

RCSC Annual Meeting

Thursday, June 10, 2021 – Virtual Meeting via WebEx

Draft Meeting Minutes

1. 1:15 pm EDT Welcome - Call to order (S. Brahim)
2. Welcome and Introductions (S. Brahim)
 - a. Opening comments (S. Brahim)
 - i. Antitrust
 - ii. Conflict of Interest
 - iii. Online rules of conduct
 - iv. Test poll to establish attendance
 - b. Quorum established (J. McGormley)
3. Approval of the Meeting Agenda (S. Brahim)
 - a. Motion: *Approve 2020 meeting agenda as modified* – Passed without objection
4. Approval June 2020 Annual Meeting minutes (S. Brahim)
 - a. Motion: *Approve June 10-11, 2020 minutes* – Passed without objection
5. Chairperson's Report (S. Brahim)
 - a. Executive Committee Report
 - i. Discussion on Specification publication
 1. Thanks to T. Schlafly, B. Shaw, and R. Jordon on the editorial side.
 2. Thanks to L. Kruth as Spec. Chair, all TG Chairs, and members.
 - 3.
 - b. Nominating Committee – Election of two of six positions for Directors
 - i. C. McGee will accept nomination
 - ii. T. Ude has completed his final term
 - iii. Need to form nomination committee to be led by J. Swanson
 - iv. Director elections to be held by administrative ballot
 - c. Life Members
 - i. Ray Tide
 - ii. Tom Murray
 - iii. Joe Yura
 - iv. Larry Kloiber
 - v. Bill Thornton
 1. Article in Modern Steel Construction to highlight these individuals forthcoming
 - d. Explore establishing an award to honor Geoff Kulak and John Fisher as individuals who made significant contributions to bolting.
 - e. RCSC Asset Investment
 - i. Exploring options to put RCSC funds into investments managed by AISC
 - ii. Exec. Committee will oversee investments and their disbursements
 - f. Member contacts and emails
 - i. Website is currently basic without separate member login

- ii. Roster will be sent to members to provide contact information
- g. Bylaws
 - i. Revisions needed to reflect current Council operations.
 - ii. Executive task group working to present suggested modifications
 - iii. Draft set of bylaws to be sent to members spring 2022 for discussion at 2022 Annual Meeting
- 6. Secretary/Treasurer's Report (J. McGormley)
 - a. Membership
 - i. Current Council roster consists of 75 members. three new members added with two retirements from the Council. (see attached membership summary)
 - ii. Membership for Sarah Olthof and Bill R. Lindley were subsequently restored after the June 10, 2021 meeting. This increased the total RCSC membership to 77.
 - iii. Latest membership roster maintained on Google Drive and updated periodically on RCSC website.
 - b. Financials:
 - i. Motion: *Approve 2020 Financials*– J. McGormley, 2nd T. Anderson; Passed
- 7. Specifications Committee (B. Shaw for L. Kruth) – See attached minutes
 - a. Summary of Spec. meeting highlights with possible topics of future work currently being considered:
 - i. Reorganize Chapters 6-8 to improve use
 - ii. Chap. 5 moved to an annex or appendix
 - iii. Stainless steel specification for structural connections
 - iv. Connections containing thermal breaks
 - v. SI specification, possibly expressed in dual units
 - vi. Rotational Capacity Testing (RoCap) to be included in RCSC specification
 - vii. Test procedures for larger bolts currently outside RCSC specification
 - viii. Study galvanizing Grade A490 bolts
 - ix. Establish personnel qualification standard for supervision and installation personnel
- 8. Research/Education Committee (T. Ude) – See attached minutes
 - i. Educational Video Project
 - 1. \$120k for 15 episodes
 - 2. Need to execute agreement
 - 3. C. McGee will lead oversight committee
 - 4. Targeted completion for March 2022
 - ii. Slip of Metallic Coatings Project
 - 1. \$160k over 21 months
 - 2. T. Ude leading oversight committee
 - 3. AGA contributing \$20k over two years
 - 4. AISC providing material. Other RCSC members providing in-kind support.
 - iii. 3rd Edition of the Guide ongoing into 2022.
 - 1. First 12 chapters to be delivered in Sept. 2021
 - 2. Need to assemble oversight committee led by J. McGormley
 - iv. Research fund balance will decrease over the next couple of years due to these funded projects, leaving approximately \$200k.
- 9. Other Committee Activities

- a. Editorial Committee Report (T. Schlafly)
 - i. Lessons learned from latest specification to be incorporated into editorial guidelines
 - b. Liaison Committee (S. Brahim) – See attached minutes
 - i. Remembrance of Charlie Wilson, former member of RCSC. ASME formed scholarship in his name.
 - ii. IFI Book of Fastener Standards released
 - iii. ASTM Committee F16 and A01.22. Looking at hot-dipped galvanizing Grd A490 bolts.
 - iv. ASME revised ASME B1.1-2019 and B18.2.6-2019
 - v. ISO TC2 revisions to nut standards, externally threaded fasteners, and new standard for larger diameter fasteners.
 - vi. ISO TC 167 working on new standard for steel and aluminium structures
 - vii. IFI Soaring Eagle Technology Award 2021 to RCSC member C. Larson
10. Old Business (S. Brahim)
- a. Moved to Chairperson's Report
11. New Business
- a. None
12. Location and Dates for 2022 Annual Meeting (S. Brahim)
- a. AISC willing to host in Chicago
 - b. *Approve 2020 Annual Meeting in Chicago, Tuesday-Thursday, June 14-16, 2022*
 - c. Back-up date: June 21-23, 2022 if in conflict with AISC meetings
13. 3:07 pm Adjournment (S. Brahim)
- a. Motion: *To adjourn* – Passed without objection

