixer to point of placement within the temperature requirements.

The subcommittee will attempt to address this issue through another Main Committee ballot.

Main Committee Vote: 27-1-0. Motion passes.

Ballot Item 19-CR-004: Subcommittee recommendation to find McMillian's negative non-persuasive (Subcommittee vote: 9-0-0).

Discussion: Huston the 7'-4" height is more than the previous UBC 6'-0" limit which was in place through approximately 1997. Maybe the subcommittee should consider a 6'-0" limit during the next cycle.

Merk believes a demonstration panel could be used to address the condition in the comment. Chrysler believes heavily reinforced is different today as compared to the time when the UBC limits were in place. McMillian hoped that some wiggle room could be found for some specific conditions where there may be only one or two courses remaining to be grouted.

The subcommittee chair indicated that it did consider McMillian's negative vote comment.

The Chair directed that this item be put before the Committee via letter ballot on Main Ballot 20.

Ballot Item 19-CR-005: Subcommittee recommendation to find McMillian's negative non-persuasive (Subcommittee vote: 9-0-0).

Discussion: The subcommittee feels the existing language is adequate. McMillian indicated that Table 4 Level 2 and 3 requires the special inspector to be part of the sample panel inspection process. It refers to 1.6.D which primarily addresses aesthetics. McMillian believes that the subcommittee response to the Public Comment would make a good ballot item for addition as commentary or he suggests the subcommittee better explain the requirement for special inspectors review of sample panels.

The Chair directed that this item be put before the Committee via letter ballot on Main Ballot 20.

Ballot Item 19-CR-007: Subcommittee recommendation to find Thompson's negative persuasive (Subcommittee vote: 9-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-CR-009: Subcommittee recommendation to find Trimble's negative persuasive (Subcommittee vote: 9-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

2.2 General Requirements – Clark

Ballot Item 19-GR-126: Subcommittee recommendation to find Bennett's negative persuasive (Subcommittee vote: 6-0-0).

Discussion: There was no discussion.

Main Committee Vote: 27-0-0. Motion passes.

Ballot Item 19-GR-217: Subcommittee recommendation to find Thompson's negative persuasive (Subcommittee vote: 5-0-0).

Discussion: If Thompson is found persuasive, the subcommittee will submit a ballot item to add commentary only on this item.

Main Committee Vote: 28-0-0. Motion passes.

2.3 Prestress – Schultz

Ballot Item 19-PR-001: Subcommittee recommendation to find Hochwalt's negative persuasive (Subcommittee vote: 9-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

2.4 Seismic and Limit Design – Hochwalt

Ballot Item 19-SL-001: Subcommittee recommendation to find Pierson's negative persuasive (Subcommittee vote: 10-0-1).

Discussion: The ballot item contained confusing language as when columns could be used as part of the lateral force resisting system. If designing for an elastic response, the designer can use columns. Pierson stated that other codes do not use "R" in the same way as IBC and ASCE 7. When the 402/602 document refers to "R" it becomes muddied as to the true meaning. Hochwalt believes that the ballot item was a step forward to add clarity to the code.

Main Committee Vote: 24-1-3. Motion passes.

Ballot Item 19-SL-003: Subcommittee recommendation to find Thompson's negative non-persuasive (Subcommittee vote: 9-0-2).

Discussion: Thompson interprets that when design required reinforcing is less than the prescriptive requirement, the designer would add reinforcing to meet the prescriptive requirement. However, the ballot item requirement does not stipulate the span to define the location of placement of the steel.

The Chair directed that this item be put before the Committee via letter ballot on Main Ballot 20.

Ballot Item 19-SL-004: Subcommittee recommendation to find Pierson's negative persuasive (Subcommittee vote: 10-0-1).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-SL-005: Walkowicz withdrew his negative vote.

2.5 Structural Members – Erdogmus

Ballot Item 19-SM-PC18&19: Thompson withdrew his negative vote at the subcommittee meeting on 10/15/21. The subcommittee will prepare an additional ballot item on this topic.

2.6 Veneer– Trimble

Ballot Item 19-VG-064-195: Subcommittee recommendation to find Itzler’s negative non-persuasive (Subcommittee vote: 13-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-VG-068: Subcommittee recommendation to find Itzler’s negative non-persuasive (Subcommittee vote: 13-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-VG-099: Walkowicz withdrew his negative vote at the subcommittee meeting on 10/15/2021.

Ballot Item 19-VG-113-215: Subcommittee recommendation to find Itzler’s negative non-persuasive (Subcommittee vote: 13-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-VG-117: Subcommittee recommendation to find Thompson’s negative persuasive (Subcommittee vote: 13-0-0).

Discussion: Thompson would like the subcommittee to make some headway on installation practice and feels that ASTM C1780 is a good start even though it is limited to manufactured stone. ASTM has not made progress on other materials to date.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-VG-209: Subcommittee recommendation to find Sustersic’s negative persuasive (Subcommittee vote: 13-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-VG-210-212: Subcommittee recommendation to find Biggs’s negative persuasive (Subcommittee vote: 13-0-0).

Discussion: There was no discussion.

Main Committee Vote: 28-0-0. Motion passes.

Ballot Item 19-VG-214: Subcommittee recommendation to find Biggs’s negative non-persuasive (Subcommittee vote: 13-0-0).

Discussion: There was no discussion.

Main Committee Vote: 29-0-0. Motion passes.

Ballot Item 19-VG-151: Received no negatives but did receive comments relative to the length of wire in the veneer wythe for other than “Z” ties. The subcommittee will consider the comments received and will issue another ballot item on this topic.

2.7 Main Items for Letter Ballot:

For Ballot Items 19-CR-003, 19-CR-004, and 19-SL-003, the Chair will work with the subcommittee chairs to describe why the subcommittee motion was made and will also give the negative voters an opportunity to respond as part of the letter ballot items.

3. Subcommittee Reports

3.1 Construction Requirements – Merk

The subcommittee had 8 of 9 voting members present, 10 guests, and 1 corresponding member. PC #44 may go to General Requirements subcommittee and the Veneer subcommittee will address PC 155.

3.2 Design – McGinley

The subcommittee had 12 voting members present and a number of guests. The subcommittee had no negative votes to address. The subcommittee has five more Public Comments to address and another that was transferred from another subcommittee. The subcommittee will address these on the Main 20 ballot.

3.3 Empirical – Thompson

There were no Public Comments received for the subcommittee and the subcommittee will remain active per the Chair.

3.4 Form & Style – Farny

The subcommittee has approximately 27 comments to address. Several comments were received related to cleaning up references to “design professional”.

The subcommittee requested an editorial ballot to address the cursive font for “ℓ” in Section 5.2.1.6.1 change “1”/600 to cursive “ℓ”/600 in two places.

3.5 General Requirements – Clark

The subcommittee had 6 of 8 voting members, 1 corresponding member, and 7 guests in attendance. The subcommittee received 25 Public Comments of which 11 were addressed

on Main Ballot 19. The subcommittee has 13 Public Comment items to address in addition to 1 received from Construction Requirements and 1 transferred to Veneer. The subcommittee will address the remaining Public Comment items on Main Ballot 20.

3.6 Prestress – Schultz

The subcommittee had 3 of 9 voting members and 1 corresponding member in attendance. The subcommittee did not perform any voting on items before the subcommittee. The subcommittee did discuss Public Comments remaining for the subcommittee to address. The subcommittee will address these in Main Ballot 20.

3.7 Reinforcement & Connectors – Sustersic

The subcommittee had 8 of 15 voting members, 1 corresponding member, and 7 guests in attendance. Seventeen of the 25 subcommittee ballot items passed at Main Ballot 19. Two comments were received and discussed. An additional ballot will be prepared to better address Public Comment 37. The remainder of the Public Comments will be addressed on Main Ballot 20. The subcommittee also discussed preview topics for the next code cycle.

3.8 Seismic and Limit Design – Hochwalt

The subcommittee had 11 of 20 voting members and 5 guests in attendance. The subcommittee had 28 Public Comment items of which 16 have been resolved and the remainder will be submitted for Main Ballot 20.

3.9 Structural Members – Erdogmus

The subcommittee had 3 voting members, 2 corresponding members, and 3 guests in attendance. Russ Peterson agreed to be the subcommittee secretary. The subcommittee had 22 Public Comments to address. The subcommittee discussed negatives received and other Public Comments and will have at least 14 ballot items for Main Ballot 20.

3.10 Veneer – Trimble

The subcommittee had 13 voting members in attendance. The subcommittee has 69 Public Comments to address. The subcommittee discussed negative received on Main Ballot 19 and discussed action on the remaining Public Comments assigned to the subcommittee.

3.11 Partitions & Infills – Tucker

The subcommittee had 2 of 6 voting members in attendance. The subcommittee had one Public Comment to address relative to small openings and will submit a response on Main Ballot 20.

3.12 Executive - Chrysler

The executive subcommittee had nothing to report.

4. Balloting

There are two remaining Main Committee ballots in this cycle. Both remaining ballots will be closed before the April 2022 Committee meeting.

Main Ballot 20, Dec 18, 2021 – Jan 16, 2022 (Items Due Dec 10)

Main Ballot 21, Feb 19, 2022 – Mar 20, 2022 (Items Due Feb 11)

Main Committee Ballot Items with Unresolved Negatives: Main Committee ballot items 06-RC-015 and 15B-RC-044 have unresolved negative votes. The Chair asked for a motion from the Main Committee to withdraw the ballot items as they could cause issues with the finalization of the TMS 402/602 document. A motion to withdraw these two ballot items was made by Trimble with second by Thompson.

Main Committee Vote: 29-0-0. Motion passed.

5. Old Business

There was no outstanding old business.

6. New Business

There was no new business brought before the Committee.

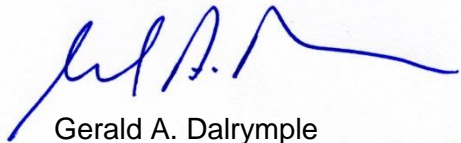
7. Future Meetings

April 7-9, 2022 in Dallas, Texas.

8. Adjournment

The meeting was adjourned by the Chair at 9:45 a.m. central time.

Respectfully submitted,



Gerald A. Dalrymple
TMS 402/602 Main Committee Secretary

Attachments:

Main Committee Agenda October 16, 2021 and attachments
Subcommittee Reports presented at Main Committee



TMS Antitrust Statement

The antitrust laws are the rules under which the United States competitive economic system operates. Their primary purpose is to preserve and promote free competition. It is The Masonry Society's policy to strictly comply in all respects with the antitrust laws.

Society meetings, association events and workshops by their very nature bring competitors together. Accordingly, it is absolutely necessary to avoid discussions of legally sensitive topics and especially important to avoid recommendations with respect to these sensitive subjects. Agreements to fix prices, allocate markets or customers, engage in product boycotts and to refuse to deal with third parties are automatically or per se illegal under the antitrust laws. It doesn't matter what the reason for the agreement.

Accordingly, at any Society meeting, discussions of prices, including elements of prices such as allowances and credit terms, quality ratings of suppliers, and discussions which may cause a competitor to cease purchasing from a particular supplier, or selling to a particular customer, must be avoided. Also, there may not be any discussion that might be interpreted as a dividing up of territories or customers.

An antitrust violation does not require proof of a formal agreement. A discussion of a sensitive topic, such as prices, followed by parallel action by those involved in or present at the discussion is enough to show a price fixing conspiracy. As a result, those attending Society-sponsored meetings must remember the importance of avoiding not only unlawful activities, but even the appearance of unlawful activity.

