

2018 PTI CONVENTION

Wednesday, May 9, **Technical Session 5**, cont.

8:55 a.m. – 9:20 a.m.

Restraint to Shortening (RTS) Cracks and their Mitigation in Unbonded Post-Tensioned Buildings

Asit Baxi, Baxi Engineering

This presentation will summarize the soon-to-be-published revisions that are currently being made by Building Design Committee DC-20 to the existing PTI document on this topic, which was published in 1988. The revisions incorporate the current state of practice on restraint cracking and mitigation techniques. Different approaches to estimate shortening will be presented followed by design examples and current detailing practices to handle crack mitigation.

9:20 a.m. – 9:45 a.m.

State of Practice for the Use of Temperature and Shrinkage PT Parallel to Beams in One-Way Slabs

Don Kline, Kline Engineering & Consulting, LLC

Post-tensioning has been used for temperature and shrinkage reinforcement parallel to beams in one-way slabs for over 50 years. ACI 318 recognized the value of PT as temperature and shrinkage reinforcement by including it in every issue of the code since 1983. This presentation will discuss the proper use of PT for temperature and shrinkage reinforcement. It will also present an analytical study using both plane frame and FE analysis showing the benefits of PT when used for temperature and shrinkage reinforcement. The study will also show that temperature and shrinkage PT has no detrimental effects on the performance of the beams.

Technical Session 6—Building Design and Construction - 10:15 a.m. - 12:00 p.m.

Session Moderator:

Neel Khosa / Tim Christle

10:15 a.m. – 10:20 a.m.

Session Introduction

Neel Khosa, Amsysco, Inc.

Tim Christle, Post-Tensioning Institute

10:20 a.m. – 10:45 a.m.

Using Simple 2D Plans Generated from 3D Scan Data to Alleviate Owner's Concerns About PT

Florian Aalami, ADAPT

This presentation will describe our experience gained during a 1-year 3D laser scanning project we carried out on the 55 Hudson Yards project in NYC. Many projects are 3D laser scanned, but the unique angle we will focus on is how we post-processed the volumes of 3D scan data to deliver a very simple 2D plan of tendons for each level of the project. The developer's main concern was rentability of NYC office space that had "live" post-tensioning in it. Tenants are used to being able to make their own tenant improvements and any hindrance to this flexibility would have limited their leasing activities. Working with the owner's project team, we devised a very simple method to capture the location of post-tensioning and make it easily accessible to any future tenant. This presentation provides a practical angle to how the complex and overwhelming data captured during 3D laser scanning can be presented to building owners in a simple and easy-to-digest format.

- 10:45 a.m. – 11:05 a.m. **PT Building Design and Construction: Best Engineering/ Design Practices**
Carl Schneeman, Walker Consultants
- 11:05 a.m. – 11:25 a.m. **PT Building Design and Construction: Best PT Supplier/ Installer Practices**
Neel Khosa, Amsysco, Inc.
- 11:25 a.m. - 11:45 a.m. **PT Building Design and Construction: Best Contractor/ Builder Practices**
Victor Bretting, JVP Contracting & Consulting
- 11:45 a.m. - 12:00 p.m. **PT Building Design and Construction: Panel Discussion**
Carl Schneeman, Walker Consultants
Neel Khosa, Amsysco, Inc.
Victor Bretting, JVP Contracting & Consulting

The objective of this 75-minute session is to present practical guidance and recommendations regarding the continuum of a PT building project. Best practices will be presented by representatives from three of the key participating team members in the project process. The Structural Engineer-of-Record, the PT Supplier/Installer, and the Structural Concrete Sub-Contractor. The Engineer will focus on PT slab and beam design and detailing decisions, how overall structure design choices affect PT, plus cost-effective and efficient design and detailing practices. He will also provide guidance for technical specifications and how they should be tailored to each specific project. The PT Supplier/Installer will discuss estimating, bidding, and review of the construction documents; recommendations for submittals, samples, and PT shop drawings; and proper fabrication, supply plus field installation and stressing practices. The Contractor will discuss how design, detailing, specifying, and material supply decisions ultimately impact the construction process. He will review the construction and pour sequence, phasing, and other logistics that go into the assembly of the PT building structure from ground up, plus lessons learned. Lastly, these three project representatives will join forces in a round-table panel discussion to collaborate with responses to frequently asked questions and new questions posed by the session attendees.

**Save
the Date!**

PTI Convention 2019

Hyatt Regency Seattle

May 5 – 9, 2019

Seattle, WA