Prepared by: Jonathan C. McGormley, RCSC Secretary

RCSC Paid Membership as of June 9, 2021

Total	Producers	Distributors	Users	Association	General Interest	Life Members	Total Voting
75	13	5	10	7	33	7	72

New Members

Sahil	Prabhudesai	Nucor Fastener
James	DiPasquale	Loebro
Christopher	Tribble	Würth House of Threads Inc.

Departing Members

Thomas S.	Tarpy Jr.
Garret O.	Byrne
Christian	Noveral
Sarah	Olthof
David F.	Sharp
Bill R.	Lindley II
Nick E.	Deal

Members Lost

RCSC Annual Financial Report

Fiscal Year 2020

Ending December 31, 2020

Starting Balance

Total

As of January 1, 2020

\$

394,069.27

Savings	\$	315,798.64
Checking	\$	78,270.63
Annual Meeting Hotel Deposit	\$	-

Income

Research Contributions \$ 42,600.00

2019 Annual Meeting \$ 500.00

Registration	\$	500.00
Sponsorship	\$	-

Interest Income \$ 45.51

Cash	\$	-
Savings	\$	45.51

Total Income

\$

43,145.51

Expenses

Bank/Paypal Fees \$ 696.50

IT Maintenance \$ 421.36

Accounting/Taxes \$ 660.00

Office Supplies \$ -

2020 Annual Meeting \$ -

2021 Annual Meeting \$ -

Donation \$ -

Research Payments \$ (2,000.00)

Total Expenses

\$

(222.14)

Net Income (Loss)

\$

43,367.65

Adjustment \$

-

Total Assets

As of December 31, 2020

\$

437,436.92

Savings	\$	315,844.15
Checking	\$	121,592.77
Annual Meeting Hotel Deposit	\$	-

1.Motion ATT-002: Annual Meeting Attendance. This is an example of what voting will look like. Select one of the options below to indicate that you are in attendance.

- A.I Approve 44/49 (90%)
- B.I Do Not Approve 0/49 (0%)
- C.I Abstain 0/49 (0%)
- D.I Am Not a Voting Member 2/49 (4%)
- No Answer 3/49 (6%)

	A	B	C	D
Michael Samuels				X
Chuck & Judy Kanapicki	X			
Salim Brahimi	X			
Chad Larson				
Salim Meeting 2	X			
Carlos Suarez	X			
Chris Marvin	X			
Gian Andrea Rassati (internal)	X			
Christopher Garrell				X
Sahil Prabhudesai	X			
Matthew Haaksma	X			
Lee Shoemaker	X			
brad porter	X			
Anna Petroski	X			
Brian Goldsmith	X			
MIKE FRIEL	X			
James DiPasquale	X			
Dave Bornstein	X			
Jonathan McGormley	X			
James Neeley	X			
Bob Shaw	X			
Ronnie Medlock	X			
Sougata Roy	X			
Nick Sovell	X			
david bogaty	X			
Carly McGee	X			
DAN WROBLESKI	X			
Albert Gelles	X			
Todd Ude	X			
Tom Schlafly	X			
Dan Kaufman	X			
Joseph Ridgway	X			
Derrick Castle	X			
Alana Fossa	X			
Ben Seinloa	X			
Karl Frank	X			
Travis Pechacek	X			
Christopher Tribble	X			
Mike Marian	X			
Curtis Mayes	X			

Bill Germuga	X			
John W. Fisher	X			
Rachel Shanley	X			
rreagan	X			
Heath Mitchell	X			
mike howerin	X			
Chad Case	X			
T Anderson	X			
Mritunjaya Srivastava	X			

**Summary of the Meeting
RCSC Specification Committee
June 10, 2021
Virtual**

Participants:

Toby	Anderson	Ronnie	Medlock
David	Bogaty	Jinesh	Mehta
Dave	Bornstein	Heath	Mitchell
Salim	Brahimi	James	Neeley
Chad	Case	Travis	Pechacek
Derrick	Castle	Anna	Petroski
James	DiPaquale	Brad	Porter
Alana	Fossa	Gian Andrea	Rassati
Karl	Frank	Randy	Reagan
Mike	Friel	Tom	Schlafly
Albert	Gelles	Ben	Seinola
Bill	Germuga	Rachel	Shanley
Brian	Goldsmith	Bob	Shaw
Mike	Howerin	Victor	Shneur
Chuck	Kanapicki	Lee	Shoemaker
Dan	Kaufman	Nick	Sovell
Chad	Larson	Mritunjaya	Srivastava
Mike	Marian	Jim	Swanson
Curtis	Mayes	Carlos	Suarez
Carly	McGee	Todd	Ude
Jonathan	McGormley	Dan	Wrobleski
			42

Chair Kruth could not be present so Mr. Shaw conducted the meeting at Mr. Kruth's request.