As a practical matter, violations of these rules can have serious consequences for a company and its employees. The Sherman Antitrust Act is both a civil and criminal statute. Violations are felonies punishable by penalties of up to \$10 million for corporations and by imprisonment of up to three years or penalties of up to \$100,000, or both, for individuals. The Justice Department, state attorney general, and any person or company injured by a violation of the antitrust laws may bring civil actions for three times the amount of the damages, plus attorneys' fees and injunctive relief.

Antitrust investigations and litigation are lengthy, complex, disruptive and expensive. Therefore, all companies and their employees must not only comply with the antitrust laws in fact but must conduct themselves in a manner that avoids even the slightest suspicion that the law is being violated. Associations, because they bring competitors together, are natural targets, along with members alleged to have participated with or through the association.

The following is a list of topics that must never be the subject of any type of agreement among competitors, whether explicit or implicit, formal or informal. Such topics should NEVER be discussed at TMS meetings. This list is not exhaustive of prohibited topics or subjects. Please consult legal counsel in the event of any confusion or question over whether a topic is permissible or appropriate for discussion among Society members:

- a. Prices to be charged to clients, customers or by suppliers;
- b. Specific methods by which prices are determined, with directions as to "how to do it" or even less;
- c. Division or allocation of markets or customers;
- d. Coordination of bids or requests for bids;
- e. Terms and conditions of sales, including credit or discount terms;
- f. Terms for distribution of products;
- g. Targets for production of products or the level of production;
- h. Specific profit levels;
- i. Exchange of price information as to specific customers;
- j. A boycott of or a refusal to deal with a customer or supplier;
- k. Compilation of "approved" lists of customers or suppliers.
- l. "Profit" levels...i.e., "here's what our members need to do to make money."
- m. Whether a company's pricing practices are "unethical," "improper," etc.
- n. Coordination of "bids" or "requests for bids" or requests for proposals ("RFPs").
- o. Standards or codes to eliminate competition.

When in doubt about discussing any topic, consult with your own legal counsel, or with the Society's legal counsel, to be sure you are on safe antitrust ground. When unsure, play it safe and avoid the topic.

Conflict of Interest Considerations:

- placing (or the appearance of placing) one's own self-interest or any third-party interest above that of the Society; while the receipt of incidental personal or third-party benefit may necessarily flow from certain Society

activities, such benefit must be merely incidental to the primary benefit to the Society and its purposes;

- abusing their Board membership by improperly using their Board membership or the Society's staff, services, equipment, resources, or property for their personal or third-party gain or pleasure, or representing to third parties that their authority as a Board member extends any further than that which it actually extends;
- engaging in any outside business, professional or other activities that would directly or indirectly materially adversely affect the Society;
- engaging in or facilitate any discriminatory or harassing behavior directed toward Society staff, members, officers, directors, meeting attendees, exhibitors, advertisers, sponsors, suppliers, contractors, or others in the context of activities relating to the Society;
- soliciting or accepting gifts, gratuities, free trips, honoraria, personal property, or any other item of value from any person or entity as a direct or indirect inducement to provide special treatment to such donor with respect to matters pertaining to the Society without fully disclosing such items to the Board of Directors; and
- providing goods or services to the Society as a paid vendor to the Society only after full disclosure to, and advance approval by, the Board, and pursuant to any related procedures adopted by the Board.



TMS 402/602 COMMITTEE

www.MASONRYCODE.ORG

MAIN COMMITTEE

CHAIR
JOHN CHRYSLER

VICE-CHAIR
DAVE PIERSON

2ND VICE-CHAIR
DICK BENNETT

SECRETARY
ANDY DALRYMPLE

TMS 402/602 CHAIR
JOHN CHRYSLER
MASONRY INSTITUTE OF AMERICA
1315 STORM PARKWAY
TORRANCE, CA 90501
(310) 257-9000
JC@MASONRY.PRO

TMS 402/602 VICE CHAIR
DAVID L. PIERSON
ARW ENGINEERS
1594 W. PARK CIRCLE
OGDEN, UT 84404
(801) 782-6008
DAVEP@ARWENGINEERS.COM

TMS 402/602 2ND VICE CHAIR
RICHARD M. BENNETT
UNIVERSITY OF TENNESSEE
103 ESTABROOK HALL
KNOXVILLE, TN 37996
(865) 974-7540
RMBENNETT@UTK.EDU

TMS 402/602 SECRETARY
GERALD A. DALRYMPLE
WDP & ASSOCIATES, P.C.
10621 GATEWAY BLVD #200
MANASSAS, VA 20110
(703) 257-9280
MSJC@WDP.A.COM

STAFF CONTACT, TMS PHILLIP J. SAMBLANET, (303) 939-9700, EMAIL: PSAMBLANET@MASONRYSOCIETY.ORG

SUBCOMMITTEES

CONSTRUCTION REQUIREMENTS
JONATHON MERK

DESIGN
MARK MCGINLEY

FORM & STYLE
JAMES FARNY

EMPIRICAL
JASON THOMPSON

GENERAL REQUIREMENTS
CHIP CLARK

PARTITION & INFILLS
CHARLES TUCKER

PRESTRESSED MASONRY
ARTURO SCHULTZ

REINFORCEMENT & CONNECTORS
HEATHER SUSTERSIC

SEISMIC & LIMIT DESIGN
JOHN HOCHWALT

STRUCTURAL MEMBERS
ECE ERDOGMUS

VENEER & GLASS BLOCK
BRIAN TRIMBLE

(2022) TMS 402/602 Main Committee Agenda

Saturday, October 16, 2021, 8:00AM – Noon

Millennium Maxwell House Hotel

Grand Ballroom East

Nashville, TN

1. Call to Order
 - 1.1 Welcome
2. Business Items
 - 2.1 Antitrust Statement (*Attached*)
 - 2.2 Attendance Roster
 - 2.3 Approval of Agenda
3. 3.1 Approval of Virtual Minutes, April 23, 2021, distributed September 8, 2021.
4. Calendar
 - 4.1 2022 Cycle Calendar Posted on Website
 - 4.1.1 Calendar subject to revision
5. Reports
 - 5.1 Membership Report (*A Dalrymple*)
 - 5.1.1 Committee Balance
 - 5.2 Staff Report (*P Samblanet*)
 - 5.2.1 Awards
 - 5.2.2 Working Draft – Target for November 15, 2021
 - 5.3 TMS 402 TAC Liaison Report (*S Walkowicz*)
6. Ballot 19 Addressing Public Comments – All Items Passed
 - 6.1 57 of 78 Items Passed Without Negative Votes—13 of the 57 had comments
 - 6.2 Ballot Items with Negative Votes
 - 6.2.1 Construction Requirements
 - 6.2.1.1 – 19-CR-003 (PC 031)
 - 6.2.1.2 – 19-CR-004 (PC 032)
 - 6.2.1.3 – 19-CR-005 (PC 033)
 - 6.2.1.4 – 19-CR-007 (PC 109)
 - 6.2.1.5 – 19-CR-009 (PC 182)
 - 6.2.2 General Requirements
 - 6.2.2.1 – 19-GR-126 (PC 126)
 - 6.2.2.2 – 19-GR-217 (PC 217)
 - 6.2.3 Prestress
 - 6.2.3.1 – 19-PR-001 (PC 030)

6.2.4 Seismic and Limit

6.2.4.1 – 19-SL-001 (PC 013)

6.2.4.2 – 19-SL-003 (PC 087)

6.2.4.3 – 19-SL-004 (PC 090)

6.2.4.4 – 19-SL-005 (PC 093)

6.2.5 Structural Members

6.2.5.1 – 19-SM-PC#18-19 (PC 18 & 19)

6.2.6 Veneer & Glass Unit

6.2.6.1 – 19-VG-064-195 (PC 064 & 195)

6.2.6.2 – 19-VG-068 (PC 068)

6.2.6.3 – 19-VG-099 (PC 099)

6.2.6.4 – 19-VG-113-215 (PC 113 & 215)

6.2.6.5 – 19-VG-117 (PC 117)

6.2.6.6 – 19-VG-209 (PC 209)

6.2.6.7 – 19-VG-210-212 (PC 210 & 212)

7. Subcommittee Reports

7.1 CR Construction Requirements – *J Merk*

7.2 DE Design – *M McGinley*

7.3 EM Empirical – *J Thompson*

7.4 FS Form & Style – *J Farny*

7.5 GR General Requirements – *C Clark*

7.6 PR Prestress – *A Schultz*

7.7 RC Reinforcement and Connectors – *H Sustersic*

7.8 SL Seismic and Limit Design – *J Hochwalt*

7.9 SM Structural Members – *E Erdogmus*

7.10 VG Veneer and Glass Masonry – *B Trimble*

7.11 EX Executive Committee – *J Chrysler*

8. Balloting

8.1 Ballot 20, Dec 18, 2021 – Jan 16, 2022 (Items Due Dec 10)

8.2 Ballot 21, Feb 19, 2022 – Mar 20, 2022 (Items Due Feb 11)

8.3 Ballot Items Prior to Ballot 19 With Unresolved Negative Votes

8.3.1 – Ballot Item 06-RC-015

8.3.2 – Ballot Item 15B-RC-044

9. New Business

9.1 Membership Changes

9.2 Chair for Next Cycle

9.3 Finishing 2022 Cycle after Dallas Meeting-Dates Subject to Change

<u>Complete Responses to Public Comments</u>	<u>April 15, 2022</u>
<u>TAC Review of Public Comment Responses</u>	<u>April 15, 2022 – May 26, 2022</u>
<u>Final Draft for Subcommittee Review</u>	<u>May, 2022</u>
<u>If TAC Accepts responses, post/email Closure</u>	<u>June 1, 2022</u>
<u>Board Acceptance of 2022 TMS 402/602</u>	<u>June 2 – July 2, 2022</u>
<u>Approval by TMS</u>	<u>September 15, 2022</u>
<u>Publish</u>	<u>October 1, 2022 August 2022</u>
<u>Submit to ICC</u>	<u>October 2022 Hearings</u>

10. Future Meetings

10.1 April 7-9, 2022 Dallas

11. Adjournment

Andy Dalrymple

From: Jon Merk <jon@forrestassociate.com>
Sent: Friday, October 15, 2021 5:54 PM
To: Andy Dalrymple; Phil Samblanet; John Chrysler
Subject: RE: Items to present at main tomorrow
Attachments: TMS 402-602 Main Ballot #19 item #003.docx; TMS 402-602 Main Ballot #19 item #004.docx; TMS 402-602 Main Ballot #19 item #005.docx; TMS 402-602 Main Ballot #19 item #007.docx; TMS 402-602 Main Ballot #19 item #009.docx

Gentlemen –

Here are the original ballot items that received negative responses in Main Ballot #19 which may be of use tomorrow. CR found responses to items 3 (Clark response), 7, and 9 persuasive and the responses to 4 and 5 non-persuasive and will be asking Main to uphold our findings. Please let me know whether you need the verbiage from the negative responses to each item or if you already have that ready.

Thanks.

