



American Concrete Institute

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Meeting Agenda #59

365: Service Life Prediction
Monday, October 16, 2017: 9:00 to 11:00 am
P-Oceanside

Mission: Develop and report information on the service life of concrete structures.

Chair: Kyle Stanish

Secretary: Jose Pacheco

1. Administrative

- 1.1. Self-Introductions and Membership Update
 - 1.1.1. New Voting Members: Jose Pacheco (Secretary), Paul Noyce
 - 1.1.2. New Associate Members: Richard Cantin, Sharat Menon
 - 1.1.3. Liaison Members: Vute Sirivivatnanon (CIA), Dirk Schlicke (COST Action TU1404)
- 1.2. Approval of the previous meeting's minutes.
- 1.3. Approval of Agenda

2. State of the Art Report

- 2.1 At Publishing Services. It should be available soon after convention.

3. Presentations

- 3.1. Case Studies in Service Life for Repair and Maintenance by Richard Cantin
- 3.2. Comparing fib Bulletin 34 to Life 365™ and Stadium® by Neal Berke
- 3.3. A Time-Variant Model of Surface Chloride Build-Up for Improved Service Life Predictions by Mahmoud Shakouri

4. New Document: Standard Practice for Performing Service Life Predictions

- 4.1. Outline and Chapter Leads
 - Identify one or (preferably) two individuals to take lead on developing each Chapter
 - 4.1.1 Chapter 1: Introduction – On Hold
 - 4.1.2 Chapter 2: Definitions and Abbreviations - On Hold
 - 4.1.3 Chapter 3: Project Criteria and Objectives
 - 4.1.4 Chapter 4: Service Life Approach Selection
 - 4.1.5 Chapter 5: Input Parameters
 - 4.1.6 Chapter 6: Modeling
 - 4.1.7 Chapter 7: Results and Evaluation
 - 4.1.8 Chapter 8: Implementation
 - 4.1.9 Chapter 9: References – On Hold

Always advancing

4.2. Preliminary Schedule:

Fall 2017 (Anaheim)	Identify Chapter Leads
Spring 2018 (Salt Lake City)	Chapter Outlines
Fall 2018 (Las Vegas)	First Ballot – Three Chapters
Spring 2019 (Quebec City)	First Ballot – Three Chapters
Fall 2019 (Cincinnati)	Ballot Revisions, Introduction
Spring 2020 (Chicago)	Ballot Revisions
Fall 2020 (Raleigh)	Finalize to Submit to TAC
Spring 2021 (Baltimore)	TAC Comments
Fall 2021 (Atlanta)	Public Comments
Spring 2022 (TBD)	Published

5. Technical Sessions

Identify Sessions that there is an interest in moving forward, and responsible champions. These can either be full sessions or mini-sessions.

- 5.1. “Service Life and Safety of Concrete Structures”
- 5.2. “Implementing service life design”
- 5.3. Service Life Modelling in design/build projects
- 5.4. Evaluating model sensitivity for different parameters
- 5.5. Probability analysis to focus on importance of different parameters
- 5.6. Service life and ultra-high-performance concrete (liaising with ACI329)
- 5.7. Performance specifications and Service Life Modelling – possibly joint session with 329

6. Meetings of Interest

- 6.1 Sixth International Conference on Durability of Concrete Structures (ICDCS2018), September 17-19, 2018, Belfast, Ireland, UK (Basheer)
- 6.2 Others

7. Adjournment

- 7.1 The next meeting will be on Monday, March 26, 2018 from 9-11 at Spring 2018 Convention in Salt Lake City.

ACI 365: Service Life Prediction
Standard Practice for Performing Service Life Evaluation
Outline

OBJECTIVE: To develop a standard practice for performing service life assessment for practicing engineers.

1. Introduction
2. Definitions and Abbreviations
3. Project Criteria & Objectives
 - a. End of Service Life criteria
 - b. Deterioration Mechanisms to Consider
 - c. New Construction or Existing Construction
 - d. Contractual Considerations
 - e. Level of Detail
 - f. Target Life
4. Service Life Approach Selection
 - a. Performance vs. Economic
 - b. Rule of Thumb, Accelerated Testing, Modelling
 - c. Assumptions and Limitations
5. Input Parameters
 - a. Level of detail
 - b. Source
 - c. Future Maintenance
6. Modeling
 - a. Validations
 - b. Analysis
 - c. Deterministic vs. Probabilistic
7. Results and Evaluation
 - a. Documentation
 - b. Harmonization of different assemblies
 - c. Validation
8. Implementation
 - a. Warranties
 - b. Maintenance documentation
 - c. Quality Assurance and In-service Assessment/Monitoring
9. References