Mr. Shaw announced that the meeting was being recorded both for help in keeping a record and so Mr. Kruth could listen when he was available.

Participants were advised to comply with customary rules regarding conflict of interest and restraint of trade.

Mr. Shaw read the introductory statement on the agenda saying that our task today is to begin charting directions for the next edition of the specification.

Mr. Shaw called for the TG reports. See attached presentation.

Discussion of items not reflected in the attached presentation material include:

TG1 Symbols, Glossary, Chapter 1: Rassati

Mr. Germuga expressed concern that users may not know that educational guides do not have the authority that the Spec has.

Dr. Rassati would welcome a few new volunteers on TG1 but is satisfied with the roster as is.

Dr. Rassati advised that there was some desire to reorganize the specification to put the provisions related to each installation method together in a chapter in lieu of having PIV, Installation, Inspection in separate chapters each with provisions for the various installation methods. After an abridged discussion the following poll was conducted :

Would you like to see each of the installation methods in a separate chapter instead of having them in all in a single chapter? Results 18 yes, 11 no, 5 maybe, 8 no answer.

TG2 Chapters 2 & 3: Anderson

Mr. Anderson advised that the TG2 roster was satisfactory but he would accept a few more volunteers.

Questions about the scope of the chapters included whether reuse and lubrication should be in Chapter 2, but he concluded they were acceptable as they are. The title of Chapter 3 might be improved.

TG 3 Chapters 4 & 5 and Appendix A: Swanson

Dr. Swanson advised that the roster was acceptable as is. Goals for the next cycle include an update of fatigue.

A task group has been assigned to review coated faying surface inspection requirements.

A task group has been assigned to review and respond to differences between RCSC design and AISC design.

TG3 is interested in thermal breaks but deferred to the Specification Committee for direction.

TG3 will investigate improved solutions to the use of multiple fillers in fastened joints.

TG4 Chapters 6, 7 & 8: Larson

The roster is larger than preferred, but the members contribute so it should stay as is.

They want to add a noncompliance disposition to calibrated wrench.

TG5 Chapters 9 & 10: Schlafly

To address a recommendation from TG5, a poll was conducted regarding whether we should make Chapter 5 an informational annex. The results were 15 yes, 4 no, 17 maybe, 6 no answer (Ad Hoc-002)

To address an item for consideration from TG1, Mr. Shaw asked the committee if they would be interested in reorganizing Chapters 6, 7, 8 & 9. The revised organization would assemble all provisions related to a single installation method in each chapter or section. i.e. there would be a section on Turn of Nut with washer requirements, PIV, Installation and inspection provisions The committee responded to the following poll: Would you like to see each of the installation methods in a separate chapter instead of having them in all in a single chapter? The results were 18 yes, 11 no, 5 maybe, 8 no answer (Ad Hoc-001)

Subsequent to the TG reports Mr. Shaw polled the following questions:

Stainless Steel Bolting: AISC 370 is about to be published, and AASHTO is working on stainless steel bridges. No bolting installation standards exist.

Mr. Medlock offered a link to VaDoT work on stainless steel fasteners.

<http://vtrc.virginiadot.org/PubDetails.aspx?PubNo=21-R13>.

Dr. Frank advised that we needed support of stainless fastener producers because acquiring these fasteners is a significant issue. The other issue is lubrication to avoid galling.

The following question was polled: Are you in support of RCSC pursuing a specification for stainless steel bolting? Results: 25 yes, 2 no, 12 maybe, 3 no answer (Ad Hoc-003)

Thermal Break Joints: We included some statements about Thermal Breaks in Chapter 1 commentary but there is still a requirement that all material in the grip is steel.

Dr. Ude suggested we might try to develop a guide or design examples in lieu of specification provisions. Mr. Shaw stated that there is no need to accomplish this task on any revision cycle.

The following question was polled: Are you in support of RCSC pursuing the area of thermal break joints? Results: 16 yes, 0 non, 17 maybe, 8 no answer. (Ad Hoc-004)

Metric Spec: RCSC has an audience that wants SI units. This might be a metric specification or the addition of SI units to the current specification.

Mr. Suarez reported that there are many such users in Central and South America and the lack of a metric specification often delays projects. Dr. Brahimi recommends caution. If we create a separate SI specification, we will have an ongoing task of keeping the two specifications the same. This task may be more than simply converting numerical units. Dr. Frank has studied metric bolts that do not perform as we expect. Mr. Howerin asked if 144 metric bolts would be included. Mr. Shaw advises that he envisions a specification using ASTM bolts in metric dimensions, not using ISO or other bolts.

The following question was polled: Should RCSC pursue including SI units? Results: 17 yes, 6 no, 10 maybe, 6 no answer. (Ad Hoc-005)

ROCAP: A reasonably well accepted version of the ROCAP test is included in an annex of ASTM F3125. Should the test also be included in RCSC?