Jon Merk
Forrest & Associate, Inc.
(P) 515-283-0497
(F) 515-283-0514



From: Andy Dalrymple <ADalrymple@wdpa.com>
Sent: Friday, October 15, 2021 12:30 PM
To: Charles J. Tucker (ctucker@fhu.edu) <ctucker@fhu.edu>; Brian E. Trimble (btrimble@imiweb.org) <btrimble@imiweb.org>; Jason Thompson (jthompson@ncma.org) <jthompson@ncma.org>; Heather A. Sustersic (hsustersic@colbycoengineering.com) <hsustersic@colbycoengineering.com>; Arturo E. Schultz (arturo.schultz@utsa.edu) <arturo.schultz@utsa.edu>; William M. McGinley (m.mcginley@louisville.edu) <m.mcginley@louisville.edu>; Jon Merk <jon@forrestassociate.com>; John Hochwalt (johnh@kpff.com) <johnh@kpff.com>; James A. Farny (jfarny@cement.org) <jfarny@cement.org>; Charles B. Clark, Jr. (cclark@bia.org) <cclark@bia.org>
Cc: psamblanet@masonryinstitute.org; John Chrysler <jc@masonryinstitute.org>
Subject: Items to present at main tomorrow

Subcommittee Chairs:

Please forward any items to be presented at main to Phil, John and me.

Thanks

Andy Dalrymple, P.E. | Principal

WDP & Associates | Consulting Engineers

email: Adalrymple@wdpa.com

direct : 571.292.9818 | main : 703.257.9280 | cell : 703.395.7748

10621 Gateway Boulevard, Suite 200 | Manassas, VA 20110

www.wdpa.com

Received Negative Votes on Two (2) Ballot Items on Main Ballot 19

1. Ballot Item 19-GR-126

(Page 38, Line 25)

Public Comment: Need an additional definition: “Dimension, actual – the measured dimension.”

Committee agrees with Public Comment, change is proposed

Response/Rationale: The committee agrees with this comment, and a new definition is to be added.

Proposed Changes:

CODE:

2.2 — Definitions

Dimension, actual – the measured dimension of a unit, joint, or member.

CODE COMMENTARY:

2.2 — Definitions

Dimension, actual — Actual dimensions are the measurements of the masonry unit as manufactured. The actual dimensions will usually be within the permitted tolerances of the specified dimensions.

Vote on 19-GR-126 on Main Ballot 19:

1) Negative by Bennett: “My search of TMS 402 did not find any use of “actual dimension” so it does not need to be defined. A definition may also create some unintended consequences of places where “actual” is used. In most places, “actual” should be changed, which would be good new business next cycle if we remember.” [examples provided by voter]

2) Comment by Walkowicz: “It seems that the Commentary should note that the units should be within the permitted tolerances for performance to be consistent with the code-based designs, not just 'usually' within....”

GR Subcommittee Discussion: Agree that no definition of “dimensions, actual” is needed as the term is not in TMS 402. Recommend finding Bennett’s negative persuasive which results in no modification to the Code or Code Commentary. Also addresses Walkowicz comment because proposed Code Commentary will not be incorporated. This would result in changing response to Public Comment to

As new business in next cycle, remove references to “actual” as noted in examples provided by negative voter.

GR Subcommittee MOTION: by Erdogmus, second by Trimble, to find Bennett’s negative persuasive. Passed: 6-0-0 (Unanimous of all Subcommittee members in attendance)

2. Ballot Item 19-GR-217

(Page 21, Line 25)

Public Comment: Sub-Section (h) is very important and also seems to be one of the most vague and misunderstood sections of code. Sometimes architects take responsibility for all movement provisions, sometimes engineers do so for engineered masonry elements, sometimes neither one does or neither does it very well. At a minimum, it seems that the sub-section could be modified to say 'Provision, including vertical and/or horizontal movement joints and other detailing as necessary, for dimensional changes...'. It is my opinion that the movement joints should be located in the drawings, either in plan or elevation view, and they should be detailed for proper performance including dimensions and materials. Or, at a minimum add Commentary to clarify what 'Provision' may actually entail in the drawings.

Also, it would be good to add Commentary non-engineered veneer and non/engineered masonry movement provisions should be included in the architectural but may require input from the engineer in the case of horizontal joints below relief angles; and that joints in any engineered masonry (in my opinion, anything that's not veneer and has a prescriptive or engineered basis of design) should be developed and shown by the engineer. And that engineered veneers should have provisions developed and shown by the design engineer.

Committee agrees comment has merit, but proposed changes are not completely consistent with Public Comment

Response/Rationale: The committee agrees with modifying the sub-section of the code. However, the committee disagrees with adding commentary regarding assigning responsibilities for movement joint design and placement because the code has not historically assigned such responsibilities. These responsibilities vary on a project-to-project basis.

Changes proposed:

CODE: (Change proposed as follows.)

1.2.1 Show or indicate all information required by TMS 402 on the project drawings or in the project specifications, including:

(h) Provision, including vertical and/or horizontal movement joints and other detailing as necessary, for dimensional changes resulting from elastic deformation, creep, shrinkage, temperature, and moisture.

COMMENTARY: (No changes proposed. Shown for voter convenience.)

1.2.1 (h) Control joints, expansion joints, and other movement joints are the primary means of accommodating dimensional changes and differential movement. Joint placement can influence structural design and performance in many ways, including, but not limited to, shear wall length, flange behavior at corners and/or intersecting walls, and potential interference with lintel bearing. Therefore, it is recommended that the drawings accurately reflect design assumptions so that the masonry and movement joints can be constructed and placed as intended. Graphic depictions of movement joints may provide greater clarity than notes.

.....

Vote on 19-GR-217 on Main Ballot 19:

1) Negative by Thompson: "The language proposed is commentary that cites examples. I'm fine with adding a similar discussion to the commentary, but not as code language."

Report to Main Committee

General Requirements Subcommittee meeting of October 15, 2021

2) and 3) Comments: Two comments requesting confirmation of the location of the proposed change.

GR Discussion: Agree that the text proposed to be added to the code cite examples of a means to comply with this requirement and should be in the commentary instead of the code. Agree that more explicit text could be added to the commentary to recommend that movement joints be included in the drawings. Propose to find negative persuasive. GR Subcommittee then proposes to work on another ballot item to add text to the commentary to indicate that movement joints are recommended to be included on the project drawings.

MOTION: By Haynes, second by Trimble, to find Thompson's negative vote persuasive.

Passed: 5-0-0 (Unanimous of those present in the meeting when the vote was taken.)

.....

Prestressed Subcommittee Report to TMS Committee 402

Nashville, TN

Saturday, October 16, 2021

- 1) The Prestressed Subcommittee met yesterday, Friday October 15, 2021, from 2:45 to 4:30 PM. Three of the nine (3/9) voting members were present at the meeting, as well as one (1) associate member. The Subcommittee went through all items in the agenda.
- 2) The first item that was discussed was item PR-001 in Main Ballot 19. This ballot was in response to Public Comment 30 from John Hochwalt which stated:

The first sentence of Section 10.1.5 states "Masonry beams and lintels shall have a uniform width and be fully grouted or solid, and reinforced to distribute anchorage forces." It does not appear that the code addresses how the designer should determine what reinforcing is required for the distribution of anchorage forces. Since this anchorage reinforcement is a code requirement, the code should include provisions for this reinforcement.

Ballot item 19-PR-001 passed, but it received one negative vote from John Hochwalt which includes several elements that the PR Subcommittee found to be persuasive. Thus, the Subcommittee asks that TMS 402 Main Committee find John Hochwalt's negative vote on 19-PR-001 persuasive. If it passes, the Subcommittee will revise the ballot and resubmit it for Main Ballot 20.

- 3) The PR Subcommittee also discussed Public Comments 179, 180, 181, 187, 188, 189 and 191. The Subcommittee agreed on plans to address all 7 items, and will ballot responses within the Subcommittee. Some of the responses will likely generate ballot items for TMS 402 Main Ballot 20.
- 4) The Subcommittee briefly discussed a list of new and continuing items that should be considered in the next code cycle.

Andy Dalrymple

From: John Hochwalt <John.Hochwalt@kpff.com>
Sent: Saturday, October 16, 2021 12:26 AM
To: John Chrysler
Cc: Andy Dalrymple; Patrick Dillon
Subject: RE: TMS 402 - SL subcommittee report

Updated to reflect Walkowicz withdrawal.

John M. Hochwalt, PE, SE He / Him / His
Director of Engineering | KPFF Seattle Structural

[KPFF Consulting Engineers](#)

1601 Fifth Avenue, Suite 1600
Seattle, WA 98101

O 206.622.5822
D 206.926.0444
M 206.200.2848

From: John Hochwalt
Sent: Friday, October 15, 2021 6:11 PM
To: John Chrysler <jc@masonryinstitute.org>
Cc: Andy Dalrymple <ADalrymple@wdpa.com>; Patrick Dillon (pdillon@wdpa.com) <pdillon@wdpa.com>
Subject: TMS 402 - SL subcommittee report

John,

If you want this in some other format, let me know.

The seismic subcommittee met from 12:46 to 02:28 Friday afternoon. 11 of 20 voting members were present. No corresponding members were present, but 5 guests were present.

Of the 28 public comments assigned to SL, 16 have been resolved and another 4 have ballots that have been approved by the subcommittee for submission to main.

The following recommendations are being made to the Main committee relative to the outstanding negative votes:

- PC13 / 19-SL-01 SDC C+ Relative stiffness
 - By a vote of 10 affirmative and one negative , the subcommittee voted to find Pierson's negative vote persuasive.
 - <Note to John Chrysler, I was the negative vote at subcommittee and will vote negative at main. I expect that I will be the only negative vote.>
- PC 87 / 19-SL-03 SDC C+ Prescriptive reinforcement orientation
 - By a vote of 9 affirmative and two abstentions, the subcommittee voted to find Thompson's negative vote non-persuasive. The subcommittee agreed with the public commenter that reinforcing provided perpendicular to the direction of span will not enhance the integrity of the wall, which is the expressed intent of the prescriptive reinforcement.

- The affirmative with comment votes were considered. If the subcommittee’s recommendation for the resolution of the negative is upheld, a ballot address Bennett’s comment will be drafted. It is recommended that Pierson’s comment be considered by the committee next cycle.
- (Note the John Chrysler, the abstentions were Dillon and Thompson. Probably warrants a straw poll before voting. I assume if we don’t have the votes, we will table this until Dallas, unless we can have a letter ballot on this prior to then. I don’t see this as one that we can work out an alternate solution to resolve the negative.)
- PC 90 / 19-SL-04 Special shear wall “shear reinforcement.”
 - By a vote of 10 affirmative and one abstention, the subcommittee voted to Pierson’s negative vote persuasive, specifically relative to a potential issue that could arise when shear reinforcement is oriented vertically.
 - <Note to John Chrysler, I don’t recall who abstained or why I understand that they abstained. This doesn’t feel controversial.>
- PC 93 / 19-SL-05 Special wall redundant 1/3 provision
 - **Walkowicz negative vote has been withdrawn.**

We spent the remainder of our time discussing two of the remaining public comments.



John M. Hochwalt, PE, SE He / Him / His
Director of Engineering | KPFF Seattle Structural
O 206.622.5822 D 206.926.0#### M 206.200.2848
1601 Fifth Avenue, Suite 1600
Seattle, WA 98101

SM Subcommittee Report- 10-16-21

Ece Erdogmus

- 3 voting members, 2 corresponding members
- Russ Peterson took on the position of secretary
- 19-SM-PC18&19—Span length: 1 negative and 3 positive with comments. Jason Thompson withdrew the negative. We will have a new ballot that addresses the comments.
- Discussed 8 public comment responses. We will ballot within subcommittee
- Together with the above 8, we are planning to have around 14 ballots in Main 20.