Members expressed the opinion that F3125 was enough. Mr. Germuga feared that two separate versions would soon diverge. Mr. Larson suggested that an education document on ROCAP may fill the need.

The following question was polled: Are you in support of RCSC developing a document that addresses rotational capacity testing? Response: 10 yes, 15 no, 8 maybe, 6 no answer. (Ad Hoc-006)

Installation of expanded list of fasteners, diameters, conditions: The committee asked if there were other fasteners or conditions we wished to provide some guidance on, such as A354, A449, diameters larger than 1 ½ in and pretensions less than 70% of tensile.

The following question was polled: Are you in support of RCSC developing test procedures to establish installation requirements for other bolts, other diameters, or other levels of pretension? Results: 21 yes, 3 no, 11 maybe, 3 no answer. (Ad Hoc-007)

Galvanizing A490 bolts: In the previous year or two ASTM voted to remove the prohibition of mechanical and hot dip galvanizing of A490 and F2280 bolts. That ballot received multiple negatives that stopped its progress. Members of ASTM F16.02 tell us that they will again vote to remove that prohibition.

The following question was polled: Are you in support of RCSC establishing a task group for the study of hot-dip and mechanically galvanized A490 bolts? Response: 28 yes, 2 no, 2 maybe, 6 no answer. (Ad Hoc-008)

Installer/ Supervisor Qualifications: At present, there are no requirements or recommendations for bolting supervision or bolting installation personnel, similar to AWS standards for welding supervisors and company-based qualification testing of welding personnel in AWS D1.1 and D1.5.

AASHTO/NSBA Collaboration issued a qualification guide for inspectors. ICC and AWS have a certification for inspectors. Erector Associations like SEAA have conducted training of installers.

The following question was polled: Are you in support of RCSC establishing standards for bolting personnel qualification? Results: 23 yes, 3 no, 9 maybe, 2 no answer. (Ad Hoc-009)

Mr. Shaw thanked the participants for their time and attention. The meeting adjourned at 12:45 ET (Just in time for the Council meeting to start)

RCSC Specification Committee Meeting
Thursday, June 10, 2021
10:00 a.m. – 12:00 p.m. ET

<https://ucincinnati.webex.com/ucincinnati/j.php?MTID=mc05518812ebf881c020e280723cf9cb5>

Meeting number (access code): 120 089 0468

Meeting password: SnugTight

The meetings can be accessed via telephone by dialing (415) 655-0002 and using the appropriate meeting number

Introductory Material

10:00-10:10

Binding votes are not anticipated at this meeting so participation will not be recorded. If a record of your participation is of value in your work send a chat or send an email to schlaflly@aisc.org saying you were present before the summary is drafted

Primary goals of this meeting:

10:10 – 10:20

We have just completed an edition cycle. We have heard a few notices of errata, complaints, and inquiries but not too many considering the magnitude of the changes that were made. While we finished the cycle with some items that we could not achieve in the 2020 edition and we do not want to lose those items, it is the time to take a broader picture of our work and seek and select larger plans for the next edition. Many task groups held virtual meetings prior to this meeting. This meeting will consist of reports of those TG meetings followed by a discussion of new goals.

We are asking TG Chairs to report the following:

1. Are their rosters set and satisfactory? If not, what can the Council do to help?
2. Is the scope of the specification optimal? Is the scope of their chapter optimal?
3. What goals have they selected for the next edition of their chapters?
4. What do they want to see in other chapters?
5. What items were deferred to future business in the last cycle?

6. What activities can the council conduct to improve their chapter?

Task Group Reports	10:20 – 11:20
I. TG-1 (General Requirements) Glossary & Section 1 - G. A. Rassati	
II. TG-2 (Products and Parts) Sections 2 & 3 - Toby Anderson	
III. TG-3 (Design) Section 4 & 5 & Appendix A - Jim Swanson	
IV. TG-4 (Installation) Sections 6, 7 & 8 - Chad Larson	
V. TG-5 (Inspection) Sections 9 & 10 - Tom Schlafly	
Discussion or Goals	11:20 – 12:00
Adjourn	12:00

RCSC Specification Committee
June 2021

SPECIFICATION COMMITTEE

10:00 am EDT – 12:00 pm EDT

Larry Kruth, AISC
Chair

1

This meeting is being recorded to assist in preparation of minutes, and for the benefit of the Chair to listen to the conversation at a later date.

Binding votes are not anticipated at this meeting.

If a record of your participation is of value in your work, send a chat or send an email to schlafly@aisc.org saying you were present before the summary is drafted

2

Primary goals of this meeting

We have just completed an edition cycle. We have heard a few notices of errata, complaints, and inquiries but not too many considering the magnitude of the changes that were made.

While we finished the cycle with some items that we could not achieve in the 2020 edition and we do not want to lose those items, it is the time to take a broader picture of our work and seek and select larger plans for the next edition.