Items for Main Committee

- Main Ballot 19
- **Covers the following Public Comments:**
 - 38, 43, 61, 64/195, 68, 72, 92, 99, 100, 113/215, 117, 150, 151, 161, 162, 164, 172, 177, 192, 204, 208, 209, 210/212, 214, 216
- 43 Ballots Returned (Valid Ballot)
 - Items with Negatives (7): 64/195, 68, 113/215, 117, 209, 210/212, 214 (Neg on 99 withdrawn)
 - Item with Comments (6): 61, 150, 151, 192, 208, 210/212

Main 19 Ballot, Item 64/195

Public comment:

Comment 64 – I am suggesting several changes to Article 3.4 E.

1. Commentary number 2. is commentary on item 1 in the spec. Change the number from 2 to 1.
2. If the specifications require adjustable ties, I am not sure how the contractor would meet item 2. I would suggest "install adjustable veneer ties such that the vertical offset between the two pieces does not exceed 1-1/4 in. (31.8 mm)."
3. There was confusion over how "Unless otherwise required" should be interpreted in item 4. Does "unless otherwise required" allow the spacing to be increased? However, a bigger issue is that the 16 inch x 16 inch spacing is not always sufficient. For wind pressures greater than 75 psf, this may not be sufficient spacing. The best solution is to just delete part 4. The Architect/Engineer specifies the spacing, that is put in the project documents, and we are done. We don't have defaults for other designs, such as reinforcement in beams or walls. Just delete part 4. *[Page 382, Line 3-20]*

Comment 195 – It appears there are no requirements for the minimum embedment of the ties into the veneer. Perhaps 1-1/2" minimum embedment should be required similar to the requirement for wall ties in 3.4 C.1. Requirements for the embedment of unit wire ties into masonry backing should be addressed. Perhaps 1-1/2" minimum embedment should be required similar to the requirement for wall ties in 3.4 C.1. *[Page 382, Line 2-37]*

*3.4 E.1.b and 3.4 E.8: Replace "anchors" with "ties."

Main 19 Ballot, Item 64/195

• Balloted Changes:

~~3.4 E.~~ 3.4 D. Veneer ties

1. Place corrugated sheet-metal anchors, sheet-metal unit wire and adjustable ties as follows:
 - a. With solid units, embed veneer ties in mortar joint and extend into the ~~veneer masonry wythe~~ a minimum of 1½ in. (38.1 mm), with at least 5/8 in. (15.9 mm) mortar cover to the outside face of the veneer.
 - b. With hollow units, embed ~~anchors~~ veneer ties in mortar or grout and extend into the ~~veneer masonry wythe~~ a minimum of 1 ½ in. (38.1 mm), with at least 5/8 in. (15.9 mm) mortar or grout cover to outside face.
2. ~~Do not use~~ Install adjustable veneer ties ~~when such that~~ the vertical offset between the two pieces ~~exceeds~~ does not exceed 1-1/4 in. (31.8 mm).
3. Embed longitudinal wires of joint reinforcement in the mortar joint with at least 5/8-in. (15.9-mm) mortar cover on each side.
4. ~~Unless otherwise required, provide at least one veneer tie for each 1.78 ft² (0.165 m²) of wall area with a spacing not to exceed 16 in. (406 mm) in either the vertical or horizontal direction.~~
5. ~~4.~~ 4. Unless otherwise required, place veneer ties within 16 in. (406 mm) of supported ~~edges within 12 in. (305~~ mm) of unsupported edges, openings, and movement joints, and within 8 in. (203 mm)
6. ~~5.~~ 5. Place veneer ties within a tolerance of ± 1 in. (25.4 mm) of specified location.
7. ~~6.~~ 6. Unless otherwise required, fasten veneer ties to the backing according to the following:
 - a. Backing of wood: NDS.
 - b. Backing of cold-formed metal: AISI S240.
 - c. Backing of concrete: ACI 318.
8. ~~7.~~ 7. Install veneer ~~anchors~~ ties perpendicular to a vertical line on the face of the backing that protrude and perpendicular to the face of the veneer. Comply with manufacturer's instructions, including placement tolerances.

Commentary:

~~3.4 E.~~ 3.4 D. Veneer ties — Minimum embedment requirements have been established for each of the ~~anchor~~ tie types to ensure load resistance against push-through or pullout of the mortar joint.

~~2.~~ 1. Proper anchorage of veneer ties into veneers using hollow masonry units can be satisfied by mortaring veneer ties in bed joints or on the cross-webs of the units; by grouting the cells or cores adjacent to the veneer tie; or by following the veneer tie manufacturer's requirements for installing the veneer tie into the cell or core above or below the bed joint and filling the cell or core containing the veneer tie with mortar or grout.

~~4.~~ The maximum tie spacing is intended to achieve compliance with TMS 402 requirements for Enhanced Prescriptive Design. The Contract Documents may allow increased tie spacings for projects that qualify for Basic Prescriptive Design or that have been designed using the engineered methods.

~~6.~~ 5. Veneer ties that are within tolerance will result in slight variations of the tributary area of the tie. This is considered to be acceptable.

~~7.~~ 6. Install the number of fasteners as required in the manufacturer's instructions.

Main 19 Ballot, Item 64/195

- Negative:

Itzler (NEG) – Not in favor of removing the minimum spacing requirement in this prescriptive Chapter. If the issue is the phrase "unless otherwise required", suggest start the phrase with "At a minimum," or unless otherwise determined by analysis considering specified loading requirements,...."

- Not Persuasive, Article 3.4 dictates that the requirements in the drawings and specs be followed for size and spacing of veneer ties. There could be conditions where there are conflicts with minimum requirements if line 4 is not removed. Moved by Clark, second by Kava. Sub Vote: 13, 0, 0.

3.4 — Reinforcement, tie, and anchor installation

3.4 A. *Basic requirements* — Place reinforcement, ties, and anchors in accordance with the sizes, types, and locations indicated on the Project Drawings and as specified. Do not place dissimilar metals in contact with each other.

Main 19 Ballot, Item 68

Public comment:

In this section both the code and commentary, light frame backing is referred to as just "frame backing." The word "light" should be inserted in both the code and commentary. *[Page 245, Line 27]*

- **Balloted Change:**

Code:

13.3.2.5 General requirements —

....

(f) *Sheathing* — Sheathing is required over light frame backing receiving an adhered veneer assembly-.
[delete hyphen at end of sentence and replace with period]

Code Commentary:

13.2.2.3 General requirements —

....

Veneers higher than 30 ft (9.1 m), or 38 ft (11.58 m) at a gable, are permitted with wood and cold-formed metal light frame backing provided a veneer tie other than corrugated sheet-metal is used, and detailing is provided to account for the differential movement. Support of veneer with a wood or cold-formed ~~steel~~ metal light frame backing typically...

13.3.2.5 General requirements —

....

(e) ...Table 13.3.2.5 assumes a conservative specific gravity value of 0.40 for the wood light frame backing and...

(f) Sheathing is required over light frame backing receiving an adhered veneer assembly in accordance with TMS 602 Article 3.3 C.1. Adhered veneer...

Main 19 Ballot, Item 68

- Negative:

Itzler (NEG) – If you are going to introduce the term "light" into the Code I believe it needs to be defined. Not concerned with "light" as terminology in the commentary as it is not mandatory language.

- Not Persuasive, Light frame is a common term and is defined in the IBC and it is defined in the commentary to the Backing definition in Section 2.2. Moved by Douglas, second by McGinley. Sub Vote: 13, 0, 0.

Backing — Structural wall or surface to which veneer is attached. Backings include concrete, masonry, and light frame. Light frame backings consist of either wood studs or cold-formed metal studs with associated auxiliary members.

Backing — The structural role provided by the backing varies between anchored and adhered veneer systems. For anchored veneer, the backing provides lateral support. For adhered veneer, the backing provides lateral and vertical support.

In the context of this code, the use of the term “light frame backing” refers to wood or cold-formed metal studs and other structural members, such as rim joists, used in light frame construction.

Main 19 Ballot, Item 113/215

Public comment:

Comment 113: Section 13.2.2.3.3 provides two means for transfer of load through sheathing: a sheathing that has a minimum allowable bearing stress of 100 psi or veneer ties with prongs. However, the point is that the compressive load on the veneer tie has to somehow be transferred through the sheathing to backing; there needs to be a continuous load path. The two means of transferring the load are either

- 1) through bearing/compression of the sheathing, or
- 2) through prongs.

Thus, it is proposed that criteria 1 be modified to require that the applied bearing stress on the sheathing is less than the allowable bearing stress. Sheathing with allowable bearing stresses of 100 psi or greater could be deemed to comply and a calculation is not necessary. If the allowable bearing stress is less than 100 psi, then the designer would have the option of calculating the applied bearing stress and if it is less than the allowable bearing stress, veneer ties with prongs are not needed and the compressive load can be transferred through bearing. Section 13.2.2.3.3 provides two means for transfer of load through sheathing: a sheathing that has a minimum allowable bearing stress of 100 psi or veneer ties with prongs. However, the point is that the compressive load on the veneer tie has to somehow be transferred through the sheathing to backing; there needs to be a continuous load path. The two means of transferring the load are either

- 1) through bearing/compression of the sheathing, or
- 2) through prongs.

Thus, it is proposed that criteria 1 be modified to require that the applied bearing stress on the sheathing is less than the allowable bearing stress. Sheathing with allowable bearing stresses of 100 psi or greater could be deemed to comply and a calculation is not necessary. If the allowable bearing stress is less than 100 psi, then the designer would have the option of calculating the applied bearing stress and if it is less than the allowable bearing stress, veneer ties with prongs are not needed and the compressive load can be transferred through bearing. *[Page 235, Line 15-22]*

Comment 215: Why use of (only) "prongs"...there are other means! *[Page 235, Line 20]*

Main 19 Ballot, Item 113/215

- Balloted Change:

Code:

13.2.2.3.3 The specified cavity width shall be from the face of the backing to the inside face of the veneer. The specified cavity width shall be permitted to be from the face of the sheathing to the inside face of the veneer if either of the following conditions is met:

- (a) the bearing stress of the veneer tie on the sheathing from allowable stress level loads is less than the allowable bearing stress of the sheathing. ~~the sheathing has a minimum~~ Sheathing that has an allowable bearing stress of 100 psi (0.689 MPa) shall be deemed to comply. ~~or~~
- (b) the veneer ties penetrate the sheathing and directly contact the light frame backing ~~have prongs with and have a minimum allowable compressive strength of 200 lb (890N) that penetrate the sheathing and directly contacts the light frame backing.~~

plate is stiff enough in a vertical direction to equally load both fasteners. Prescriptive design requires the fastener to have sufficient penetration into the backing and does not consider the sheathing to contribute to pullout resistance.