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3

TASK GROUP QUESTIONNAIRE

1. Are your rosters set and satisfactory? If not, what can the Council do to help?
2. Is the scope of the specification optimal? Is the scope of your chapter optimal?
3. What goals have you selected for the next edition of your chapters?
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RCSC Specification Committee
June 2021

TASK GROUP 1 REPORT

Gian A. Rassati (University of Cincinnati)

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Task Group 1 - Generalities

•• Responsibilities

- Preface
- Symbols
- Glossary
- Section 1
- General Editorial Compliance throughout

•• Membership

- G.A. Rassati (chair)
- David Bogaty
- Chad Larson
- Robert Shaw
- Victor Shneur
- Carlos Suarez Gallardo

6

Goals for 2026 Cycle

- Do **NOT** change the definition of snug tight
- Improve overall user-friendliness
- Prepare user guides/educational bulletins for each installation method.
- Consider Stainless bolting as a new document
- Provide additional thermal break guidance and clarity
- Create a clone of RCSC Specification in metric units

Goals for 2026 Cycle (cont.)

- Improve overall user-friendliness
 - Add a scoping statement at the beginning of each Section including brief Table of Contents (similar to AISC and new AWS D1)
 - Consider rework of each installation method covering PIV, Installation, and Inspection for user-friendliness – suggest starting a work group within SC
 - Consider rework of 1.6 by creating sections 1.6.1 (containing EoR “shalls” at all times), 1.6.2 (containing EoR “shalls” when required), and 1.6.3 (containing cases where EoR approval is needed, and corresponding commentary. Simultaneously, eliminate EoR requirements from the rest of the Specification
- Prepare user guides/educational bulletins for each installation method.
 - Propose a SC ad-hoc workgroup that interfaces with A2/A4 project on videos

Goals for 2026 Cycle (cont.)

- Provide additional thermal break guidance and clarity
 - Prepare an educational bulletin/user guide with more guidance in the short term
 - Propose a SC ad-hoc workgroup
- Consider Stainless bolting as a new standalone document
 - Need feedback from group
 - Propose a SC ad-hoc workgroup
- Create a clone of RCSC Specification in metric units
 - Need feedback from group

New Business

- Eliminate any remaining inconsistencies on use of hyphens and slashes
 - GAR to work on it and make a proposal to TG1
- Consider the practice of only referring to customary standards instead of customary/metric (e.g., F3125/F3125M)
 - Add a single statement in the appropriate section – ASTM might be dropping the M in the title anyway. CML to author a proposal once there is clarity
- Consider omitting italics following AISC's new practice.
 - TG1 recommends italicizing throughout instead of just italicizing the first instance of a term, or not italicizing.

New Business

- Consider making another level of subsection bold face.
 - TG1 recommends to leave as is – no action
- Consider removing R_n/Ω and ϕR_n as separate definitions in Symbols.
 - TG1 recommends to leave the definitions as they are. However, for consistency with the definition of design strength, TG1 proposes to add R_n/Ω to the Glossary definition of allowable strength, which is currently missing
 - PROPOSAL TG1-21-001:
Allowable Strength. R_n/Ω The resistance to be used in ASD Design [...]
- Consider rewording the definitions of bolting component and bolting assembly as they are circular.
 - TG1 recommends to leave as is – no action

New Business

- Consider moving design equations currently in 1.3 and 1.4 to Section 5

$$R_u \leq \phi R_n \quad (\text{Equation 1.1})$$

$$R_a \leq R_n/\Omega \quad (\text{Equation 1.2})$$

- TG1 in consultation with the chair of TG3 recommends to leave as is. There is no clear preferred solution and it is recommended to avoid changes that have little overall impact – no action

New Business

- Consider defining d_b elsewhere from the caption of Fig C-3.1

- TG1 recommends to editorially incorporate the definition of d_b into the figure and to remove it from caption

- Proposal TG1-21-002: Editorially incorporate the definition of d_b into figure C-3.1 and remove it from caption

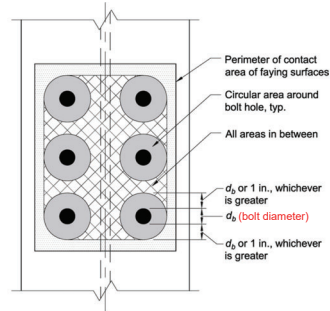


Figure C-3.1. Areas of faying surfaces of slip-critical joints to remain uncoated with unqualified coatings— d_b = bolt diameter.

New Business

- Consider checking for the appearance of “must” in Specification and Commentary

- TG1 to follow up

- No items of new business pertaining directly from TG1 were left over from previous ballot round

- Any new business for TG1 from SC?

Questions and Answers

1. The roster is satisfactory – however we are open to a few more parties interested in contributing
2. We are proposing for consideration the ideas of a stand-alone specification on stainless bolting, a stand-alone specification or at least a design guide on bolting in thermal breaks, and a metric translation of the current Specification
3. See list of goals in slide 3
4. We are proposing to work on the addition of a scoping statement and brief tables of contents in every section
5. No items were identified as future business for TG1 – we are open to consider new business items for this cycle however
6. We propose establishing workgroups as indicated above.

RCSC Specification Committee
June 2021

TASK GROUP 2 REPORT

Toby Anderson (Bay Bolt)

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TASK GROUP 2

TASK GROUP QUESTIONNAIRE

1. Are your rosters set and satisfactory? If not, what can the Council do to help?
2. Is the scope of the specification optimal? Is the scope of your chapter optimal?
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5. What items were deferred to future business in the last cycle?
6. What activities can the Council conduct to improve their chapters?

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RCSC Specification Committee
June 2021

TASK GROUP 3 REPORT

Jim Swanson (University of Cincinnati)

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TASK GROUP 3

James A Swanson (Chair)
Derrick Castle
Doug Farrell
David Bogaty
GA Rassati
Carly McGee
Chris Noveral
Karl Frank
Jerry Hajjar

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TASK GROUP 3

A work group was established with the goal of updating the fatigue provisions in the specification

Work Group = Jim Swanson,
Karl Frank,
Rob Connor,
Chris Noveral

Jim Swanson will send out a summary that he prepared ~2019 comparing provisions in the AISC, RCSC, and AASHTO specifications at that time.

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TASK GROUP 3

It has been suggested that TG 3 look into revising Appendix A in an effort to reduce the burden of inspection and record keeping associated with SSPC PA-2.

Schlafly and Castle communicated re SSPC PA-2 in App A §A1.2.2 prior to the TG 3 conference call and discussed whether joints should be treated as separate faying surfaces, as separate pieces, or...? ...or should the area of faying surfaces be lumped together to determine inspection requirements?

Work Group = Castle, Schlafly, McGee, Frank, Olthof

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TASK GROUP 3

A work group was created with the goal of better coordinating the requirements for ST, PT, and SC joints with the AISC Specification.

Work Group = Jim Swanson,
GA Rassati,
Doug Ferrell

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TASK GROUP 3

Thermal Breaks were discussed. Swanson and Rassati noted that TG-1 and Main Spec Comm may be intending to form a broader work group with the goal of creating an educational bulletin, a design guide, and/or possibly specification language.

Hajjar suggests testing for higher loads than were considered in his work. Hajjar noted that his work considered threaded rod and A307, all in snug tightened joints.

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TASK GROUP 3

Karl Frank suggested revisiting deductions associated based on how bolts are installed relative to filler materials. Based on U. of Illinois testing on column splices. Borello testing with Hajjar. Could also have originated with Grondin and Driver (2005ish – 2010ish).

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RCSC Specification Committee
June 2021

TASK GROUP 4 REPORT

Chad Larson (LeJeune Bolt Company)

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TASK GROUP 4

Members –

Baxter, Shaw, Rassati, Kasper, Sovell, Frank, Ocel, Chadee, Mitchell, Wroblewski, Tribble, Curven, Case, Germuga.

Basic Goals for Next RCSC Publication (2026)

User friendliness

Clean up any inconsistencies

Incorporate needed changes from other committee actions

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TASK GROUP 4

Discussion of potential work items (items from last ballot)

Calibrated Wrench Method: There is no 'Final Verification' step shown for the calibrated wrench method, which begs the question what is to be done if the minimum tension cannot be reached. No mention if bolts can be lubed as was stated in TON method.

Ocel will draft "final verification" language for the group to consider at the next TG4 meeting.

Calibrated Wrench Method: In case the largest torque value achieved is an outlier, define what is the maximum variation acceptable. The installation torque shall be based on maximum of two or a retest may be recommended by varying working conditions until a standard acceptable condition is achieved. Would like to see educational piece on calibrated wrench.

Ocel will look at proposing language for how to use calibrated wrench when working on above item. This potentially touches on lubrication and the procedure for establishing the installation torque. What value should be targeted (just 1.05 or higher?). What to do about outliers in calibration, sample size, avg, etc.

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TASK GROUP 4

Discussion of potential work items (items from last ballot)

Use of "Must" in commentary.

Numerous instances of "must" in the document, advise editorial and each TG Chair. We should look for "must" in commentary and continue to work toward common usage of terms between TG's.

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TASK GROUP 4

Discussion of potential work items (items from last ballot)

"Sloped" PIV testing. Consider as future business for all methods. Turn of nut table contains columns with additional rotation requirement for non-parallel installation. Not a part of PIV.

Frank – this item must consider the method, for example DTI and CW. This will take some editing to meet the intent, but we should address in Chapter 7 in some manner if we require in Chapter 8. Skidmore question from Richardson (will tension measuring device accurately reflect load?)

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TASK GROUP 4

New Items

Other new items:

F3125 144 ksi heavy hex (ASTM)	Track
Thermal break bolt installation (New standard?)	Track
Stainless steel bolt installation (New standard?)	Track

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TASK GROUP 4

New Items

Editorial quibble: 8.2.2--"it is prohibited to" is not good grammar in our prescriptivist formal context. Should be "Using this method by turning the bolt head is prohibited."
Editorial

Question on preexisting language: commentary near bottom of page 53--is there pretensioning that is achieved by means other than rotation of a component? **Editorial**

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TASK GROUP 4

New Items

How is this DTI gap determined? It's not during preinstallation verification, because part of preinstallation verification calls for ensuring that said gap has not closed prematurely, and you can't determine that if you don't know what the gap is. You can either find out what the job inspection gap is during the preinstallation verification, or you can check which gaps are greater or less than a known job inspection gap during the preinstallation verification. You can't do both.