13.2.2.3.3 Determining the specified width of the cavity will depend on the type of backing, whether sheathing is present and its properties or whether the veneer tie ~~contains prongs~~ penetrates the sheathing. For masonry or concrete backings, the cavity width is from the face of the backing to the inside face of the veneer. For light frame backing, that may or may not have sheathing, the requirements in this section define how the cavity should be measured when sheathing is present. The deemed to comply allowable bearing value of 100 psi (0.689 MPa) ~~This value~~ would be met by typical OSB and plywood sheathing, and some gypsum sheathings. If the allowable bearing stress of the sheathing is less than 100 psi (0.689 MPa) such as with some foam sheathings, either the veneer tie would need to have prongs or another means of transferring the load through the sheathing to the backing or the bearing stress on the sheathing would need to be checked. ~~Penetration into sheathing alone cannot provide the pullout strength required to use the prescriptive requirements for anchored masonry veneer.~~

Main 19 Ballot, Item 113/215

- Negative:

Itzler (NEG) - Do not believe we should allow counting on materials that are less robust than associated with OSB, plywood or high density gypsum with allowable compressive strength less than 100 psi in a prescriptive chapter. Suggest the wording be left as is. Designs using other materials should be engineered.

- Comment:

Robinson - I think the first sentence under 13.2.2.3.3.(a) "the bearing stress..." should be underlined as I think it is new.

Not Persuasive. This ballot item is doing what the negative states, that engineered design is required when sheathing has less than 100 psi allowable bearing stress. Moved by McGinley, second by Clark. Sub Vote: 13, 0, 0. Add underline as mentioned in the comment (see below).

13.2.2.3.3 The specified cavity width shall be from the face of the backing to the inside face of the veneer. The specified cavity width shall be permitted to be from the face of the sheathing to the inside face of the veneer if either of the following conditions is met:
(a) the bearing stress of the veneer tie on the sheathing from allowable stress level loads is less than the allowable bearing stress of the sheathing. the sheathing has a minimum Sheathing that has an allowable bearing stress of 100 psi (0.689 MPa) shall be deemed to comply. ~~or~~

Main 19 Ballot, Item 117

Public comment:

Consider incorporating a reference to ASTM C1780 for the installation of adhered veneer as those provisions are more comprehensive than those proposed here. *[Page 369, Line 10-30]*

Response: This standard is already referenced in the commentary of Article 3.3 D. As there are no current installation requirements for clay brick veneer (which are currently under development in ASTM), a code requirement for this standard which only covers manufactured stone veneer is premature.

• **Negatives:**

Thompson **(NEG)** – Just a stake in the ground to point to if by the end of the next 402/602 cycle ASTM hasn't made any meaningful headway on a new standard.

Farny **(NEG)** – if there is additional information about installation of adhered concrete units, we should include a reference to that. Just because clay units don't have the same type of documents yet doesn't seem a strong reason to hold the other material back.

Persuasive: Moved by McGinley, second by Clark. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 209

Public comment:

This is far from being a comprehensive list and does not serve as a suitable introduction to the discussion under 13.1.2.2. [Page 223, Line 75-80]

[For voter's convenience here are the paragraphs that discuss deformations]

13.1.2.2 *Deformation and differential movement*

— Deformations include out-of-plane deflection of the backing, vertical deflection of horizontally spanning support elements, and in-plane movement due to absolute and relative story drift. See Sections 13.2.1.5 and 13.3.1.2

There are many aspects of differential movement that need to be considered in the design of masonry veneer. One is the movement within the veneer itself due to irreversible moisture expansion, shrinkage, creep, and temperature movements. With anchored veneers, these movements are

Response: “Deformations include...” is not, in any way, limiting. It allows, and encourages, users to imagine other forces that might cause deformations.

The commentator is correct that the listing is far from being comprehensive, but “Deformations include...” admits that. Practically, it is impossible to list all the possible deformations. In situations such as this, “Deformations include...” is a common method of indicating or describing a broad range of situations/outcomes/findings, when an all-encompassing list is impossible (this case) or a broader list would be cumbersome (this case).

“There are many aspects of differential movement...One is the movement...” is also not limiting. It is less obvious than “Deformations include...” but is equally effective: There are many possibilities which the reader may imagine.

Main 19 Ballot, Item 209

- **Negative & Comment:**

Biggs (NEG) - I agree with the public commenter and believe the change should be made without waiting for the next cycle.

Sustersic (NEG) - I agree with the subcommittee comment to include the phrase "but not limited to" to improve the introduction. The commentary sounds authoritative as written which could imply the list is exhaustive. Why take this up as new business when it can be resolved this cycle in response to the public comment?

- **Persuasive: Moved by Kava, second by Clark. Sub Vote: 13, 0, 0.**

Subcommittee Comments:

May want to consider introducing the statement "but not limited to." Recommend changing, "Deformations include out-of-plane deflection of the backing, vertical deflection of horizontally spanning support elements, and in-plane movement due to absolute and relative story drift," to become, "Deformations include, but are not limited to, out-of-plane deflection of the backing, vertical deflection of horizontally spanning support elements, and in-plane movement due to absolute and relative story drift."

This will be taken up as new business.

Main 19 Ballot, Item 210/212

Public comments:

Comment 210 – "water penetration into the building"...What exactly is the extent of "into the building"...into the backing??...into interior space?? This statement must be consistent with the extent of water penetration permitted by the applicable building code. [Page 226, Line 66]

Comment 212 – "...entering into the building." What exactly is the extent of "into the building"...into the backing??...into interior space?? Such statements must be consistent with that permitted by the applicable building code. [Page 230, Line 88]

• Balloted Changes: Code:

13.2.1.8 Water Penetration Resistance — Flashing and weep holes in exterior veneer wall systems shall be designed and detailed to resist penetration of water ~~into the building interior~~ beyond the drainage space. A minimum 1 in. (25.4 mm)

Code Commentary:

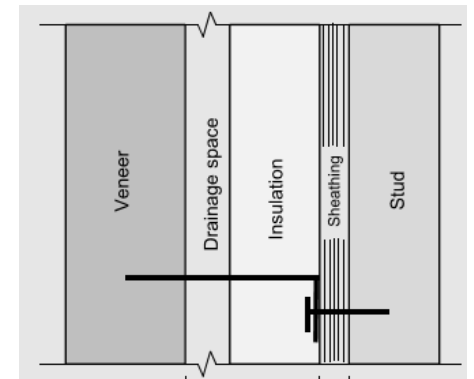
13.2.1 General requirements for anchored veneer

....

e) Water will penetrate the veneer, and the wall system should be designed, detailed, and constructed to prevent water penetration ~~into the building~~ beyond the drainage space.

13.2.1.8 Water Penetration Resistance — Water penetration through the exterior veneer is expected. The wall system must be designed and constructed to prevent water from ~~entering the building~~ passing beyond the drainage space.

Main 19 Ballot, Item 210/212



- **Negative & Comment:**

Biggs (NEG) – The drainage space does not include the insulation as shown on Figure CC-13.3.2. So to design, detail and construct the wall system to prevent water from penetrating beyond the drainage space means the insulation must become a water-resistive barrier. Normally, any barrier is placed under the insulation. TMS 602 also does not specify any insulation so the water-resistive characteristics are not mandated. I suggest changing the wording to "beyond the drainage space and insulation". Using "cavity" is not an option because unless Footnote 1 of Figure CC-13.2.4 is met, the water could go through the sheathing and be acceptable.

For new business next cycle, consider adding a water-resistive barrier to Fig CC-13-2.4 and change the wording to "beyond the water-resistive barrier".

Persuasive: Moved by Clark, second by McGinley. Sub Vote: 13, 0, 0.

Pierson – Technically, I think it was better to keep "into the building", and then add the words "beyond the drainage space". That defined the direction of the water movement. But it's probably a given that we are concerned about water getting into the building. Still, as written now, I guess if your water heater leaks and you get water build up inside of the building, you must design the wall to keep that water from getting out "beyond the drainage space".

Main 19 Ballot, Item 214

Public comment:

13.2.1.8...For water penetration resistance...it is interesting that so many redundancies, such as air space and weep holes, etc., are required for water management for conventional (anchored) masonry veneer systems, but so little is required for adhered veneer with respect to water management! How is this possibly rationalized???? *[Page 230, Line 38-40]*

Response: Adhered veneers require more analysis since they can be designed as a barrier wall or a drainage wall. Adhered veneer could also be considered as “newer” wall systems as compared to anchored veneer walls and thus don’t have as many prescriptive requirements. This committee will consider more prescriptive requirements for adhered veneer as more research is conducted and experience is gained on this wall system but the requirements, especially in regard to water penetration, are deemed as minimum levels appropriate for a building code at this time.

Main 19 Ballot, Item 214

- Negative:

Biggs (NEG) – I agree with the commenter.

Not Persuasive. We do define water penetration requirements for adhered veneer, but do not have any prescriptive requirements at this point. Requirements will vary for each project. Not Persuasive: Moved by Will, second by McGinley. Sub Vote: 13, 0, 0.

13.3.1.3 *Water penetration resistance* — Exterior adhered veneer wall systems shall be designed and detailed to resist water penetration into the building interior.

13.3.1.3 *Water penetration resistance* — Water penetration through the exterior veneer is expected. The wall system must be designed and constructed to prevent water from entering the building. Information and references on designing and detailing for water penetration resistance are located in Section 13.1.2.1.

Main 19 Ballot, Item 151 (NO NEGATIVES)

Public comment:

Table 13.2.2.4 - Veneer Tie Requirements - The requirements for the Tie Type - Unit Wire appear to have been written for a "Z" shaped wire tie, which is in fact referenced in the diagram in the commentary, same section. The requirements call specifically to "..... have ends bent to form an extension from the bend at least 2" long". For a Z-shaped tie this is fine, as the 2" extension will develop the necessary pullout strength, however, Z-shaped ties are nearly non-existent today. Further compounding the confusion, later in the table, under the Tie Type - Adjustable, the requirement for wire components of adjustable ties is for those ties to conform with the requirements under the Tie Type - Unit Wire. The wire components of the vast majority of adjustable veneer ties are either pintles or triangular ties, neither of which unambiguously conform to the language found within Unit Wire. If the intention is to provide a minimum of 2" of wire to be embedded in a mortar joint, please reword the Unit Wire requirements to state that instead of having commonly used ties conform to non-existent product requirements. [Page 235, Line 27]

- **Balloted Changes:**

Code:

Table 13.2.2.4 [remainder of Table is not changed]

1) Minimum W1.7 (MW11) wire with ~~and have~~ ends bent to form an extension from the bend at least 2 in. (50.8 mm) long within the veneer for Z-ties.

2) Minimum W1.7 (MW11) wire with the total length of the wire within the veneer at least 2 in. (50.8 mm) long for box and triangular unit ties.

~~2) 3)~~ Drips are not permitted.



Main 19 Ballot, Item 151 (NO NEGATIVES)

- Comments:

Robinson – The term "total length of the wire within the veneer" should be better defined. Is this just the wires parallel to the length of the veneer wall or is it measured from where the wire tie passes the inside face of the veneer. It should probably be the first as that would be similar to the "Z" ties where the 2" is only the end after the bend. If the cavity width is modified slightly, the tie might not be acceptable if it is measured from the inside face of the veneer.

Walkowicz – Good, but consider changing Item 2 to say perpendicular to the tie direction of load, or parallel to the veneer wythe plane. As currently worded, the entire length of wire embedded in the veneer could be counted, including the wire lengths parallel to the load, which seems inappropriate and not in keeping with the intent of the rationale.

Comments are persuasive and the item will be withdrawn and reballoted.

Items for Main Committee meeting 10/15/2021

Main 19 Ballot, Item 64/195

Itzler (NEG) – Not in favor of removing the minimum spacing requirement in this prescriptive Chapter. If the issue is the phrase "unless otherwise required", suggest start the phrase with "At a minimum," or unless otherwise determined by analysis considering specified loading requirements,...."