Richardson and Howerin will draft language proposal in attempt to satisfy above comment and present to TG4 at next meeting.

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TASK GROUP 4

New Items

Scoping statement at the beginning of each Section.

Discussion for specification committee. TG4 can certainly do this is spec committee agrees it is useful.

Frank – need to address mandatory lubrication requirements. RCSC is only standard that does not cover lubrication requirements. Shaw added - Provisions for K1/K2 style (EN) from manufacturer. KO with added provisions.

Shaw - Greater than 8D for combined method.

Shaw - RCSC Metric Standard F3125M/A325M/A490M

Shaw - F3394 reaction washers, smart bolts, blind bolts, wedge lock washers, huck bolts. How to handle in the future? Are innovation clause and alternative-design sufficient? Spec and Exec Comm.

Shaw – PIV, Installation, Insp by installation method? (include washers?)

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TASK GROUP 4

1. Are your rosters set and satisfactory? If not, what can the Council do to help?
We have 15 RCSC members interested in continuing membership on TG4. The number is adequate for the task. We are well represented with members from broad backgrounds and voting interests.
2. Is the scope of the specification optimal?
The scope of the entire specification may need to be reconsidered regarding thermal breaks, metric, other languages, stainless steel structures.
Is the scope of your chapter optimal?
I believe the scope of TG4 is straightforward and appropriate for PIV and installation.
3. What goals have you selected for the next edition of your chapters?
User friendliness, accuracy, timely updates. Other items pending discussion at specification committee.

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TASK GROUP 4

4. What do they want to see in other chapters?
5. What items were deferred to future business in the last cycle?
Calibrated wrench language for final verification.
Calibration procedure.
"Other" rotations.
Editorial items.
PIV testing.
6. What activities can the council conduct to improve their chapter?

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RCSC Specification Committee
June 2021

TASK GROUP 5 REPORT

Tom Schlafly (AISC)

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TASK GROUP 5

Schafly, Tom Chair
Haaksma, Matthew Vice-Chair
Kaufman, Dan
Case, Chad
Cornelissen, Bastiaan
Lindley, Bill (?)
~~Schroeder, Gerry~~
Tarpy, Tom

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TASK GROUP 5

1. Are your rosters set and satisfactory? If not, what can the Council do to help?

The roster is not adequate. We need representatives of design firms, building firms and inspection firms. We have builders. We need designers and inspectors. We have QC people from building firms (Matt and Chad) but we need somebody to protect the interest of the companies we are writing rules for.

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TASK GROUP 5

2. Is the scope of the specification optimal? Is the scope of your chapter optimal?
3. What goals have you selected for the next edition of your chapter?

There was discussion of segregating tasks between QA and QC.

There was a mention of separate tasks for bridges as opposed to buildings. That led to a stated desire to have RCSC have the prestige that AASHTO has so RCSC is accepted and it reduces confusion about what the requirements are on particular projects.

We ought to minimize differences between various specification including AASHTO and NY State Construction Manual. Current differences may include threads in the grip and the use of self-indicating direct tension indicators (Squirters).

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TASK GROUP 5

3. What goals have you selected for the next edition of your chapter?

We discussed the contradiction of using torque for arbitration when we discourage it in installation.

We also discussed the problems associated with installation and PIV testing in inclement conditions.

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TASK GROUP 5

3. What goals have you selected for the next edition of their chapters?

Should we incorporate inspection tasks like those in AISC Chapter N into RCSC Chapter 9.

There are abuses of provisions requiring 'firm contact'.

There may be merit in adding tolerances in Arbitration.

A member reports conducting arbitration often and often finding one bolt in a connection that does not pass. This might indicate that some tolerance would help?

There was a discussion of inspector/supervisor qualification or training requirements.

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TASK GROUP 5

4. What do you want to see in other chapters?

Why do we have design when AISC and CISC also have design. AISC looked to RCSC for guidance but usually RCSC fell behind what AISC worked on. We thought RCSC might consider moving Chapter 5 to a guide Annex to be used by CISC and AISC as they chose in the development of their provisions.

We also need to consider if we should update our fatigue provisions. The current RCSC fatigue provisions are similar to what AISC had and moved away from over 15 years ago. RCSC must be out of date.

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TASK GROUP QUESTIONNAIRE

1. Are your rosters set and satisfactory? If not, what can the Council do to help?
2. Is the scope of the specification optimal? Is the scope of your chapter optimal?
3. What goals have you selected for the next edition of your chapters?
4. What do you want to see in other chapters?
5. What items were deferred to future business in the last cycle?
6. What activities can the Council conduct to improve their chapters?

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DISCUSSION OF GOALS

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DISCUSSION OF GOALS

Stainless Steel Bolting

Specification for Structural Stainless Steel Buildings (AISC 370)

Bridges of Stainless Steel (ASTM A709 50CR, duplex steels)

Yes:	25
No:	2
Maybe:	12
No answer:	3

45

DISCUSSION OF GOALS

Bolting with Thermal Break Joints

Yes:	16
No:	6
Maybe:	17
No answer:	8

46

DISCUSSION OF GOALS

SI Version of Specification

Yes:	17
No:	6
Maybe:	10
No answer:	6

ASTM F3125/F3125M Grade A325M and A490M

- Use in Central and South America
- International projects led by US-based firms
- Manufactured components with metric holes and req'ts for following AISC and RCSC

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DISCUSSION OF GOALS

Rotational-Capacity testing standard

Currently in ASTM F3125/F3125M, Annex 2

Yes:	10
No:	15
Maybe:	8
No answer:	6

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DISCUSSION OF GOALS

Test Procedures to establish installation requirements for other bolts, other diameters, or other levels of pretension

- A354, A449
- Larger diameters
- Desire to limit pretension below specific level

Yes:	21
No:	3
Maybe:	11
No answer:	3

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DISCUSSION OF GOALS

Task group for study of Hot-Dip Galvanized and Mechanically Galvanized Grade A490 bolts

Yes:	28
No:	2
Maybe:	2
No answer:	6

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DISCUSSION OF GOALS

Personnel Qualification - supervision personnel - installation personnel

- Interest from AASHTO
- Interest from CISC
- Existing standard BCSA - Competence in Preloaded Bolting
 - Level 1 – Bolting Practitioner
 - Level 2 – Bolting Inspector
 - Level 3 – Bolting Coordinator

Yes:	23
No:	2
Maybe:	9
No answer:	2

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DISCUSSION OF GOALS

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RCSC Specification Committee
June 2021

SPECIFICATION COMMITTEE

10:00 am EDT – 12:00 pm EDT

THANK YOU

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Research Council on Structural Connections
 Subcommittee A2/A4 – Education and Research
 May 28, 2021 Conference Call - 12:00 CDT

Minutes (rev 1, 6/9/21)

Attendance:

	Garret Byrne	x	Carly McGee	x	Tom Schlafly
x	Derrick Castle	x	Jon McGormley		Victor Shneur
	Robert Connor	x	Ronnie Medlock	x	Todd Ude (chair)
	Bill Germuga	x	Justin Ocel		Carmen Vertullo
	Matthew Haaksma		Sarah Olthof		

1. Slip of Metallic Coatings status: the schedule has slipped. AISC has assisted in procuring steel for both specimens and creep test frame. High Steel is assisting with some fabrication and transportation. LeJeune Bolt has offered in-kind support with fasteners. PI Sougata Roy will develop a revised schedule once materials are in hand and the test frame is fabricated.
2. Educational Videos: PI Bob Shaw has signaled scripting and storyboarding of videos is resuming and should be submitted to RCSC for review and comment by end of June. Carly McGee has agreed to chair the Oversight Committee.
3. We've heard that Swanson and Rassati will be proposing some runs of fastener tests to fill out or update some of the material presented in the Guide. Exec may ask A2/A4 to vet the proposal. Nothing received as of 5/28/21.
4. Updating (or retiring) of the Educational Bulletins needs to be restarted. Plan for '21-'22 is to use more regular meetings of A2/A4 to start chipping away on the bulletin updates. (Some of the AISC / Modern Steel Construction blitz regarding the spec may aid in guiding updates, or determining bulletins which can be retired.)
5. AGA/Lou Raymond response to our detailed comments on the A490 cleaning tests – was received but did not get circulated back to the reviewers. Priority for a Sept '21 A2/A4 meeting will be resolving the acceptance and posting of the final report.
6. As the Slip of Metallic Coatings and Educational Videos projects start making progress, they will be invited to future A2/A4 meetings to provide updates.

7. Brainstorming possible future research topics:

- Suitability of bearing connections for use in bridge work, such as for cross-frame to girder connections. (RM)
- Details and installation methods that could facilitate use of (extra) long slotted holes as a relief method for restraint forces (thermal, creep, shrinkage). Are there double nut, jam nut, lock washer solutions which could perform more reliably than “gouging the threads”. What installation procedure facilitates a snug condition without risking a fully tensioned condition. (JO)
- Loss of tension due to thick (galvanized) coatings (RM) (This is part of the objectives for Sougata Roy’s current project.)
- Stainless steel bolts are coming, and the Council should posture itself for them. There should be guidance on grades/types appropriate for structural applications, and most importantly, how they should be installed. (JO)

8. Next Meeting: 9/16/21, 2:00 PM EDT

Action Items

Date	Item	Responsible	Status
April 2016 May 2017 June 2017	Find volunteer to perform maintenance on research / education documents posted to website	VS TU	VS acting on Edu Bull 01: draft and circulate TU acting on Edu Bull 02: circulate mark up 2 w/ call for approval Remainder to be demoted
February 2017 May 2017 June 2017	Recommend to Exec posting of UT Austin galvanized faying surface final report to website. Include "A2/A4 preface"	TU	Open
June 2017	Close out A2/A4 comments on revised Bulletin 2	TU	Open
Oct 2018 Jan 2019	Resume finalization of C. Larson comments on Zn-Al flake coatings for A490.	?? TS	Open
June 2019	Assemble a task group to take on drafting an Educational Bulletin on the topic of off-site pre-installation verification testing.	TU	Open
June 2021	Circulate the revised LRA report on cleaning A490s to previous reviewers, to check address of comments	TU	Open