Not Persuasive, Article 3.4 dictates that the requirements in the drawings and specs be followed for size and spacing of veneer ties. There could be conditions where there are conflicts with minimum requirements if line 4 is not removed. Moved by Clark, second by Kava. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 68

Itzler (NEG) – If you are going to introduce the term "light" into the Code I believe it needs to be defined. Not concerned with "light" as terminology in the commentary as it is not mandatory language.

Not Persuasive, Light frame is a common term and is defined in the IBC and it is defined in the commentary to the Backing definition in Section 2.2. Moved by Douglas, second by McGinley. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 99

Walkowicz (NEG) - I agree with the change as it applies to WLF-Corrugated Sheet Metal (CSM) since that portion of the table directly requires sheathing to comply with 13.2.2.3.3, but none of the other table sections with Footnote 1 require compliance with that section. This change would reduce the allowed cavity thickness 5/8" for LFW-CSM and Adjustable ties, and CFLSF systems. Either add the sheathing requirement to those sections and keep the footnote deletion (not my preference since this would likely eliminate the usability of ties with prongs) or just delete the footnote 1 reference from WLF-CSM section and leave the rest of the table and the footnote as-is... my recommendation.

Negative Withdrawn 10/15/2021

Main 19 Ballot, Item 113/215

Itzler (NEG) - Do not believe we should allow counting on materials that are less robust than associated with OSB, plywood or high density gypsum with allowable compressive strength less than 100 psi in a prescriptive chapter. Suggest the wording be left as is. Designs using other materials should be engineered.

Robinson (AWC) - I think the first sentence under 13.2.2.3.3.(a) "the bearing stress..." should be underlined as I think it is new.

Not Persuasive. This ballot item is doing what the negative states, that engineered design is required when sheathing has less than 100 psi allowable bearing stress. Moved by McGinley, second by Clark. Sub Vote: 13, 0, 0. Underline should be added as mentioned in the comment.

Main 19 Ballot, Item 117

Thompson (NEG) – Just a stake in the ground to point to if by the end of the next 402/602 cycle ASTM hasn't made any meaningful headway on a new standard.

Farny (NEG) – if there is additional information about installation of adhered concrete units, we should include a reference to that. Just because clay units don't have the same type of documents yet doesn't seem a strong reason to hold the other material back.

Persuasive: Moved by McGinley, second by Clark. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 209

Biggs (NEG) - I agree with the public commenter and believe the change should be made without waiting for the next cycle.

Sustersic (NEG) - I agree with the subcommittee comment to include the phrase "but not limited to" to improve the introduction. The commentary sounds authoritative as written which could imply the list is exhaustive. Why take this up as new business when it can be resolved this cycle in response to the public comment?

Persuasive: Moved by Kava, second by Clark. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 210/212

Biggs (NEG) – The drainage space does not include the insulation as shown on Figure CC-13.3.2. So to design, detail and construct the wall system to prevent water from penetrating beyond the drainage space means the insulation must become a water-resistive barrier. Normally, any barrier is placed under the insulation. TMS 602 also does not specify any insulation so the water-resistive characteristics are not mandated. I suggest changing the wording to "beyond the drainage space and insulation". Using "cavity" is not an option because unless Footnote 1 of Figure CC-13.2.4 is met, the water could go through the sheathing and be acceptable.

For new business next cycle, consider adding a water-resistive barrier to Fig CC-13-2.4 and change the wording to "beyond the water-resistive barrier".

Pierson (AWC) – Technically, I think it was better to keep "into the building", and then add the words "beyond the drainage space". That defined the direction of the water movement. But it's probably a given that we are concerned about water getting into the building. Still, as written now, I guess if your water heater leaks and you get water build up inside of the building, you must design the wall to keep that water from getting out "beyond the drainage space".

Persuasive: Moved by Clark, second by McGinley. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 214

Biggs (NEG) – I agree with the commenter.

Not Persuasive. We do define water penetration requirements for adhered veneer, but do not have any prescriptive requirements at this point. Requirements will vary for each project. Persuasive: Moved by Will, second by McGinley. Sub Vote: 13, 0, 0.

Main 19 Ballot, Item 151 (NO NEGATIVES)

Robinson (AWC) – The term "total length of the wire within the veneer" should be better defined. Is this just the wires parallel to the length of the veneer wall or is it measured from where the wire tie passes the inside face of the veneer. It should probably be the first as that would be similar to the "Z" ties where the 2" is only the end after the bend. If the cavity width is modified slightly, the tie might not be acceptable if it is measured from the inside face of the veneer.

Walkowicz (AWC) – Good, but consider changing Item 2 to say perpendicular to the tie direction of load, or parallel to the veneer wythe plane. As currently worded, the entire length of wire embedded in the veneer could be counted, including the wire lengths parallel to the load, which seems inappropriate and not in keeping with the intent of the rationale.

Comments are persuasive and the item will be withdrawn and reballoted.

REINFORCEMENT AND CONNECTORS SUBCOMMITTEE REPORT TO TMS 402/602 MAIN COMMITTEE
October 16, 2021

The RC subcommittee met at 2:45PM on Friday, October 15th, 2021, with 8 of 15 voting members, 1 corresponding member, and 7 guests present.

Ten ballots addressing 17 of the 25 public comments assigned to the RC subcommittee passed on Main Ballot 19, with two ballots receiving affirmative comments. The RC subcommittee discussed the comments received on 19-RC-003 (PC#37) and 19-RC-004 (PC#01). An additional ballot to further improve our response to PC#37 will be considered by the RC subcommittee ahead of Ballot 20.

All remaining public comments and the subcommittee's preferred responses were discussed, as was the timing of interim ballots and the potential need for a virtual meeting this winter.

Finally, the RC subcommittee discussed preview topics for the next TMS 402/602 cycle including: galvanized rebar development provisions, increasing or removing the rebar yield strength limitations of 9.1.9.3, and upcoming proposed changes to anchor capacities as presented by Dr. Art Schultz during Educational Session 2 on Thursday.

The meeting was adjourned at 4:18PM.

2022 TMS 402/602 Committee Proposed Change to Masonry Standard

Committee: Main Committee		Ballot #: 6	
Item #: 6-RC-015			
Technical Contact/Email:		Rochelle Jaffe, jaffeconsulting@gmail.com	
Draft Document Dated:		10/31/2017	
Reballot of Main Committee Item No.:	N/A	Response to TAC Comment No.:	N/A
		Response to Public Comment No.:	N/A

Reference (Choose from Drop-Down Menu)	Section/Article
TMS 402 Code Section	6.1.3.1
TMS 602 Specification Article	
TMS 402 Commentary Section	6.1.3.1
Section	

Rationale: (Rationale is explanatory and not part of the proposed revision)

Dick Bennett submitted the following affirmative with comment on Ballot 03-RC-013A, which proposed to insert a modified table on bar hooks and bends into TMS 402.

The statement in the rationale “No. 9 to No. 11 stirrups and ties are deleted (both 90-degree hook and 135-degree hook). These are not permitted by ACI 318 and should not be permitted by TMS 402/602.” begs a few questions.

I am not sure that deleting the line from the table prevents No. 9 to No. 11 stirrups and ties from being used in masonry. We may need a specific statement in the code.

Going a bit further, ACI 318 has the following requirements for stirrups.

25.7.1.3 Anchorage of deformed bar and wire shall be in accordance with (a), (b), or (c):

- (a) For No. 5 bar and D31 wire, and smaller, and for No. 6 through No. 8 bars with $f_{yt} \leq 40,000$ psi, a standard hook around longitudinal reinforcement*
- (b) For No. 6 through No. 8 bars with $f_{yt} > 40,000$ psi, a standard hook around a longitudinal bar plus an embedment between midheight of the member and the outside end of the hook equal to or greater than $0.014d_b f_{yt} / (\lambda \sqrt{f'_c})$ with λ as given in Table 25.4.3.2*
- (c) In joist construction, for No. 4 bar and D20 wire and smaller, a standard hook.*

TMS 402 has the requirements for stirrups:

6.1.7.2.1 The ends of single-leg or U-stirrups shall be anchored by one of the following means:

- a) A standard hook plus an effective embedment of $0.5 l_d$. The effective embedment of a stirrup leg shall be taken as the distance between the middepth of the member, $d/2$, and the start of the hook (point of tangency).*
- b) For No. 5 bar and D31 wire and smaller, bending around longitudinal reinforcement through at least 135 degrees plus an embedment of $0.33 l_d$. The $0.33 l_d$ embedment of a stirrup leg shall be taken as the distance between middepth of member, $d/2$, and start of hook (point of tangency).*

TMS 402 has no requirements for stirrups greater than a No. 5 bar. This somewhat implies that stirrups are limited to a maximum of a No. 5 bar in masonry, but that is not explicitly stated. I think we either need to

add requirements for No. 6 to No. 8 stirrups, or add a code statement limiting stirrups and ties to No. 5 and smaller in masonry. I would personally prefer the latter, limiting to No. 5 and smaller.

I realize this is beyond the scope of the current ballot, and would be new business, but the rationale statement opened the door for these thoughts.

Note that the referenced section 6.1.7.2.1 has been changed to number 6.1.8.2.1. Based on Ballot 03-RC-013B, the revised table was actually inserted into TMS 602 rather than TMS 402, and TMS 402 references that table. The RC Subcommittee believes that the portion of the comment relative to stating a specific limitation in the code has merit. However, we disagree with the second portion of the comment, which states that TMS 402 does not have provisions for stirrups/ties greater than No. 5. In fact, Section 6.1.8.2.1.a can be used for stirrups and ties from No. 6 to No. 8. Therefore, this ballot item proposes to add a code requirement to limit stirrups/ties to No. 8 maximum.

PROPOSED CHANGES: (Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck through~~.) Do not use 'Track Changes'

Code:

6.1.3 Size of reinforcement

6.1.3.1 The maximum size of bar reinforcement used in masonry shall be in accordance with Table 6.1.3.1 ~~No. 11 (M#36)~~.

Table 6.1.3.1 Maximum size of bar reinforcement

<u>Function of Bar Reinforcement</u>	<u>Maximum Size</u>
<u>Stirrups and Lateral Ties</u>	<u>No. 8 (M#25)</u>
<u>Other than Stirrups and Lateral Ties</u>	<u>No 11. (M#36)</u>

Code Commentary:

6.1.3 Size of reinforcement

6.1.3.1 Limits on size of reinforcement are based on accepted practice and successful performance in construction. The No. 11 (M#36) limit is arbitrary, but Priestley and Bridgeman (1974) and Noland and Kingsley (1995) show that distributed small bars provide better performance than fewer large bars. The size limit on stirrups and lateral ties is consistent with ACI 318. Properties of reinforcement are given in Table CC-6.1.3.

Specification:

None

Specification Commentary:

None

Mandatory Requirements Checklist:

None

Optional Requirements Checklist:

None

Subcommittee Vote:				
9 <i>Affirmative</i>	2 <i>Affirmative w/ comment</i>	1 <i>Negative</i>	1 <i>Abstain</i>	4 <i>Did not vote</i>

Subcommittee Comments:

One non-voting member also voted affirmative. Editorial changes were made in response to the Affirmative with Comment votes. The negative vote was withdrawn.

2022 TMS 402/602 Committee Proposed Change to Masonry Standard

Committee: Main Committee		Ballot #: 15B
Item #: 15B-RC-044		
Technical Contact/Email:	Rochelle Jaffe, jaffeconsulting@gmail.com	
Draft Document Dated:	5/6/2020	
Reballot of Main Committee Item No.:	Response to TAC Comment No.:	Response to Public Comment No.:

Reference <i>(Choose from Drop-Down Menu)</i>	Section/Article
TMS 402 Code Section	
TMS 402 Commentary Section	6.1.3.6
Section	
Section	

Rationale: *(Rationale is explanatory and not part of the proposed revision)*

Ballot 15-RC-043 added commentary to the Chapter 6 provisions to address the potential constructability issue when designers require joint reinforcing with 3/16" longitudinal wires at 8" on center. A comment received on that ballot item pointed out that adjusting permitted construction tolerances is only one way that the heavy duty wire can be accommodated in the construction. An alternative way is to specify wider mortar joints. This ballot item proposes to add that alternative to the commentary. Also, the referenced code section is changed from 9.3.3.3 to 7.4.1.2.1 due to a change made by Ballot 15-SL-018.

PROPOSED CHANGES: *(Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck-through~~.) Do not use 'Track Changes'*

Code:

None

Code Commentary:

6.1.3.6 The function of joint reinforcement is to control the size and spacing of cracks caused by volume changes in masonry as well as to resist tension (Dickey (1982)). Joint reinforcement is commonly used in concrete masonry to minimize shrinkage cracking. The restriction on wire size ensures adequate performance. The maximum wire size of one-half the joint thickness allows free flow of mortar around joint reinforcement. Thus, a 3/16-in. (4.8-mm) diameter wire can be placed in a 3/8-in. (9.5-mm) joint.

When joint reinforcement with 3/16-in. (4.8-mm) diameter longitudinal wires are specified to be placed in every course (as required by Section ~~9.3.3.3~~7.4.1.2.1 for masonry in SDC C and higher), the permitted construction tolerances should be adjusted. Larger tolerances are needed because the joints may need to be oversized to accommodate the larger joint reinforcement, taking advantage of the $\pm 1/8$ " tolerance in bed joint thickness permitted by TMS 602. When the joint reinforcement is placed at every other course, the oversized joints that accommodate the joint reinforcement can be compensated for by undersizing the joints without joint

reinforcement. This allows the wall and openings within the wall to be constructed to the specified elevation and size. When every joint is occupied by joint reinforcement with 3/16-in. (4.8-mm) diameter longitudinal wires, there is no opportunity to undersize mortar joints and it may not be possible to construct the wall to the specified geometry. As an alternative to specifying larger construction tolerances, mortar bed joint widths could be specified to be 1/2 inch (12.7 mm) instead of 3/8 inch (9.5 mm), with appropriate modifications to the geometry to accommodate masonry modularity.

Specification:

None.

Specification Commentary:

None.

Mandatory Requirements Checklist:

None

Optional Requirements Checklist:

None

Subcommittee Vote:									
15	<i>Affirmative</i>	0	<i>Affirmative w/ comment</i>	0	<i>Negative</i>	0	<i>Abstain</i>	1	<i>Did not vote</i>

Subcommittee Comments:

One corresponding member also voted affirmative.

Andy Dalrymple

From: Phil Samblanet <psamblanet@masonrysociety.org>
Sent: Saturday, October 16, 2021 10:31 AM
To: Andy Dalrymple
Subject: Fwd: edits for latest draft of 402/602

----- Forwarded Message -----

Subject: RE: edits for latest draft of 402/602
Date: Sat, 16 Oct 2021 11:10:31 +0000
From: Bennett, Richard <rbennet2@utk.edu>
To: Phil Samblanet <psamblanet@masonrysociety.org>, Jamie Farny <jfarny@cement.org>

I am fine with my suggestion. It saves 4 words. 😊

From: Phil Samblanet <psamblanet@masonrysociety.org>
Sent: Saturday, October 16, 2021 6:33 AM
To: Jamie Farny <jfarny@cement.org>; Bennett, Richard <rbennet2@utk.edu>
Subject: Re: edits for latest draft of 402/602

Jamie and Dick, I think the ℓ was changed to a 1 per Dick's comments correctly in the P.C. working draft. The additional suggested change ("have deflections of approximately $\ell/600$ ~~1/600~~ of the span length") was not done. See below. So I think we are "good for now" but we could do what Dick suggested if everyone agrees...

5.2.1.6.1 Reinforced masonry beams and lintels with span lengths of 8 times d have immediate deflections of approximately $1/600$ of the span length (Bennett et al (2007)). Masonry beams and lintels with shorter spans should have sufficient stiffness to prevent serviceability problems and, therefore, deflections do not need to be checked.

Given that no other deflection limit is currently provided in the Code, reinforced masonry beams and lintels (with spans longer than 8 times d) supporting reinforced masonry may be conservatively checked against the deflection limits stated in Section 4.5 and its Commentary. When further research data specific to masonry beams becomes available, a less stringent deflection limit (than $1/600$) may be shown to be applicable to reinforced masonry beams and lintels supporting reinforced masonry. Alternatively, the engineer may use the deflection limits listed in the IBC for roof and floor members, as applicable.

On 10/5/2021 1:21 PM, Jamie Farny wrote:

Phil, you asked me for a reminder when the next ballot closes, when you are starting revisions.

“/ over 600” needs fixing as noted below.

On 7/23/2021 12:06 PM, Jamie Farny wrote:
I’m not sure this got changed in the Public Comment draft...

From: Phil Samblanet <psamblanet@masonrysociety.org>
Sent: Sunday, April 18, 2021 8:22 AM
To: Bennett, Richard <rbennet2@utk.edu>; Fernando Fonseca <fonseca@byu.edu>; Jamie Farny <jfarny@cement.org>; John Chrysler <jc@masonryinstitute.org>
Subject: Re: Script I for deflections?

Geeze, If I would READ even a dummy like me would have caught that.... I'll change to one/600 in 5.2.1.6.1 for now. Thanks, and sorry for going to fast....

On 4/18/2021 4:11 AM, Bennett, Richard wrote:

I think that 4.5 is correct.

In 5.2.1.6.1, I believe it should be $1/600$, not $1/600$, as it says “ $1/600$ of the span length”. A good editorial change, perhaps through a public comment, would be to change to “have deflections of approximately $1/600$ ~~$1/600$ of the span length~~”. This would save us four words. 😊

From: Phil Samblanet <psamblanet@masonrysociety.org>

Sent: Sunday, April 18, 2021 12:04 AM

To: Fernando Fonseca <fonseca@byu.edu>; Farny, Jamie <jfarny@cement.org>; Bennett, Richard <rbennet2@utk.edu>; John Chrysler <jc@masonryinstitute.org>

Subject: Script I for deflections?

Hi Guys, Ballot 18-FS-156 is having me change italic I's to script I's. The question I have is for deflection. Are the limits one over 600 etc. or should the be script I over 600. See sections 4.5 an 5.2? They actually look different in different places. Let me know your thoughts on whether this looks correct or not. Thanks! Phil

4.5—Deflection of beams supporting unreinforced masonry¶

The calculated deflection of beams of any material providing vertical support to masonry designed in accordance with Section 8.2, Section 9.2, Section 11.2, or Chapter 15 shall not exceed $\ell/600$ under allowable stress level dead plus live loads. ▣

4.5—Deflection of beams supporting unreinforced masonry¶

→ The deflection limits apply to beams and lintels of any material that supports unreinforced masonry. The deflection requirements may also be applicable to supported reinforced masonry that has vertical reinforcement only. ¶

→ The deflection limit of $\ell/600$ should prevent long-term visible deflections and serviceability problems. In most cases, deflections of approximately twice this amount, or $\ell/300$, are required before the deflection becomes visible (Galambos and Ellingwood (1986)). This deflection limit is for immediate deflections. Creep will cause additional long-term deflections. A larger deflection limit of $\ell/480$ has been used when considering long-term deflections (CSA (2014)). ▣

Page Break

→ → 5.2.1.6.1 → Deflections of reinforced masonry beams need not be checked when the span length does not exceed 8 multiplied by the effective depth to the reinforcement, d , in the masonry beam. ▣

→ → 5.2.1.6.1 Reinforced masonry beams and lintels with span lengths of 8 times d have immediate deflections of approximately $\ell/600$ of the span length (Bennett et al (2007)). Masonry beams and lintels with shorter spans should have sufficient stiffness to prevent serviceability problems and, therefore, deflections do not need to be checked. ¶

Given that no other deflection limit is currently provided in the Code, reinforced masonry beams and lintels (with spans longer than 8 times d) supporting reinforced masonry may be conservatively checked against the deflection limits stated in Section 4.5 and its Commentary. When further research data specific to masonry beams becomes available, a less stringent deflection limit (than $\ell/600$) may be shown to be applicable to reinforced masonry beams and lintels supporting reinforced masonry. Alternatively, the engineer may use the deflection limits listed in the IBC for roof and floor members, as applicable. ▣

2022 TMS 402/602 Committee Response to Public Comment

Committee: Main Committee	Ballot #: 19
Item #: 19-CR- 003	
Technical Contact/Email: Jonathon R. Merk / jon@forrestassociate.com	
Public Comment Number: 2022 Comment # 31	
Public Comment Response Based on TMS 402/602 Draft Dated	6/1/2021
<p>This ballot item proposes the following response to the Public Comment:</p> <p><input checked="" type="checkbox"/> <i>Committee agrees with Public Comment, change is proposed</i></p> <p><input type="checkbox"/> <i>Committee agrees comment has merit but proposed changes are not completely consistent with Public Comment</i></p> <p><input type="checkbox"/> <i>Committee disagrees with Public Comment and no changes are proposed</i></p> <p><input type="checkbox"/> <i>Committee unable to fully develop a response to Public Comment</i></p> <p><input type="checkbox"/> <i>Public Comment only requires a response, no change to document</i></p>	

Public Comment #31:

Regarding TMS 602, Article 1.8.C.3.b.2. Language setting the minimum acceptable mixing temperature set to 70 degrees F, while requiring the minimum placement temperature be maintained above 70 degrees F does not make sense. Is the mason to apply heat on the way to the wall to raise the grout temperature above what is minimally required at the mixer? Either raise the minimum mixing temperature, or lower the minimum placement temperature, to account for a reasonable temperature drop between the mixer and the wall.

Response/Rationale:

CR's efforts to obtain the original research supporting the existing temperature requirements came up empty while we addressed the premise of this comment during the committee portion of the cycle and in two ballots during the TAC portion, both of which declined to make changes due to a lack of supporting data. However, CR was recently able to obtain ACI's Guide to Cold Weather Concreting 306R – 16 (which was also adopted by PCA in their Design and Control of Concrete Mixtures EB001). While it is not part of this ballot, ACI 306R – 16 Table 5.1 has been attached as a reference to support the requested change.

PROPOSED CHANGES: *(Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck-through~~.) Do not use 'Track Changes'*

Code: N/A

Code Commentary: N/A

TMS 602 Specification Article 1.8 C.3.b.2:

2) Heat grout aggregates and mixing water to product grout temperature between 70°F (21.1°C) and 120°F (48.9°C) at the time of mixing. Maintain grout temperature above ~~70°F (21.1°C)~~ 55°F (12.8°C) at the time of grout placement.

Specification Commentary: N/A

Subcommittee Vote:									
5	<i>Affirmative</i>	1	<i>Affirmative w/ comment</i>	0	<i>Negative</i>	1	<i>Abstain</i>	6	<i>Did not vote</i>

Subcommittee Comments:

The ballot portal recorded one AWC response, but the comment was not received.

The abstention reads as follows:

“I’m abstaining because I researched this topic and couldn’t locate the history of the current requirements. The proposed change seems reasonable, but lessens the temperature requirement, which is intended to afford some level of protection and cushion in cold weather conditions.

Without knowing the history or having any new data to support the change, I don’t know if the proposed requirement is still too restrictive or not restrictive enough. The concrete temperature requirements from ACI 306-R are only a proxy for grout because concrete is placed into formwork (which has less mass than masonry units), whereas grout is placed into cells of masonry units and will be more affected by the temperature of the masonry construction.”

Table 5.1—Recommended concrete temperatures

		Section size, minimum dimension			
		< 12 in. (300 mm)	12 to 36 in. (300 to 900 mm)	36 to 72 in. (900 to 1800 mm)	> 72 in. (1800 mm)
Line	Air temperature	Minimum concrete temperature as placed and maintained			
1	—	55°F (13°C)	50°F (10°C)	45°F (7°C)	40°F (5°C)
		Minimum concrete temperature as mixed for indicated air temperature*			
2	Above 30°F (–1°C)	60°F (16°C)	55°F (13°C)	50°F (10°C)	45°F (7°C)
3	0 to 30°F (–18 to –1°C)	65°F (18°C)	60°F (16°C)	55°F (13°C)	50°F (10°C)
4	Below 0°F (–18°C)	70°F (21°C)	65°F (18°C)	60°F (16°C)	55°F (13°C)
5	—	Maximum allowable gradual temperature drop in first 24 hours after end of protection			
		50°F (28°C)	40° (22°C)	30°F (17°C)	20°F (11°C)

*For colder weather, a greater margin in temperature is provided between concrete as mixed and required minimum temperature of fresh concrete in place.

Note 1: For Line 1, maximum placement temperature is minimum temperature in the table plus 20°F (11°C).

Note 2: For Lines 2-4, maximum temperature is minimum temperature in the table plus 15°F (9°C).

2022 TMS 402/602 Committee Response to Public Comment

Committee: Main Committee	Ballot #: 19
Item #: 19-CR- 004	
Technical Contact/Email: Jonathon R. Merk / jon@forrestassociate.com	
Public Comment Number: 2022 Comment # 32	
Public Comment Response Based on TMS 402/602 Draft Dated	6/1/2021
This ballot item proposes the following response to the Public Comment: <input type="checkbox"/> <i>Committee agrees with Public Comment, change is proposed</i> <input type="checkbox"/> <i>Committee agrees comment has merit but proposed changes are not completely consistent with Public Comment</i> <input checked="" type="checkbox"/> <i>Committee disagrees with Public Comment and no changes are proposed</i> <input type="checkbox"/> <i>Committee unable to fully develop a response to Public Comment</i> <input type="checkbox"/> <i>Public Comment only requires a response, no change to document</i>	

Public Comment#32:

When completing a low-lift wall, it would be helpful for the mason and / or inspector to have some wiggle room with respect to the cleanout requirement of TMS 602 3.2 F. For instance, if a mason wants to build 7'-4" above the last 5'-4" build, to top out the wall in one final step, and wishes to do so without cleanouts, or a grout demonstration panel, the inspector should still be able to adequately inspect the cells down to the last grout lift and then allow the mason to grout the 7'-4" height in two lifts. Please add language allowing conditions similar to the one described above.

Response/Rationale:

While we appreciate what the commenter is attempting to accomplish here, CR disagrees with the requested change. If we're being brutally honest, some masons are lucky to go 2'-8" in height and keep the grout space clean enough to satisfy Code requirements for grout placement while other masons are capable of extending well beyond the current limitation of 5'-4". The only legitimate way to determine that is through a demonstration panel. This could easily be accomplished with an enlarged sample panel reflecting the project conditions. Asking a mason to take this additional step in return for being allowed to deviate from Code does not constitute an onerous burden. Therefore, CR proposes no changes in response to this comment.

PROPOSED CHANGES: *(Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck through~~.) Do not use 'Track Changes'*

Code: N/A

Code Commentary: N/A

Specification: N/A

Specification Commentary: N/A

Subcommittee Vote:				
7 <i>Affirmative</i>	0 <i>Affirmative w/ comment</i>	0 <i>Negative</i>	0 <i>Abstain</i>	6 <i>Did not vote</i>

Subcommittee Comments: N/A

2022 TMS 402/602 Committee Response to Public Comment

Committee: Main Committee	Ballot #: 19
Item #: 19-CR- 005	
Technical Contact/Email: Jonathon R. Merk / jon@forrestassociate.com	
Public Comment Number: 2022 Comment # 33	
Public Comment Response Based on TMS 402/602 Draft Dated	6/1/2021
<p>This ballot item proposes the following response to the Public Comment:</p> <ul style="list-style-type: none"> <input type="checkbox"/> <i>Committee agrees with Public Comment, change is proposed</i> <input type="checkbox"/> <i>Committee agrees comment has merit but proposed changes are not completely consistent with Public Comment</i> <input checked="" type="checkbox"/> <i>Committee disagrees with Public Comment and no changes are proposed</i> <input type="checkbox"/> <i>Committee unable to fully develop a response to Public Comment</i> <input type="checkbox"/> <i>Public Comment only requires a response, no change to document</i> 	

Public Comment #33:

TMS 602, Table 4, Inspection Task 1.f, requires the special inspection of the sample panel construction for Levels 2 and 3, and lists Article 1.6 D for the inspection criteria. What is the purpose of these sample panels? So the mason and the inspector can practice the special inspection process before building and inspecting the actual walls? That does not seem beneficial since whatever might be established structurally by the completed sample panel would still have to be special inspected during the actual wall construction. Considerable code work has been done to require special inspections so that the actual construction agrees structurally with the approved construction documents, so why require it on a little piece of wall beforehand? If the structural engineer feels that a part of the construction warrants sampling for some structural reason, then he / she can always specify that outside of TMS 602, but sample panels should not be automatically required for every Level 2 or 3 masonry project. Please remove Inspection Task 1.f and let Article 1.6 D speak to aesthetic issues only, which most of the related commentary does anyway.

Response/Rationale:

Sample panels exist to help confirm the units match the design criteria, for the mason to demonstrate they are capable of installing the product within Code / project specification tolerances, and for the mason to demonstrate any difficult / unusual conditions the design team is concerned about, all of which establish a baseline for the quality of the masonry that extends well beyond aesthetics. Having a small sample panel rejected for a misunderstanding / etc. would have little impact on a project. Waiting to verify these items on "finished work" would yield terrible consequences. Therefore, CR proposes no changes in response to this comment.

PROPOSED CHANGES: *(Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck through~~.) Do not use 'Track Changes'*

Code: N/A

Code Commentary: N/A

Specification: N/A

Specification Commentary: N/A

Subcommittee Vote:				
7 <i>Affirmative</i>	0 <i>Affirmative w/ comment</i>	0 <i>Negative</i>	0 <i>Abstain</i>	6 <i>Did not vote</i>

Subcommittee Comments: N/A

2022 TMS 402/602 Committee Response to Public Comment

Committee: Main Committee	Ballot #: 19
Item #: 19-CR- 007	
Technical Contact/Email: Jonathon R. Merk / jon@forrestassociate.com	
Public Comment Number: 2022 Comment # 109	
Public Comment Response Based on TMS 402/602 Draft Dated	6/1/2021
<p>This ballot item proposes the following response to the Public Comment:</p> <p><input type="checkbox"/> <i>Committee agrees with Public Comment, change is proposed</i></p> <p><input type="checkbox"/> <i>Committee agrees comment has merit but proposed changes are not completely consistent with Public Comment</i></p> <p><input type="checkbox"/> <i>Committee disagrees with Public Comment and no changes are proposed</i></p> <p><input type="checkbox"/> <i>Committee unable to fully develop a response to Public Comment</i></p> <p><input type="checkbox"/> <i>Public Comment only requires a response, no change to document</i></p>	

Public Comment #109:

Article 3.5 E.b is clear that grout should be reconsolidated after initial water loss and settlement has occurred, but does not give any indication limiting how long after initial water loss and settlement. Previous codes used the term “before plasticity is lost”. I would suggest some upper limitation, such as “loss of plasticity” since the attempt to reconsolidate grout that has lost plasticity does more damage than good.

Response/Rationale:

CR concurs and offers the proposed revision in response to this comment.

PROPOSED CHANGES: *(Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck through~~.) Do not use 'Track Changes'*

Code: N/A

Code Commentary: N/A

TMS 602 Specification Article 3.5 E.b:

b. Consolidate pours exceeding 12 in. (305 mm) in height by mechanical vibration, and reconsolidate by mechanical vibration after initial water loss and settlement has occurred, but prior to loss of plasticity.

Specification Commentary: N/A

Subcommittee Vote:				
7 <i>Affirmative</i>	0 <i>Affirmative w/ comment</i>	0 <i>Negative</i>	0 <i>Abstain</i>	6 <i>Did not vote</i>

Subcommittee Comments: N/A

2022 TMS 402/602 Committee Response to Public Comment

Committee: Main Committee	Ballot #: 19
Item #: 19-CR- 009	
Technical Contact/Email: Jonathon R. Merk / jon@forrestassociate.com	
Public Comment Number: 2022 Comment # 182	
Public Comment Response Based on TMS 402/602 Draft Dated	6/1/2021
<p>This ballot item proposes the following response to the Public Comment:</p> <p><input type="checkbox"/> <i>Committee agrees with Public Comment, change is proposed</i></p> <p><input type="checkbox"/> <i>Committee agrees comment has merit but proposed changes are not completely consistent with Public Comment</i></p> <p><input checked="" type="checkbox"/> <i>Committee disagrees with Public Comment and no changes are proposed</i></p> <p><input type="checkbox"/> <i>Committee unable to fully develop a response to Public Comment</i></p> <p><input type="checkbox"/> <i>Public Comment only requires a response, no change to document</i></p>	

Public Comment #182:

The term “grout pour” is not understood by the design community and is too often confused with the pouring of grout into the wall which we call placement. The term should be deleted from the code and spec and described in another way. In many places in TMS 602, the phrase “maximum height of masonry prior to grouting” or “maximum height of the masonry to be grouted” can be used instead of grout pour to denote the maximum height the masonry may be built. This will eliminate the need to explain in great detail the difference between a lift and a pour.

Response/Rationale:

TMS 602 Article 1.2 contains a definition for grout pour that makes clear what the committee is trying to convey with that term. If a designer is unclear / confused on the term, it is incumbent upon them to look that up within our document. Additionally, the term “grout pour” appears in many locations throughout the document and is much shorter than the suggested seven or eight word phrase. Therefore, CR does not propose any changes in response to this comment.

PROPOSED CHANGES: *(Only the suggested change(s) being balloted are proposed for consideration. Supplementary text included for clarity, but not proposed for modification, is not part of this ballot item. Additions are shown underlined and deletions are shown ~~struck through~~.) Do not use 'Track Changes'*

Code: N/A

Code Commentary: N/A

Specification: N/A

Specification Commentary: N/A

Subcommittee Vote:									
7	<i>Affirmative</i>	0	<i>Affirmative w/ comment</i>	0	<i>Negative</i>	0	<i>Abstain</i>	6	<i>Did not vote</i>

Subcommittee Comments: N/A